EUROMOD

COUNTRY REPORT

SLOVAK REPUBLIC (SK)

2017-2020

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EUROMOD version I3.0

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

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

The European Commission is in the process of taking over responsibility for carrying out the annual update and release of EUROMOD. The transfer of responsibility is expected to be complete by the end of 2020 and the transition is being facilitated by close cooperation between the University of Essex and the Joint Research Centre (JRC) of the European Commission as well as Eurostat.

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

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The results presented in this report are derived using EUROMOD version I3.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

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

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CONTENTS

1. BASIC INFORMATION

1.1 Basic information about the tax-benefit system

- The tax-benefit system is largely a unified, national system. All major tax components and benefits are governed at the central level. Share of the personal income tax is contributed to municipalities and administration units. A few taxes are set at the local level, such as the real estate tax and tax on specific services, but their share in the overall taxation is negligible.
- The fiscal year is January 1 – December 31.
- State pension age is 62 years for men and between 59 and 62 for women, depending on the number of children. The pension age will continue to rise with growth in life expectancy from 2017, but was constitutionally capped at 64 years in 2019.
- Compulsory education starts at age 6 and continues for 10 years. The minimum school leaving age is 16. A child is considered to be dependent (for tax and benefit purposes) not only if they are under 16, but also if they are under 18 and have long term unfavourable health condition, or are under 26 and studying at an approved institution and have not yet finished post-secondary education or are under 26 and cannot study because of illness or injury.
- Lone parents are not socially protected for tax and benefit purposes. In case of long term unfavourable health conditions of the person or child in the custody, duration of some benefits is extended.
- Taxation of income is done at the individual level. However, an individual may be entitled to a spouse tax allowance if the spouse satisfies certain conditions.
- Incomes from dependent activity and self-employment are taxed at rates of 19% and 25%, depending on the amount of income. Before 2013, the rate was set at a uniform level (19%). Income from certain non-standard temporary contracts[1] receive beneficial treatment. Types of income that fall under the withholding tax are taxed at a flat rate of 19%. Higher 35% tax rate is applicable to payments from countries which do not have a Double Taxation Treaty with the Slovak Republic. Since 2020, there is a reduced 15% rate on self-employment income for individuals with low turnover.
- 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 on which the tax allowances and social benefits eligibility depend, is adjusted automatically on 1st July either to the cost of living of low income families or the net income growth of low income families (most frequently the former is used). Components of the social assistance scheme and state social support benefits are adjusted by government regulation (usually on the 1st September). Pensions, already in payment, are automatically indexed on 1st January.
- Social assistance benefits are awarded on a monthly basis. The income base that is assessed refers to the income in the previous month.
- The pension system is built on three separate pillars: 1st pillar – mandatory pension insurance defined by benefits, funded on a pay-as-you-go basis and administered by the Social Insurance Agency; 2nd pillar – old age pension saving defined by contributions and fully funded insurance administered by private pension fund management companies; and 3rd pillar - voluntary supplementary pension saving defined by contributions and fully funded insurance administered by supplementary pension companies.

[1] Agreements on work performed outside employment relationship - *Dohody o prácach vykonávaných mimo pracovného pomeru*

1.2 Social Benefits

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

- ***Contributory benefits***

Old-age pension (*Starobný dôchodok*): Entitlement arises when an insured person reaches retirement age and she has contributed for at least 15 years. Three variables determine the amount of the old age pension paid from first pillar: length of career in years, average personal wage point (the individuals average lifetime position relatively to average wage) and current point value, which was set so that a person with 40 years of service and average personal wage will receive a pension with 50% replacement rate. In order to keep the replacement rate stable, the current point value is annually indexed by average wage growth. Since 2005, there is fully funded second pillar. Participation into the 2nd pillar is voluntary.

Early old-age pension (*Predčasný starobný dôchodok*): A person is eligible if she has contributed for minimum 15 years, is no more than 2 years below the statutory retirement age and is entitled to a pension higher than 1.2 times the minimum subsistence level. It cannot be combined with old-age pension. The pension amount is lowered by 0.5% for every 30 days remaining until the person's retirement age.

Disability pension (*Invalidný dôchodok*): A person is defined as disabled if she has long term unfavourable health conditions with more than 40% work capability decrease. A person is not eligible during temporary work incapacity. The benefit amount depends on the number of 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 capability.

Widow`s and widower`s pension (*Vdovský a vdovecký dôchodok*): The entitlement arises to widow/ widower if his/hers deceased spouse was a recipient of, 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 after 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 the 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). A dependent child in 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 (*Nemocenské*): The benefit provides compensation for loss of income during temporary sickness. A person is eligible if she has contributed for at least 270 days during last two years. The entitlement arises due the illness or injury on the 11th day of work incapability and lasts until the end of work incapability or at least until the end of 52nd week. It cannot be combined with the maternity benefit. The benefit amount is 55% of the daily assessment base (gross income subject to sickness insurance contributions).

Benefit for nursing a sick relative (*Ošetrovné*): The entitlement arises on the first nursing day and expires on the last, but by the 10th nursing day at latest. It cannot be combined with maternity benefit. The amount is 55% of the daily assessment base (gross income subject to sickness insurance contributions).

Equalization allowance (*Vyrovnávacia dávka*): Equalization allowance is designed to compensate 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 8 weeks before the delivery for a total of 34 weeks. However, the duration is extended to 37 weeks if the woman is a single mother and to 43 weeks if the woman gives birth to two or more children. The benefit is 75% of the daily assessment base (gross income subject to sickness insurance contributions).

Unemployment insurance benefit (*Dávka v nezamestnanosti*): An insured person is eligible to receive the benefit if she has contributed for a minimum of two years during the four years prior and she is 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, benefit for nursing a sick relative, parental allowance, or a pension is not permitted. The benefit is 50% of the daily assessment base (gross incomes subject to unemployment insurance contributions).

- ***Social assistance benefits***

Material need benefits (*Dávka v hmotnej núdzi a príspevky k dávke*): Material needs benefits are means-tested benefits for families, whose income is below the minimum subsistence and cannot be increased by claimants themselves. The benefit consists of several components (social benefit, activation allowance, health care allowance, housing allowance, protection allowance, allowance for dependent child). The amount depends on the structure and incomes of the family and is calculated as the difference between the eligible maximum material need benefits and the income of all assessed individuals.

- ***State support benefits***

Child birth grant (*Príspevok pri narodení dieťaťa*): It is one-off payment to parents to cover the needs of their new-born. The only condition to this grant is permanent residency in the Slovak Republic (SR).

Additional birth grant (*Príplatok k príspevku pri narodení dieťaťa*): It is one-off benefit introduced in 2007 for each child that has been born as a result of a first childbearing. In 2009 the grant was extended for 2nd and 3th child.

Multiple birth grant (*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 with at least three children born at the same time or parents who have within two years repeatedly twins or more children born at the same time. The amount of benefit depends on the age of the children.

Child benefit (*Prídavok na dieťa*): It is a monthly social benefit aimed to support care of each dependent child. Only one parent is eligible. There is no conditionality to this grant other than permanent residency both of the entitled parent and the dependent child in the Slovak Republic.

Additional child benefit (*Príplatok k prídavku na dieťa*): It is a monthly benefit introduced in 2008. The entitlement arises if the caretaker of the child is not entitled to the tax credit for dependent children, does not work or is a recipient of pension (old-age, early old-age or disability).

Parental allowance (*Rodičovský príspevok*): A monthly benefit to contribute to parents taking care of at least one child aged up to 3 years (6 in the case of disabled child). Only one parent is eligible, and is allowed to work if the child is at grandparents or in kindergarten. It cannot be combined with sickness benefit and is reduced in case of maternity allowance receipt.

Funeral benefit (*Príspevok na pohreb*): One-off benefit that covers expenses on a burial of a family member.

Scholarships (*Štipendiá*): Monthly benefit for pupils and students in secondary schools from low-income families. The amount of benefit depends on average grade received. Scholarship for university students is granted annually for no longer than 11 months within a year. The amount depends on family income and rises if student is handicapped or lives far away from university.

- ***Not strictly benefits***

Private pensions (*Dôchodky z tretieho piliera*): Private pensions are derived from supplementary pension insurance (SPI) also known as third pillar. SPI operates on the principle of regular mutual contributions of employers and employees and are valorised on the account of the insured, maintained by supplementary pension companies.

Alimony (*Výživné*): Every parent, regardless of his skills, capabilities and financial circumstances is obliged to fulfil its maintenance obligations to the minimum extent of 30% of the minimum subsistence level of the dependent child. Only courts can decide about the alimony eligibility.

Termination pay (*Odchodné*): Benefit provided by the 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 the employer based on the provisions of the Labour code in Slovakia. An employee is eligible to receive severance payments upon termination of employment (for reason stated in the Labour code). The amount of payments varies from one to five times of average monthly earnings according to the years in service.

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

1.3 Social contributions

Social insurance contributions (*Sociálne odvody*): Social insurance contributions (SICs) finance pensions, and other contributory benefits (e.g. sickness and maternity). Conditions regarding contributions in the past determine eligibility and amount of contributory benefits. SICs cover seven types of insurances: old-age, disability, sickness, unemployment, and accidents as well as guarantee and reserve solidarity fund. SICs are assessed on gross incomes up to a maximum. The calculation of assessment base for the self-employed is slightly different.

Health insurance contributions (*Zdravotné odvody*): Health insurance contributions are compulsory for individuals with permanent residence in the Slovak republic. The government pays insurance for dependent children and persons who fulfil certain conditions. Contributions are assessed on gross income up to a maximum. The assessment base is calculated slightly differently for the self-employed. Others pay voluntary given minimum amount of contributions.

1.4 Taxes

Personal income tax (*Daň z príjmu fyzických osôb*): The base of the personal income tax covers income from dependent activity and self-employment as well as income from rent, fringe benefits, severance and termination payment. Social contributions and social benefits are exempted. It is applied at the individual level, but an individual may be entitled to a spouse tax allowance. There is basic tax allowance, supplementary pension savings allowance (savings in the third pension

pillar) and allowance on compulsory savings in the second pillar, and three types of tax credits (for employees, on dependent children, and on mortgage interest). The flat-rate system was abolished and since 2013 there are two progressive tax rates according to the amount of income.

Withholding tax (*Daň vyberaná zrážkou*): Income from interest at bank accounts, funds and investments are taxed with withholding tax. The rate is set at a uniform level. Although withholding tax is recorded separately, it is a part of the PIT.

Value added tax (*Daň z pridanej hodnoty*): VAT is levied on all goods and services supplied (including imported goods) in the Slovak Republic. It is the most important income source for the general budget. The rate is set uniformly at 20%, with exemption for some goods (e.g. basic foodstuffs, medicine, books), which are taxed at a lower rate (10%).

Excise taxes (*Spotrebné dane*): Excise taxes are indirect taxes, selectively levied on certain products – beer, wine, spirits, tobacco products, mineral oil, coal, natural gas and electricity

Local taxes (*Miestne dane*): They are set and governed at the municipal level. Local taxes include real estate tax and tax on specific services (charges for dog owners, accommodation tax, tax on non-win gambling machines, etc.).

1.5 Temporary measures introduced in reaction to the COVID-19 pandemic

Kurzarbeit (*Projekt na podporu udržania pracovných miest - zamestnávatelia*): Two mutually exclusive versions of compensation were introduced. First, if workers are unable to perform work assignments at all due to business closures, they receive 80% of their gross salaries (at least the minimum wage) which are fully covered by the government. A monthly cap per employee is set at €1 100 in the case of businesses that were compulsorily closed by the order of the government and €880 for businesses that remained closed voluntarily due to other business restrictions. Employers remain liable for the employer part of SIC on the 80% of the gross wage. The second alternative is a lump-sum subsidy per each eligible employee to firms that suffered revenue loss, even when they were able to continue working. The monthly subsidy depends on the percentage revenue loss in the given month. Only workers in the private sector are eligible.

Self-employment grant (*Projekt na podporu udržania pracovných miest - SZČO*): Lump-sum grant to the self-employed who were previously paying social insurance contributions, had their business closed by the order of the government or suffered a loss in revenue, and are not employed at the same time. The monthly grant depends on the percentage revenue loss in the given month.

Lump-sum transfer (*Projekt na podporu udržania pracovných miest – fyzické osoby*): Monthly transfer of €210 (€105 for March 2020) to individuals who lost all income. Applies to the self-employed who were not previously paying social insurance contributions, sole owner-managers of incorporated corporations, and dismissed temporary workers among others.

Pandemic sickness cash benefit (*Pandemické* n*emocenské*): Extends the standard sickness cash benefit to workers subjected to quarantine measures. Entitlement arises from the 1st day of quarantine and the benefit amount is 55% of the daily assessment base (gross income subject to sickness insurance contributions).

Pandemic nursing benefit (*Pandemické ošetrovné*): Extends the standard benefit for nursing a sick relative to parents looking after their children during compulsory school closure even when they are not sick. The duration is not limited and the benefit amount remains 55% of the daily assessment base (gross income subject to sickness insurance contributions).

Unemployment benefit prolongation (*Dávka v nezamestnanosti*): The standard unemployment benefit duration was prolonged by a maximum of four months for those whose unemployment benefit expired during the first wave of the pandemic.

SIC abatement (*Odpustenie sociálnych odvodov*): Employers (both public and private sector) and self-employed whose businesses were compulsorily closed by the order of the government do not have to pay their social insurance contributions for April 2020.

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Table 2.1 Simulation of benefits in EUROMOD

	Variable name(s)	Treatment in EUROMOD 2017-2020	Why not fully simulated?
Old age pension	poa00	I	No data on contributions records
Military, police old age pension	poaml	I	No data on contributions records
Early old age pension	pyr	I	No data on contributions records
Disability pension	pdi00	I	No data on contributions records
Widows and widowers pension	psuwd (psu00)	I	No data on contributions records
Orphan's pension	psuor (psu00)	I	No data on contributions records
Sickness cash benefit	bhl	IA	Short-term benefit, no data on sick days; included in health related benefits
Benefit for nursing a sick relative	bhl	IA	Short-term benefit, no data on sick days of relatives; included with sickness benefits
Equalization allowance	bfaot	IA	No data on pregnancy related changes in pay; included in other family benefits
Maternity benefit	bma/bmact_s	I/S	No data on contribution records. Its simulation can be switched on by activating PBE extension. The default for the baseline is off, i.e. the non-simulated component is being used (bma).
Unemployment benefit	bunct_s	PS	No data on contributions records
Material need benefits	bsa00_s	S	Missing data about participation in training/ community work; no information about child disability
Child birth grant	bchba_s	S	
Additional birth grant	bchba_s	S	
Multiple birth grant	bchba	IA	No information in the data
Child benefit	bch_s	S	
Additional child benefit	bch_s	S	
One-off child benefit	bch_s	S	
Parental allowance	bcc00_s	S	Missing data about child disability
Funeral benefit	bsu	IA	No data on deceased relatives; included in other survivors benefits
Scholarships	bsaot & bed	IA	No information about grades; means-tested scholarships included in bsaot
Tax refunds	tinrf_s	S	
Nursing allowance	bcrdi	I	No data on sickness of a relative
Housing benefit	bho	IA	
Residual unemployment benefits	bunot	I	Residual benefits not possible to be simulated
Residual family benefits	bfaot	I	Residual benefits not possible to be simulated
Residual disability benefits	bdiot	I	Residual benefits not possible to be simulated
Nursing benefit (*Covid-19*)	bccmc_s	S (2020)	Its simulation can be activated by using the LMA add-on and switch on the policy "bccmctime_sk", which allocates randomly individuals to this compensation scheme.
Wage compensation scheme (*Covid-19*)	bwkmcee_s	S (2020)	This benefit can only produce results if the model is run in combination with the LMA add-on.
Self-employment compensation (*Covid-19*)	bwkmcse_s	S (2020)	This benefit can only produce results if the model is run in combination with the LMA add-on.

Notes: "-": policy did not exist in that year; "E": *excluded* from the model as it is neither included in the micro-data nor simulated; "I": *included* in the micro-data but not simulated; "IA": *included* in the micro-

data in an *aggregate* variable, but not simulated; "PS" *partially simulated* as some of its relevant rules are not simulated; "S" *simulated* although some minor or very specific rules may not be simulated.

Table 2.2 Simulation of taxes and social contributions in EUROMOD

	Variable name(s)	Treatment in EUROMOD 2017 - 2020	Why not fully simulated?
Personal income tax	tin_s	S	
Withholding tax	tin_s	PS	Simulated together with personal income tax
Property tax	tpr	I	No information on value of real estate
Value added tax		E	Beyond the scope of Euromod; no data on expenditures
Excise taxes		E	Beyond the scope of Euromod; no data on expenditures
Local taxes		E	Beyond the scope of Euromod; no detailed data on locality
Employee social insurance contributions	ils_sicee		
Sickness contributions	tsceesi_s	S	
Old-age contributions	tsceepi_s	S	
Disability contributions	tsceedi_s	S	
Unemployment contributions	tsceeui_s	S	
Health contributions	tsceehl_s	S	
SICs from agreements	tsceeaj_s	S	
Employer social insurance contributions	ils_sicer		
Sickness contributions	tscersi_s	S	
Old-age contributions	tscerpi_s	S	
Disability contributions	tscerdi_s	S	
Unemployment contributions	tscerui_s	S	
Health contributions	tscerhl_s	S	
Guarantee contributions	tscersf_s	S	
Accident contributions	tscerac_s	S	
Reserve solidarity fund	tscerot_s	S	
2nd pillar component	tscpcpi_s	S	No data on participation in 2nd pillar in the dataset; participation simulated randomly based on probabilities derived from external data
SICs from agreements	tsceraj_s	S	
Self-employed social insurance contributions	ils_sicse		Based on current income; no data about previous income
Sickness contributions	tscsesi_s	S	
Old-age contributions	tscsepi_s	S	
Disability contributions	tscsedi_s	S	
Reserve solidarity fund	tscseot_s	S	
Health contributions	tscsehl_s	S	
2nd pillar component	tscpcpitv_s	S	No data on participation in 2nd pillar in the dataset; participation simulated randomly based on probabilities derived from external data
Voluntary health insurance contributions (inactive)	tschlfx_s	S	
Credited health insurance contributions	tsccthl_s	S	

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

- ***Structural changes between 2017 and 2018***

The health care insurance contribution (HIC) allowance for employers has been abolished. Currently only employees are eligible for the HIC allowance.

The allowance on social security contributions of pensioners paid on income from agreements has been increased and unified at EUR 200 per month.

Transformation of support for mortgage interest for young people from subsidy to tax credit: since 2018 taxpayers will be allowed to deduct mortgage interest (maximum amount is EUR 400 per year for a maximum of 5 years in a row) from its own tax liability. Only taxpayers younger than 35 years old and with average income below 1.3 times the average wage two years prior are eligible.

The period of contribution required for eligibility for the unemployment benefit has changed from the minimum of 2 out of the last 3 years to a minimum of 2 out of the last 4 years.

- ***Structural changes between 2018 and 2019***

Since 2019, the tax credit on dependent children is doubled for each child below the age of 6 years. For children aged 6 or more, the tax credit was indexed in the usual way to €22.17.

The amounts of several social benefits were increased.

A new one-off child benefit was approved from September 2019 for children starting elementary school.

- ***Structural changes between 2019 and 2020***

The basic tax allowance was raised from 19.2 * the Minimum Subsistence Level (MLS) to 21*MLS. The threshold when the tax allowance is phased out was adjusted accordingly to 92.8*MLS.

Higher parental allowance is provided to parents who were in receipt of the maternity benefit before claiming the parental allowance.

Self-employment income is now taxed separately. If the annual turnover is less than or equal to €100 000, a lower flat rate of 15% is applied. If the turnover is higher, the standard progressive tax schedule applies on self-employment income separately. Tax allowances are first used to reduce the tax base on employment income. If employment income is lower than the tax allowances, the left-over allowances then reduce the separate self-employment income tax base.

Credited health insurance contributions are no longer paid in the form of a percentage of the assessment base. Instead, the government pays a fixed amount each month based on the total amount of resources allocated to the healthcare system in the state budget.

Besides, and as result of the COVID-19 pandemic, three main income compensation schemes were put in place in 2020: the COVID-19 nursing benefit (*Pandemické ošetrovné)*, for parents looking after their children during compulsory school closure; a wage compensation scheme (*Projekt na podporu udržania pracovných miest – zamestnávatelia*) for employees unable to perform work assignments at all due to business closures; and a lump-sum grant for self-employed *(Projekt na podporu udržania pracovných miest – SZČO*) whose business closed by the order of the government or suffered a loss in revenue.

2.2 Order of simulation and interdependencies

Table 2.3 shows the order in which the policies are simulated. The order is the same for all years. 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 minimum wage is turned off in all years. The simulation of the temporary COVID-19 compensation measures comes next, as employment incomes and the number of months in employment will be recalculated for those spending at least one month under any compensation scheme, and the simulated outputs are used by subsequent policies (i.e. wage compensations for employees are taxable and subject to social insurance contributions)[2].

Eligibility for the unemployment benefit is conditional upon receipt of the parental allowance and the maternity benefit. As a result, the maternity benefit[3] and the parental allowance are 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 benefit) is 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.

[2] Please, note that these policies can only produce results if the model is run in combination with the LMA add-on. For more information about the modelling of labour market transitions, please consult the "Simulating labour market transitions in EUROMOD" document.

[3] Even though its simulation is switched off in the baseline. See section 2.3 and the corresponding policies' descriptions for more information.

Table 2.3 EUROMOD Spine: order of simulation

Policy	SK_2017	SK_2018	SK_2019	SK_2020	Description of the instrument and main output
setdefault_sk	on	on	on	on	DEF: SET DEFAULT
uprate_sk	on	on	on	on	DEF: UPRATING FACTORS
constdef_sk	on	on	on	on	DEF: Constants
ilsdef_sk	on	on	on	on	DEF: INCOME CONCEPTS
ilsUDBdef_sk	on	on	on	on	DEF: UDB INCOME CONCEPTS
ildef_sk	on	on	on	on	DEF: NON-STANDARD INCOME CONCEPTS
random_sk	on	on	on	on	DEF: Random assignment for tscpcpi_sk & covid-19-related policies
TransLMA_sk	n/a	n/a	n/a	off	DEF: select individuals that do the transition to wage comp./ unemployment (LMA transitions)
tudef_sk	on	on	on	on	DEF: ASSESSMENT UNITS
yem_sk	switch	switch	switch	switch	INC: Minimum Wage (Minimálna mzda)
neg_sk	on	on	on	on	DEF: recode negative incomes (e.g. self-employment income) to zero
bccmctime_sk	n/a	n/a	n/a	off	BEN: Months in Covid-19 nursing benefit (bccmc_sk)
bccmc_sk	n/a	n/a	n/a	on	BEN: Covid-19 Pandemic nursing benefit (Pandemické ošetrovné)
yemcomp_sk	n/a	n/a	n/a	on	BEN: Covid-19 wage compensation scheme "Kurzarbeit" (Projekt na podporu udržania pracovných miest)
ysecomp_sk	n/a	n/a	n/a	on	BEN: Covid-19 self-employment lump-sum grant (Príspevok pre SZČO)
bmact_sk	switch	switch	switch	switch	BEN: Maternity benefit (Materská dávka)
bcc00_sk	on	on	on	on	BEN: Parental Allowance (Rodičovský príspevok)
tscee_sk	on	on	on	on	SIC: Employee social insurance contributions (Sociálne poistenie - zamestnanec)
bunct_sk	on	on	on	on	BEN: Unemployment benefit (Dávka v nezamestnanosti)
tscer_sk	on	on	on	on	SIC: Employer social insurance contributions (Zamestnávateľ sociálne poistenie)
tscse_sk	on	on	on	on	SIC:Self-employed social insurance contributions (Sociálne poistenie - samostatne zárobkovo činné osoby)
tschaj_sk	on	on	on	on	SIC: Social insurance contributions paid from income from agreements (since 2013)
tscpcpi_sk	off	off	off	off	SIC: Second pillar pension insurance contributions (Príspevky na starobné dôchodkové sporenie)
tschl_sk	on	on	on	on	SIC: Health insurance contributions (Zdravotné poistenie)
tin_sk	on	on	on	on	TAX: Personal Income tax (Daň z príjmu fyzických osôb)

bchba_sk	on	on	on	on	BEN: Child birth grant (Príspevok pri narodení dieťaťa) & Additional birth grant (Príplatok k príspevku pri narodení dieťaťa)
bch_sk	on	on	on	on	BEN: Child Benefit (Prídavok na dieťa)
bsa_sk	on	on	on	on	BEN: Means-tested social assistance (Dávka v hmotnej núdzi a príspevky k dávke)
tsccthl_sk	on	on	on	on	SIC: Credited & 'voluntary' health insurance contributions (Zdravotné poistenie platené štátom a samoplatcami)
output_std_sk	on	on	on	on	DEF: STANDARD OUTPUT INDIVIDUAL LEVEL
output_std_hh_sk	off	off	off	off	DEF: STANDARD OUTPUT HOUSEHOLD LEVEL

2.3 Policy extensions

There are three extensions included in the Slovak model:

- **Minimum Wage Adjustment (MWA)**, allowing the user to switch on/off the minimum wage simulation. The default for the baselines is off.

- **Parental Benefits Extension (PBE),** allowing the user to choose between the observed (non-simulated) parental leave benefits (extension off) or the simulated ones (extension on). The default for the baselines is off.

- **Full Year Adjustment (FYA),** allowing the user to choose between policies as of 30th June (extension off) or modelling annual policies (extension on), taking into account within-year policy changes. The default for the baselines is off.

Apart from the above-mentioned policy extensions, the Slovak model also includes two policies that are switched off in the baseline, but can be used for specific purposes:

- **TransLMA_sk.** This policy defines the individuals that are selected to undergo transitions to monetary compensation schemes and/or unemployment. The transitions are only enabled if used together with the Labour Market Adjustments (LMA) add-on (i.e. the LMA add-on switches on this policy automatically). The transitions are based on a random allocation of individuals and they might be triggered by feeding the parameters of this policy with official or hypothetical information[4]. This policy, in combination with the LMA add-on, enables the simulation of the wage compensation scheme (*yemcomp_sk*) and the lump-sum grant for self-employed (*ysecomp_sk).*

- **bccmctime_sk.** This policy can be switched on to simulate the COVID-19 nursing benefit *(bccmc_sk)*. It includes a pre-defined random allocation of individuals to this scheme. Users can, anyway, feed the parameters of this policy with different external data or hypothetical information. Importantly, this policy must be run with the LMA add-on, as the number of months in employment and employment incomes need to be adjusted according to the duration during which the individual receives the nursing benefit. This adjustment only takes place when running the LMA add-on.

[4] For more information about the modelling of labour market transitions, please consult the "Simulating labour marker transitions in EUROMOD" document.

2.4 Social benefits

2.4.1 Parental allowance (*bcc_sk*)

- ***Definitions***

There is a special unit of analysis (*tu_bcc_sk*) for parental allowance, which contains parents and their children up to 3 years old or up to 6 years old in case of long term unfavourable health conditions.

- ***Eligibility conditions***

Only one parent can claim the allowance. It cannot be combined with sickness benefit. Maternity benefit reduces the amount of allowance.

EUROMOD notes: The loss of entitlement due to receiving sickness benefits is actually not simulated in the model due to the short-term nature of sickness benefits, which are usually received only for a few days or weeks.

- ***Income test***

Not applicable

- ***Benefit amount***

During 2006 – 2009 the amount of the benefit was fixed independently from the number of children in the tax unit. In 2010 a second higher amount of parental allowance was defined. Entitled to the higher amount was the parent of a child up to 2 years old, who was eligible for maternity benefit before child birth or had paid sickness insurance contributions at least for a period of 270 days before child birth. The parent was not entitled for higher amount if he has a paid job. Since 2017 the amount of benefit for tax unit with one child is set as in the following table. This amount increases by 25% for every child born at the same time as the one considered. The parental allowance is decreased by 50% if some other dependent child in the same family has not attended school for 3 months. Since 2020, a higher parental allowance is provided if the parent was receiving maternity benefit before claiming the parental allowance.

Table 2.4. Parental allowance benefit amounts (€ per month)

	2017	2018	2019	2020
Per family	€ 213.2	€ 214.7	€ 220.7	€ 270.0
After maternity	-	-	-	€ 370.0

EUROMOD notes: The reduction in allowance due to other children not attending school is not modeled. The simulation of the higher allowance after maternity is only simulated for parents receiving maternity benefit in the income reference period.

- ***Subject to taxes/SIC***

Exempt.

- ***Take up***

Nearly all eligible parents take parental allowances.

Changes in 2018

No changes

Changes in 2019

No changes

Changes in 2020

Higher allowance is provided to parents who were receiving the maternity benefit before.

2.4.2 Unemployment benefit (*bunct_sk*)

- ***Definitions***

The unit of analysis is an individual.

- ***Eligibility conditions***

A person is entitled to receive unemployment benefit if they have contributed for at least two years within the last three (since 2018 within the last four years). After the end of an unemployment spell, the insured person must contribute for another two years before a new claim can be made. They must be listed on the unemployment registry and be under the retirement age. The benefit cannot be combined with sickness, nursing or maternity benefit, or parental allowance. The maximum length of receiving unemployment benefit is 6 months.

- ***Income test***

No income test is applied

- ***Benefit amount***

The amount of unemployment benefit is 50% of the daily assessment base, which is calculated as the sum of all the bases on which unemployment insurance contributions have been paid, divided by the corresponding number of days. The benefit is provided with respect to the number of days in unemployment. The maximum monthly assessment base is 2 times the average wage two years prior.

The following table summarises the main characteristics of unemployment insurance benefit in Slovakia.

Table 2.5. Characteristics of the unemployment benefit

		2017	2018	2019	2020
Eligibility	Contribution period	2 years out of the last 3	2 years out of the last 4	2 years out of the last 4	2 years out of the last 4
	Other conditions	listed on the unemployment register and under retirement age	listed on the unemployment register and under retirement age	listed on the unemployment register and under retirement age	listed on the unemployment register and under retirement age
	Eligibility of self-employed [a]	no	no	no	no
Payment	Contribution base	gross employment income + company shares + termination and severance pay divided by number of days in employment	gross employment income + company shares + termination and severance pay divided by number of days in employment	gross employment income + company shares + termination and severance pay divided by number of days in employment	gross employment income + company shares + termination and severance pay divided by number of days in employment
	Basic amount	50% of daily contribution base	50% of daily contribution base	50% of daily contribution base	50% of daily contribution base
	Additional amount	N/A	N/A	N/A	N/A
	Floor	N/A	N/A	N/A	N/A
	Ceiling	50% of 2 times the average wage two years prior	50% of 2 times the average wage two years prior	50% of 2 times the average wage two years prior	50% of 2 times the average wage two years prior
Duration	Standard (in months)	6 months	6 months	6 months	6 months
	Special cases (in month)	N/A	N/A	N/A	Up to 10 months
Subject to	Taxes	no	no	no	no
	SIC	no	no	no	no

Notes: [a] Contributions to unemployment insurance is voluntary for the self-employed. Only those contributing to unemployment insurance are eligible to get the benefit.

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

Unemployment duration (lunmy_s) is set equal to the minimum between the maximum duration according to the national rules or the maximum of observed unemployment duration (lunmy) and observed benefit receipt (bunmy). If modelling unemployment benefit for those currently employed, unemployment duration is set equal to the minimum between the maximum duration

according to the national rules or the reported number of months in employment in the current year (liwmy), once contribution history (see the next step) is modelled. It is effectively also assumed that unemployment spells start in the reference year.

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

- For those currently employed (lnu>0), this is used.
- For those currently unemployed (lunmy_s > 0) and in receipt (bunct > 0), this is set at least equal to the minimum qualifying period.
- For those currently unemployed (lunmy_s > 0) and not in receipt (bunct = 0), this is set to zero.

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

Benefit duration (bunmy_s) is simply set equal to the unemployment duration (lunmy_s) as long as this is smaller than the maximum duration according to the national rules. The maximum duration is 6 months.

Benefit entitlement is calculated based on the variable "previous wage" which is used as the daily assessment base. In case the value is missing imputed wage is used. Previous wage for the simulation of the unemployment benefit is calculated reverting the unemployment benefit rules from the benefit amount reported in data.

The prolongation of the benefit duration (to maximum of 10 months) during the COVID-19 pandemic is not simulated because the expiration date of the benefit cannot be identified.

2.4.3 Child birth grant and additional birth grant (*bchba_sk*)

- ***Definitions***

There is special unit of analysis (*tu_bchba_sk*) containing parents and their dependent children up to 1 year old.

- ***Eligibility conditions***

Only one parent (usually the mother) can receive the grant. There is no conditionality to this grant other than permanent residency of both the entitled parent and the dependent child in the Slovak Republic. The child should be older than 28 days. The additional birth grant was introduced in 2007 and was paid for each new-born child whose mother was at her first childbearing. Since 2009 the additional child birth grant is paid for the first three children.

EUROMOD notes: The benefit is simulated as a yearly amount for all parents, who have a dependent child up to 1 year old.

- ***Income test***

No income test is applied

- ***Benefit amount***

Benefit amount depends on the number of children and childbirths:

- EUR 829.86 for the first three childbirths (which consists of birth grant and additional birth grant)
- EUR 151.37 for the child from fourth or more childbirths
- For two or more children born at the same time there is additional benefit EUR 75.69 per child.

Table 2.6. Child birth grant benefit amounts (€ per year)

	2017	2018	2019	2020
Birth grant	€ 151.37	€ 151.37	€ 151.37	€ 151.37
Additional birth grant	€ 678.49	€ 678.49	€ 678.49	€ 678.49

2.4.4 Child benefit (*bch_sk*)

- ***Definitions***

The unit of analysis is the family (*tu_family_sk*), which contains parents and their dependent children. Dependent child is defined as a child up to 16 years old, or up to 18 years old and disabled or up to 25 years old and studying at university (not yet finished post-secondary education), or up to 25 years old and cannot study because of illness or injury.

- ***Eligibility conditions***

There is no conditionality to the child benefit other than permanent residency in the Slovak republic of both the entitled parent and the dependent child. Since 2008, an additional child benefit has been introduced. Eligible individuals are those meeting the whole set of the following requirements:

- Pension beneficiary (old-age, early old-age or disability pension),
- Not receiving any earning,
- Not entitled to the tax credit on dependent child.

EUROMOD notes: The extension of benefit for children, who are younger than 26 and not studying at an approved institution because of illness or injury, is not modelled.

- ***Income test***

No income test is applied

- ***Benefit amount***

The amount of the benefit slightly differs each year. It is adjusted by government regulation. The monthly amounts in the following table are per child. Since September 2019, an additional one-off benefit is given when the child starts elementary school for the first time.

Table 2.7. Child benefit amounts per child (€ per month)

	2017	2018	2019	2020
Child benefit	€ 23.52	€ 23.68	€ 24.34	€ 24.95
Additional benefit	€ 11.02	€ 11.10	€ 11.41	€ 11.70
One-off benefit	-	-	€ 100.00	€102.50

EUROMOD notes: The one-off benefit approved in September 2019 is simulated for that year using the Full Year Adjustment extension. The default for the baseline is off, i.e. the benefit is simulated as of June 30.

2.4.5 Maternity benefit (*bmact_s*)

- ***Definitions***

This is a contributory benefit for the period of maternity leave. Available to employees and insured self-employed persons. The benefit can also be claimed by the father of the child if he is a substitute carer due to taking care of the child. The benefit is paid to mothers/substitute carers of adopted/foster children, but we cannot simulate it for these categories due to the lack of data on adoption/foster status of children.

- ***Eligibility conditions***

Giving birth or being a substitute carer (incl. fathers).

- At least 270 days of contributions to sickness payment during the 2 years preceding the take up of maternity benefit. Within this period is included interruption due to the parental allowances.
- Loss of earnings for the period of leave (the woman must not have a paid position and may not run her own business).

- ***Income test***

No.

- ***Benefit duration***

The maternity leave begins 6-8 weeks before expected birth and lasts a total of 34 weeks, or 37 weeks in case of single mother and 43 weeks in case of multiple births. The minimum duration is 14 weeks (if the child is stillborn).

- ***Benefit amount***

The amount equals 75 % of the Daily Assessment Base *(Denní vymeriavací základ*), paid during the period of maternity leave. The maximum amount of DAB is calculated as follows: at first it is important to calculate the maximum assessment base (MAB) per month which is *2 * average wage two years before*. Subsequently the maximum maternity benefit per day is calculated as *MAB * 12 / 365 * 75 %.*

Table 2.8. Detailed calculation of maternity benefit per month

	2017	2018	2019	2020
AW t-2	€ 883.00	€ 912.00	€ 954.00	€ 1013.00
multiplication	2.00	2.00	2.00	2.00
coefficient	€1 766.00	€1 824.00	€ 1 908.00	€ 2 026.00
DAB	€ 58.06	€ 59.97	€ 62.73	€ 66.61
Percentage of gross wage	75%	75%	75%	75%
Maximum Maternity benefit				
per day	€ 43.55	€ 44.98	€ 47.05	€ 49.96
month (30 days)	€1 306.36	€1 349.26	€ 1 411.40	€ 1 498.69
month (31 days)	€1 349.90	€1 394.24	€ 1 458.44	€ 1 548.65

The father of the child can claim maternity benefit but no earlier than when the child is 6 weeks or older and only if the mother forfeits the benefit and leaves the childcare to the father. The amount of the maternity benefit of the father is calculated on the basis of his DAB in the same way as for the mother. The duration of the benefit is 28 weeks or 31 weeks in case of a single father or 37 weeks in case of multiple births.

- ***Subject to taxes/SIC***

Exempt.

- ***Take up***

Nearly all eligible mothers take maternity leave.

Changes in 2017

Increase in number of percentage from 70% to 75% of gross wage

Increase in MAB from 1.5 times to 2 times.

Changes in 2018

No changes

Changes in 2019

No changes

Changes in 2020

No changes

EUROMOD notes

In the EUROMOD Public Release of 2020 (I3.0) this benefit is only simulated from 2015 to 2020. The simulation is, however, switched off as part of the baselines, i.e., the non-simulated components (*bma*) is being used.

As the benefit amount depends on the previous earnings, we assume those to be equal to the imputed wage (*yivwg*) or the current wage, whichever is higher. The imputed wage is recorded in hourly terms, hence we assume a country-specific standard number of hours worked per week (40 hours) and we recalculate *yivwg* in monthly terms (yivwg*40 *(52/12)).

Besides, the simulation assumes that the mother starts the leave 8 weeks before the birth and takes 26 weeks after.

2.4.6 Material need benefits (*bsa_sk*)

- ***Definitions***

The unit of analysis is the family (*tu_bsa_sk*) but with a slightly different definition of dependent child, as for child benefit. The dependent child conditions are following:

A person is defined as dependent child if he/she is aged below 16, or below 18 if disabled, or below 26 if still in education, or below 26 if his/her income is below the minimum wage and does not receive income from disability pensions and unemployment. Besides, children cannot be married to be consider dependent.

- ***Eligibility conditions***

The family unit is eligible to receive material need benefit, if its assessed income is below the minimum subsistence level corresponding to its family structure.

The monthly amounts of the minimum subsistence level can be seen in the following table:

Table 2.9. Minimum subsistence level (€ per month)

	2017	2018	2019	2020
Head	€ 198.09	€ 199.48	€ 205.07	€ 210.20
Every next adult	€ 138.19	€ 139.16	€ 143.06	€ 146.64
Dependent child	€ 90.42	€ 91.06	€ 93.61	€ 95.96

- ***Income test***

The assessed income consists of:

- 75% of the net employment and self-employment income
- 75% of old-age and early old-age pension for a pensioner with working history up to 25 years For each additional year of working history beyond 25 years, the parameter is decreased by 1 %
- 75% of the maternity benefit
- 75% of the disability benefit
- 75% of the orphan pension
- 75% of the widow and widower 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 exempt from the assessed income are:

- One-off state support payments (child birth grant, multiple birth grant, foster care allowances, funeral benefit)
- Child benefit and additional child benefit
- Scholarships
- Tax credit on a dependent child and employee tax credit
- Income from occasional activities up to twice the minimum subsistence level
- Student income up to 1.2 times the minimum subsistence level
- Contribution for graduation practice

EUROMOD notes: Assessed income is derived from original market income (ils_origy) by adding the above named benefits and subtracting simulated social security contributions and income tax, income from occasional activities, educational allowances and 25% of net earnings,

maternity benefit and all pensions. The coefficient for old-age pension is adjusted according to length of working history.

- ***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.

The amount of **basic material need benefit** is set according to the structure of the family as in the following table.

Table 2.10. Basic benefit amounts for material need benefit (€ per month)

	2014-2018	2019	2020
Individual	€ 61.60	€64.70	€ 66.30
Single parent, 1-4 children	€117.20	€123.10	€ 126.20
Single parent, 5+ children	€171.20	€179.80	€ 184.30
Couple, no children	€ 107.10	€112.50	€ 115.30
Couple, 1-4 children	€160.40	€168.40	€ 172.60
Couple, 5+ children	€ 216.10	€226.90	€ 232.60
Extra amount for pregnant women	€ 13.50	€14.20	€ 14.60
Extra amount for child less than 1 year old	€ 13.50	€14.20	€ 14.60

The monthly amount of **health care allowance** is 2 euro per individual. Before 2009 the amount was 50 SKK. This allowance covers care expenditures of a person in state of material need and has no eligibility condition. Since 2014 the allowance has been abolished.

EUROMOD notes: Basic material needs benefit and health care allowance are simulated for every tax unit. The supplement for pregnant women is not simulated.

The **housing allowance** aims to cover the housing related costs of a household in material need. At least one member must be the owner or tenant of the flat or house and the family must prove she is paying housing costs. Only one person in household is entitled to receive housing allowance. The amount of allowance for a one-person household is €57.20 and for a household with 2 or more members it is €91.40 in 2020. The amount is indexed annually in line with the basic material need benefit.

EUROMOD notes: Housing allowance is simulated for every household and it is allocated to the head of the tax unit. We assume the head is responsible for housing.

The **protection allowance** is given to persons in material need who are above retirement age or disabled (lost more than 70% of work capability) or have been sick for a period more than 30 days, or to lone parents taking care of a child up to age of 31 weeks, or persons taking care of disabled individuals. The amount of allowance was increased from €66.20 to €67.90 in 2020.

EUROMOD notes: Protection allowance is simulated for persons in retirement age or disabled or with children up to 1 year. If there is a disabled person in tax unit, one additional amount of protection allowance is simulated for carers. The carer is the oldest adult in tax unit not already eligible to protection allowance.

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 entitlement expires if person does not participate in programs (part-time attendance in educational activities, training and work programs organized by municipality or the Labour Office). The amount of activation allowance was increased from €66.20 to €67.90 in 2020.

EUROMOD notes: Activation allowance is simulated for every adult not eligible for protection allowance, since there is no information in data about participation in programs mentioned above.

Allowance for dependent child aims at education and progress of the child in household. The household receive the allowance for a child which is fulfilling compulsory school attendance. The allowance was increased from €17.20 to €18.10 per month in 2019 and further to €18.60 per month in 2020.

EUROMOD notes: Allowance for dependent child is simulated for every dependent child in education and it is allocated to the head of the tax unit.

2.5 Social contributions

2.5.1 Employee social contributions (*tscee_sk*)

- ***Liability to contributions***

Every employee is obliged to pay social contributions. Pensioners are exempted from contributions for disability and unemployment insurance. Recipients of disability pension, who lost more than 70% of their work capability, are exempted from paying unemployment insurance contributions and during 2006 and 2007 they were exempted also from paying disability insurance contributions.

Employees working on agreements were exempted until 2013. Since 2013, temporary workers, that work on the basis of an agreement of service or agreement of student work, should also pay social contributions. Students are entitled to social insurance contribution allowance in monthly amount of 8.39% of average wage two years prior up to 18 years of age, and in monthly amount of 19.72% of average wage two years prior up to 26 years of age. Since 2014, the allowance is in amount of EUR 200 per month for both groups. There is also exemption for recipients of old-age, early old-age or disability pension. The exemptions are different if a person is receiving regular or irregular income. The exact rates for each category are shown in the table below. Since 2018 the allowance on social security contributions of pensioner paid on income from agreements has been increased and unified at EUR 200 per month.

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

The assessment base consists of gross wage and profit shares. Since 2011, assessment base includes also termination and severance payments. Since 2013, employee social contributions are paid from income from agreements, as well (the allowance for students is applicable). The upper limit of the assessment base is unified since 2013 at 5 times the average wage two years prior. Since 2017 the upper limit of the assessment base is at 7 times the average wage two years prior. Before 2013, the maximum assessment base for sickness insurance was set to 1.5 times the average wage two years prior and for other types of insurance to 4 times (3 times during 2006 and 2007) the average wage two years prior.

- ***Contribution rates***

Table 2.11. Employee contribution rates

Type of insurance	Old-age	Disability	Unemployment	Sickness
rate	4%	3%	1%	1.4%

Table 2.12. Contribution rates on income from agreement

	Regular income	Regular income and recipient of early old age pension	Irregular income	Irregular income and recipient of early old age pension	Student	Recipient of disability pension	Recipient of old age pension
Health insurance	4.00%	4.00%	4.00%	4.00%	0.00%	0.00%	0.00%
Pension insurance	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Disability insurance	3.00%	0.00%	3.00%	0.00%	3.00%	3.00%	0.00%
Sickness insurance	1.40%	1.40%	0.00%	0.00%	0.00%	0.00%	0.00%
Unemployment insurance	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sum	**13.40%**	**9.40%**	**11.00%**	**8.00%**	**7.00%**	**7.00%**	**4.00%**

EUROMOD notes: The difference between regular and irregular income is not modeled. Everyone pays social contributions as with regular income. 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'. The contributed number of months are imputed as 1 for those individuals with positive assessment base but without any number of months in employment.

2.5.2 Employer social contributions (*tscer_sk*)

- ***Liability to contributions***

Employers pay social contributions for all employees. The same exemption for pensioners and disabled are in force as in the case of employee social insurance contributions.

Employers had to pay contributions to guarantee and accident insurance on income from agreements during all years. Since 2013, the rules changed and now all types of insurance contributions are paid also on income from agreements, with some exemptions for pensioners and students as in the case of employee social contributions paid from income from agreements. The exact rates for all categories are shown in the table below. The same social insurance contribution allowance is applied for students as well as employees.

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

Employers' social contributions assessment base is equal to that of employees except in the case of accident rates because there is no maximum assessment base.

- ***Contribution rates***

Table 2.13. Employer contributions rates

Type of insurance	Old-age	Disability	Unemployment	Sickness	Reserve solidarity fund	Guarantee	Accident
rate	14%	3%	1%	1.4%	4.75%	0.25%	0.8%

Table 2.14. Contribution rates on income from agreement

	Regular income	Regular income and recipient of early old age pension	Irregular income	Irregular income and recipient of early old are pension	Student	Recipient of disability pension	Recipient of old age pension
Health insurance	10.00%	10.00%	10.00%	10.00%	0.00%	0.00%	0.00%
Pension insurance	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
Disability insurance	3.00%	0.00%	3.00%	0.00%	3.00%	3.00%	0.00%
Sickness insurance	1.40%	1.40%	0.00%	0.00%	0.00%	0.00%	0.00%
Unemployment insurance	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Reserve solidarity fund	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%
Guarantee insurance	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Accident insurance	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%
Sum	**35.20%**	**31.20%**	**32.80%**	**29.80%**	**22.80%**	**22.80%**	**19.80%**

EUROMOD notes: The difference between regular and irregular income is not modeled. Everyone pays social contributions as with regular income.

The one-off abatement during the COVID-19 pandemic is simulated based on the industry of the workers (*lindi*). The random share of workers eligible for the abatement are given by the following table:

Table 2.15. Share of industries (*lindi*) eligible for SIC abatement

lindi	**Share**
Compulsory closure	
4: wholesale & retail	6%
5: hotels & restaurants	25%
8: real-estate & business activities	6%
12: other	20%
Voluntary closure	
1: agriculture & fishing	8%
2: mining, manufacturing, utilities	16%
6: transport & communication	7%
8: real-estate & business activities	12%

EUROMOD notes: The same random variable and allocation of workers that is used for "Kurzarbeit" (see section 2.8.2) is used here. This means that all workers receiving the "Kurzarbeit" are assumed eligible. No additional workers receiving the abatement are simulated. This intends to be consistent with the way labour market transitions are simulated for COVID-19 policies (i.e. the random allocations of individuals and months to income compensation-related policies are switched off in the baseline, but they can be triggered by using the LMA add-on).

Besides, as the LMA add-on allows to move workers to unemployment, SICs will be adjusted automatically for the number of months the individuals making the transition will spent in unemployment.

Two caveats, however, should be noted in this regard:

- Although the simulation assumes that all "Kurzarbeit" recipients are eligible for the SIC abatement, in practice, businesses voluntarily closed are not entitled for the latter.
- Besides, using the same allocation of workers as that of "Kurzarbeit" might lead to a significantly lower simulated take-up of the SIC abatement, as some additional compulsory closured businesses were entitled to the abatement even when their workers remained employed (i.e. workers did not receive "Kurzarbeit", nor moved to unemployment).

2.5.3 Self-employed social contributions (*tscse_sk*)

- ***Liability to contributions***

Self-employed workers are obliged to contribute to social insurance agency if their earnings (without deducting the expenditures) are higher than a given low limit. The lower limit was equal to the minimum wage in 2006-07, 44.2% of the average wage two years prior in 2008-2012 and, since 2013, the limit is set at 50% of the average wage two years prior. If the self-employed is a pensioner, he is exempted from paying disability insurance contributions.

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

The assessment base is half of the net profit, which is calculated as revenues reduced by costs and deductible expenses. Since 2013, the assessment base is net profit plus social and health insurance contributions paid in the previous year, all divided by a coefficient. The coefficient is 1.9 in 2013, 1.6 in 2014, and 1.486 since 2015. The maximum assessment base is equal to 5 times the average wage two years prior for all type of insurance. Since 2017 the maximum assessment base is equal to 7 times the average wage two years prior for all type of insurance. Before 2013, the maximum was defined as 1.5 times the average wage two years prior for sickness insurance and 4 times (3 times in 2006 and 2007) the average wage two years prior for other types of insurance.

- ***Contribution rates***

Table 2.16. Self-employed contribution rates

Type of insurance	**Old-age**	**Disability**	**Reserve solidarity fund**	**Sickness**
rate	18%	6%	4.75%	4.4%

EUROMOD notes: We assume that every self-employed contribute at least the minimum. As the input database does not contain information about the turnover, the condition about earnings higher than 50% of the average wage two years prior cannot be verified and modelled. Besides, self-employed 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.

The one-off abatement during the COVID-19 pandemic is simulated based on the industry (*lindi*). The random share of self-employed eligible for the abatement are given by the following table:

Table 2.17. Share of industries (*lindi*) eligible for SIC abatement

lindi	Share
1: agriculture & fishing	4%
2: mining, manufacturing, utilities	15%
3: construction	6%
4: wholesale & retail	18%
5: hotels & restaurants	34%
6: transport & communication	18%
7: financial intermediation	3%
8: real-estate & business activities	22%
10: education	16%
12: other	30%

EUROMOD notes: The same random variable and allocation of self-employed that is used for the self-employment grant (section 2.8.3) is used here. This means that all self-employed receiving the grant are assumed eligible. No additional self-employed receiving the abatement are simulated. This intends to be consistent with the way labour market transitions are simulated for COVID-19 policies (i.e. the random allocations of individuals and months to income compensation-related policies are switched off in the baseline, but they can be triggered by using the LMA add-on). Besides, as the LMA add-on allows to move workers to unemployment, SICs will be adjusted automatically for the number of months the individuals making the transition will spent in unemployment.

Two caveats, however, should be noted in this regard:

- Although the simulation assumes that all self-employment grant recipients are eligible for the SIC abatement, in practice, only businesses compulsory closed are entitled for the latter. However, the eligibility to the self-employment grant is simulated based on the share of industries experiencing different percentage loss in revenues. From this information we are not able to solely identify businesses that were effectively closed.
- Besides, using the same allocation of self-employed as that of the self-employment grant might lead to a significantly lower simulated take-up of the SIC abatement, as some additional self-employed were entitled to the abatement even when they did not claim/receive the self-employment grant.

2.5.4 Health insurance contributions (*tschl_sk*)

- ***Liability to contributions***

Everyone is obliged to be insured. Employees, employers and the self-employed pay a fixed rate from a defined assessment base. Government pays health insurance contributions for students, unemployed, etc. (the exact conditions are described in the next section). Others, who are not entitled to receive credited health insurance contributions and are not either employees or self-employed are also obliged to pay and are registered under the category of "voluntary payers".

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

The assessment base for employee and employer consists of the assessment base for social contributions and income from occasional activities and other payments made by the employer. The minimum assessment base is equal to the minimum wage and the maximum assessment base

has been abolished (5 times before 2017 and 3 times before 2013 the average wage two years prior).

Since 2011, health insurance contributions are also paid from income from dividends with rate of 10%. Since 2013, the rate was increased to 14%. The maximum assessment base is set at 10 times the average wage two years prior. Before 2013, the maximum was fixed at 3 times the average wage two years prior. Receivers of income from dividends were entitled to HIC allowance before 2013, which could be deducted from income from dividends, in the amount of 44.2% of the average wage two years prior. Since 2017 health insurance contributions from dividend have been abolished.

Since 2013, health insurance contributions are paid from income from agreements if a person is not entitled to receive credited health insurance contributions (see below). The minimum assessment base doesn't apply. The rate is same as for the employee and employer.

The self-employed assessment base is the same as in the case of the social insurance contributions. All self-employed are required to pay health insurance contributions at least from minimum assessment base, which is 50% (44.2% before 2013) of the average wage two years prior. Since 2017 the maximum assessment base has been abolished (5 times before 2017and 3 times before 2013 the average wage two years prior).

Since 2015, the HIC allowance for low income employees has been introduced. The allowance, in amount of EUR 380 (minimum wage in 2015) per month, reduces the assessment base for both employees and employers. The allowance decreases with increase of wage and is equal to zero with income at EUR 580 per month. Since 2018, the HIC allowance for employers has been abolished. Currently only employees are eligible for the HIC allowances.

Everyone in the Slovak Republic has to be insured. So people, who are not employees or self-employed and who are not entitled to credited health insurance contributions (see below), must pay a fixed rate of 14% of 50% of the average wage two years prior. Before 2011, the fixed rate was paid on the minimum wage adjusted by a given coefficient.

- ***Contribution rates***

Table 2.18. Health insurance contribution rates

	Employee	Employer	Self-employed	Voluntary
rate	4%	10%	14%	14%

2.5.5 Credited insurance contributions (*tsccthl_sk*)

- ***Eligibility***

The Government pays health insurance contributions for persons, who fulfill at least one of the following conditions:

They are dependent children (student up to 30 years old, only until master degree claim), pensioners, disabled, receivers of parental allowance, maternity benefit, sickness or care benefits, or entitled to the material need benefit or registered unemployed.

The second condition is to have the annual income below a given threshold, which is calculated as 15 times the minimum subsistence for a single person. Before 2011, the threshold was calculated on a monthly basis as 44.2% of the average wage two years prior multiplied by a fixed coefficient. This policy was not in force in 2011 and 2012. During these years, the government

paid the HIC for everyone, who fulfilled one of the first conditions listed above, no matter how high their income.

- ***Contribution base***

Assessment base is equal to the average wage two years prior.

- ***Contributed rates/ amounts***

The Government pays a rate of approximately 4% of the assessment base. The rate slightly differs each year. The rates of the credited health insurance contributions are presented in the following table.

Table 2.19. Contribution rates for credited health insurance contributions

2017	2018		2019		2020
		Jan-May	Jun-Oct	Nov-Dec	
3.78%	3.71%	3.20%	3.44%	5.00%	-

Since 2020, the government no longer pays credited health insurance contributions in the form of a percentage of the assessment base. Instead, the contributions are paid as 12 equal monthly instalments. The sum is based on the difference between the total amount of resources allocated to the healthcare system in the state budget and the forecast revenue from the economically active population.

EUROMOD notes: the above-mentioned changed is not simulated in the 2020 system due to lack of data on the instalments at the time of preparing the 2020 Public Release of the model. Therefore, the previous system, which was based on the principle *rate*assessment base*, still holds.

2.5.6 Compulsory private pension (2nd pillar) insurance contributions (*tscpcpi_sk*)

A mandatory, private, funded pension pillar was introduced in January 2005. Within that 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. Since 2013, the part of the contributions paid to private pension funds has been reduced from 9% to 4%. Contrary, the part contributed to first public PAYG pillar increased by 5 percentage points. Since social insurance contributions on income from agreements were introduced, also part of old-age insurance contribution on this type of income can be directed to second pillar. Since 2017 employer contributions to the privately-managed pension pillar (II. Pillar) has increased to 4.25% while contribution to I. pillar decreased to 9.75%.

- ***Contribution rates to II. Pillar***

Table 2.20. Contribution rates for compulsory private pension (2nd pillar)

	2017	2018	2019	2020	2021	2022	2023	2024
II. pillar	4.25%	4.50%	4.75%	5.00%	5.25%	5.50%	5.75%	6.00%
I. pillar	9.75%	9.50%	9.25%	9.00%	8.75%	8.50%	8.25%	8.00%

EUROMOD notes: There is missing information about participation in the second pillar. Participation is modeled randomly based on probabilities derived from external data in 2006. For this reason, the policy is set to off for years 2007-2020 in the model.

2.6 Personal income tax (*tin_sk*)

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.

2.6.1 Tax unit

The tax unit is the individual.

2.6.2 Exemptions

There are several tax exemptions i.e. income components that are part of pre-tax income, but do not have 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 transferred, gifted or inherited immovable property,

(f) alimonies,

(g) luncheon vouchers (including contribution to meals consumed at canteen),

(h) winnings in lotteries and other similar games operated under a license.

2.6.3 Tax allowances

The basic tax allowance can be deducted from positive tax base of each taxpayer. It is applied on a monthly basis. In case of receipt 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.

The formula to calculate annual basic tax allowance is the following:

Table 2.21. Annual basic tax allowance calculation

Formula	Years in force
21.0*MSL – poa00-[max(Tax base before allowances-92.8*MSL;0)*0.25]	2020
19.2*MSL – poa00-[max(Tax base before allowances-100*MSL;0)*0.25]	2007-2008; 2011-2019
22.5*MSL-poa00-[max(Tax base before allowances -86*MSL;0)*0.25]	2009 – 2010

Note: MSL = minimum subsistence level

The spouse tax allowance can be deducted from the positive tax base of each taxpayer living with his/her spouse if he/she satisfies one of following conditions: Takes care of child up to 3 years old or receives caring benefit or is disabled or is registered unemployed at Labour office. Before 2013, no income, or income below the basic tax allowance, of spouse was the only condition. 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. Since 2011, not active earnings are not used in computation the allowances. Not active earnings include income from property and investment income. The formula for deriving spouse tax allowance is:

Table 2.22. Spouse tax allowance calculation

Formula	Years in force
19.2*MSL-[max(Tax base before allowances-176.8*MSL;0)*0.25]-income of the spouse	2007-2008; 2011-2020
22.5*MSL-[max(Tax base before allowances-176*MSL;0)*0.25]-income of the spouse	2009 – 2010

Note: MSL = minimum subsistence level

The supplementary pension saving allowance was in force during years 2006 – 2010. Each taxpayer could lower his tax base by deducting the amount of supplementary pension savings, special purpose savings and life insurance during the tax year. The three types together couldn't exceed € 398.33 (SKK 12 000) yearly. The supplementary pension saving allowance was applied only on annual basis, i.e. during tax clearing. Since January 2011, the allowance is not valid. The supplementary pension saving allowance in the yearly amount of €180 has been reintroduced as of 2014. However the saver has to fulfil certain conditions. The allowance is not simulated. As of 2013 voluntary contributions to the privately managed fully funded pillar up to 2 % of gross earnings net of employee social security contributions are tax-deductible. Maximum yearly limit for this tax relief is calculated as: 2 % x 60 x AW(t-2), where AW(t-2) is the average wage two years ago. It is legislated that this relief will be automatically abolished as of 2017.

2.6.4 Tax base

Income liable to personal income tax includes 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 (also applies to compulsory contributions to the second pillar). For the self-employed, the tax base is computed as taxable income minus social insurance contributions and minus tax-deductible expenses. The self-employed are allowed to deduct previous losses (going back up to seven years) from their taxable income. For the other taxpayers, the tax base is formed by deducting tax deductible expenses from taxable income.

If a taxpayer who is not a VAT taxable person (i.e. has an annual turnover[1] that is less than 49 790 Euro) and does not deduct documented expenses, he/she shall be free to deduct flat-rate expenses equal to 60% (40% before 2017) of the aggregate income from self-employment. The ceiling for the flat-rate expenses amounts to €20 000 per year (€420 per month before 2017). The flat-rate deduction covers all expenses except social security contributions. The taxpayer who applies flat-rate expenses shall in addition be free to deduct documented social security contributions.

Since 2016, capital income is excluded from the main tax base and taxed separately at a flat rate of 19%. No allowances or deductions are applicable to the tax base except for the compulsory social security contributions levied on this income.

Since 2020, self-employment income is also treated as a separate tax base. The tax allowances are first used to reduce the employee tax base. The self-employed tax base is then reduced only by the sum of the allowances exceeding the employment income.

EUROMOD notes: Capital income is all assumed to be cleared through the withholding tax (see below for details), and is thus treated separately from all other calculations even before 2016.

2.6.5 Tax schedule

Before 2013, a flat rate of 19% was applied.

In 2013, two rates were introduced, with threshold defined on annual basis:

Table 2.23. Tax schedule

Bracket number	Lower limit	Upper limit	Rate
1	0	176.8*MSL	19%
2	176.8*MSL	-	25%

Note: MSL = minimum subsistence level

In 2020, two alternative tax schedules were introduced for self-employment income depending on the annual turnover:

Table 2.24. Self-employment tax schedule

Annual turnover	Bracket number	Lower limit	Upper limit	Rate
<= €100 000	1	0	-	15%
> €100 000	1	0	176.8*MSL	19%
	2	176.8*MSL	-	25%

Note: MSL = minimum subsistence level

EUROMOD notes: Input data do not include information on the turnover. The condition is therefore approximated by profit (*yse)* and self-employment contributions (*ils_sicse*), assuming everyone applies the 60% flat-rate deductions, by the formula *turnover = (yse + ils_sicse)/(1-0.6)*

2.6.6 Tax credits

There are three types of tax credits, which are a form of a negative tax. The amount of the tax credit is deducted from the tax liability. If the tax liability is lower than the tax credit, the difference is received by the tax payer.

[1] The turnover for twelve consecutive months is considered

1) **Tax credit on dependent child** can be claimed by only one parent of a dependent child if she/he fulfils one of the following conditions:
    a. was employed and earned annually at least 6 times the minimum wage
    b. was self-employed and had an annual gross revenue from self-employment at least 6 times the minimum wages

    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 the tax credit through the annual tax clearing or by filling a tax return. The monthly amounts of the tax credit per child are:

    Table 2.25. Dependent child tax credit amounts (€ per month)

year	2017	2018	2019	2020
amount	€21.41	€21.56	€22.17	€22.72

    Since 2019, the tax credit on dependent children is doubled for each child below the age of 6 years.

2) **Employee tax credit** can be claimed by employees, who have worked at least 6 months during the year and their annual earnings are at least 6 times the minimum wage. The formula for deriving the employee tax credit depends on annual income. If the income is below 12 times the minimum wage, the tax credit is computed as 19% of the difference between the basic tax allowance and the minimum wage less social insurance contributions. If the annual income exceeds 12 times the minimum wage, the tax credit amount is calculated as 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 employee tax credit is in force since 2009. Due to the introduction of the HIC allowance and high amount of minimal wage the effective employee tax credit is now equal to 0.

3) **Tax credit on mortgage interest.** Since 2018, the taxpayer will be allowed to deduct mortgage interest from their own tax liability (maximum amount is EUR 400 per year for maximum 5 years in row). Only taxpayers younger than 35 years old and with average income below 1.3 times the average wage two year prior are eligible.

EUROMOD notes: All individuals with self-employment income are eligible to the tax credit on dependent child in simulation.

2.7 Other taxes

2.7.1 Withholding tax

Withholding tax is part of the PIT, although it is 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 at a 19% flat rate. The tax base for the incomes mentioned above (except incomes of authors) shall correspond to the income alone, with no deductions possible. The tax base in the case of incomes of authors shall correspond to the income, less 40%. Once withheld, the tax is considered cleared and does not enter the tax returns. However, the tax withheld can also be treated as a tax advance and the taxpayer can deduct such tax advances from the tax in their tax return. If the tax which was withheld exceeds the tax calculated by the taxpayer in their tax return, the taxpayer shall be entitled to a refund of the tax overpayment. In practice, more than 90% of all capital income is processed through the withholding tax and does not further figure in the tax returns.

EUROMOD notes: All capital income is assumed to be subject to the withholding tax and does not enter other PIT calculations.

2.7.2 Tax on dividend income

Since 2017 the tax on dividend income was introduced. The tax rate on dividend income is 7 %.

EUROMOD notes: Tax on dividend income is simulated as part of the personal income.

2.8 Other COVID-19 related temporary compensation measures

2.8.1 Pandemic nursing benefit (*bccmc_sk*)

- ***Definitions***

There is a special unit of analysis (*tu_bccmc_sk*) for the nursing benefit, which contains parents and their children up to 11 years old.

- ***Eligibility conditions***

Only one parent can receive the benefit per eligible child during school closures. The parent must have been contributing to the sickness insurance in the past. It cannot be combined with the Kurzarbeit benefit.

EUROMOD notes: It is assumed that the parent with lower income applies for the benefit. 3 month duration of the benefit is assumed. The nursing benefit is simulated before Kurzarbeit because it is assumed to be the preferred option. The simulation of the pandemic nursing benefit can be activated switching on the policy *bccmctime_sk*, where the pre-defined random allocation of recipients to this scheme is included. Users can, anyway, feed this policy with different external data or hypothetical information. Importantly, this policy must be run with the LMA add-on, as the number of months in employment and employment incomes need to be adjusted according to the duration during which the individual receives the nursing benefit. This adjustment only takes place when running the LMA add-on.

- ***Benefit amount***

The amount equals 55 % of the Daily Assessment Base (*Denní vymeriavací základ*) for sickness insurance. The maximum amount of the DAB is calculated from 2 * average wage two years before. No employment income is received during the receipt of the benefit.

- ***Subject to taxes/SIC***

Exempt.

- ***Take up***

35% of eligible families are assumed to take up the benefit based on random assignment.

2.8.2 Kurzarbeit - percentage (*yemcomp_sk*)

- ***Definitions***

The unit of analysis is the individual. Only the percentage compensation of the gross income for closed business is simulated. The lump-sum subsidy is meant for the firms rather the employees themselves.

- ***Eligibility conditions***

The individual is currently an employee working in a private business that closed during the pandemic, and he/she is not already in receipt of the pandemic nursing benefit.

EUROMOD notes: The nursing benefit is simulated before Kurzarbeit because it is assumed to be the preferred option. 3 month duration of the support is assumed. Closed businesses are distinguished between compulsorily and voluntarily closed. Eligibility is simulated as a random share of workers in different sectors (*lindi*) based on the following table:

Table 2.26. Share of workers in different industries (*lindi*) receiving percentage Kurzarbeit

lindi	**Share**
Compulsory closure	
4: wholesale & retail	6%
5: hotels & restaurants	25%
8: real-estate & business activities	6%
12: other	20%
Voluntary closure	
1: agriculture & fishing	8%
2: mining, manufacturing, utilities	16%
6: transport & communication	7%
8: real-estate & business activities	12%

EUROMOD notes: this policy can only produce results if the model is run in combination with the LMA add-on. The individuals that are selected to undergo transitions to monetary compensation schemes are defined in the TransLMA_sk policy, which is switched on automatically by the add-on. For more information about the modelling of labour market transitions, please consult the "Simulating labour market transitions in EUROMOD" document.

- ***Benefit amount***

The amount equals 80 % of the initial gross wages (at least the minimum wage). The monthly cap is €1100 for compulsorily closed and €880 for voluntarily closed businesses. The employer does not pay any wages.

- ***Subject to taxes/SIC***

Yes – treated as standard wages.

All those receiving the percentage Kurzarbeit are also simulated to receive the one-off employer SIC abatement.

- ***Take up***

Once eligibility is determined by the random assignment, full take-up is assumed.

2.8.3 Self-employment grant (*ysecomp_sk*)

- ***Definitions***

The unit of analysis is the individual.

- ***Eligibility conditions***

The individual is currently self-employed, has been paying social insurance contributions, is not an employee at the same time, and has suffered revenue loss during the pandemic.

EUROMOD notes: There is no distinction in the data between the self-employed and sole owner-managers of incorporated corporations. At the same time, Euromod assumes that all self-employed pay at least the minimum social insurance. Therefore, only the grant based on revenue loss is simulated and not the lump-sum transfer for other individuals who lost all their income. Take-up is simulated as a random share of eligible self-employed in different sectors (*linidi*) based on the following table:

Table 2.27. Share of self-employed in different industries (*lindi*) receiving the grant

lindi	**Share**
1: agriculture & fishing	4%
2: mining, manufacturing, utilities	15%
3: construction	6%
4: wholesale & retail	18%
5: hotels & restaurants	34%
6: transport & communication	18%
7: financial intermediation	3%
8: real-estate & business activities	22%
10: education	16%
12: other	30%

EUROMOD notes: this policy can only produce results if the model is run in combination with the LMA add-on. The individuals that are selected to undergo transitions to monetary compensation schemes are defined in the TransLMA_sk policy, which is switched on automatically by the add-on. For more information about the modelling of labour market transitions, please consult the "Simulating labour market transitions in EUROMOD" document.

- ***Benefit amount***

The size of the grant depends on the percentage fall in revenue in that month. The decrease is estimated either relative to the average for the last year, the same month in the last year, or to February 2020. The monthly amounts are:

Table 2.28. Monthly self-employment grant based on revenue loss

Revenue loss	Amount
< 20%	€0
20% <= & < 40%	€180
40% <= & < 60%	€300
60% <= & < 80%	€420
80% <=	€540

EUROMOD notes: The size of the revenue loss is simulated as the mid-point loss in the given brackets based on the share of recipients falling into those brackets as shown in the following table. Euromod simulates the loss directly to profits (*yse*) because of the lack of data on revenue. This should be a fairly accurate approximation given that the majority of the self-employed use the flat-rate expense deductions.

Table 2.29. Share of eligible self-employment with simulated loss of income (*yse*)

Income loss	Share
30%	7%
50%	11%
70%	12%
90%	70%

- ***Subject to taxes/SIC***

Exempt.

- ***Take up***

Once eligibility is determined by the random assignment, full take-up is assumed.

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 "EU SILC 2018 (UDB 22/11/2019)", 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). In the 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 micro simulation modelling. This chapter is in large portion based on the intermediate quality report of the EU-SILC by the Statistical Office of the Slovak Republic.

The observation units are private households. The 2018 sample design is two-stage stratified sampling with 48 strata. Proportional number of households was selected from each stratum using simple random sampling based on two stratification criteria. The first is geographical stratification based on 8 self-governing regions corresponding to the NUTS 3 level. The second refers to the degree of urbanization and is based on 7 categories of a municipality's population size.

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. In 2014 households from 4th rotational group were excluded and replaced by new households. In 2015 households from 3rd rotational group were excluded and replaced by new one. 2016 represent the beginning of the new 4 year panel with last four group replaced by new households.

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.

Table 3.1 EUROMOD database description

EUROMOD database	SK_2018_a2
Original name	EU SILC 2018 (UDB 22/11/2019)
Provider	The Statistical Office of the Slovak Republic
Year of collection	2018
Period of collection	09/04 to 22/06
Income reference period	2017
Sample size	5 662 households / 15 722 individuals
Response rate	83.9 %

3.2 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.

3.3 Imputations and assumptions

3.3.1 Time period

The SK-SILC information on demographic variables refers to the time of data collection (April-June). All income information refers to the previous fiscal year (January-December) and is expressed in annual sums. In EUROMOD database, all monetary variables are transformed into monthly averages by dividing amounts by 12. We assume that income is received at the same rate throughout the year. Some of income variables have additional information about number of months per year, during which particular income was received. Thus we can refine the simulations. Compared to SK-SILC 2014, the national SK-SILC 2015 now contains information about EU-2020 indicators.

3.3.2 Gross incomes

The SK-SILC contains information about gross monetary incomes. The net income is available only at the household level, and is calculated as the difference between household gross income (sum of gross incomes of members of households) and the amount of taxes and social insurance contributions paid on employment and self-employment income and property tax. The information about taxes and social contributions is available only at the household level.

3.3.3 Disaggregation of harmonized variables

- In the national SK-SILC dataset, information about different types of employment income is available, namely employment income (py010g) consists of separate variables for gross wage from main and second job, employment income from abroad, income from agreements, other payments from employer and profit shares.
- Investment income has two subcategories: interest and profits and investment income from dividends.
- Fringe benefits are expressed in kind in six variables: meal vouchers, contributions for gas, electricity and water, contribution for phone, accommodation provision, benefit from company car, and other fridge benefits.
- Old age pension is divided into main, military and other.
- There is also available information about different types of survivor's pensions. In the national version of SILC, there are separate variables for widows, widowers and orphans pension.

3.4 Updating

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

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

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external benchmarks. Detailed comparisons of the number of people receiving a given income component and total yearly amounts are shown in Annex 3. Both market incomes and non-simulated taxes and benefits in the input dataset as well as simulated taxes and benefits are validated against external official data. The main discrepancies between EUROMOD results and external benchmarks are discussed in the following subsections. Factors that may explain the observed differences are also discussed.

4.1.1 Components of disposable income

Comparison of the composition of disposable income used in EUROMOD and in SK-SILC is shown in the following table. The main difference in definitions is the exclusion in EUROMOD of non-monetary income from using a company car. In addition, the components of disposable income which are predominantly simulated in EUROMOD are shown in italics.

Table 4.1 Components of disposable income

	EUROMOD [2017-2020]	SK-SILC [2018]
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	0
Company car	0	+
Contributions to individual private pension plans	0	0
Cash benefits or losses from self-employment*	+	+
Pension from individual private plans	+	+
Unemployment benefits	+	+
Old-age benefits	+	+
Early retirement pension	+	+
Military, police pension	+	+
Survivor' benefits	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
Family/children related allowances	+	+
Social assistance	+	+
Housing allowances	+	+
Regular inter-household cash transfer received	+	+
Interests, dividends, etc.	+	+
Income received by people aged under 16	+	+
Regular taxes on wealth	-	-
Regular inter-household cash transfer paid	-	-
Tax on income and social contributions	-	-
Repayments/receipts for tax adjustment	+	+

Note: *Self-employment income only takes values greater or equal to 0, i.e. it ignores losses from self-employment in both SK-SILC and EUROMOD

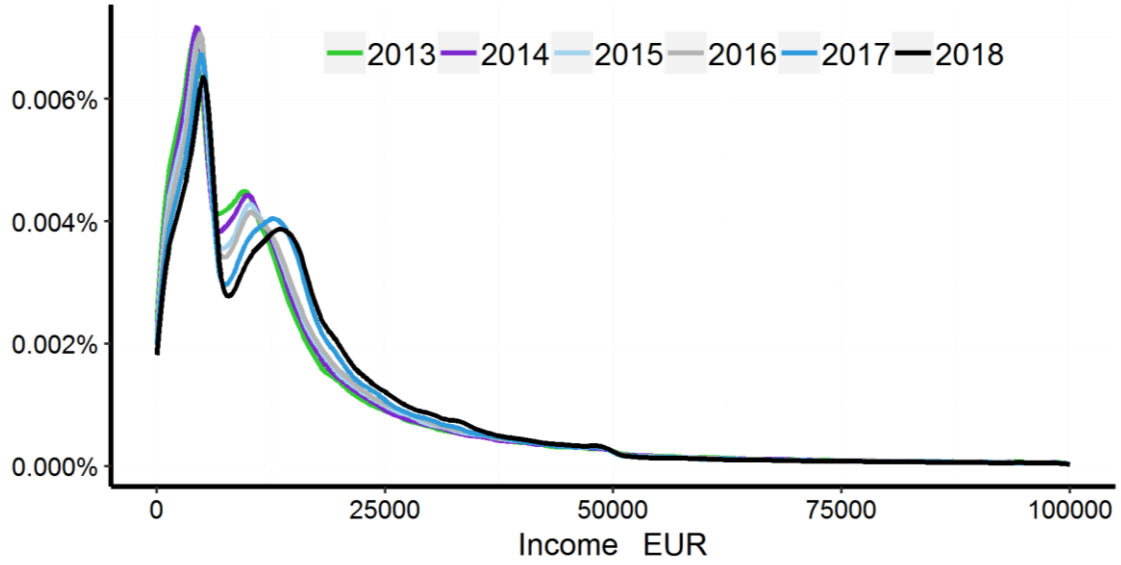
4.1.2 Validation of incomes inputted into the simulation

Table 4.2 in Annex 3 shows the number of employed and unemployed in the dataset used for EUROMOD simulations against external benchmarks. The database represents the number of people in work very well. Unlike in previous years, the number of unemployed is also captured pretty accurately.

The next table (4.3 in Annex 3) compares the number of recipients of either employment or self-employment income in EUROMOD's input database to the corresponding information obtained from the Social Insurance Agency and personal income tax returns. No adjustment is made to reflect employment/ self-employment trends in subsequent years. The number of people receiving employment income in SILC is in line with external statistics. The number of people with self-employment income in the input dataset also closely matches external information. Using more detailed administrative data for macrovalidation has significantly improved the fit compared to previous years. The remaining discrepancies can be explained by the fact that a small fraction of people with low income are not required to file a tax return. For the year 2019, the discrepancy is slightly higher because incomplete external data were used. Due to the Covid-19 pandemic, the deadline for filing tax returns has been postponed, so not all were available by the time of writing this report.

On the other hand, the aggregate amount of self-employment income remains highly overestimated in EUROMOD's input dataset compared to external data from the tax returns. One reason is that for the self-employed, SK-SILC reports only non-negative profit from self-employment whereas the external statistics takes into account all self-employed filers. Aggregate profits from the tax returns are calculated as the difference between aggregate revenue and aggregate expenses, so it also includes those who make a loss. In the compared years, there were over 30,000 individuals or about 8-10% reporting a loss. Another reason is a high degree of tax evasion suspected among the self-employed. As seen in Figure 4.1 below, the distribution of self-employment income has changed very little over the past 5 years despite strong growth of the economy or average wages. This is especially pronounced around the first peak of the distribution, which represents those who declare income at the lower threshold for payment of social insurance contributions. In contrast, the aggregate amount of employment income remains well represented. The comparison is shown in Table 4.4 in Annex 3.

Figure 4.1: Distribution of self-employment income, estimated probability distribution (2013 - 2018)



Source: Personal income tax returns of the self-employed

A comparison of the total number of recipients of benefits not simulated by EUROMOD is shown in Table 4.5 in Annex 3. The number of old-age pensioners is very close to the official data in all years. On the other hand, there are some discrepancies between the number of recipients of the other benefits in the input dataset and in external statistics, which is likely due to sampling imperfections of SILC. Relative to the previous year, the discrepancy has worsened for survivor's pensions and sickness benefits and improved for maternity benefits and disability pensions.

Table 4.6 in Annex 3 presents a comparison of aggregate amounts of these non-simulated benefits, as derived from the input database and as reported by the Social Insurance Agency. Following the same pattern as the number of recipients, the aggregate expenditure on old-age pension is comparable to the external data, the expenditure on survivor's benefits is only slightly underestimated, and the estimated spending on disability pensions is below the official statistics in line with the underestimation of the number of recipients. On the other hand, the two main short-term contributory benefits, namely sickness and maternity benefits, are seriously underreported in the input dataset despite being well represented or even overestimated in terms of the number of recipients. The underestimation is particularly large in the case of sickness

benefits, with spending reported by EUROMOD representing only 25-26% of the statistics from the Social Insurance Agency. In the case of maternity benefits, the gap is 36% to 48%. It is not clear why both short term benefits are underestimated to such an extent and it is a problem that has persisted through several waves of the SILC survey. One possible explanation is that while the survey respondents know if they are receiving the benefits, they are not fully aware of the full extent of the support.

4.1.3 Validation of outputted (simulated) incomes

The numbers of recipients of simulated benefits and payers of simulated taxes and contributions are compared to external benchmarks in Table 4.7 in Annex 3. First, the recipients of unemployment benefits, the child benefit as well as the parental allowance are very accurately simulated in EUROMOD. The figures closely match the official statistics as well as the original SK-SILC data, even though the latter slightly underestimates the number of individuals receiving the parental allowance.

Larger underestimation is observed in the case of the child birth grant. As there is no conditionality to this grant, underestimation indicates that there are too few families with new-born children in the dataset. On the other hand, compared to the original data (SK-SILC), EUROMOD overestimates the number of recipients of the child birth grant, which could be related to underreporting of this type of income in survey data. However, the largest discrepancy is observed for the number of recipients of the material needs benefits (social assistance), which is significantly over-estimated both in comparison to the original data and to the external benchmark. The simulated number of recipients of social assistance is up to 2.5 times larger than shown by the official data. This is most likely caused by a large degree of non-take up of the benefits, which is not accounted for in EUROMOD simulations. Compared to the original data, the number of simulated recipients in the reference year is 239%, which is even higher than when compared to the external statistics. This suggests a degree of underreporting is present in the survey data as well.

The second part of Table 4.7 in Annex 3 deals with the number of tax and social security contributions payers, compared to administrative data from several different sources. The number of people paying income taxes is quite well simulated in EUROMOD. Similarly, the simulated tax credit on dependent children matches accurately the number of recipients observed in the external statistics.

Next, the number of individuals paying employee as well as employer social security contributions are generally very accurately simulated by EUROMOD. The small discrepancies are likely only the result of uprating inaccuracies or inaccurate survey sampling of certain groups of people with various exceptions in the system of social insurance. On the other hand, the figures for some of the self-employment contributions are overestimated by around 60%. This is caused by the fact that EUROMOD assumes every self-employed person pays social insurance. In reality, the self-employed are obliged to pay social insurance only starting in the second year of their self-employment and only if their previous year's revenue exceeds 50% of the annual average wage two years prior. In contrast, payment of health insurance is compulsory for all self-employed and these are well simulated in EUROMOD. Next, the number of payers of credited health insurance contributions is also represented quite well, with only some underrepresentation of the eligible groups in the input data. In contrast to the previous year however, the number of voluntary contributions payers has increased and is overestimated relative to the external data.

Table 4.8 in Annex 3 presents a set of figures related to aggregate annual expenditure on social benefits and revenue from taxes and social security contributions. Same as the case with the number of recipients, the child benefit as well as the parental allowance are well simulated relative to external statistics even though the original SK-SILC data slightly underestimate the

expenditure on the latter and overestimate it on the former. The expenditure on the child birth grant is underestimated in the same way as the number of recipients which is probably caused by underrepresentation in the input dataset. Non-take up of the material needs benefits is similarly reflected in the overestimation of its expenditure. However, this pattern is broken by the spending on the unemployment benefits, which is underestimated by around 70% even though EUROMOD accurately simulates the number of its recipients. Since EUROMOD uses simulated wages to estimate the benefit amount, the most likely explanation is that the imputed wages are poorly estimated and significantly underestimate the true income distribution. On the other hand, the expenditure simulated by EUROMOD quite closely matches the original SK-SILC numbers, so there is a large degree of underreporting of the benefit amount also in the survey data.

The second part of Table 4.8 shows simulated aggregate amounts of personal income tax, social and health insurance contributions by the type of taxpayer. Comparison with the original data is missing because these variables are not included in SK-SILC. First, simulated personal income tax is underestimated compared to the external statistics in all years. Given the progressivity of the Slovak PIT system, this can be attributed to the underrepresentation of high-income earners usually present in survey data. Next, the aggregate amount of the tax credit on dependent children is only slightly underrepresented in line with the gap observed with the child benefit, which is universal. Therefore, both discrepancies are likely caused a small underrepresentation of children in the input data.

On the other hand, EUROMOD simulates the aggregate amounts of employee and employer social security contributions very well. However, the self-employment contributions remain significantly overestimated. This is a combination of high overestimation of aggregate self-employment income and the assumption that every self-employed person pays at least the minimum contribution. According to administrative microdata, many self-employed do not pay social insurance contributions at all and many end up closing their business in the first year in order to avoid paying the contributions from the second year onwards.

Finally, the credited health insurance contributions are quite well simulated EUROMOD, with only slight underestimation in certain years. On the other hand, voluntary health insurance contributions are under-simulated by up to 30%. The discrepancy could be due to the over-simulation of the material needs benefit because this simulated benefit enters the eligibility condition. Recipients of the material needs benefit are not obliged to pay "voluntary" health insurance contributions. Moreover, the aggregate external data also include contributions for other types of activities (e.g. for capital income from abroad) which are not accounted for in EUROMOD simulations.

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 is calculated as the sum of all income sources of all household members net of income tax and social insurance contributions. The weights in the OECD equivalence are: first adult=1; additional people aged 14+ = 0.5; additional people aged under 14 = 0.3.

4.2.1 Income inequality

Measures of income distribution are present in Table 4.9 in Annex 3. 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 produces a more egalitarian distribution of the household disposable income. Thus the share of income going to the first decile is approximately 10 % larger in EUROMOD, whereas the share of the highest one is around 2% lower. The other

inequality measures presented in the table, namely the Gini coefficient and the S80/S20 ratio confirm this pattern. Both are about 5% lower in EUROMOD compared to the Eurostat statistics. Finally, figures for the mean and median household disposable income are very close with the external source of information.

4.2.2 Poverty rates

Poverty rates by gender and age derived using EUROMOD simulations and those published in Eurostat statistics are shown in Table 4.10 in Annex 3. In general, the simulated figures match the external statistics very well, with the gap usually not exceeding 5%. The only exception is the poverty rate measured at the 60% median HDI threshold, which is underestimated by up to 15% in some cases. In the case of the oldest age group (65+), the gap is as high as 25%. It is not entirely clear what produces this single discrepancy, which is persistent across several years. One possible explanation is that pension income is underreported in the original SK-SILC data.

4.3 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 4.11 in Annex 3 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.

4.4 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) Self-employment income is highly overestimated in the dataset. This, together with the assumption that every self-employed person pays social insurance results in a significant over-simulation of self-employed social insurance contributions.

2) Sickness benefits, maternity benefits, disability benefits and unemployment benefits are strongly underestimated in the input dataset.

3) No adjustment is made for demographic and labour market changes taking place between reference year of the dataset and simulated policy years.

4) Simulated unemployment benefits are significantly underestimated.

5) Material need benefits are substantially overestimated in the simulation.

6) There may be too few families with very young children in the input dataset.

7) Simulated disposable income is more equally distributed than the disposable income reported in the data.

8) Simulated poverty rates are lower than the figures reported by Eurostat when measured at the 60% median HDI threshold and especially for the oldest age group (65+).

9) The maternity benefit (*bmact_s*) is only simulated from 2015 to 2020 in EUROMOD I3.0. The benefit is defined in an extension (Parental Benefits Extension) that is switched off

in the baselines, i.e. the non-simulated component (*bma*) is being used. When the extension is switched on, the non-simulated component is replaced by the simulated one (*bmact_s*). The simulated numbers might differ significantly from external statistics as some policy rules cannot be simulated accurately due to lack of information in the underlying data.

10) The simulation of monetary compensation schemes (*yemcomp_sk* & *ysecomp_sk*) and of the pandemic nursing benefit (*bccmc_sk*) are triggered by the simulation of labour market transitions defined in policies TransLMA_sk and bccmctime_sk, respectively. Both policies become operational if the model is run in conjunction with the LMA add-on. The nature of these simulations is still experimental and only partially validated. Users are encouraged to refer to the "*Simulating labour market transitions in EUROMOD*" document prior to their use.

11) Labour market transitions are switched OFF in EUROMOD baselines. As a consequence, the simulation of monetary compensation schemes does not produce any effect in baseline simulations. Since all policies not linked to labour market transitions are fully functional, it is possible for disposable income in 2020 to be higher than disposable income in previous years.

5. REFERENCES

Eurostat online Database

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

ANNEX 1: UPRATING FACTORS

Table 3.2 – Uprating factors used for dataset, based on SK-SILC 2018

Index	Reference	2017	2018	2019	2020	Source	Income components uprated
Harmonized consumer price index (index 2015=100)	$HICP	100,9	103,46	106,33	108,3	Eurostat (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_aind&lang=en); 2015 - IMF forecasts (http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx)	
Comsumer price index	$f_cpi	126,25	129,42	132,89	135,45	http://www.finance.gov.sk/en/Default.aspx?CatID=340	afc, bcrdi, bdiot, bed, bfaot, bho, bsu, bunot, kfb, kfbcc, kivho, tad, tis, tpr, xhc, xhcmomi, xhcrt xhcot, xmp, xpp, yds, yfb00, yls, ypp, ypt, yot
HICP - actual rentals for housing (index 2005=100)	$f_house	119,63	120	120,68	122,87	Eurostat (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_aind&lang=en); IMF forecasts (http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx)	ypr
Nominal GDP deflator	$f_gdp	110,32	112,57	115,53	117,78	http://www.finance.gov.sk/en/Default.aspx?CatID=340	
Average nominal wage, EUR	$f_yem	954	1013	1092	1120	http://www.finance.gov.sk/en/Default.aspx?CatID=340	yem, yemwg, yemot, yemcs, yemaj, yemab, yemtj, yem_a, yse, yse00, yse01,yiwg, ysv
Average 1 year-lagged nominal wage, EUR	$f_yemlag 1	912	954	1013	1092	http://www.finance.gov.sk/en/Default.aspx?CatID=340	bhl, bma, bunct, yempv
Average 2 year-lagged nominal wage, EUR	$f_yemlag 2	883	912	954	1013	http://www.finance.gov.sk/en/Default.aspx?CatID=340	

Interest rate for household deposit	$f_yiy	0,27	0,21	0,18	0,14	http://www.finance.gov.sk/en/Default.aspx?CatID=340	yiy, yiy00, yiydv
Average disposable income per household per month, EUR	$f_yds	4170,15	4491,12	4693,33	4789,82	http://www.finance.gov.sk/en/Default.aspx?CatID=340	
Average monthly old age pension, EUR	$f_poa	427,25	444,26	460,39	486,29	http://www.socpoist.sk/priemerna-vyska-vyplacanych-dochodkov--v-mesiacoch-/1600s	poa00, poaml, poaot, pyr
Average monthly disability pension, EUR	$f_pdi	267,32	268,89	275,54	284,48	http://www.socpoist.sk/priemerna-vyska-vyplacanych-dochodkov--v-mesiacoch-/1600s	pdi00
Average monthly survivors pension, EUR	$f_psu	250,3	255,94	263,08	271,87	http://www.socpoist.sk/priemerna-vyska-vyplacanych-dochodkov--v-mesiacoch-/1600s	psu00, psuor, psuwd
Minimum Subsistence level1, EUR	$f_bsa	198,09	199,48	205,07	210,2	Statutory parameter	bsa00, bsaot
Parental allowance, EUR	$f_bcc	213,2	214,7	220,7	270	Statutory parameter	Bcc
Child benefit, EUR	$f_bch	23,52	23,68	24,34	24,95	Statutory parameter	Bch
Average sickness benefit, EUR	$f_bhl	252	268	297	305	http://www.socpoist.sk/priemerne-vysky-nemocenskych-davok-1pripad/1622s	
Led index of employment income	$f_yemLead	1013	1092	1114	1114	Calculated based on $f_yem led by 1 year	ymwdt
Unit index	$f_unit	1	1	1	1		Bchba

ANNEX 2: POLICY EFFECTS IN 2019-20

Preliminary: Indexation based on projected HICP for 2020

Table A3.1 and Figure A3.1 show the effect of 2020 policies on mean equivalised household disposable income by income component and income decile group. The effect is estimated as a difference between simulated household net income under the 2020 tax-benefit policies (deflating monetary parameters by projected Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2019 policies, as a percentage of mean equivalised household disposable income in 2019. It's important to note that the results presented here do not account for the Covid-19 labour market shocks and income protection schemes put in place for employees and self-employed in 2020.

In comparison to 2019 policies, (deflated) 2020 policies increased mean household disposable income by approximately 1.67% in total. The change in household disposable income by deciles shows a progressive pattern, i.e., lower income groups gain more in relative terms. Households located in the second income decile experiment the second highest increase in disposable income across the income distribution (2.47%), led only by the third decile (2.78% increase). The total increase of mean household disposable income is mainly due to changes in non means-tested benefits and public pensions along with a decrease of paid taxes.

First, changes in means-tested and non means-tested benefits accounted for an increase in household disposable income of 0.01% and 0.54% respectively. The effect is most likely driven by more generous amounts for these benefits in comparison with the smaller growth of CPI. In this regard, the Minimum Subsistence Level (MLS), on which tax allowances and social benefits eligibility depend, increased by 2.5% in 2020, from €205 to €210 per month for single-person households, compared to inflation of 1.9%. Moreover, the parental allowance increased significantly in 2020, from €220.70 to €270 per month, and up to €370 for those who were in receipt of the maternity benefit before claiming the allowance.

Second, changes in public pensions also contributed to the increase in disposable income as the real value of public pensions increased. This means that the indexation of pensions[5], of around 5.6%, was higher than the inflation of 1.9%. The distribution of gains across income deciles reflects where recipients of public pensions are located.

Finally, on the one hand, changes in social insurance contributions (SICs) caused income losses of -0.05% for self-employed, while the effect for employees was null. The income losses for the self-employed were most likely due to the increase in the average wage in the economy (lagged 2 years) which is used to calculate the maximum assessment base SICs. On the other hand, the increase in 2020 in the basic tax allowance[6], together with the new treatment of self-employment incomes under the personal income tax[7], resulted in less taxes paid. As a result of changes in direct taxes, household disposable income rose across all deciles (on average by 0.46%) accounting for about a quarter of the total income gain between 2019-2020.

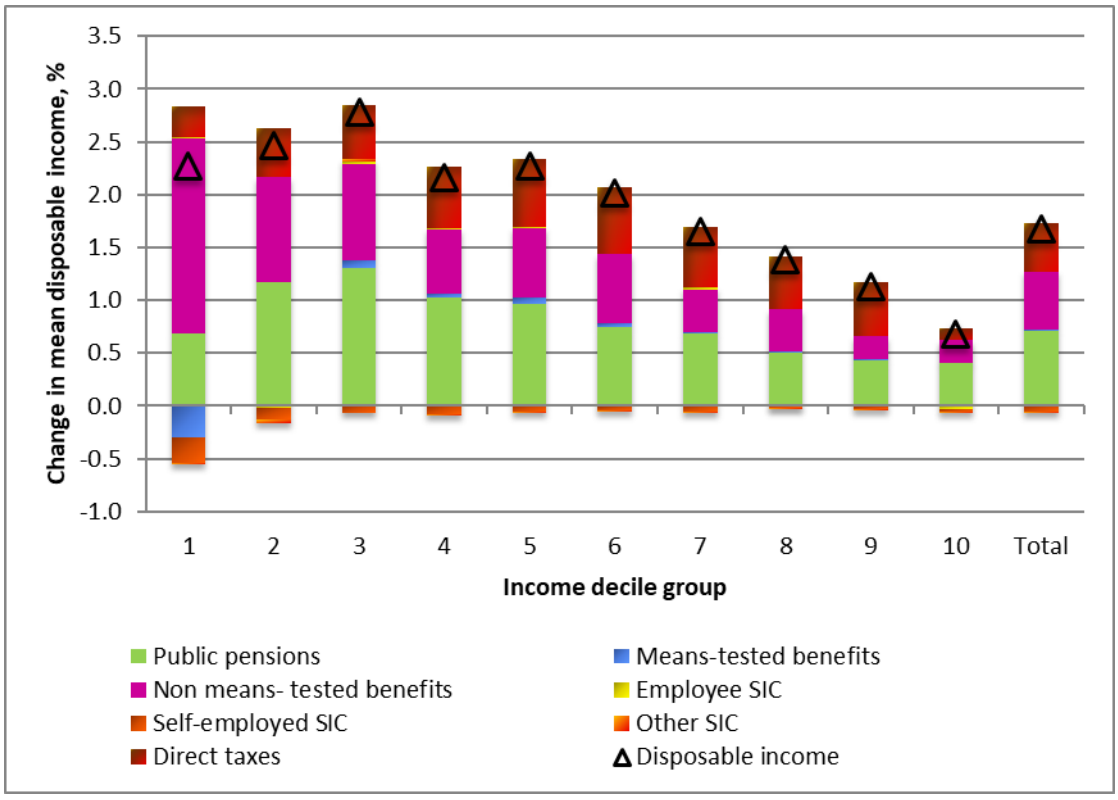
[5] Pensions in the model are indexed based on year-over-year change in the average monthly pension.
[6] Since 2020, the tax allowance is increased from 19,2*MLS to 21*MLS
[7] Self-employment income is treated as a complete separate tax base in 2020. Besides, two alternatives tax schedules were introduced depending on the annual turnover. If the annual turnover is below €100,000, self-employment incomes are taxed at a reduced tax rate of 15%. Otherwise, a progressive rate applies.

Table A3.1: Policy effects in 2019-2020, using the CPI-indexation (CPI = 1.01853), %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.68	-0.30	1.85	0.02	-0.24	-0.02	0.28	2.27
2	0.00	1.17	0.00	1.00	-0.02	-0.10	-0.04	0.46	2.47
3	0.00	1.30	0.08	0.91	0.03	-0.07	0.03	0.50	2.78
4	0.00	1.03	0.04	0.61	0.01	-0.08	-0.01	0.58	2.16
5	0.00	0.96	0.06	0.66	0.01	-0.06	0.00	0.65	2.28
6	0.00	0.75	0.04	0.66	0.00	-0.04	-0.01	0.63	2.02
7	0.00	0.68	0.01	0.40	0.02	-0.05	0.00	0.58	1.65
8	0.00	0.51	0.01	0.40	0.00	-0.02	-0.01	0.50	1.38
9	0.00	0.43	0.01	0.22	0.00	-0.03	0.00	0.51	1.13
10	0.00	0.40	0.01	0.21	-0.03	-0.02	0.00	0.11	0.68
Total	0.00	0.72	0.01	0.54	0.00	-0.05	-0.01	0.46	1.67

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2019, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2020 policies by Eurostat's Harmonized Index of Consumer Prices (HICP), i.e. 1.0185.

Figure A3.1: Policy effects in 2019-2020, using the CPI-indexation (CPI = 1.01853), %



ANNEX 3: VALIDATION TABLES

Table 4.2-Number of employed and unemployed (in thousands)

	EUROMOD	External				Ratio			
	2017	2017	2018	2019	2020	2017	2018	2019	2020
Number of employed	2,547.1	2,502.0	2,533.0	N/A	N/A	1.02	1.01	N/A	N/A
Number of unemployed	245.7	224.0	180.0	N/A	N/A	1.10	1.36	N/A	N/A

Notes: Number of employed and unemployed are computed based on months in employment/unemployment. Numbers computed as averages of monthly data over the year. N/A – not available.

Sources: External figures are taken from the Eurostat statistics database (https://ec.europa.eu/eurostat/data/database).

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

	EUROMOD	External				Ratio			
	2017	2017	2018	2019	2020	2017	2018	2019	2020
Employment income	2,354.0	2,269.7	2,390.5	2,360.7	N/A	1.04	0.98	1.00	N/A
Self-employment income	380.1	339.1	345.5	305.1	N/A	1.12	1.10	1.25	N/A
Fringe benefits	1,923.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: Based on the total number of employees paying social insurance contributions and the number of individuals reporting self-employment income. N/A – not available.

Sources: Social Insurance Agency; personal income tax returns

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

	EUROMOD				External				Ratio			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Employment income	21,455	22,782	24,559	25,189	21,839	23,924	25,761	N/A	0.98	0.95	0.95	N/A
Self-employment income	3,864	4,103	4,422	4,536	1,905	2,213	2,145	N/A	2.03	1.85	2.06	N/A
Fringe benefits	909	932	957	975	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: N/A – not available.

Sources: Social Insurance Agency; personal income tax returns

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

	EUROMOD	External				Ratio			
	2017	2017	2018	2019	2020	2017	2018	2019	2020
Benefits									
Old-age pension	1,062.2	1,080.9	1,084.1	1,101.5	N/A	0.98	0.98	0.96	N/A
Disability pensions	174.0	235.7	237.6	234.3	N/A	0.74	0.73	0.74	N/A
Survivor's pension	314.3	362.5	363.4	362.6	N/A	0.87	0.86	0.87	N/A
Maternity benefit	37.5	29.3	32.4	34.6	N/A	1.28	1.16	1.08	N/A
Sickness benefits	113.1	129.9	135.9	138.8	N/A	0.87	0.83	0.81	N/A

Notes: N/A – not available.
Source: Social Insurance Agency

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

	EUROMOD				External				Ratio			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Benefits												
Old-age pension	5,260	5,469	5,668	5,987	5,304	5,567	5,840	N/A	0.99	0.98	0.97	N/A
Disability pensions	532	535	549	566	780	786	800	N/A	0.68	0.68	0.69	N/A
Survivor's pension	510	521	536	554	682	695	717	N/A	0.75	0.75	0.75	N/A
Maternity benefit	96	101	107	115	199	254	300	N/A	0.48	0.40	0.36	N/A
Sickness benefits	109	114	121	130	411	455	460	N/A	0.26	0.25	0.26	N/A

Notes: N/A – not available.

Source: Social Insurance Agency

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

	EUROMOD				SILC	Ratio	External				Ratio			
	2017	2018	2019	2020	2017	2017	2017	2018	2019	2020	2017	2018	2019	2020
Benefits														
Unemployment benefits	35	35	35	35	36	0.96	32	33	36	N/A	1.09	1.05	0.95	N/A
Child birth grant	43	43	43	43	35	1.24	58	55	54	N/A	0.74	0.79	0.80	N/A
Parental allowance	158	157	156	164	142	1.11	141	140	139	N/A	1.12	1.13	1.12	N/A
Child benefit	658	658	658	658	722	0.91	651	649	652	N/A	1.01	1.01	1.01	N/A
Material need benefits	175	167	161	158	73	2.39	83	72	63	N/A	2.10	2.31	2.55	N/A
Taxes and Social Insurance contributions														
Income taxes	2,371	2,393	2,396	2,348	N/A	N/A	2,304	2,421	2,175	N/A	1.03	0.98	1.09	N/A
Tax credit on dependent children	604	604	604	604	N/A	N/A	564	587	530	N/A	1.07	1.03	1.14	N/A
Employees SIC	2,290	2,278	2,278	2,278	N/A	N/A	2,257	2,329	2,302	N/A	1.01	0.98	0.99	N/A
Sickness	2,227	2,227	2,227	2,227	N/A	N/A	2,138	2,156	2,153	N/A	1.04	1.03	1.03	N/A
Disability	2,204	2,204	2,204	2,204	N/A	N/A	2,257	2,329	2,302	N/A	0.98	0.95	0.96	N/A
Pension	2,227	2,227	2,227	2,227	N/A	N/A	2,257	2,329	2,302	N/A	0.99	0.96	0.97	N/A
Unemployment	2,163	2,163	2,163	2,163	N/A	N/A	2,049	2,059	2,058	N/A	1.06	1.05	1.05	N/A
Health	2,127	2,134	2,148	2,145	N/A	N/A	1,978	1,999	2,014	N/A	1.08	1.07	1.07	N/A
Self-employed SIC	380	380	380	380	N/A	N/A	360	370	380	N/A	1.06	1.03	1.00	N/A
Sickness	380	380	380	380	N/A	N/A	229	233	241	N/A	1.66	1.63	1.58	N/A
Disability	373	373	373	373	N/A	N/A	229	233	241	N/A	1.63	1.60	1.55	N/A
Pension	380	380	380	380	N/A	N/A	229	233	241	N/A	1.66	1.63	1.58	N/A

Health	377	377	377	377	N/A	N/A	360	370	380	N/A	1.05	1.02	0.99	N/A
Employers SIC	2,340	2,340	2,340	2,340	2,302	1.02	2,257	2,373	2,340	N/A	1.04	0.99	1.00	N/A
Sickness	2,227	2,227	2,227	2,227	N/A	N/A	2,138	2,156	2,153	N/A	1.04	1.03	1.03	N/A
Disability	2,204	2,204	2,204	2,204	N/A	N/A	2,257	2,329	2,302	N/A	0.98	0.95	0.96	N/A
Pension	2,227	2,227	2,227	2,227	N/A	N/A	2,257	2,329	2,302	N/A	0.99	0.96	0.97	N/A
Unemployment	2,163	2,163	2,163	2,163	N/A	N/A	2,049	2,059	2,058	N/A	1.06	1.05	1.05	N/A
Health	2,036	2,117	2,118	2,115	N/A	N/A	1,978	1,999	2,014	N/A	1.03	1.06	1.05	N/A
Accident	2,227	2,227	2,227	2,227	N/A	N/A	2,254	2,373	2,340	N/A	0.99	0.94	0.95	N/A
Credited health insurance contributions	2,789	2,787	2,781	2,792	N/A	N/A	2,957	2,903	2,900	N/A	0.94	0.96	0.96	N/A
"Voluntary" health insurance contributions	133	135	136	132	N/A	N/A	107	113	114	N/A	1.25	1.20	1.20	N/A

Notes: N/A – not available.

Sources: Social Insurance Agency; Central Office of Labour, Social Affairs, and Family; Health insurance agencies; personal income tax returns

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

	EUROMOD				SILC				Ratio				External				Ratio			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Benefits																				
Unemployment benefits	48	50	53	58	51	53	56	61	0.95	0.95	0.95	0.95	168	184	214	N/A	0.29	0.27	0.25	N/A
Child birth grant	33	33	33	33	28	28	28	28	1.20	1.20	1.20	1.20	44	44	43	N/A	0.75	0.75	0.76	N/A
Parental allowance	383	385	394	520	294	296	304	372	1.31	1.30	1.30	1.40	359	366	375	N/A	1.07	1.05	1.05	N/A
Child benefit	302	304	313	327	343	345	354	363	0.88	0.88	0.88	0.90	311	313	328	N/A	0.97	0.97	0.95	N/A
Material need benefits	284	275	283	278	110	110	114	116	2.59	2.49	2.49	2.39	173	142	135	N/A	1.64	1.94	2.09	N/A
Taxes and Social Insurance contributions																				
Income taxes	1,877	2,069	2,277	2,212	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,590	2,948	3,202	N/A	0.72	0.70	0.71	N/A
Tax credit on dependent children	250	251	329	337	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	266	269	333	N/A	0.94	0.93	0.99	N/A
Employees SIC	2,862	3,046	3,293	3,378	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,776	3,041	3,279	N/A	1.03	1.00	1.00	N/A
Sickness	295	313	337	346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	284	311	335	N/A	1.04	1.01	1.01	N/A
Disability	626	665	717	735	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	593	647	697	N/A	1.06	1.03	1.03	N/A
Pension	842	894	964	988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	823	898	968	N/A	1.02	1.00	1.00	N/A
Unemployment	206	219	236	242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	194	212	228	N/A	1.06	1.03	1.03	N/A
Health	879	942	1,026	1,052	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	882	974	1,050	N/A	1.00	0.97	0.98	N/A

Self-employed																			
SIC	1,954	2,065	2,214	2,284	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	577	593	616	N/A	3.39	3.48	3.60	N/A
Sickness	200	211	227	234	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	49	49	52	N/A	4.09	4.27	4.37	N/A
Disability	269	285	306	315	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	61	61	64	N/A	4.45	4.65	4.75	N/A
Pension	818	864	927	956	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	175	174	182	N/A	4.66	4.96	5.10	N/A
Health	452	476	510	527	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	215	227	231	N/A	2.10	2.10	2.21	N/A
Employers SIC	7,288	7,823	8,433	8,648	7,224	7,670	8,268	8,480	1.01	1.02	1.02	1.02	7,338	8,039	8,665	N/A	0.99	0.97	0.97	N/A
Sickness	295	313	337	346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	284	311	335	N/A	1.04	1.01	1.01	N/A
Disability	626	665	717	735	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	593	647	697	N/A	1.06	1.03	1.03	N/A
Pension	2,947	3,129	3,373	3,459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,388	2,556	2,717	N/A	1.23	1.22	1.24	N/A
Unemployment	206	219	236	242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	194	212	228	N/A	1.06	1.03	1.03	N/A
Health	1,952	2,164	2,333	2,391	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,205	2,435	2,626	N/A	0.89	0.89	0.89	N/A
Accident	168	179	193	198	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	169	184	199	N/A	1.00	0.97	0.97	N/A
Credited health insurance contributions	1,103	1,117	1,005	1,071	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,207	1,151	1,182	N/A	0.91	0.97	0.85	N/A
"Voluntary" health insurance contributions	74	77	82	85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	103	90	91	N/A	0.72	0.86	0.89	N/A

Notes: N/A – not available.

Sources: Ministry of Finance; Social Insurance Agency; Central Office of Labour, Social Affairs, and Family

Table 4.9-Distribution of equivalised disposable income

	EUROMOD				External				Ratio			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
D1	4.3	4.2	4.2	4.2	3.9	0.0	0.0	0.0	1.10	N/A	N/A	N/A
D2	6.4	6.3	6.3	6.3	6.3	0.0	0.0	0.0	1.02	N/A	N/A	N/A
D2	6.4	6.3	6.3	6.3	6.3	0.0	0.0	0.0	1.02	N/A	N/A	N/A
D3	7.5	7.5	7.4	7.5	7.5	0.0	0.0	0.0	1.00	N/A	N/A	N/A
D4	8.4	8.4	8.4	8.4	8.4	0.0	0.0	0.0	1.00	N/A	N/A	N/A
D5	9.2	9.2	9.2	9.2	9.2	0.0	0.0	0.0	1.00	N/A	N/A	N/A
D6	10.1	10.1	10.1	10.1	10.1	0.0	0.0	0.0	1.00	N/A	N/A	N/A
D7	11.1	11.2	11.1	11.1	11.1	0.0	0.0	0.0	1.00	N/A	N/A	N/A
D8	12.2	12.2	12.3	12.2	12.3	0.0	0.0	0.0	0.99	N/A	N/A	N/A
D9	13.7	13.7	13.7	13.7	13.6	0.0	0.0	0.0	1.01	N/A	N/A	N/A
D10	17.1	17.2	17.3	17.2	17.5	0.0	0.0	0.0	0.98	N/A	N/A	N/A
Median	7,443	7,840	8,341	8,698	7,462	0	0	0	1.00	N/A	N/A	N/A
Mean	7,774	8,163	8,693	9,043	7,870	0	0	0	0.99	N/A	N/A	N/A
Gini	20.3	20.5	20.7	20.4	20.9	0.0	0.0	0.0	0.97	N/A	N/A	N/A
S80/S20	2.9	2.9	3.0	2.9	3.0	0.0	0.0	0.0	0.95	N/A	N/A	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.

Table 4.10-Poverty rates by gender and age

	EUROMOD				External				Ratio			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
40% median HDI												
Total	3.2	3.5	3.7	3.6	3.3	0.0	0.0	0.0	0.97	N/A	N/A	N/A
Males	3.6	3.8	4.0	3.9	3.5	0.0	0.0	0.0	1.02	N/A	N/A	N/A
Females	2.9	3.3	3.5	3.5	3.1	0.0	0.0	0.0	0.92	N/A	N/A	N/A
50% median HDI												
Total	6.4	6.4	6.4	6.5	6.3	0.0	0.0	0.0	1.01	N/A	N/A	N/A
Males	6.4	6.5	6.4	6.5	6.3	0.0	0.0	0.0	1.02	N/A	N/A	N/A
Females	6.3	6.3	6.4	6.5	6.3	0.0	0.0	0.0	1.00	N/A	N/A	N/A
60% median HDI												
Total	10.7	11.2	11.3	11.0	12.2	0.0	0.0	0.0	0.88	N/A	N/A	N/A
Males	10.8	11.2	11.2	10.9	12.2	0.0	0.0	0.0	0.88	N/A	N/A	N/A
Females	10.7	11.3	11.4	11.2	12.3	0.0	0.0	0.0	0.87	N/A	N/A	N/A
70% median HDI												
Total	17.3	17.8	18.2	18.0	16.7	0.0	0.0	0.0	1.03	N/A	N/A	N/A
Males	16.9	17.5	17.6	17.5	16.3	0.0	0.0	0.0	1.04	N/A	N/A	N/A
Females	17.6	18.1	18.8	18.5	17.1	0.0	0.0	0.0	1.03	N/A	N/A	N/A
60% median HDI												
0-15 years	17.2	17.5	17.2	16.4	20.2	0.0	0.0	0.0	0.85	N/A	N/A	N/A
16-24 years	14.4	15.3	15.4	15.7	17.1	0.0	0.0	0.0	0.84	N/A	N/A	N/A
25-49 years	9.9	10.2	10.1	9.9	11.3	0.0	0.0	0.0	0.88	N/A	N/A	N/A
50-64 years	9.7	10.2	10.5	10.4	10.2	0.0	0.0	0.0	0.95	N/A	N/A	N/A
65+ years	4.8	5.9	6.4	6.2	6.4	0.0	0.0	0.0	0.75	N/A	N/A	N/A

Table 4.11-Minimum wage validation

	Baseline				Min Wage Incl.				Ratio			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Equivalised disposable income	26805.21	28143.43	29937.90	31137.15	26863.07	28218.26	30020.41	31280.09	1.00	1.00	1.00	1.00
Employment income	21455.34	22782.24	24558.94	25188.64	21536.58	22889.35	24677.95	25397.14	1.00	1.00	1.00	0.99
Total income tax	1877.03	2069.18	2277.49	2211.90	1883.16	2078.54	2288.37	2232.35	1.00	1.00	1.00	0.99
Total employee social insurance contributions	2861.78	3046.07	3293.47	3378.35	2874.60	3063.90	3313.53	3416.04	1.00	0.99	0.99	0.99
Gini coeficient	20.25	20.50	20.70	20.44	20.18	20.41	20.61	20.30	1.00	1.00	1.00	1.01
Poverty rate (60% median HDI)	10.72	11.24	11.28	11.03	10.58	11.01	11.05	10.85	1.01	1.02	1.02	1.02

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.

Source: EUROMOD calculations.