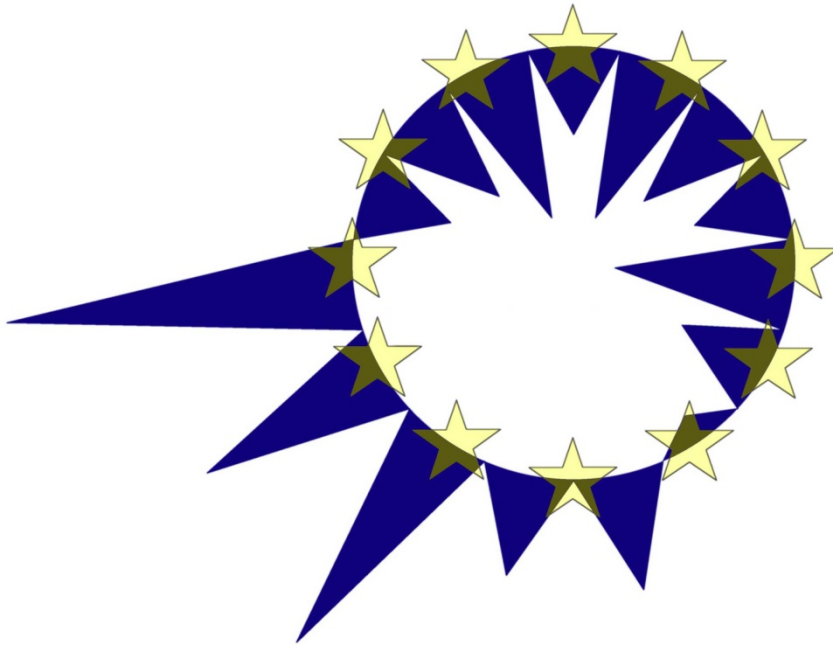


EUROMOD

COUNTRY REPORT



SLOVAK REPUBLIC (2007-2010)

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09/08/2012



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 Slovak Republic. 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

Table 1. Basic figures

	Pop ^[1] (m.)	pop. < 18 (%)	pop. ≥ 65 (%)	Life expect. (years)	Fertility rate	Unemp Rate ^[2]	GDP per head (PPP) ^[3]	Currency	
								Name	exch. rate ^[4]
2007	5.394	20.5	11.9	74.6	1.25	11.1	68	Koruna	33.6350
2008	5.401	20.0	12.0	74.9	1.32	9.5	72	Koruna	30.2050
2009	5.412	19.6	12.1	75.3	1.41	12.0	73	Euro	30.1260 ^[5]
2010	5.425	19.2	12.3	75.6	1.40	14.4	74	Euro	

^[1] Population on the 1st of January;

^[2] Age group 15-74;

^[3] GDP per capita in Purchasing Power Parities (EU 27=100)

^[4] Euro exchange rate on 30th of June.

^[5] Fixed exchange rate since 2009.

Source: Eurostat on-line database,

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database (last accessed 28.11. 2011)

1.2 The tax-benefit system

Table 2. Tax-benefit system and government budget

	Total general government revenue % of GDP	Total tax receipts % of GDP	Total general government expenditure % of GDP	Social protection % of GDP
2007	32.4	30.2	34.2	16.03
2008	32.8	31.0	34.9	16.02
2009	33.5	30.2	41.5	18.81
2010	32.3	29.6	40.0	N/A

Notes: N/A: not available.

Source: Eurostat on-line database,

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database (last accessed 28.11. 2011).



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

	Sickness/ health care	Disability	Old age	Survivors	Family/ children	Unemployment	Housing	Social exclusion
2007	29.57	8.18	36.77	5.30	9.65	3.49	0.0	3.12
2008	31.59	8.73	35.95	5.20	9.23	3.76	0.0	2.34
2009	30.43	9.17	35.75	5.11	8.98	5.51	0.0	2.25
2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: N/A: not available.

Source: Eurostat on-line database,

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database (last accessed 28.11. 2011).

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

	Personal income tax	Corporate income tax	Social security contributions		Taxes on goods and services	Other taxes
			Employees*	Employers		
2007	8.89	10.38	7.59	17.01	36.93	
2008	9.40	10.79	7.74	17.51	34.63	
2009	8.46	8.81	8.06	17.81	34.84	
2010	8.26	9.06	7.99	17.71	34.89	

Notes: * Includes self-employed

Source: Ministry of Finance, <http://www.finance.gov.sk/en/Default.aspx?CatID=531> (last accessed 1.03.2011)

1.2.1 Basic information about the tax-benefit system

- The tax system is largely a unified, national system. All important tax components are set at the central level. A few taxes are set at the local level, such as the real estate tax, motor vehicle tax etc, but their share in overall taxation is negligible.
- Taxation of income is based on an individual system. Joint taxation is not allowed. However, an individual may be entitled to a spouse tax allowance if the income of the spouse satisfied certain conditions.
- The benefit system is governed mainly at the central level. No important benefits are determined at the local level.
- The fiscal year is January 1- December 31. Benefit indexation generally takes place on the 1st of September. The minimum subsistence level is adjusted on the 1st of July.
- In January 2004, the statutory retirement age has been raised for both women and men to 62 from 60 for men and 53-57 (depending on the number of children) for women. The increase will take place over a period of 20 years (2004-2024). The pensionable age will rise until it reaches 62 for all groups. The state pension age in 2006 was 61 and 3 months for men and between 54 years 3 months and 58 years 3 months for women.
- Compulsory education usually starts at age 6 and continues for at least 10 years. The minimum school leaving age is 16.
- A child is considered to be dependent (for tax & benefit purposes) if s/he is under 16 and participating in compulsory education, or is under 26 and studying at an approved institution, or is under 18 and has a long-term health condition.



- All incomes that fall under the personal income tax system are taxed at the same flat rate of 19%.
- Tax advances are paid monthly or quarterly based on the previous tax liability. The taxpayer must fill in a tax return and pay any tax liabilities left after the tax clearing by the 31st March of the following year.
- The Minimum Subsistence Level (MSL) on which the tax allowances and social assistance eligibility depend, is adjusted automatically on the 1st July either to the cost of living of low income families or to the net income growth of low-income families (but most frequently the first is used). The maximum assessment base of social insurance contributions is also automatically indexed to average wage increase. Components of the social assistance scheme and state social support benefits (childbirth grant, multiple birth benefit, child benefit, parental allowance, and funeral benefit) are adjusted by government regulation (usually on the 1st of September), i.e. there is no automatic indexation.
- Social assistance benefits are awarded on a monthly basis. The income base that is assessed refers to the income in the previous month.

1.3 Social Benefits

The Slovak benefit system is made up of three components, namely contributory benefits, social assistance and poverty benefits and state social support. Each component consists of several programs.

1.3.1 Contributory benefits

Old-age pension (Starobný dôchodok)

Entitlement to old-age pension arises when an insured person reaches the pensionable age, provided she has contributed for at least 10 years. Until 2003 the retirement age was 60 years for men and 53-57 years for women (depending on the number of children). As of 2004 the retirement age is gradually converging to 62 for both men and women. The common retirement age of 62 years for all groups will be reached in 2024.

The first pillar of the pension system is based on a point system. Three variables determine the amount of the old age pension benefit, namely length of career in years, average personal wage point (the individual's average lifetime position relatively to average wage in the economy; there is a ceiling of 3) and current point value. The current point value was initially (at the time of PAYG reform in 2004) calculated as a residual so that a person with 40 years of service and average personal wage point equal to 1 (person earning average wage for the whole career) will receive pension with circa 50% replacement rate. In order to keep the replacement rate stable for all new pensioners, the current point value is annually indexed to average wage increase.

On January 1st 2005, Slovakia introduced a second, fully funded second pillar. Participation into the 2nd pillar is mandatory for all those starting to work on or after January 1st 2005. Other individuals had to choose whether they wanted to participate in the 2nd pillar or rely solely on the 1st public pillar. Half of the old-age social insurance contributions (i.e. 9%) are now directed into the second pillar.



Early old-age pension (Predčasný starobný dôchodok)

An insured person becomes eligible for early old-age person if she has contributed for a minimum of 10 years and is entitled to a pension (from the first and second pillar) that is higher than 1.2 times the minimum subsistence level. The early old-age pension recipient is not eligible for the old-age pension. The pension benefit is lowered by 0.5% for every 30 days remaining until the person reaches the pensionable age. Since 2008, early old-age pension cannot be claimed if the person is more than 2 years below the statutory retirement age.

Disability pension (Invalidný dôchodok)

The current system defines disabled person as a person with long-term unfavorable health conditions with more than 40 % work capability decrease. The disability pension cannot be paid during the period of temporary work incapacity. The benefit amount depends on the number accumulated pension points, number of years contributions have been made, number of years until reaching retirement age, current pension point value, and percentage loss of working capacity.

Widow's and widower's pension (Vdovský dôchodok/Vdovecký dôchodok)

The entitlement arises to widow/ widower if his/hers deceased spouse was a recipient or entitled to old-age pension, early retirement pension or disability pension or dies as a result of an occupational disease or accident. The entitlement lasts for 1 year of the decease, unless the recipient takes care of a dependent child, is disabled (more than 70% loss of working capacity) or reaches the pensionable age. The entitlement expires if widow/ widower becomes married. The benefit amounts to 60% of the old-age pension, early old-age pension or disability pension of the deceased.

Orphan's pension (Sirotský dôchodok)

The entitlement arises to a dependent child whose parent (or person having custody of him) has died. The entitlement arises only if the parent was an old-age pension, early old-age pension or disability pension recipient (or entitled person). Dependent child in a foster care cannot receive the pension. The benefit amounts to 40% of the old-age pension, early old-age pension or disability pension of the deceased parent.

Sickness cash benefit (Nemocenská dávka):

The benefit provides compensation for loss of income due to temporary sickness. Eligibility to receive the benefit is restricted to employees and to self-employed/voluntary payers who have contributed for a minimum of 270 days during the last two years. The entitlement arises due to illness or injury on the 11th day of the employee's temporary work incapacity (for the first 10 days of temporary work incapacity receives compensation from the employer)/ the first day of temporary work incapacity for self-employed/voluntary payers and lasts until the end of employee's work incapacity, becoming disabled or at latest until the end of 52nd week – cannot receive the sickness cash benefit more than 1 year. The benefit amounts to 55% of the daily assessment base (i.e. gross incomes subject to social insurance contributions).

Benefit for nursing a sick relative (Ošetrovné):

The benefit is designed to compensate for reduced income of a person taking care of a sick child, husband, wife, parent or a parent-in-law, if a doctor deems that health conditions of this person require nursing by other person. Entitlement arises on the first nursing day and expires on the last nursing day however by 10th day at the latest. It cannot be combined with the sickness cash benefit or with the maternity benefit. The benefit amount is 55% of the daily assessment base (gross incomes subject to sickness insurance contributions).



Equalization allowance (Vyrovnávacia dávka)

Equalization allowance is designed to compensate for reduced income of a pregnant woman, who had to be moved to a different job position. The equalization allowance is 55% of the difference between the monthly assessment base before and after moving to another position.

Maternity benefit (Materská dávka)

This benefit is paid to a pregnant woman or to a person who takes care of a newborn child. The person is eligible for the benefit if she contributed to the insurance system for at least 270 days within the last 2 years prior to the delivery. The benefit can start being paid 6 weeks before the delivery for a total of 28 weeks. However, the duration is extended to 37 weeks if the woman gives birth to two or more children, or if the woman is a single mother. The benefit is 55% of the daily assessment base (gross incomes on which sickness insurance has been paid during the last year divided by the number of working days), up to a maximum of 260 SKK.

Unemployment insurance benefit (Dávka v nezamestnanosti)

The benefit is designed to provide compensation for income loss due to unemployment. An insured person is eligible to receive the benefit if she has contributed for a minimum of three years during the four years prior to being listed in the unemployment registry. Entitlement ceases if the person reaches pensionable age, or if the person is de-listed from the unemployment registry. The maximum duration of the benefit is 6 months. Accumulation with sickness or maternity benefits, the child-raising allowance, or a pension is not permitted. The benefit is 50% of the daily assessment base (i.e. gross incomes subject to unemployment insurance contributions during the previous three years).

1.3.2 Social assistance-poverty related benefits

Material need benefits (Dávka v hmotnej núdzi a príspevky k dávke)

Material need benefits are means-tested and provided to families who have not income or their income is below the minimum subsistence, in order to ensure them basic living standard. The amount of material need benefits depends on the structure and incomes of the family or household. The entitlement arises in a situation when the incomes of an individual/family are below the minimum subsistence level and cannot be increased by claimants themselves. The benefit amount is calculated as a difference between the eligible maximum material need benefits (social benefit, activation allowance, health care allowance, housing allowance, protection allowance) and the income of all assessed individuals.

1.3.3 State support benefits

The system of state social support includes family related benefits financed out from the state budget. Eligibility for family related benefits is neither conditional on paying contributions nor means-tested.

Child birth grant (Príspevok pri narodení dieťaťa)

It is a one-off payment to parents to cover the essential needs of the newborn. There is no conditionality to this grant other than permanent residency in SR. Only one parent (usually mother) can receive the grant. The grant is paid out next month after the child's birth (the child must be older than 28 days). In 2006, the benefit was 4460 SKK if one child has been born and 6690 SKK per child if two or more children have been born.

***Additional birth grant (Príplatok k príspevku pri narodení dieťa)***

This benefit was introduced on January 1st 2007. It is a one-off benefit (11000 SKK in 2007, 20440 SKK in 2008 & 678.49 EUR in 2009 & 2010) provided for each child that has been born as a result of a first childbearing. The grant is paid out next month after the birth (the child must be older than 28 days). On January 1st 2009, the grant has been extended for 2nd and 3rd order children.

Multiple birth benefit (Príspevok rodičom, ktorým sa súčasne narodili tri deti alebo viac detí alebo ktorým sa v priebehu dvoch rokov opakovane narodili dvojčatá)

The benefit is an annual allowance paid to parents (also foster parents) with at least three children younger than 15 years, depending on their age if three or more children were born at the same time or two pairs of twins have been born in the space of two years. The benefit depends on the age of the child and ranges between 2420-3170 SKK per child. No income test is applied.

Child benefit (Prídavok na dieťa)

A monthly social benefit aimed to support the nutrition and care of each dependent child. Only one parent or eligible person can be entitled to receive the child benefit. There is no conditionality to this grant other than permanent residency both of the entitled parent and the dependent child in the Slovak Republic. If the child is placed in a social services establishment, the benefit is not granted. The benefit was 540 SKK per month per child during 2006, 2007 & 2008, 21.25 EUR in 2009 and 21.99 EUR in 2010. An automatic indexation linked to the Minimum Subsistence Level was introduced on January 1st 2009.

Additional child benefit (Príplatok k prídavku na dieťa)

The benefit was introduced on January 1st 2008. It consists of a monthly benefit awarded per child if the caretaker is not entitled to the tax credit for dependent children, does not work or is a recipients of old-age pension, early retirement pension or disability pension (for a loss of work capacity >70%). The monthly amount was 300 SKK

Parental allowance (Rodičovský príspevok)

A monthly social benefit, designed to contribute to parents taking care of at least one child (both own child and child in foster care) aged up to 3 years (or 6 years in the case of a long-term severely disabled child). Only one parent or eligible person can be entitled to receive the parental allowance one time in a month. The entitled parent is allowed to work if the child is at grandparents or in kindergarten. The benefit cannot be received simultaneously with sickness cash benefits and it is reduced in case of maternity allowance receipt.

Funeral benefit (Príspevok na pohreb)

The funeral benefit is a one-off benefit that covers expenses on a burial of a family member. There is no conditionality to this grant other than permanent residency in the Slovak Republic. The benefit amount is 2300 SKK.

Scholarships for pupils in elementary school (Štipendium pre žiakov ZŠ)

Scholarships for pupils from low-income families are paid monthly in three amounts: SKK 500, SKK 300 and SKK 200 according to pupils' grades in the previous semester. The entitlement arises to children attending elementary school (approximately 7 – 15 years old).

If the child's family under the minimum level of subsistence or if more than 70% of all pupils in a school are from poor families, and their average grade is better than 2.5, or on average they



improve their grades by 0.5, all are eligible for the scholarship. The payments are not included in income for the calculation of social benefits.

Scholarships for students in secondary school (Štipendium pre žiakov SŠ)

Three amounts are paid monthly to students from poor families in the amount of SKK 1200, SKK 800 and SKK 600 according to an average grade received. Entitlement arises to those students, who are from households receiving material need benefits.

Social scholarships for university students (Štipendium pre žiakov VŠ)

The benefit is a scholarship for university students from low-income households. It is granted annually for no longer than 11 months within a year, starting on the first day of the academic year. The benefit amount depends on family income and ranges between 1000 SKK and 2000 SKK monthly. Eligible students, who study in the same city as is their permanent residence, will receive SKK 200 per month less. Handicapped students are eligible to receive extra SKK 500 per month.

- *Scope and scale*

Old-age pensions represent the most important component of the social protection system, both in terms of number of recipients and annual expenditure. Other important insurance benefits, in terms of annual expenditure, are disability and to a lesser extent survivor pensions. Universal child benefits are received by a substantive part of the population but they account for a relatively minor part of the social protection budget.

Table 5. Social benefits: recipients (as % of population)

	2007	2008	2009	2010
Old age pension	17.00	17.10	17.22	18.48
Early old age pension	0.89	1.06	1.09	N/A
Disability pension	3.61	3.70	3.77	3.94
Widow/er pension	6.19	6.23	6.24	6.73
Orphan pension	0.55	0.53	0.53	N/A
Material need benefits	3.38	2.84	3.32	3.51
Child birth grant	0.88	0.91	1.04	1.05
Child benefit	13.24	13.09	13.06	12.87
Parental allowance	2.47	2.46	2.50	2.53

Notes: N/A: not available.

Source: <http://www.statistics.sk/>

Table 6. Social benefit: expenditure (mil. SSK)

	2007	2008	2009	2010
Old age pension	96147.8	103674.4	115551.7	120444.6
Disability pension	15379.8	16881.1	18746.2	19775.3
Widow/er pension	14991.4	15973.8	17378.6	17776.1
Sickness benefits	4448.2	5519.2	7245.2	2309.2
Unemployment insurance	1796.0	1992.0	5194.6	4539.4
Material need benefits	7728.0	6251.0	7143.0	8677.0
Child birth grant	226.0	245.0	289.3	288.0
Child benefit	8254.0	8064.0	10095.0	10095.0
Parental allowance	7370.0	7558.0	8604.0	8604.0

Notes: N/A: not available

Source: <http://www.statistics.sk/>



- *Not strictly benefits*

Private pensions (Dôchodky z tretieho piliera)

Pensions derived from supplementary pension insurance (SPI) also known as third pillar. The purpose of SPI is to enable the insured to receive supplementary pension benefits in the old age or handicapped support, or to ensure additional income for the survivors in the event of death of the insured, in the form of benefits from the funds created by contributions paid by the insured, or even contributions paid by the employer and from the profit raised by the insurance company from its business activities. The SPI operates on the principle of regular savings of small financial amounts which are accumulated on long-term basis from mutual contributions of employers and employees and valorized on the pension account of the insured, maintained by supplementary pensions companies in Slovakia.

Alimony (Výživné)

It is a financial support to mitigate the negative economic effects that divorce may have on the spouse. Every parent, regardless of their skills, capabilities and financial circumstances is obliged to fulfill its maintenance obligations to the minimum extent of 30% of the minimum subsistence level (MLS) of the dependent child. Only courts can decide about the alimony eligibility.

Termination pay (Odchodné)

Benefit provided by employer based on the provisions of the Labour code in Slovakia. Upon the first termination of employment relationship upon acquiring entitlement to an old-age pension invalidity pension, or pension for years of service an employee is entitled to receive termination pay of at least the amount of his/her average monthly earnings.

Severance payments (Odstupné)

Benefit provided by employer based on the provision of the Labour code in Slovakia. An employee is entitled to a severance payment upon termination of employment (for reasons stated in the Labour Code) at the minimum sum of a twofold of his average monthly earnings. An employee who has worked for the employer for at least five years shall be entitled to a severance payment in the sum of at least three times his average monthly earnings.

Educational allowances (Štipendiá a granty): Students may receive scholarships and educational grants paid by the university they attend. Rules determining eligibility criteria, as well as amounts are set by the universities.

1.4 Social contributions

There are two types of social insurance contributions that are paid in the Slovak Republic, namely social insurance contributions and health insurance contributions. Social insurance contributions cover old-age, sickness, unemployment, accident, and disability insurance, as well as the guarantee insurance and the reserve solidarity fund. Social insurance contributions are assessed on gross incomes up to a maximum. The assessment base is calculated slightly differently for the self-employed. The contribution rate paid by the self-employed is the sum of employee and employer's contributions (except of sickness insurance).

Health insurance contributions are assessed on gross incomes up to a maximum. The assessment base is calculated slightly differently for the self-employed. The contribution rate paid by the self-employed is the sum of employee and employer's contributions.



- *Scope and scale*

The most important contributions in terms of revenue are contributions paid into the health insurance fund. Old-age and disability insurance contributions are also important components of social insurance revenue.

Table 7. Social contributions: revenue (Mil. SKK)

	2007	2008	2009	2010
Sickness insurance	9742.69	11157.57	10769.05	11077.33
Old-Age insurance*	69226.23	77445.96	74254.17	74885.95
Disability insurance	22346.09	25060.38	23943.87	24209.37
Unemployment insurance	7012.62	7845.51	7411.12	7500.44
Accident insurance	3293.17	3627.73	3408.52	3427.53
Health insurance	87131.55	97305.99	100158.62	105449.98

*Second pillar payments excluded.

Source: <http://www.statistics.sk/>

1.5 Taxes

Personal income tax (Daň z príjmu fyzických osôb)

Personal income tax is levied on gross income including wages and salaries, income from business activities, fringe benefits, capital incomes (except dividends), interest payments and incomes from rent. Social contributions as well as all social benefits are exempt from income tax. The personal income tax is applied at the individual level and consists of a uniform 19% flat-rate. There are three types of tax allowances and a tax credit.

Value added tax (Daň z pridanej hodnoty)

The value added tax is levied on all goods and services supplied (including imported goods) in the Slovak Republic. Since January 2004, the value added tax amount to 19%, for all goods and services (Since 2007, lower VAT rate of 10% was introduced). It is the most important income source for the general budget.

Excise taxes (Spotrebné dane)

Excise taxes are indirect taxes that are selectively levied on certain products – beer, wine, tobacco products, spirits and mineral oils. They are an important government resource of tax revenues as they account for 2.9% of GDP.

Local taxes (Miestne dane)

There are several taxes that are set and administered at the municipal level, i.e. the real estate tax (on lands, buildings, flats), charges for dog owners, taxes on public area employment, accommodation tax, tax on vending machines, tax on non-win gambling machines, tax on entry and parking of a motor vehicle within the historical area of a city, tax on nuclear facilities, obligatory local charge for municipal waste and minor construction waste.

Motor Vehicle Tax (Daň z motorových vozidiel)

Motor and towed vehicles that are used for entrepreneurship are subject to this tax. VUC's decide at their own discretion within a general statutory regulation of a specific tax rate valid within their area.



- *Scope and scale*

Indirect taxes represent the most important source of tax revenue. In particular, VAT accounts for approximately 40% of the annual tax revenue. Direct taxes, such as corporate and personal income taxes, represent much smaller tax revenue components. Together they account for approximately one third of annual tax revenue.

Table 8. Taxes: revenue

	2006	2007	2008	2009*	2010*
Annual revenue (mil. SKK/EUR*)	282 783	317 605	336 587	9 877	10 147
Direct taxes					
Personal income tax	41 511	48 134	54 866	1 519	1 539
Corporate income tax	48 173	55 681	62 884	1 582	1 683
Local taxes	3 889	4 164	4 673	158	160
Indirect taxes					
Value Added Tax	123 629	124 935	139 225	4 221	4 182
Excise Taxes	47 876	65 412	54 505	1 761	1 931
Motor Vehicle Tax	3 086	3 501	3 625	118	120

Source: <http://www.finance.gov.sk/>



2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Not all the taxes and benefits mentioned in the previous section are simulated by EUROMOD. Some are beyond its scope entirely and are neither included in the EUROMOD database nor in its output income variables. Others are not possible to simulate accurately with the available data. They are included in the database and may be chosen as components of output variables, but the rules governing them may not be changed by the model. Table 9 and Table 10 classify each of the main tax-benefit instruments (and some minor ones introduced above) into one of these three groups and provides a brief explanation as to why the instrument is not fully simulated if this is the case. Information is provided regarding the treatment of all tax and benefit instruments in each policy year that has been implemented.

Table 9. Simulation of benefits in EUROMOD

	Variable name(s)	Treatment in Euromod				Why not fully simulated?
		2007	2008	2009	2010	
Old age pension	poa00	I	I	I	I	No data on contribution records
Disability pension	pdi00	I	I	I	I	No data on contribution records and % loss of working capacity
Widow & widower's pension	psu00	IA	IA	IA	IA	No data on the contribution record of the deceased; included in psu00 (survivor benefits)
Orphan's pension	psu00	IA	IA	IA	IA	No data on the contribution record of the deceased; included in psu00 (survivor benefits)
Sickness cash benefit	bhl	IA	IA	IA	IA	Short term benefit; no data on sick days ; included in health related benefits (bhl)
Benefit for nursing a sick relative	bhl	IA	IA	IA	IA	Short term benefit; no data on sickness days of relatives; included in health related benefits (bhl)
Maternity benefit	bma	I	I	I	I	No data on contribution records
Equalization allowance	bfa00	IA	IA	IA	IA	No data on pregnancy related changes in pay; included in other family related benefits (bfa00)
Unemployment benefit	bunct_s	PS	PS	PS	PS	No data on contribution records
Material needs	bsa_s	S	S	S	S	No information about participation in training /community work; no information on child disability
Birth grant	bchba_s	S	S	S	S	Additional birth grant also simulated
Multiple birth benefit	bfa00	IA	IA	IA	IA	No observation in the data due to the very low prevalence of the benefit
Parental allowance	bcc_s	S	S	S	S	No data on child disability
Funeral benefit	bsu	IA	IA	IA	IA	No data on deceased relatives; included in other survivor benefits (bsu)



Scholarships for pupils in elementary school	bsaot	IA	IA	IA	IA	No information on grades; included in other social exclusion benefits (bsaot)
Scholarships for pupils in secondary school	bsaot	IA	IA	IA	IA	No information on grades; included in other social exclusion benefits (bsaot)
Scholarships for university students	bsaot	IA	IA	IA	IA	No information on grades; included in other social exclusion benefits (bsaot)

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

Simulated benefits include most family related instruments (termed state social support), means-tested social assistance, as well as a partial simulation of the unemployment benefit. Other contributory benefits, such as old-age, early old-age, disability and survivor pensions, sickness and maternity benefits cannot be simulated due to absence of relevant information on contribution records and/or disability characteristics. These benefits are taken directly from the data. The multiple birth grant benefit is not simulated as it concerns a very small fraction of the population. Finally, means-tested scholarships could not be simulated without assumptions about what the grades of potentially eligible pupils/students are.

Table 10. Simulation of taxes and social contributions in EUROMOD

	Variable name(s)	Treatment in Euromod				Why not fully simulated?
		2007	2008	2009	2010	
Employee social insurance contributions	tscee_s	S	S	S	S	
Sickness	tsceesi_s	S	S	S	S	
Old-age	tsceepi_s	S	S	S	S	
Disability	tsceedi_s	S	S	S	S	
Unemployment	tsceeu_i_s	S	S	S	S	
Employer social insurance contributions	tscer_s	S	S	S	S	
Sickness	tscersi_s	S	S	S	S	
Old-age	tscerpi_s	S	S	S	S	
Disability	tscerdi_s	S	S	S	S	
Unemployment	tscerui_s	S	S	S	S	
Accident	tscerac_s	S	S	S	S	
Guarantee	tscersf_s	S	S	S	S	
Reserve solidarity fund	tscerot_s	S	S	S	S	
Self-employed social insurance contributions	tscese_s					
Sickness	tscsesi_s	S	S	S	S	Based on current instead of previous year income
Old-age	tscsepi_s	S	S	S	S	Based on current instead of previous year income
Disability	tscsedi_s	S	S	S	S	Based on current instead of previous year income
Reserve solidarity fund	tscseot_s	S	S	S	S	Based on current instead of previous year income
Health insurance contributions	tschl_s	S	S	S	S	the self-employed;



Employee	tsceehl_s	S	S	S	S	
Self-employed	tscsehl_s	S	S	S	S	Based on current rather than previous income
Employer	tscerhl_s	S	S	S	S	
Inactive	tschlfx_s	S	S	S	S	
Contributions paid by central government						
Health	tsccthl_s	S	S	S	S	
Compulsory private pension (2nd pillar) contributions	tscpcpi_s	S	S	S	S	No information on participation into the 2 nd pillar in the dataset; participation simulated by randomly assigning employees/self-employed to the 2 nd pillar based on probabilities derived from external data
Taxes						
Personal income tax	tin_s	S	S	S	S	Spouse tax allowance for individuals with spouse not present in the household not simulated
Property tax	tpr	I	I	I	I	No data on properties and their characteristics
Value added tax		E	E	E	E	No adequate data on types of expenditure
Excise taxes		E	E	E	E	Beyond the scope of Euromod; no data on related expenditure
Local taxes		E	E	E	E	Beyond the scope of Euromod; no detailed data on locality
Motor vehicle tax		E	E	E	E	Beyond the scope of Euromod; no data on vehicle characteristics

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.

All social insurance contributions payable by employees, employers and self-employed have been simulated. For employers and self-employed, the model can distinguish between first and second pillar pension contributions. Additionally, the model simulates health insurance contributions that are paid by the central government on behalf of certain categories. The personal income tax is simulated only as the final tax liability (i.e. after all tax allowances and tax credits). No withholding income tax is simulated. Indirect taxes, as well as other direct taxes (such as local taxes) lie outside the scope of EUROMOD and are excluded from the model.



2.2 Simulated policies and order of simulation

2.2.1 Simulated policies

A short list of simulated policies, both tax and benefit instruments, is shown again in Table 11. The model allows for modeling all social insurance contributions, all rules regarding personal income taxation (including all tax allowances and tax credits). The first year to be simulated is 2007.

- *Structural changes between 2006 and 2007*

In comparison with the policy elements implemented in 2006, the 2007 system models several additional components that have been introduced between the 1st July 2006 and the 30th of June 2007. The simulation of the birth grant for 2007 includes both the ‘standard’ birth grant component existent in 2006 and the additional birth grant introduced in January 2007. The basic tax allowance and the spouse tax allowance are modeled using the new (more progressive) rules introduced in January 2007.

- *Structural changes between 2007 and 2008*

The most important policy change that has taken place in 2008 is the introduction of a supplementary child benefit awarded to certain categories. The supplementary benefit, as well as the ‘standard’ benefit are both simulated as part of the child benefit policy. Changes in the categories liable to pay social insurance contributions are also included in the 2008 system. Maximum assessment base for old-age insurance, disability insurance, unemployment insurance and reserve solidarity fund was increased from 3 to 4 times the average wage.

- *Structural changes between 2008 and 2009*

The employee tax credit introduced in January 2009 is simulated as part of the income tax policy in the 2009 system. The basic tax allowance and spouse tax allowance was temporarily increased (for years 2009 and 2010) as a part of anti-crisis measures. For the self-employed, social contribution rate paid to reserve solidarity fund was temporarily decreased from 4.75 percent to 2.75 percent for years 2009 and 2010.

- *Structural changes between 2009 and 2010*

Parental allowance rules were changed in 2010. Two benefit amounts were introduced, conditioned to child’s age, parent’s contributions previous child birth, as well as their work history and eligibility for maternity benefits.



Table 11. Simulated policies

Section	Policy	Description	Year			
			2007	2008	2009	2010
	minwage_sk	Minimum wage (switched off in the baseline for all years)	X	X	X	X
2.3.4	bcc_sk	Parental allowance	X	X	X	X
2.4.1	tscee_sk	Employee social insurance contributions	X	X	X	X
2.3.8	bunct_sk	Contributory unemployment insurance benefit	X	X	X	X
2.4.2	tscer_sk	Employer social insurance contributions	X	X	X	X
2.4.3	tscse_sk	Self employed social insurance contributions	X	X	X	X
2.4.4	tschl_sk	Health insurance contributions	X	X	X	X
2.4.6	tscpci_sk	Compulsory private pension insurance contributions	X	X	X	X
2.5	tin_sk	Personal income tax	X	X	X	X
2.3.2	bchba_sk	Child birth grant	X	X	X	X
2.3.5	bch_sk	Child benefit	X	X	X	X
2.3.1	bsa_sk	Material needs benefit	X	X	X	X
2.4.5	tsccthl_sk	Credited health insurance contributions	X	X	X	X

2.2.2 Order of simulation

- *Order of simulation in 2007*

The order of simulation in the 2007 system is shown in Table 12 below. Minimum wage is simulated first, as the simulation of this policy affects employment income which is subsequently an input to social insurance contributions, personal income tax and means-tested benefits. However, note that the minimum wage is turned off in all years for the baseline.

Eligibility for the unemployment benefit is conditional upon receipt of the parental allowance. As a result, parental allowance is simulated before the unemployment insurance benefit.

Taxable income excludes all social insurance contributions paid. Therefore, social insurance contributions are simulated before the personal income tax.

Means-tested social assistance (material need benefits) are the last benefit to be simulated as the income that is assessed is net of all social insurance and taxes paid, while including social security benefits and regular state support benefits with the exception of the child benefit.

Finally, credited health contributions are simulated last as eligibility depends on receipt of the material need benefit.



Table 12. EUROMOD Spine: order of simulation, 2007

Policy	Description	Main output
minwage_sk	Hourly minimum wage for employees	yemwg
bcc_sk	Parental allowance	bcc_s
tscee_sk	Employee social insurance contributions	tscee_s
bunct_sk	Contributory unemployment benefit	bunct_s
tscer_sk	Employer social insurance contributions	tscer_s
tscse_sk	Self-employed social insurance contributions	tscse_s
tscpcpi_sk	Compulsory private pension insurance contributions	tscpcpi_s
tschl_sk	Health insurance contributions	tschl_s
tin_sk	Personal income tax	tin_s
bchba_sk	Birth grant	bchba_s
bch_sk	Child benefit	bch_s
bsa_sk	Material need benefit	bsa_s
tsccthl_sk	Credited health insurance contributions	tsccthl_s

- *Order of simulation in 2008*

The order of simulation and policy interdependencies in 2008 are the same as the one in 2007.

Table 12.a. EUROMOD Spine: order of simulation, 2008

Policy	Description	Main output
minwage_sk	Hourly minimum wage for employees	yemwg
bcc_sk	Parental allowance	bcc_s
tscee_sk	Employee social insurance contributions	tscee_s
bunct_sk	Contributory unemployment benefit	bunct_s
tscer_sk	Employer social insurance contributions	tscer_s
tscse_sk	Self-employed social insurance contributions	tscse_s
tscpcpi_sk	Compulsory private pension insurance contributions	tscpcpi_s
tschl_sk	Health insurance contributions	tschl_s
tin_sk	Personal income tax	tin_s
bchba_sk	Birth grant and additional birth grant	bchba_s
bch_sk	Child benefit	bch_s
bsa_sk	Material need benefit	bsa_s
tsccthl_sk	Credited health insurance contributions	tsccthl_s



- *Order of simulation in 2009*

The order of simulation and policy interdependencies in 2009 are the same as the one in 2008.

Table 12.b. EUROMOD Spine: order of simulation, 2009

Policy	Description	Main output
minwage_sk	Hourly minimum wage for employees	yemwg
bcc_sk	Parental allowance	bcc_s
tscee_sk	Employee social insurance contributions	tscee_s
bunct_sk	Contributory unemployment benefit	bunct_s
tscer_sk	Employer social insurance contributions	tscer_s
tscse_sk	Self-employed social insurance contributions	tscse_s
tscpcpi_sk	Compulsory private pension insurance contributions	tscpcpi_s
tschl_sk	Health insurance contributions	tschl_s
tin_sk	Personal income tax	tin_s
bchba_sk	Birth grant and additional birth grant	bchba_s
bch_sk	Child benefit	bch_s
bsa_sk	Material need benefit	bsa_s
tsccthl_sk	Credited health insurance contributions	tsccthl_s

- *Order of simulation in 2010*

The order of simulation and policy interdependencies in 2010 are the same as the one in 2009.

Table 12.c. EUROMOD Spine: order of simulation, 2010

Policy	Description	Main output
minwage_sk	Hourly minimum wage for employees	yemwg
bcc_sk	Parental allowance	bcc_s
tscee_sk	Employee social insurance contributions	tscee_s
bunct_sk	Contributory unemployment benefit	bunct_s
tscer_sk	Employer social insurance contributions	tscer_s
tscse_sk	Self-employed social insurance contributions	tscse_s
tscpcpi_sk	Compulsory private pension insurance contributions	tscpcpi_s
tschl_sk	Health insurance contributions	tschl_s
tin_sk	Personal income tax	tin_s
bchba_sk	Birth grant and additional birth grant	bchba_s
bch_sk	Child benefit and supplement	bch_s
bsa_sk	Material need benefit	bsa_s
tsccthl_sk	Credited health insurance contributions	tsccthl_s



2.3 Social benefits

2.3.1 Material need benefits (bsa_s)

- *Brief description*

Material need benefits are a social assistance type of scheme, aimed at ensuring a basic standard of living. They consist of the basic benefit for material need and the allowances for material need.

- *Definitions and eligibility conditions*

The unit of analysis is the **family**. The family contains the following persons if they are living in the same household:

- Spouses
- Parents and dependent children. A child is considered a dependent when fulfilling one of the following conditions:
 - (s)he is younger than 16 and participating in compulsory education (9 years)
 - (s)he is younger than 26 and completing education, studying at an approved educational institution
 - (s)he is younger than 18 and has a long-term health condition
- Parents and children aged up to 25 years old without income or with income below the minimum wage (except children entitled for unemployment benefit or disability benefit)

The material need benefits are provided if the family's assessed income is below the minimum subsistence level and cannot be increased by members of the family themselves (e.g. by selling assets).

The minimum subsistence level is the socially recognized minimum income an individual or a family must have in order not to be in material need.

The minimum subsistence level depends on the structure of the household:

The monthly amounts of the minimum subsistence level are:

	2006	2007	2008	2009	2010
Head	SKK 4730	SKK 4980	SKK 5130	€178.90	€185.19
Every next adult	SKK 3300	SKK 3480	SKK 3580	€124.80	€129.18
Dependent child	SKK 2150	SKK 2270	SKK 2340	€81.70	€84.52

- *Income test*

The income assessed by the income test consists of:

- 75% of the net incomes from employment and self-employment
- 75 % of the old-age pension for a pensioner with a working career of up to 25 years. For each additional year of working history beyond 25 years, the parameter is decreased by 1%.
- 75% of the disability benefit



- 75% of the maternity benefit
- 75% of the widow and widower pension
- 75% of the orphan pension
- unemployment insurance benefit
- sickness insurance benefit
- private pensions
- property income
- investment income
- maintenance payments
- parental allowance
- termination pay
- severance pay
- equalization allowance
- private transfers

Incomes **exempted** from the income test are:

- social assistance benefits for severely disabled people
- one-off state social support payments :
 - childbirth grant,
 - multiple birth benefit,
 - foster care allowances – only one-off allowances,
 - parental allowance,
 - one-off allowances for child in foster care,
 - funeral benefit
- scholarships
- tax credit on dependent child
- contribution for graduate practice
- income from occasional activities, random or one-off incomes up to twice the Minimum Subsistence Level
- child benefit

A family is eligible to receive material need benefits if its assessed income is below the minimum subsistence level corresponding to its family structure.

- ***Benefit amount***

The amount of the material need benefits is calculated summing the **basic benefit for material need** and all the **allowances for material need** to which a family is entitled to, and subtracting the family's assessed income.



Monthly amounts of the **Basic Benefit for material need** are:

	2006	2007	2008	2009	2010
Individual	SKK 1560	SKK 1640	SKK 1680	€8.43	€0.50
Single parent 1-4 children	SKK 2500	SKK 2630	SKK 2800	€09.54	€115.10
Single parent, 5+ children	SKK 3710	SKK 3900	SKK 4100	€59.34	€168.20
Couple, no children	SKK 2710	SKK 2850	SKK 2910	€01.58	€105.20
Couple, 1-4 children	SKK 3700	SKK 3890	SKK 4000	€50.04	€157.60
Couple, 5+ children	SKK 4950	SKK 5210	SKK 5360	€10.16	€12.30
Extra amount for pregnant women	SKK 350	SKK 350	SKK 370	€2.95	€3.50
Extra amount for child<1	SKK 350	SKK 350	SKK 370	€2.95	€3.50

Source: No source available

The **Health Care Allowance** covers health care expenditures of persons in a state of material need. The monthly amounts of the health care allowance per individual were:

	2006	2007	2008	2009	2010
Per individual	SKK 50	SKK 60	SKK 60	€2.00	€2.00

Source: No source available

The **Activation Allowance** aims at obtaining, retaining or increasing the level of qualification, work skills, or work habits of individuals or households in order to encourage them to retain or to look for a job during the period in which they are in material need. The activation allowance cannot be received simultaneously with the protection allowance. The following conditions apply to the employed and the unemployed in order to become eligible:

- part-time attendance in an educational institution
- participation in training programs organized by the National Labour Office
- participation in work programs organized by the municipality or the Labour Office

If an employed person in material need does not participate in programs mentioned above or an unemployed person has been excluded from the unemployment registry, the entitlement for activation allowance does not arise.

A long term unemployed person who was entitled to material need benefits can receive activation allowance for up to 6 months after taking up employment (on condition that her wage does not fall below the minimum wage and does not exceed three minimum wages) or self-employment.

The amounts of the activation allowance per month/person were:

	2006	2007	2008	2009	2010
Per individual	SKK 1700	SKK 1900	SKK 1900	€3.07	€3.07



The **Housing Allowance** aims at covering the housing related costs of a household in material need. At least one household member must be the owner or tenant of the flat/house the family resides in and must prove (s)he pays housing cost. Old age pensioners do not need to fulfill this condition.

The amount of the housing allowance is during 2006-2009 were the following:

	2006	2007	2008	2009	2010
1 member household	SKK 1360	SKK 1460	SKK 1490	€52.19	€55.80
2+ member household	SKK 2150	SKK 2300	SKK 2350	€83.32	€89.20

The **Protection Allowance** is given to persons in material need who are:

- past retirement age
- disabled (lost more than 70% of ability to work)
- caring for a disabled child or person
- sick for a period of more than 30 days
- single parents caring for a child up to the age of 31 weeks

It cannot be collected by persons receiving Activation Allowance.

The amounts of the protection allowance per month for each individual in material need were:

	2006	2007	2008	2009	2010
Per individual	SKK 1700	SKK 1900	SKK 1900	€63.07	€63.07

Material need benefits amounts are indexed annually by government regulation on 1 September. There is no automatic indexation rule in legislation.

Notes on implementation

Children older than 16/18 and not in education/disabled are treated as dependent children rather than adults. A caregiver's protection allowance is simulated whenever there is a disabled adult in the tax unit and a non-disabled adult not entitled in her own right to protection allowance exists. No information exists to allow for the simulation of protection allowance for caregivers of disabled dependent children. Activation allowance is simulated for all working age adults not entitled to Protection Allowance, as information on training and participation in work programs does not exist. In practice, the application of the rules for activation allowance largely follows the assumptions used in EUROMOD. The housing allowance component is simulated only for tax units whose head is also the head of the entire household. The benefit is allocated to the head of the assessment unit.



2.3.2 Child birth grant (bchba_s)

- **Brief description**

This benefit supports covering the expenses related to the provision of essential needs of the newborn child.

- **Definitions**

The benefit is paid out to the parents of a newborn child. The child must be older than 28 days.

- **Eligibility conditions**

Only one parent (usually the mother) can receive the grant. Entitlement to the child birth grant is conditioned on:

- childbirth
- permanent residency of the entitled person

- **Income test**

No income test is applied.

- **Benefit amount**

The benefit is paid once and equals SKK 4,460 (€148.04) for one child. If two or more children were born the benefit is increased by 50 percent and equals SKK 6,690 (€222.07) per child.

There is no automatic indexation rule legislated. The benefit amount is adjusted annually (on the 1st of September) based on government decision.

	2006	2007	2008	2009	2010
Per child/ single birth	SKK 4460	SKK 4460	SKK 4560	€51.37	€51.37
Per child/ multiple birth	SKK 6690	SKK 6690	SKK 6840	€227.05	€227.05

Source: No source available

Additional birth grant (2007-2010)

The additional birth grant was introduced on January 1st 2007. It consists of a one-off benefit paid for each newborn child whose mother was at her first childbearing. The child must be 28 days old in order for the benefit to be paid. Since January 1st 2009, the additional birth grant is also paid for the second and the third child. No income test is applied. The benefit amounts are:

	2006	2007	2008	2009	2010
Per child	-	SKK 11000	SKK 20440	€678.49	€678.49

Source: No source available

The benefit is adjusted annually by governmental decision on the 1st of September. No automatic indexation is legislated.



Notes on implementation

The birth grant is simulated for all children aged 0 in the input dataset. For the additional birth grant, the order of birth is established based on the other children of the couple present in the household. The benefit is allocated to the mother if the mother is present in the household or to the tax unit's head otherwise.

2.3.3 Parental allowance (bcc_s)

- *Brief description*

The allowance is paid to a parent taking care of a child (own child or a foster care child).

- *Definitions and eligibility conditions*

The unit of analysis is the parents and their dependent child. Only one parent can claim the allowance at any one time. Under the parental allowance rules up to 2009, a parent is eligible to receive parental allowance if (s)he:

- takes care of at least 1 child younger than 3
- takes care of at least 1 child younger than 6 who has a long-term unfavorable health condition
- is, along with the child, a permanent resident of the Slovak Republic

The entitled parent is allowed to work if the child is in the care of grandparents or in kindergarten.

The parental allowance is not paid if either of the parents is entitled to receive sickness insurance benefits.

If one of the parents is entitled to maternity benefit, only the difference between the parental allowance and the maternity benefit is paid (if the maternity benefit exceeds the parental allowance, nothing is paid).

Since 2010, two benefit amounts were introduced with the following rules:

- 1) Parents eligible to receive parental allowance in amount of €164.22 are those, who did not work before the child's birth, did not pay health contribution, or were not eligible for maternity benefit.
- 2) Parents eligible to receive parental allowance in amount of €256.00 are those who paid health contribution prior to child birth at least 270 days or were eligible for maternity benefits.

Parent is eligible if (s)he takes care of at least 1 child younger than 2. If the child is older, but still younger than 3 the parental allowance decreases to amount of €164.22.

Another important change introduced has been that a parent is not eligible to receive parental benefits if he has a paid job. If the parent has a paid job, (s)he is eligible to receive child care benefit (príspevok na starostlivosť o dieťa). The amount of the child care benefit was €164.22 in 2010.



- *Income test*

No income test is applied. However, the benefit is (partially) incompatible with receipt of other social benefits (i.e. sickness and maternity insurance benefits).

- *Benefit amount*

Only one parent or eligible person can receive the parental allowance in any given month. The monthly amounts of parental allowance were:

	2006	2007	2008	2009	2010
Per family	SKK 4230	SKK 4440	SKK 4560	€158.67	€164.22/ €256

Source: No source available

The parental allowance amount is indexed annually on the 1st September by increase in the minimum subsistence level.

Notes on implementation

The benefit is simulated for all mothers of children younger than 3. The age of the child is constructed based solely on the year of birth (disregarding the month). As a result, a larger number of months is simulated for children aged 0, while no entitlement is simulated for children who turned 3 during the income reference period. The extended parental allowance for disabled dependent children cannot be simulated due to lack of information on children's disability status. The incompatibility of receipt with the sickness insurance benefit is not simulated due to the short-term nature of sickness insurance benefits. The benefit is allocated to the mother, if the mother is present in the household (if not, to the head).

2.3.4 Child benefit (bch_s)

- *Brief description*

The child benefit is a tax financed universal family benefit paid monthly to support the nutrition and care of each dependent child.

- *Definitions and eligibility conditions*

The unit of analysis consists of parents and their dependent child. A dependent child is defined as:

- a child in compulsory schooling (aged 16 or less)
- a person younger than 26 who is completing her education, attending vocational training or studying full-time at an approved educational institution
- a person aged 18 or less who has a long-term health condition

There is no conditionality to the child benefit other than permanent residency in the Slovak republic both of the entitled parent and the dependent child. If the child is placed in a social services establishment, the benefit is not granted.

Since January 2008, **additional child benefit** has been introduced. Entitled to it are recipients of the main child benefit (described above) who in addition:

- are recipients of an old-age pension, early old-age pension or a disability benefit
- do not work
- are not entitled to receive the tax credit for having a dependent child.



- *Income test*

No income test is applied.

- *Benefit amount*

The monthly amounts of the child benefit were:

	2006	2007	2008	2009	2010
Per child	SKK 540	SKK 540	SKK 540	€21.25	€21.99

Source: No source available

The monthly amount for the **additional child benefit** introduced in 2008 was SKK 300 (€9.94) per child in 2008, €9.96 in 2009 and €10.31 in 2010.

There is no automatic indexation rule legislated. The benefit is adjusted by government regulation annually on the 1st of September.

Notes on implementation

The benefit is simulated according to the existing policy rules, and allocated to the mother if she is present in the household (if not, to the head). The age of the child disregards the month of birth.

2.3.5 Unemployment insurance benefit (*bunct_s*)

- *Brief description*

The unemployment benefit is a contributory benefit that is paid to unemployed persons fulfilling the eligibility criteria.

- *Eligibility conditions*

In order to receive unemployment benefit, a person must

- have contributed for at least three years within the last four; after the end of an unemployment spell, the insured person must contribute for another three years before a new claim can be made
- be listed on the unemployment registry
- be under pensionable age
- not be receiving any of the following: sickness cash benefits, benefit for nursing sick relative, maternity benefit, parental allowance

The unemployment insurance benefit is paid for a maximum of six months.



- *Benefit amount*

The benefit amounts to 50% of the daily assessment base. The daily assessment base is calculated as the sum of all the bases (gross incomes subject to social insurance) on which unemployment insurance contributions have been paid, divided by the corresponding number of working days.

Notes on implementation

A number of assumptions are made regarding the contribution history to determine eligibility and amount. Employed individuals who do not receive the benefit are assumed to have contributed the lower amount of the 4 times the number of months they are observed in employment in the income reference period and their total number of months in work during the work career. Unemployed individuals in receipt of unemployment insurance are assumed to have contributed at least 36 months. Unemployed individuals who are not in receipt of unemployment insurance benefits are assumed to have contributed 0 months. The amount of the benefit is calculated based on the income subject to insurance contributions for the employed, and on an estimation of previous earnings for the currently unemployed (see section on Data). Eligibility for the benefit is simulated using the simulated (rather than the observed) value for receipt of parental allowance. The simulated duration of the unemployment benefit takes into account periods of old-age pension and maternity benefit receipt. Incompatibility with receipt of sickness insurance benefit and benefit for nursing a sick relative is not simulated.

2.4 Social contributions

Two types of social contributions are paid in the Slovak Republic, namely social insurance contributions and health insurance contributions. The former includes old-age, sickness, disability, accident and unemployment insurance, as well as the reserve solidarity fund and guarantee insurance.

Social contribution rates overview

	EMPLOYEE & EMPLOYER						SELF-EMPLOYED & VOLUNTARY PAYER
	PAYG system		Combined system (since Jan 2005)				self employed and voluntary payer
	employee	employer	PAYG pillar		2nd pillar		
			employee	employer	employee	employer	
1.Social insurance	9.40	25.2	9.40	16.2	-	9.00	33.15
<i>Sickness insurance</i>	1.40	1.40	1.40	1.40	-	-	4.40
<i>Old-age insurance</i>	4.00	14.00	4.00	5.00	-	9.00	18.00 into PAYG or 9.00 (PAYG)+ 9.00 (2nd pillar)
<i>Disability insurance</i>	3.00	3.00	3.00	3.00	-	-	6.00
<i>Unemployment insurance</i>	1.00	1.00	1.00	1.00	-	-	2.00 (voluntary)
<i>Reserve solidarity fund</i>	-	4.75	-	4.75	-	-	4.75
<i>Accident insurance</i>	-	0.80	-	0.80	-	-	-
<i>Guarantee insurance</i>	-	0.25	-	0.25	-	-	-
2.Health insurance	4.00	10.00	4.00	10.00	-	-	14.00
Σ	13.4	35.2	13.4	26.2	0.0	9.0	47.15
	48.6		48.6				47.15



In January 2005, the pension system was introduced by establishing a mandatory, private, funded pillar. Under the new system, 9 percentage points of the pension contributions paid by the employer flow directly to private pension funds and not to the Social Insurance Agency as in previous years. The employer's contributions to the first public PAYG pillar are correspondingly reduced, from 14% to 5% of the employee's gross income. Participation in the second pillar has been made mandatory for all individuals starting work on or after 1 January 2005. Other individuals (i.e. those employed prior to 1 January 2005) had to decide by 31 June 2006 whether to participate in the second pillar or rely solely on the first pillar. As expected, the introduction of the second pillar led to a reduction of contributions to the Social Insurance Agency.

Social contributions base

Social insurance contributions are calculated as a percentage from the social insurance assessment base which is a base of gross incomes that are subject to social insurance contributions. The assessment base for social insurance contributions is compared to personal income tax base narrower as social insurance is levied only on occupational incomes, not capital incomes.

Persons who receive an old-age pension are not required to pay sickness, unemployment and disability contributions if they have employee income. Correspondingly, they are not entitled to receive sickness and unemployment benefits.

2.4.1 Employee social contributions

The employee pays 4 types of social insurance contributions as well, as health insurance contributions.

- ***Old Age Insurance***

The insurance covers retirement income. Employees pay 4% of the social insurance assessment base. This social insurance assessment base is the employee's gross income (wage), subject to a maximum of three times the average wage registered two years prior (t-2). As of 2008, the maximum increased to four times the average wage. The contribution is paid into the public PAYG pension pillar.

Old age insurance contributions are not payable when:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)

- ***Sickness Insurance***

The insurance covers loss of income in case of temporary work disability, pregnancy or maternity. Employees pay 1.4% of the social insurance assessment base for towards sickness



insurance. The assessment base is the employee's gross income (wage), subject to a maximum of 1.5 times the average wage registered two years prior (t-2).

Old-age pensioners and disability pensioners who have lost more than 70% of their work capacity are exempted from paying sickness insurance contributions.

Sickness insurance contributions are not payable when:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)

- ***Disability Insurance***

The insurance covers reduction of earning capability caused by a long-term health condition. Employees pay 3% of their gross wages, subject to a maximum insurance assessment base of three times the average wage registered two years prior (t-2). As of 2008, the maximum increased to four times the average wage.

Old-age pensioners and recipients of disability pensions who have lost more than 70% of their working capacity are exempted from paying disability insurance contributions.

Disability insurance contributions are not payable when:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)

- ***Unemployment Insurance***

Insurance covers loss of earning capability caused by unemployment. Employees pay 1% of their social insurance assessment base. The social insurance assessment base is their gross wage, subject to a maximum of three times the average wage registered two years prior (t-2). As of 2008, the maximum increased to four times the average wage

Recipients of old-age pensions and disability insurance benefits are exempted from paying unemployment insurance contributions when working.

Unemployment Insurance contributions are not payable when:

- Drawing maternity benefit



- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)

Notes on implementation

The deduction of the trade union fee from the assessment base for social insurance contributions is not simulated. Sickness, disability, old-age and unemployment insurance contributions are simulated taking into account the number of months in employment during the income reference period. For persons who are observed as changing their status from employee to old-age or disability pensioner during the income reference period, all employment income is considered to have been generated during their 'employee period'

2.4.2 Employer social contributions

The employer pays contributions towards: old-age, sickness, disability, unemployment, accident insurance, the reserve solidarity fund, guarantee insurance and health insurance.

- ***Old Age Insurance***

Employers pay 14% of the social insurance assessment base towards old-age insurance. The contributions are split for some employees (5% to the public pillar and 9% to the mandatory private pillar). The assessment base is the gross wages of the employees subject to a ceiling of three times the average wage two years prior (t-2). As of 2008, the maximum increased to four times the average wage.

The employer is not required to pay old-age insurance contributions if his employee is:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)
- Not required to pay old-age insurance contributions (the employee is a recipient of old-age or disability benefits)

- ***Sickness insurance***

Employers pay 1.4% of the social insurance assessment base towards sickness insurance. The assessment base is the gross wages of the employees subject to a ceiling of 1.5 times the average wage two years prior (t-2).



The employer is not required to pay old-age insurance contributions if his employee is:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)
- Not required to pay sickness insurance contributions (the employee is a recipient of old-age or disability benefits)

- ***Disability insurance***

Employers pay 3% of the social insurance assessment base towards disability insurance. The assessment base is the gross wages of the employees subject to a ceiling of three times the average wage two years prior (t-2). As of 2008, the maximum increased to four times the average wage.

The employer is not required to pay old-age insurance contributions if his employee is:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)
- Not required to pay disability insurance contributions (the employee is a recipient of old-age or disability benefits)

- ***Unemployment insurance***

Employers pay 1% of the assessment base towards unemployment insurance. The assessment base is the gross wages of the employees subject to a ceiling of three times the average wage two years prior (t-2). As of 2008, the maximum increased to four times the average wage.

The employer is not required to pay old-age insurance contributions if his employee is:

- Drawing maternity benefit
- Nursing a sick child or relative (up to 10 days)
- Taking care of a child younger than 10 (up to 10 days)
- During a period of temporary work incapacity, i.e. when drawing temporary work incapacity compensation paid by the employer (first 10 days) or drawing a sickness benefit (starting from the 11th day of incapacity)



- Not required to pay disability insurance contributions (the employee is a recipient of old-age or disability benefits)

- *Reserve solidarity fund*

The reserve solidarity fund covers shortfall in the budget for old-age benefits. Employers pay 4.75% of the assessment base. The assessment base is the gross employee wages, subject to a maximum of three times the average wage two years prior (t-2). As of 2008, the maximum increased to four times the average wage.

- *Accident insurance*

Employers pay 0.80% of the assessment base. The assessment base is the gross employee wages. There is no ceiling on the assessment base.

- *Guarantee insurance*

Employers pay 0.25% of the assessment base. The assessment base is the gross employee wages, subject to a maximum of 1.5 times the average wage two years prior (t-2).

Notes on implementation

Sickness, accident, old-age, disability and unemployment insurance contributions are simulated taking into account the number of months in employment during the income reference period. For persons changing their status from employee to old-age or disability pensioner, all the observed employment income is assumed to have been generated while being an employee. The guarantee insurance and the reserve solidarity fund contribution are assumed to be paid for all persons having employee income (including old-age and disability pensioners).

2.4.3 Self-employed social contributions

Self-employed pay four types of social contributions, namely old-age, sickness, disability insurance and payments into the reserve solidarity fund. They also pay health insurance contributions.

- *Old age insurance*

The self-employed are required to pay old-age insurance contributions if their gross profit during the year t-2 was higher than 12 minimum wages.

The self-employed pay 18% of their assessment base toward old-age insurance. They may pay the entire contribution into the public pillar, or they may choose to split (9% and 9%) between the public and the private pillars. The monthly assessment base is calculated as half of the partial tax base from self-employment (see table in section 2.5.3) divided by 12. A ceiling of three times the average wage registered two years prior (t-2) applies. As of 2008, the maximum increased to four times the average wage.

Self-employed persons are not required to pay old-age insurance during periods of temporary work incapacity (i.e. when drawing sickness insurance benefits). Recipients of old-age or



disability pensions (with more than 70% loss of working capacity) are not required to pay old-age insurance contributions.

- ***Sickness insurance***

The self-employed are required to pay sickness insurance contributions if their gross profit during the year t-2 was higher than 12 minimum wages.

The self-employed pay 4.4% of their assessment base towards sickness insurance. The monthly assessment base is calculated as half of the partial tax base from self-employment (see table in section 2.5.3) divided by 12. A ceiling of 1.5 times the average wage registered two years prior (t-2) applies.

Self-employed persons are not required to pay sickness insurance during periods of temporary work incapacity (i.e. when drawing sickness insurance benefits). Recipients of old-age or disability pensions (with more than 70% loss of working capacity) are not required to pay sickness insurance contributions.

- ***Disability insurance***

The self-employed are required to pay disability insurance contributions if their gross profit during the year t-2 was higher than 12 minimum wages.

The self-employed pay 6% of their assessment base towards disability insurance. The monthly assessment base is calculated as half of the partial tax base from self-employment (see table in section 2.5.3) divided by 12. A ceiling of 3 times the average wage registered two years prior (t-2) applies. As of 2008, the maximum increased to four times the average wage.

Self-employed persons are not required to pay disability insurance during periods of temporary work incapacity (i.e. when drawing sickness insurance benefits). Recipients of old-age or disability pensions (with more than 70% loss of working capacity) are not required to pay disability insurance contributions.

- ***Reserve solidarity fund***

The self-employed are required to pay disability insurance contributions if their gross profit during the year t-2 was higher than 12 minimum wages.

The self-employed paid 4.75% of their assessment base into the reserve solidarity fund until 2008. The rate was decreased to 2.75% for years 2009 and 2010. The monthly assessment base is calculated as half of the partial tax base from self-employment (see table in section 2.5.3) divided by 12. A ceiling of 3 times the average wage registered two years prior (t-2) applies. As of 2008, the maximum increased to four times the average wage.

Notes on implementation

Eligibility to pay social insurance contributions is based on the observed current income rather than previous year's income. No contributions are simulated if current self-employment income is negative. Self-employed persons who are observed to be in receipt of old-age or disability pension for less than 12 months during the income reference period are assumed to have generated all their self-employment income outside periods of pension receipt. Only self-employed liable to pay other types of insurance contributions are assumed to contribute to the reserve solidarity fund.



2.4.4 Health insurance contributions

- *Employees health insurance*

Employees are required to pay 4% of their assessment base towards health insurance. The assessment base is their gross wage subject to a maximum of three times the average wage registered two years prior (t-2). Health insurance contributions payable on income from agreements are fixed at 14% of the minimum gross wage. Persons who are normally entitled to credited health insurance contributions paid by the central government (see section 2.4.5) and also derive employment income do not pay health insurance contributions provided that their earnings are less than half the minimum gross wage. When the employment income of these categories is over the limit, health insurance contributions amount to 14% of that income.

- *Employer health insurance contributions*

Employers pay 10% of the assessment base towards health insurance. The assessment base is the employee gross wages, subject to a maximum of three times the average wage two years prior (t-2).

- *Self-employed health insurance contributions*

Self-employed persons pay 14% of their assessment base towards health insurance. The monthly assessment base is calculated as:

$$[(\text{partial tax base from self-employment}^1 - \text{health insurance contributions})/2.14]/12$$

A ceiling of 3 times the average wage registered two years prior (t-2) applies.

- *Health insurance contributions of the inactive population*

Persons who do not pay health insurance contributions either on employment or on self-employment income and who are not entitled to credited health insurance contributions (see below) must pay a fixed rate of 14% of the minimum gross wage multiplied by a fixed coefficient (0.6465 during 2006-2009) per month in order to be insured.

Notes on implementation

Health insurance is simulated on an annual rather than monthly basis (i.e. not taking into account the months in employment during the income reference period). Employee health insurance contributions include both contributions made at the standard rate and contributions made by persons who normally would be entitled to credited health insurance contributions but whose earnings are so high as to disqualify them. The employer health insurance contribution is simulated only for employees that pay the standard health insurance contribution rate. A health insurance contribution for the inactive population is simulated whenever periods of insurance contributions (based on employment or self-employment income) and periods of credited health insurance contributions sum to less than 12 months (for the remaining months). Contributions for the inactive population are simulated in the same policy sheet as credited health insurance contributions.

¹ see table in section 2.5.3



2.4.5 Credited health contributions

The central government pays health insurance contributions on behalf of dependent children (children younger than 16, or younger than 18 and disabled or younger than 26 and in full-time education), registered unemployed persons, recipients of old-age and disability pensions (except those also entitled to a survivor's pension), recipients of sickness and maternity benefits, recipients of parental allowance, recipients of material need benefits, foreign students and prisoners.

Health insurance contributions are paid by the central government on behalf of these categories only when their monthly income is lower than half the minimum wage. For any periods during which income exceeds half the minimum wage, health insurance contributions are paid by the individuals themselves (at a rate of 14%, see section 2.4.1).

Notes on implementation

Credited health insurance contributions are not simulated for foreign students and prisoners (these categories are outside the scope of the sample used to generate the micro-data). Credited health contributions are simulated for all persons observed to be unemployed as information about being listed in the unemployment registry is absent. Receipt of parental allowance is based on the simulated rather than the observed variable. No contributions are simulated for periods of sickness insurance benefit receipt. For dependent children, recipients of parental allowance, and recipients of material need benefit, credited contributions are simulated for a period of 12 months during the income reference period. For the remaining categories, periods where an entitlement arises (i.e. unemployment, receipt of old-age pension, disability pension and maternity benefit) are assumed to be consecutive up to a maximum of 12 months. Contributions are calculated taking the minimum wage as the assessment base.

2.4.6 Compulsory private pension (2nd pillar) insurance contributions

A mandatory, private, funded pension pillar has been introduced in January 2005. Under the new system, 9 percentage points of the pension contributions paid by the employer flow directly to private pension funds and not to the Social Insurance Agency as in previous years. The employer's contributions to the first public PAYG pillar are correspondingly reduced, from 14% to 5% of the employee's gross income. Similarly, 9 percentage points of the pension insurance contributions of the self-employed may be directed to the second pillar. In that case, 9% of the social insurance contributions assessment base is directed to the public PAYG system, and 9% to the private, funded pillar. Participation in the second pillar has been made mandatory for all individuals starting work on or after 1 January 2005. Other individuals (i.e. those employed prior to 1 January 2005) had to decide by 31 June 2006 whether to participate in the second pillar or rely solely on the first pillar.

Notes on implementation

Given that participation in the second pillar for most employees and self-employed was voluntary in years 2008-2010, a special algorithm is used. Based on external data, the



probability to participate in the second pillar is derived for 27 categories. The grouping for employees was based on gender, age category (3 age categories were used: 35 or younger, between 36 and 45, and 46 and older), and income category (4 income categories have been used-under 9000 SKK/ month, between 9000-19000 SKK/ month , between 19000-35000 SKK/month , and 35000 SKK/month and above). The grouping for self-employed was based three age categories (35 or younger, between 36 and 45, and 46 and older). All policy systems (i.e. 2006-2010) use probabilities derived from participation in the second pillar in November 2006).

2.5 Personal income tax

The main tax simulated for Slovakia is the personal income tax. All residents are required to file income tax returns (or ask their employer to do the tax clearing on their behalf) if their annual taxable income exceeds 50% of the basic tax allowance.

2.5.1 Tax unit

The tax unit is the individual.

2.5.2 Exemptions

There are several tax exemptions i.e. income components that are part of pre-tax income, but do not have to be declared to the tax authorities, and thus are not included in the concept of taxable income:

- (a) all health-care and social insurance benefits,
- (b) social assistance benefits (material need benefits),
- (c) state social support benefits (child birth grant, child benefit, multiple birth benefit, parental allowance, social assistance benefits for severely disabled people, foster care allowances, funeral benefit, nursing allowance),
- (d) scholarships except graduate scholarship,
- (e) income from dividends (profit shares paid to employees, share in the profits of the silent partners),
- (f) income from transferred, gifted or inherited immovable property,
- (g) alimonies,
- (h) luncheon vouchers (including contribution to meals consumed at canteen),
- (i) winnings in lotteries and other similar games operated under a license.

2.5.3 Tax base

Income liable to personal income tax included wages, salaries, income from business activities, fringe benefits, capital incomes less dividends, interests and rental income. The tax base for employees is computed as taxable income less social insurance contributions (both first and second pillar). For the self employed, the tax base is computed as taxable income minus social



insurance contributions and minus tax-deductible expenses. Self-employed are allowed to deduct previous losses (going back up to five years) from their taxable income. For the other taxpayers, the tax base is formed by deducting tax deductible expenses from taxable income.

The tax base may be further lowered by tax allowances (see section 2.5.4).

If a taxpayer who is not a VAT taxable person (i.e. has an annual turnover² that is less than SKK 1500000), fails to deduct documented expenses, he/she shall be free to deduct lump-sum expenses equal to 40% of the aggregate income from self-employment.

Taxpayers earning income from business, other gainful independent activity, or tenancy, who are engaged exclusively in crafts defined by special legislation shall be free to deduct lump-sum expenses equal to 60% of such income. The lump-sum deduction will cover all expenses except social security contributions. The taxpayer who applies lump-sum expenses shall in addition be free to deduct documented social security contributions.

Determining the tax base		
1	Partial tax base from dependent activities	= \sum of gross wages - \sum of social contributions
2	Partial tax base from self-employment	= \sum of business revenues - \sum of tax deductible expenses (including SSC) or lump-sum expenses and SSC
3	Partial tax base from capital gains and other revenues	= \sum of other revenues - \sum of tax deductible expenses
4=2+3	Aggregate amount of partial tax bases	
5	Loss carry forward	= \sum of previous losses
6=4-5	Partial tax base after loss carry forward (if losses exceed partial tax base, partial tax base is zero)	
7=6+1	Tax base before allowances	
8	Tax allowances	= \sum of all eligible allowances
9=7-8	Tax base (cannot be negative)	

2.5.4 Tax allowances

There are three types of tax allowances: (a) basic tax allowance, (b) spouse tax allowance, (c) tax allowances for supplementary pension savings

The basic tax allowance can be deducted from the positive tax base of each taxpayer. The yearly amount is to 19.2 x Minimum Subsistence Level (MSL)(valid on the 1st of January). For the 2006 tax year, the basic tax allowance was SKK 90816 (€3,014.54). The basic tax allowance is applied on a monthly basis.

In the case of recipients of old-age pension, early old-age pension and service pension the basic tax allowance is reduced by the amount of the pension received. If the pensions mentioned above exceed the basic tax allowance, there is no entitlement to the basic tax allowance.

In 2007, the personal basic tax allowance was made regressive. The formula for deriving it is:

$$19.2 * \text{MSL} - [(\text{Tax base before allowances} - 100 * \text{MSL}) * 0.25] \text{ in 2007 \& 2008}$$

² The turnover for twelve consecutive months is considered



$22.5 * \text{MSL} - [(\text{Tax base before allowances} - 86 * \text{MSL}) * 0.25]$ in 2009 & 2010.

The values in the parentheses cannot be negative.

The spouse tax allowance can be deducted from the positive tax base of each taxpayer, if his/her spouse has no income or his/her income is below the basic tax allowance. Until 2006, the formula for the calculation of the spouse tax allowance was:

$$19.2 \times \text{MSL} - \text{gross income of the spouse}$$

When computing the income of the spouse, the following types of income are taken into account: gross market income (employment, self-employment, investment and property income, private pensions, alimonies etc.), health and social insurance benefits. The tax credit, state social support benefits and scholarships are not assessed as part of the spouse's income. The spouse tax allowance is applied on a monthly basis.

In 2007, the spouse tax allowance has been made regressive. The formula for deriving it is

$19 * \text{MSL} - [(\text{Tax base before allowances} - 176 \text{MSL}) * 0.25]$ - income of the spouse - in 2007 & 2008

$22.5 \text{MSL} - [(\text{Tax base before allowances} - 176 \text{MSL}) * 0.25]$ - income of the spouse - in 2009 & 2010.

The values in the parentheses cannot be negative.

Since 2007, social security contributions are deducted from the income of the spouse.

The supplementary pension saving allowance includes three allowances (supplementary pension allowance, special purpose saving allowance, life insurance allowance) that all have a similar purpose and shall be considered together. Each eligible taxpayer can lower his tax base by deducting the amount of for supplementary pension savings, special purpose savings and life insurance during the tax year. The three types of allowance together cannot exceed SKK 12 000. The supplementary pension saving allowance is applied only on an annual basis i.e. during tax clearing.

Common eligibility requirements are:

- 1) the taxpayer must participate in these schemes for at least 10 years
- 2) the taxpayer cannot claim benefits from these schemes before reaching the age of 55 years.

2.5.5 Tax schedule

A flat tax rate of 19 per cent is applied.

2.5.6 Tax credits

The tax credit on each dependent child is a form of negative tax. It is deducted from the tax liability. If the tax credit exceeds the tax liability, the excess is paid to the taxpayer (negative tax). To be eligible for the tax credit, a taxpayer must:

- 1) have a dependent child
- 2) be employed and earn annually at least 6 minimum wages or,



3) be self-employed and have a gross revenue from self-employment or rent of at least 6 minimum wages annually, while declaring a profit at the end of the year.

The tax credit is applied on a monthly basis (therefore the eligible person must earn at least half of the minimum wage during the month to be eligible to claim the tax credit for the respective month). If she or he fails to fulfill the condition on a monthly basis but does fulfill it on an annual basis, the taxpayer is able to apply for under-payments of tax credit through the annual tax clearing or by filling a tax return.

The credit can be claimed by only one parent. The monthly per child amounts of tax credit are:

2006	2007	2008	2009	2010
SKK 540	SKK 540	SKK 555	€19.32	€20.0

Definition of dependent child:

- child is of compulsory schooling age (i.e. 16 years or younger)
- child is completing education, vocational training or studying full-time at an approved educational institution, and is younger than 26
- child is 18 or younger and has a long-term health condition

The employee tax credit was introduced in January 2009. Entitled are employees who have worked at least 6 months during the year and have annual earnings of at least 6 minimum wages. If annual earnings are lower than 12 minimum wages, the tax credit amounts to 19% of the difference between the basic tax allowance and the minimum wage less social insurance contributions. If annual earnings are higher than 12 minimum wages, the tax credit amounts to 19% of the difference between the individual basic tax allowance and taxable income. The tax credit becomes zero when taxable income is equal to the basic tax allowance. The tax credit is a form of negative income tax, i.e. if the tax liability is lower than the tax credit, the difference is received by the tax payer.

Notes on implementation

The spouse tax allowance is not simulated for persons who are observed as being married but whose partner does not reside in the same household (and whose income is thus unobservable). The tax credit for dependent children is allocated either to one parent if only one parent is employed or to both parents if either would be entitled to claim, in proportion to their taxable income. Additional rules regarding claims on the basic tax allowance for non-employment income are not taken into account when simulating eligibility for the employee tax credit.

2.6 Other taxes (if applicable)

2.6.1 Withholding tax

Withholding tax is part of PIT, although recorded as a separate tax. It is levied on income originating from sources in the territory of the Slovak Republic:

- interests, winnings and other income from deposits
- interests, bonuses and other forms of yield from bonds and similar securities
- prizes in cash won in lotteries and other similar games without license
- incomes earned under a supplementary pension savings scheme



- paid under an insurance policy for the attainment of a certain age
- incomes of authors for their articles for newspapers, magazines, radio, or television, unless they are treated as artistic performances

These incomes are taxed according to a 19 per cent flat rate. The tax base for incomes mentioned above (except incomes of authors) shall correspond to the income alone. The tax base in case of incomes of authors shall correspond to the income, less 40%. Tax withheld shall be treated as a tax advance and the taxpayer shall be allowed to deduct such tax advances from the tax in its tax return. If the tax which was withheld exceeds the tax calculated by the taxpayer in its tax return the taxpayer shall be entitled to a refund of the tax overpayment.

This tax is not simulated in EUROMOD

3. DATA

3.1 General description

The input database for the Slovak Republic is based on a national version of the EU-SILC. The official name of the product is “2008 UDB_SR version 10/09/09 (anonymized)”, but it will be referred to as SK-SILC in this document. EU-SILC is an annual household income and living conditions survey based on a random sample and collected throughout the year by national statistical offices in a number of European countries (in April in the Slovak Republic 2008). In Slovak Republic the survey has been carried out since 2005.

The survey collects information on household income, housing conditions, living conditions, employment, health status, access to health care, financial problems, housing problems and possibility to meet certain needs. SK-SILC contains more detailed information compared to the UDB version of the EU-SILC which is an advantage for microsimulation modelling. This chapter is in large parts based on the intermediate quality report of the EU-SILC 2005-2008 by the Statistical Office of the Slovak Republic.³

The observation units are private households. The sample design is one-stage stratified sampling, where the proportional number of households was selected in individual strata. From each stratum households were selected through simple random sampling.

The survey has a four year rotational panel survey design. In the first year of the survey (EU SILC 2005) the sample was divided into four rotational groups. There were approximately 1500 households in each sub-group. In the year 2006 households of the 1st rotational group from the year 2005 were excluded and replaced by new households and in the year 2007 households of the 2nd rotational group from the year 2006 were excluded and replaced by a new one.

The sample consists of 5450 households in the year 2008, but the method of selection and weights enable to generalize the response data to entire population and all households. For the year 2008 the survey was carried out from the 1st of April to 30th of April 2008.

³See:http://circa.europa.eu/Public/irc/dsis/eusilc/library?l=/quality_assessment/quality_reports/sk/2008_intermediate/_EN_1.0_&a=d



Table 13. EUROMOD database description

EUROMOD database	SK_2008_a2
Original name	2008 UDB_SR version 10/09/09 (anonymized)
Provider	The Statistical Office of the Slovak Republic
Year of collection	2008
Period of collection	1/4 to 30/4
Income reference period	Year 2007
Sampling	One-stage stratified sampling
Unit of assessment	Household
Coverage	Private households in the Slovak Republic
Sample size	5450 households 16518 individuals
Response rate	92.70%

3.2 Non-response

Of the 5879 selected households 5450 participated in the survey yielding a response rate of 92.70%. Within the 5450 participating households there were 130 non-respondent individuals above age 16. The missing information for these individuals has been imputed using the non-response inflation factor according to the main source of income by age. For more details on non-response see the intermediate quality report of the EU-SILC 2005-2008 by the Statistical Office of the Slovak Republic, section 2.3.3.

3.3 Weights

The SK-SILC data is provided with weights attempting to correct for differential non response while scaling up sample numbers to the overall population. The correction was done in relation to the response rate, i.e. multiplying the weights by inverse value of response rate. Households were divided into strata (regional and rotational group) and it was assumed that each household in a stratum has the same probability of response. The empirical value of the response rate within the stratum yields the estimate of the probability of response for each household in the stratum.

The sample consists of 5450 households (16518 individuals) projecting a population of 1891897 households (5406972 individuals). Table 14 presents some basic descriptive statistics for the individual grossing-up weight rb050.



Table 14. Descriptive Statistics of the Grossing-up weight

Number	16518
Mean	326.8
Median	318.1
Maximum	894.3
Minimum	102.9
Max/Min	8.7

3.4 Data adjustment

Adjustments to variables are kept to a minimum. Some minor data cleaning has been done to make sure that the households and relationships of individuals within households, are coherent (for example, that young children are not living alone or family relations are coherent).

In order to guarantee consistency between demographic variables and income variables which refer to the previous year (and on which EUROMOD simulation are based), all children born between the end of the income reference period and the date of interview have been dropped from the sample.

3.5 Imputations and assumptions

All income information in SK-SILC 2008 refers to the fiscal year 2007 (January – December) and are expressed in annual totals. In EUROMOD database all monetary amounts are transformed into monthly averages by dividing amounts by 12; thus it is simply assumed that income is received at the same rate throughout the year.

There were 130 non-respondent individuals in the SK-SILC database who were imputed using the non-response inflation factor according to the main source of income by age.

Because the national version of the EU-SILC contains information at a very detailed level, it was not necessary to fully impute many new variables. Some new variables that are fully imputed are previous earnings and hourly predicted wage.



3.6 Updating

The factors that are used to update monetary variables from 2007 to 2010 are shown in the table below. If no specific updating factor is assigned per income variable, the *default* factor is used. No other updating adjustments are employed. Thus the distributions of other characteristics (such as employment status and demographic variables) remain as they were in 2008.

Table 15. Updating factors

Index	Income Source /index type	2007-2008	2007-2009	2007-2010
default	SR SO/ CPI index	1.05	1.06	1.07
yemwg	SR SO/ Average nominal wage growth	1.081	1.11343	1.14906
yemcs	SR SO /Average growth in profit from company shares	1.081	1.11343	1.14906
yemot	SR SO/Average growth in bonuses and other irregular employment income	1.06482	0.88454	0.950884517
yemaj	SR SSA/ Average growth in income from agreements	1.081	1.11343	1.14906
yemtj	SR SO / Average growth in compensation per employee	1.081	1.11343	1.14906
yyi	SR SO/ Average growth in income from investments	1.05	0.99309	1.01518
ypr	SR TO/ Average growth in property income	1.25277	1.18487	1.21123
ysv	SR SO/ Average growth in severance payments per employee	0.83181	1.81919	1.277265495
yempv	SR SO/Average nominal wage growth	1.072	1.158832	1.19551196
poa00	Pension indexation; YoY indexation	1.0305	1.10212	1.15723
pdi00	Increase in the average disability pension, SR SO	1.0305	1.10212	1.15723
psu00	Increase in the average widow pension	1.0305	1.10212	1.15723
bcc	Based on policy descriptions	1.02703	1.0766	1.73699
bch	Based on policy descriptions	1	1.18551	1.2268
bchba	Based on policy descriptions	1.02242	1.02242	1.02242
bunct	SR SO/Average nominal wage growth	1.072	1.158832	1.19551196
bma	SR SO/Average nominal wage growth	1.072	1.158832	1.19551196
bhl	SR SO/Average nominal wage growth	1.072	1.158832	1.19551196

Notes: SO: National Statistical Office; SSA: Social Security Agency; TO: Tax Office.



4. VALIDATION

4.1 Aggregate Validation

4.1.1 Validation of incomes inputted into the simulation

Table 16 presents the average number of employed and unemployed individuals in the dataset used for the EUROMOD simulation against external benchmarks. The figures represent the monthly number of employed/self-employed and unemployed respectively, averaged over the year. The database overestimates the number of people in-work, both in 2007 and in subsequent years.

Table 16. Number of employed & unemployed

		Input dataset (I)		External Source (II)					Ratio (I/II)			
		2007	2007	2008	2009	2010	2007	2008	2009	2010		
Number of	employed	2480.00	2222.73	2279.982	2176.644	2151.93	1.12	1.09	1.14	1.15		
Number of	unemployed	208.68	250.666	230.917	340.243	380.791	0.83	0.90	0.61	0.55		

Notes: Number of employed and unemployed computed based on months in employment/unemployment. Numbers computed as averages of monthly data over the year.

Sources: Statistical office, Labour office

Moreover, there is a clear underestimation of the number of unemployed in all years. One possible explanation relates to the fact that the original dataset contains information only on the monthly 'main' activity status. Thus, unemployment spells that are shorter than 2 weeks and unemployment spells that overlap with other 'statuses' (such as studying for example) are likely to be missed. The onset of the economic recession raised the number of unemployed in 2009 and 2010 well above the 2007 level. As a result, the number of unemployed is underestimated by about 39 percentage points in 2009 and 45 percentage points in 2010.

Table 17 compares the number of people receiving employment and self-employment income in the EUROMOD input database to corresponding information obtained from the Social Security Agency. Figures in the EUROMOD dataset relate to 2007. No adjustment is made to reflect employment/ self-employment trends in subsequent years. The number of persons deriving employment income is higher in the input database compared to the external benchmark, especially in 2009 and 2010. The discrepancy may be due either with measurement error in the data or to underreporting of income to the social security authorities, i.e. tax evasion. On the contrary, the number of persons deriving self-employment income is well below the external benchmark. To some extent, this is to be expected given the problems of collecting accurate self-employment income information using survey methods.



Table 17. Market Income-Number of recipients (in thousands)

	Input database(I)	External Source (III)				Ratio (I/III)			
	2007	2007	2008	2009	2010	2007	2008	2009	2010
Original income									
Employment income	2299.78	2010.1	2007.5	1904.64	1900.93	1.1	1.1	1.2	1.2
Self-employment income	242.155	274.4	283.6	291.28	282.364	0.9	0.9	0.8	0.9

Notes: Based on the total number of employees and self-employed paying social security contributions
Sources: Social Security Agency.

Aggregate amounts of employment, self-employment and severance payments, as well as the average employment income obtained from the input dataset are compared to external figures in Table 18. While the average employment income is approximately 10% lower in the dataset compared to external figures, aggregate employment income is higher than the figure reported by the social security agency. Albeit every measure has been taken to ensure that the employment income definitions in the two sets of figures are the same, the possibility of a mismatch remains. A possible explanation for this pattern might be an underreporting of low incomes to the tax and social insurance authorities, or an oversampling of low-income earners in the dataset. This would account both for the lower average and for the higher aggregate employment income observed in the input database. On the other hand, aggregate self-employment income is overestimated in 2007 but slightly underestimated in the subsequent years. Finally, aggregate severance payments obtained from the input dataset are only about half of those reported in the tax records, for the available years. It is possible that due to their lump-sum nature, severance payments are misreported/ underreported in the SILC.



Table 18. Market Income-Aggregate amounts (in Mio SKK)

	Input (I)	External source (III)	Ratio (I/III)	Uprated input (I)			External source (III)			Ratio(I/III)		
	2007	2007	2007	2008	2009	2010	2008	2009	2010	2008	2009	2010
Original income												
Employment income-mean	16978.32	19107.29	0.89	18353.57	18904.17	19509.11	20776.88	21257.45	22112.48	0.88	0.89	0.88
Employment income-total	468556.7	415957.7	1.13	506509.76	521705.06	538399.73	442325.4	433786	440873.1	1.15	1.20	1.22
Self-employment income	58861.7	53579.32	1.10	57077.82	61358.66	62831.27	58903.22	63756.4	65284.07	0.97	0.96	0.96
Severance payments	950.32	1973.8	0.48	790.49	1728.82	1016.84	1744.07	N/A	N/A	0.45	N/A	N/A

Notes: N/A – not available.

Sources: Social Security Agency.



Table 19. Non-simulated taxes and benefits-Number of recipients/payers (in thousands)

	Input database(I)		External Source (III)			Ratio (I/III)			
	2007	2007	2008	2009	2010	2007	2008	2009	2010
Old-age pension	1147.39	965.171	981.237	988.147	1002.554	1.2	1.169	1.161	1.144
Disability pension	195.2889	195.139	200.104	204.378	213.834	1.0	0.976	0.956	0.913
Survivor pension	312.0878	363.531	366.002	366.438	364.887	0.9	0.853	0.852	0.855

Source: Social Security Agency

Table 20. Non-simulated taxes and benefits-Aggregate amounts (in Mio SKK)

	Input (I)	External Source (III)	Ratio (I/III)	Uprated input (I)			External source (III)			Ratio(I/III)		
	2007	2007	2007	2008	2009	2010	2008	2009	2010	2008	2009	2010
Pensions												
Old-age pension	117485.4	96147.8	1.2	121068.7	129483.0	135957.6	103674.4	115551.7	120444.6	1.2	1.1	1.1
Disability pension	14811.87	15379.8	1.0	15263.6	16324.5	17140.7	16881.1	18746.2	19775.3	0.9	0.9	0.9
Survivor pension	11787.38	14991.4	0.8	12146.9	12991.1	13640.7	15973.8	17378.6	17776.1	0.8	0.7	0.8
Benefits												
Sickness benefit	1848.053	4448.2	0.4	1981.1	2141.6	2209.4	5519.2	7245.2	7619.8	0.4	0.3	0.3
Maternity benefit	1200.41	1396.5	0.9	1286.8	1391.1	1435.1	1683.7	2046.5	2309.2	0.8	0.7	0.6

Sources: Social Security Agency



Comparisons of the total number of recipients of three pension types are shown in Table 19. Overall, receipt of disability pension is very well represented in the EUROMOD input database. The number of recipients of old-age pension is slightly overestimated. The overestimation may be due to the fact that figures include, in addition to the ‘standard’ old-age and early old-age pensions, payments made to special categories such as the armed forces or persons working in the judicial system. The total number of recipients of survivor pensions closely follows the figure of the Social Security Agency in 2007, but worsens subsequently. To some extent, this is to be expected since EUROMOD makes no attempt to correct for changes in the receipt of any type of income taking place between the policy year and the data year (i.e. 2007 in this case).

Table 20 shows aggregate amounts of the main non-simulated benefits, as derived from the input database and as reported by the Social Security Agency. Aggregate old-age pension payments in the EUROMOD dataset are 20% larger than the external statistics in 2007- 2008 but only 10% larger in 2009- 2010. The discrepancy is probably explained by the fact that the EUROMOD figure includes ‘special’ pensions paid to certain categories of public servants (such as policemen, judges, armed forces etc.), whereas the external statistic excludes them. Overall, aggregate disability pensions match well external figures, while aggregate survivor pensions are approximately 20% below external benchmarks. The two main short term contributory benefits, namely sickness and maternity benefits, are seriously underreported in the EUROMOD input dataset. The underestimation is particularly severe in the case of sickness benefits. Aggregate sickness benefits in EUROMOD represent only 40% of those reported by the Social Security Agency in 2007-2008 and the underestimation worsens in 2009-2010. In the case of maternity benefits, the gap is around 10 % in 2007 but subsequently increases to represent 40% in 2010. It is not clear why both short term benefits are underestimated to such an extent. It is possible that short periods of receipt (especially in the case of sickness benefits) are overlooked by survey respondents when they report their income.

4.1.2 Validation of outputted (simulated) incomes

Simulated taxes, social insurance contributions, and benefits are compared to external information in Table 21 and Table 22. Unfortunately, data on the number of recipients/ payers of the various tax benefit instruments is unavailable, four benefits notwithstanding. Among the four benefits, figures for the child benefit obtained with EUROMOD represent fairly well those from external sources. Child birth grant is slightly under-simulated in 2007, compared to external sources and the gap increases in subsequent years. On the other hand, compared to the original data, EUROMOD over-simulates the number of recipients of child birth grant. This discrepancy could be related to underreporting of this type of income in survey data. A similar pattern is observed for the material needs benefit (social assistance). However, in this case, the number of simulated social assistance recipients is approximately two and a half larger than the one registered in the original data, suggesting significant underreporting. In the case of parental allowance, EUROMOD under-simulates receipt by around 20 percentage points. The discrepancy might have to do with EUROMOD not simulating the extended period of receipt for disabled children, as well as not simulating benefits when entitlement lasts for less than a year (i.e. for parents of children turning 2 during the income reference period).



Table 21. Simulated taxes and benefits-Number of recipients (in thousands)

	Input database (I)				Original data (II)	Ratio (I/II)	External source (III)				Ratio (I/III)			
	2007	2008	2009	2010			2007	2007	2008	2009	2010	2007	2008	2009
Benefits														
Child benefit	784.77	784.77	784.77	784.77	764.56	1.026	714.2	707.4	706.7	698.3	1.099	1.109	1.110	1.124
Birth grant	43.23	43.23	43.23	43.23	32.45	1.332	47.4	49.3	56.5	56.7	0.912	0.877	0.765	0.762
Parental allowance	106.97	106.4	105.63	108.57	107.76	0.993	133.6	132.9	135.2	137.4	0.801	0.800	0.781	0.790
Social assistance	153.69	148.69	156.75	152.98	63.45	2.422	182.5	153.5	179.9	190.4	0.842	0.969	0.871	0.804
Unemployment benefit	44.33	44.33	44.33	44.33	45.31	0.978	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: N/A not available

Source: SR Labour Office



Table 22. Simulated taxes and benefits- Aggregate amounts (in Mio SKK)

	Input (I)				Original (II)	Ratio (I/II)	External source (III)				Ratio(I/III)			
	2007	2008	2009	2010			2007	2007	2008	2009	2010	2007	2008	2009
Benefits														
Child benefit	8601.56	8699.74	10295.46	10655.06	8300.47	1.036	8,254	8,064	10,095	10,095	1.042	1.079	1.020	1.056
Birth grant	445.96	658.63	1091.65	1091.65	346.70	1.286	226.0	245.0	289.3	288.0	1.974	2.688	3.773	3.791
Parental allowance	4949.62	5050.02	5269.17	6918.01	3840.69	1.289	7,370	7,558	8,604	8,604	0.672	0.668	0.612	0.804
Social assistance	7558.69	7447.98	8151.39	8157.13	2662.72	2.839	7,728	6,251	7,143	8,677	0.978	1.192	1.141	0.940
Unemployment benefit	1223.77	1338.03	1445.69	1496.81	1363.50	0.898	1795.99	1991.97	5194.63	4539.44	0.681	0.672	0.278	0.330
Taxes														
Personal income tax	37186.61	42064.35	36231.9	37063.57			48133.8	54865.8	45771.5	45624.3	0.773	0.767	0.792	0.812
Tax allowances*	267313.7	274631.7	343110.7	354907.3			235667.5	250011.3	280767.2	280431.5	1.134	1.098	1.222	1.266
Tax credit for dependent children	7942.93	8163.567	8554.354	8853.426			7606.7	7923.5	7808.4	7730.7	1.044	1.030	1.096	1.145
Employee tax credit	N/A	N/A	1312.74	1359.036			N/A	N/A	768.0	673.8	N/A	N/A	1.709	2.017
Social insurance contributions														
Employee contributions														
Sickness	5963.47	6565.34	6814.66	7082.63			4401.75	5046.54	4816.48	4973.95	1.355	1.301	1.415	1.424
Disability	13558.23	14743.86	15193.32	15687.49			10522.28	11803.41	11201.63	11350.57	1.289	1.249	1.356	1.382
Pension	18077.64	19658.48	20257.77	20916.66			14572.56	16350.40	15598.85	15788.46	1.241	1.202	1.299	1.325
Unemployment	4519.41	4914.62	5064.44	5229.16			3505.92	3922.08	3699.92	3750.05	1.289	1.253	1.369	1.394
Health	21958.05	23709.86	24553.75	25398.80			15395.32	17371.64	17326.47	17479.22	1.426	1.365	1.417	1.453


Self-employed contributions

Sickness	1306.59	1452.17	1560.30	1638.95	912.76	1061.51	1112.52	1128.76	1.431	1.368	1.402	1.452
Disability	1884.36	2037.76	2189.81	2284.43	1300.12	1449.74	1505.67	1508.68	1.449	1.406	1.454	1.514

...continued

	Input (I)				Original (II)	Ratio (I/II)	External source (III)				Ratio(I/III)			
	2007	2008	2009	2010			2007	2008	2009	2010	2007	2008	2009	2010
Pension	5653.08	6113.28	6569.44	6853.30			4160.63	4632.14	4826.64	4859.56	1.359	1.320	1.361	1.410
Health	3960.20	4218.78	4584.49	4733.20			4763.71	4762.74	4162.39	4228.17	0.831	0.886	1.101	1.119
Employer contributions														
Sickness	5963.47	6565.34	6814.66	7082.63			4428.19	5049.52	4840.04	4974.62	1.347	1.300	1.408	1.424
Disability	13558.23	14743.86	15193.32	15687.49			10523.69	11807.23	11236.58	11350.12	1.288	1.249	1.352	1.382
Pension	63271.73	68804.69	70902.18	73208.31			50493.04	56463.42	53828.68	54237.92	1.253	1.219	1.317	1.350
Unemployment	4519.41	4914.62	5064.44	5229.16			3506.69	3923.43	3711.19	3750.39	1.289	1.253	1.365	1.394
Health	45336.84	49001.43	50541.11	52264.39			39114.94	44057.45	42464.07	43687.15	1.159	1.112	1.190	1.196
Accident	3772.83	4077.67	4199.48	4333.28			3293.17	3627.73	3408.52	3427.53	1.146	1.124	1.232	1.264
Credited health contributions (paid by central gov)	25136.17	28351.59	33202.94	35917.79			26811.21	30049.38	35017.91	38645.73	0.938	0.944	0.948	0.929
Health insurance contributions paid by the 'inactive'	904.27	976.88	1062.67	1102.99			1046.39	1064.78	1187.77	1409.72	0.864	0.917	0.895	0.782

Notes: N/A: not available.
Sources: SR Labour Office



Another possible explanation has to do with the data. Given that the simulated result is much closer to the one obtained using the original variable in the data than to the external statistic, it is possible that there are too few families with very young children in the data.

Table 22 presents an extensive set of figures relating to aggregate annual expenditure/ revenue. Results for aggregate expenditure on child benefits are very similar regardless whether they are obtained through simulation, taken from SILC or provided by the Labour Office. This is true for all four years included in the simulation, regardless of the fact that EUROMOD makes no adjustment for demographic changes. Mirroring patterns of receipt, aggregate simulated social assistance benefits match relatively well with external data but are approximately 2.8 times larger than aggregate social assistance payments reported in the data. Aggregate amounts child birth grant are over-simulated with EUMOROD in 2007 and the gap between the simulated and the external source amounts becomes larger in the subsequent years. As it was the case for the number of recipients, EUROMOD under-simulates the amounts of parental allowances. However, compared to the original data, the simulated amounts are around 30% larger. In the case of unemployment benefits, the simulated amounts are significantly lower than the figures put forward by the Labour Office, especially in 2009 and 2010. This is most likely related to the economic recession as EUROMOD does not take into account changes in employment/unemployment between the income year of the input dataset (2007) and the policy year being simulated.

No information was collected in the SK-SILC 2007 about the components of the tax and social insurance contributions. As a result, comparisons are restricted to figures taken from external sources. Aggregate yearly revenues from personal income tax are under-estimated in all four years by around 20%. Possible causes are the overestimation of tax allowances, and that of the employee tax credit in 2009 and 2010 (some eligibility conditions of the employee tax credit are not simulated), as well as, underreporting of some types of market income, particularly property and investment income. More importantly, simulated aggregate personal income tax revenues may be too low due to an over-simulation of social insurance contributions.

Aggregate amounts of social insurance contributions by type and payer are shown in the bottom half of Table 22. With a few exceptions in case of the self-employed and employer health contributions, aggregate social insurance amounts are somewhat overestimated. The largest overestimation is for sickness insurance contributions for all groups, employee health insurance contributions and employer disability insurance contributions. It is not clear what the source of the discrepancy is. One possibility has to do with aggregate employment income in the input dataset being overestimated by around 15-20% (see Table 18). Another possibility is misreporting of employment income in the data or underreporting of employment income to the tax authorities. Employer pension insurance contributions contain only the first pillar component. Given that the first pillar is derived as a residual between total pension insurance contributions and the second pillar, it is likely that the participation into the second pillar is slightly overestimated.

4.2 Income distribution

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



are presented, namely measures of income based at-risk of poverty rates and broader measures of income inequality.

4.2.1 Poverty

At-risk-of- poverty rates by gender and age derived using EUROMOD simulations are shown in Table 23 together with the corresponding figures issued by EUROSTAT. Unfortunately, there is not available information in EUROSTAT, concerning poverty rates in 2010⁴. Poverty rates produced by EUROMOD are in general much lower than the indicators EUROSTAT provides. In particular, deep poverty (using the 40% of median threshold) is underestimated by approximately three times in 2007-2008 and the underestimation worsens in 2009. At higher poverty thresholds there is a much stronger alignment between the two sets of figures. However, a gap of between 10 and 30 percentage points remains. The convergence between at-risk-of-poverty rates generated by EUROMOD and those produced by EUROSTAT is stronger at the highest poverty threshold. Similarly, poverty rates are underestimated by EUROMOD for all age groups, except for the over 65 in 2009. The stronger misfit is registered for the youngest age groups, i.e. below 15.

It is not entirely clear what produces the observed discrepancies. One possibility is the fact that EUROMOD does not take into account non-take-up of benefits. However, aggregate amounts for the most important means-tested benefits, i.e. the material needs benefit and the tax credit for dependent children, are in line with those observed in social security administration data.

4.2.2 Income inequality

Broader measures of the income distribution are presented in Table 24. As it was the case for poverty rates, no information is available for 2010. Decile shares of total disposable income in EUROMOD are very similar to those produced by EUROSTAT, with the exception of the first and last deciles. EUROMOD produced a more egalitarian distribution of household disposable income compared to EUROSTAT indicators. Thus, the share of the total income going to the lowest decile is about 20% to 30% larger in EUROMOD, whereas the share of the highest one is about 5% to 10% smaller. The other inequality measures presented in Table 24, i.e. the Gini coefficient and the S80/S20 ratio confirm this pattern. Both are about 10 to 20% lower in EUROMOD compared to the EUROSTAT statistic. Finally, mean and median household equivalised disposable income figures are very close with both sources of information.

⁴ Poverty and inequality measures presented in EUROSTAT for 2010 are based on income information from 2009.



Table 23. At risk of poverty rates by gender and age at different poverty lines

Indicator	EUROMOD (I)				External source (II)				Ratio (II)			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
40% median HDI												
Total	0.011	0.014	0.011	0.012	0.031	0.036	0.050	N/A	0.355	0.389	0.220	N/A
Males	0.01	0.013	0.01	0.012	0.033	0.037	0.052	N/A	0.303	0.351	0.192	N/A
Females	0.012	0.014	0.012	0.013	0.030	0.034	0.047	N/A	0.400	0.412	0.255	N/A
50% median HDI												
Total	0.041	0.044	0.042	0.044	0.057	0.068	0.078	N/A	0.719	0.647	0.538	N/A
Males	0.04	0.041	0.04	0.042	0.058	0.065	0.079	N/A	0.690	0.631	0.506	N/A
Females	0.043	0.047	0.044	0.045	0.057	0.07	0.077	N/A	0.754	0.671	0.571	N/A
60% median HDI												
Total	0.093	0.098	0.095	0.094	0.109	0.11	0.12	N/A	0.853	0.891	0.792	N/A
Males	0.084	0.088	0.085	0.085	0.101	0.101	0.117	N/A	0.832	0.871	0.726	N/A
Females	0.1	0.107	0.103	0.101	0.115	0.118	0.122	N/A	0.870	0.907	0.844	N/A
70% median HDI												
Total	0.167	0.173	0.168	0.167	0.181	0.163	0.19	N/A	0.923	1.061	0.884	N/A
Males	0.15	0.153	0.149	0.148	0.162	0.149	0.184	N/A	0.926	1.027	0.810	N/A
Females	0.181	0.19	0.184	0.183	0.197	0.176	0.197	N/A	0.919	1.080	0.934	N/A
60% median HDI												
0-15 years	0.13	0.131	0.129	0.128	0.163	0.17	0.185	N/A	0.798	0.771	0.697	N/A
16-24 years	0.127	0.129	0.124	0.126	0.133	0.137	0.157	N/A	0.955	0.942	0.790	N/A
25-49 years	0.083	0.085	0.082	0.083	0.099	0.096	0.114	N/A	0.838	0.885	0.719	N/A
50-64 years	0.063	0.07	0.067	0.066	0.075	0.073	0.087	N/A	0.840	0.959	0.770	N/A
65+ years	0.082	0.104	0.098	0.089	0.099	0.108	0.077	N/A	0.828	0.963	1.273	N/A

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the “modified OECD” equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions.

Sources: EUROMOD calculations; External figures are taken from the EUROSTAT statistics database

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.



Table 24. Income distribution

Indicator	EUROMOD (I)				External source(II)				Ratio(I/II)			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Decile shares												
1	4.692	4.596	4.664	4.648	4.0	3.7	3.5	N/A	1.17	1.24	1.33	N/A
2	6.239	6.174	6.212	6.245	6.1	6.1	5.8	N/A	1.02	1.01	1.07	N/A
3	7.193	7.152	7.177	7.209	7.1	7.0	6.9	N/A	1.01	1.02	1.04	N/A
4	7.954	7.919	7.929	7.972	7.9	7.8	7.7	N/A	1.01	1.02	1.03	N/A
5	8.76	8.692	8.776	8.793	8.8	8.6	8.6	N/A	1.00	1.01	1.02	N/A
6	9.706	9.695	9.718	9.752	9.7	9.5	9.5	N/A	1.00	1.02	1.02	N/A
7	10.672	10.71	10.712	10.696	10.7	10.6	10.7	N/A	1.00	1.01	1.00	N/A
8	11.792	11.863	11.854	11.84	11.9	11.9	12.1	N/A	0.99	1.00	0.98	N/A
9	13.588	13.68	13.624	13.603	13.8	14.1	14.1	N/A	0.98	0.97	0.97	N/A
10	19.403	19.519	19.334	19.241	20.0	20.8	21.2	N/A	0.97	0.94	0.91	N/A
Median	13287.62	14106.54	14981.11	15536.63	13487.58	14237.0455	15356.729	N/A	0.99	0.99	0.98	N/A
Mean	14408.95	15292.18	16218.08	16804.16	14578.5	15791.045	17033.743	N/A	0.99	0.97	0.95	N/A
Gini	0.221	0.225	0.221	0.22	0.237	0.248	0.259	N/A	0.93	0.91	0.85	N/A
S80/S20	3.018	3.083	3.03	3.015	3.4	3.6	3.8	N/A	0.89	0.86	0.80	N/A

Notes: Based on household disposable income (HDI) equivalised by the “modified OECD” equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions; computed at the individual level.

Sources: EUROMOD calculations; External figures are taken from the EUROSTAT statistics database http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.



4.2.3 Validation of minimum wage

Baseline simulations in EUROMOD do not modify gross employment income in any way. However, the user may switch on a policy that ‘corrects’ employment income by ensuring it is not below the gross minimum wage corresponding to the number of hours the person has worked. Table 25 presents a series of figures comparing results obtained under the two simulation scenarios. Changing employment income so as to incorporate the minimum hourly gross wage does not affect results in any substantive way..

4.3 Summary of “health warnings”

The final section summarizes particular aspects of the input dataset and of the way the Slovak tax-benefit system is implemented in EUROMOD which should be kept in mind when using the Slovak section of EUROMOD for doing analysis.

- 1) The dataset appears to contain too few unemployed persons.
- 2) There are more employed persons in the dataset compared to external statistics, but the average employment income is lower. The dataset may contain too many low-income earners.
- 3) There are few self-employed in the dataset
- 4) Severance payments, unemployment benefits and maternity benefits are strongly underestimated in the input dataset.
- 5) No adjustment is made for demographic and labour market changes taking place between 2008 and 2010.
- 6) Simulated tax liabilities are too low, possibly due to an underreporting of highly concentrated income types, such as property and investment income
- 7) There may be too few families with very young children in the input dataset
- 8) Simulated disposable income is more equally distributed than the ‘original’ income reported in the data



Table 25. Impact of minimum wage

	Baseline (I)				Minimum wage included (II)				Ratio (I/II)			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Disposable income (total)	605035.1	641551.8	680346.2	705063.3	607918	644558.6	684139.5	709073.8	1.00	1.00	1.01	0.99
Gross employee earnings (total)	480493.8	519377.2	534477.9	551667.4	484651.8	523710.4	539814.9	557303.9	0.99	0.99	1.01	0.99
Income tax (total)	37230.9	42208.29	36265.22	37112.72	37628.51	42640.04	36725.63	37598.64	0.99	0.99	1.01	0.99
Employee SICs (total)	64076.79	69598.8	71895.51	74321.64	64567.4	70108.12	72526.95	74988.77	0.99	0.99	1.01	0.99
Social assistance (total)	7410.27	7268.72	7987.6	7973.24	7056.26	6913.68	7541.53	7509.72	1.05	1.05	0.94	1.06
Gini (Eq HDI)	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	1.00	1.00	1.00	1.00
At poverty risk (60% median HDI)	0.09	0.1	0.09	0.09	0.09	0.1	0.09	0.09	1.00	1.00	1.00	1.00

Notes: the baseline is calculated without making any adjustments to employment income; the 'minimum wage included' columns adjust employment income to reflect the minimum gross hourly wage; see section II for a description of the implementation of the minimum hourly wage.

Sources: EUROMOD calculations;



5. REFERENCES

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