EUROMOD
COUNTRY REPORT

LATVIA (LV)
2018-2021

Anna Pluta

December 2021

EUROMOD version I4.0

EUROMOD is the tax-benefit microsimulation model for the European Union (EU). It 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 27 Member States and is yearly updated to cover the most recent changes in countries' policy systems. It uses input databases which are also updated on a yearly basis, coming mainly from the European Union Statistics on Income and Living Conditions (EU-SILC). The model yearly update is supported by the following Directorate-Generals of the European Commission: DG EMPL, DG ECFIN, DG TAXUD, DG REFORM, DG JRC, DG ESTAT.

Originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 these responsibilities are taken over by the Joint Research Centre (JRC) of the European Commission, in collaboration with Eurostat and 27 national teams from the EU countries.

The EUROMOD governance structure consists of a Steering Committee, allowing partner DGs to monitor the process of the EUROMOD update, and a Scientific Advisory Board to monitor and guide the scientific development of the model.

This report documents the work done in the most recent annual update for Latvia. This work was carried out by the EUROMOD core development team, based at the JRC in Seville, in collaboration with the national team.

JRC B2 head of unit: Salvador Barrios
EUROMOD project leader: Alberto Tumino/Fidel Picos
EUROMOD coordination assistant: Daniela Hupteva/Marta Jędrych
EUROMOD software developer: Estefanía Vázquez Torres
EUROMOD developer responsible for Latvia: Andrea Papini
National team for Latvia: Anna Pluta, Anna Zasova[1]

The results presented in this report are derived using EUROMOD version I4.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with earlier or later versions of EUROMOD.

For more information see https://euromod-web.jrc.ec.europa.eu/

[1] We are grateful to Central Statistical Bureau of Latvia for providing access to the national EU-SILC data, which was helpful for imputing some of the model variables, and in particular to Viktors Veretjanovs and Uldis Ainārs for their valuable comments and explanations related to the Latvian EU-SILC survey. We also thank Sabina Rauhmane (State Social Insurance Agency) for helpful comments and for providing data used in model validation.

CONTENTS

1. BASIC INFORMATION

1.1. Basic information about the tax-benefit system

- Latvian tax-benefit system is unified across regions and local governments have little fiscal autonomy. Municipalities have the right to impose special municipal duties and decide on their rates (e.g., a duty on issuing local municipal documents, a duty on trade at public places). However, the special duties represent a minor source of local governments' budget revenues, the main source being revenues from personal income tax, which are partially transferred from the central government budget to local governments' budgets. On the expenditure side, municipalities may decide on the level of social assistance benefits to its residents (e.g., until and including 2020 Riga municipality has a higher Guaranteed Minimum Income level for certain population groups and more generous housing benefits).
- Fiscal year runs from 1st January to 31st December.
- Starting from 2014, the retirement age is gradually increased (by three months every year) until it reaches 65 in 2025. Retirement age for both men and women was 63 years and 3 months in 2018, 63 years 6 months in 2019, 63 years 9 months in 2020 and 64 years in 2021.
- Minimum school leaving age in Latvia is 15 years. For tax allowance purposes, a dependent child is defined as a child below 18 years and a child who continues secondary, professional, special or higher education but not after he/she reaches age of 24, or until he/she gets married. The definition of a dependent child for benefit purposes can be different for different types of benefits.
- Persons/households with low income represent socially protected category in Latvia. To be eligible for Guaranteed Minimum Income (GMI) benefit, a person/household has to have per person income below the determined threshold.
- Income is taxed on individual basis, spouses' or household members' income being assessed separately. Starting from 2018, Latvia has a progressive PIT rate with three brackets: a reduced 20% rate is applied to annual income not exceeding 20,004 EUR, 23% is applied to annual income above 20,004 EUR and below 55,000 EUR (62,800 EUR in 2019–2021), and 31.4% (31% in 2021) is applied to annual income exceeding 55,000 EUR (62,800 EUR in 2019–2021).
- The tax rate applied for income from capital is 20% (both for capital increase and other income from capital).
- Generally the income tax system works to match tax withholdings with the exact amount due in the end of the financial year. However, there are certain groups of economic agents who have to file annual tax returns: e.g., civil servants, self-employed, people receiving income from abroad, people who receive income subject to a lowered tax rate (e.g., people receiving royalties). Also, people who are eligible for tax refund have to file annual tax return: these are individuals claiming deductible expenditures on education or health care. Starting from fiscal year 2016, people eligible for tax refund due to differentiated non-taxable allowance (see section 2.7.1.2 for more details) have to fill in income declarations. Starting from fiscal year 2018, obligation to pay the tax debt (or eligibility for tax refund) may arise as a result of the application of a progressive rate and differentiated non-taxable allowance (see section 2.7.1.2 and 2.7.1.4 for more details).
- There is a statutory indexing regime for the public pensions (old-age, disability, survivor's and service pensions), which takes account of consumer price index (CPI) growth and average wage growth. Only pensions below a certain threshold are indexed.

Pensions that exceed the threshold are indexed partially – only part below the threshold is indexed (see section 2.4.1 for more details). Also, there is an indexation regime for compensation for the loss of capacity for work due to a work accident or occupational disease, and compensation for the loss of breadwinner, however, these benefits are minor.

- For the means-tested benefits, monthly income over the previous three months is assessed. Starting from 2021, the eligibility for the means-tested benefits is reassessed every three or six months depending on the composition of the household.

1.2. Benefits

1.2.1. Unemployment benefits

Unemployment benefit *(bezdarbnieka pabalsts)*: A contributory benefit paid to registered unemployed, given that the person is actively looking for a job. Persons receiving old-age pensions (including early retired), persons engaged in commercial activities, persons who continue primary or secondary education, self-employed, persons working while incarcerated are not eligible for unemployment benefit. There is a minimum length of service which makes a person eligible for the unemployment benefit. The benefit is not taxable.

Unemployment allowance during occupational training, retraining and raising of qualification and during obtaining of informal education *(bezdarbnieka stipendija profesionālās apmācības, pārkvalifikācijas un kvalifikācijas paaugstināšanas laikā un neformālās izglītības iegūšanas laikā)*: The training allowance is paid to registered unemployed, who participate in a training programme. The allowance amounts to a fixed amount per month, or, if training takes less than one month, the allowance is paid proportionally to the time spent on training. Not taxable.

Paid temporary public works *(algotie pagaidu sabiedriskie darbi)*: programme, which is aimed at long-term unemployed not receiving the unemployment benefit and covers up to four months (up to six months starting from June 20, 2020) of paid work in a 12-months period in local governments or non-profit organisations. Participants of the programme receive fixed-amount monthly payments, which are subject to social insurance contributions (for old-age pension and against accidents during the implementation of the measure). As of 2012, in EU-SILC data income from this programme is classified as employment income.

Mobility support benefit (*nodarbināto personu reģionālās mobilitātes veicināšana):* compensation of commuting expenditures or rent expenditures during the first four months of employment, provided to previously registered unemployed who start a job in a location that is more than 20 kilometres (15 km starting from March 9, 2018) away from the person's place of residence. The compensation is not paid to the unemployed residing in Riga. Total amount of compensation paid in the four months cannot exceed 400 EUR (in the period from January 2019 to April 2021 - 600 EUR). Starting from April 2021, the total amount of compensation shall not exceed 600 EUR to cover the cost of renting accommodation and an additional 7 EUR per day to cover transport costs.

1.2.2. Old-age benefits

Old-age pension (*vecuma pensija*): In Latvia, the amount of old-age pension may not be smaller than the base for the calculation of the minimum public pension stipulated by the Cabinet of Ministers multiplied by the coefficient depending on the length of the person`s social insurance record ensuring higher minimum pension amount for pensioners with longer social insurance records. The base for the calculation of the minimum old-age pension is equal to 64.03 EUR in 2018–2019, 80 EUR in 2020 and 136 EUR in 2021, but for people suffering from disabilities since childhood this amount is equal to 106.72 EUR in 2018–2019,122.69 EUR in 2020 and 163 EUR in 2021.

Starting from 2021, the base for the calculation of the minimum public pensions is set as a percentage of the median income. In 2021, it is set as a percentage of the median income of 2018. The base for the calculation of the minimum public pensions will be reviewed at least every three years.

Latvian pension system consists of three tiers: (i) mandatory state non-funded tier, (ii) mandatory state funded scheme and (iii) voluntary private pension scheme. The first tier is financed on the basis of pay-as-you-go. The second tier was created in 2001 and is obligatory for those who are born after 1st July 1971. Those who are born between 2nd July 1951 and 30th June 1971 can voluntarily participate in the second tier. Participation in the second tier does not require any additional contributions, as the amount contributed is split between the first and the second tiers. The third tier is voluntary. Old-age pensions are subject to personal income tax.

Starting from 2020, a person who has not yet applied for the old-age pension has the right to choose the further use of the capital accumulated within the second tier in case the person dies before the granting of the old-age pension, i.e. (i) to transfer into the public pension special budget (in this case the capital will be taken into account in calculating the survivor**'s** pensions); (ii) to add to other person's capital of the 2nd tier; (iii) to transfer for inheritance in accordance with the procedures laid down in the Civil Law. When a person has not specified his/her choice, the accrual of the second tier of the deceased will be transferred into the public pension special budget.

Lifetime pension *(mūža pensija):* When requesting the old-age pension, a participant of the second tier has to make a choice of how to receive the capital accumulated in the second tier: (i) to add the accumulated capital to the funds of the 1st pension pillar and receive it together with the old-age pension; (ii) to enter into the Lifetime Pension Insurance contract with an insurance company, under which the accumulated capital will be paid to the person`s account. Lifetime pension allows to determine the frequency of Lifetime Pension payments and the amount of the Lifetime pension at each of the payment stages. Lifetime pensions are subject to personal income tax.

Service pension (*izdienas pensija*): Service pensions are provided to representatives of certain professions (e.g., certain occupations in transport industry; employees of the institutions under subordination of the Ministry of the Interior and the Prison Administration with special service ranks; certain artistic professions) living in Latvia before the official retirement age if a person has been employed in a given position or profession a specified time, reached a certain age, and further no longer works in a position or profession which gives entitlement to a retirement pension. . The size of the service pension depends on the length of service and on the average contribution wage. The service pensions are subject to personal income tax.

State social security benefit in case of old-age (*valsts sociālā nodrošinājuma pabalsts sakarā ar noteiktā vecuma sasniegšanu*): A benefit paid to the elderly in case they are not entitled to the old-age pension. The benefit is a fixed amount per month. Starting from 2021 the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). Not taxable.

The allowance for the deceased's spouse *(pabalsts mirušā pensijas saņēmēja laulātajam)*: In case of the death of the old-age, disability, service or special public pension recipient, the surviving spouse is granted the allowance of the deceased's spouse. Until the end of 2018, the allowance is a lump sum of two pensions of the deceased spouse. Starting from 2019, in the case of the death of pension recipient who is not service pension recipient the allowance is equal to 50 per cent of the deceased pension recipient's pension including a pension supplement for insurance period accumulated up to December 31, 1995. In the case of the death of a recipient of service pension, the surviving spouse is entitled to a lump-sum benefit of two pensions of the deceased spouse. Entitlement to the benefit is twelve months starting from the date of death of the pension recipient. Both before and after 2019, the deceased's spouse is eligible for the allowance if he/she is a recipient of old-age, disability, service or special public pension.

1.2.3. Survivor's benefits

Survivor's pension (*apgādnieka zaudējuma pensija*): Survivor's pension is paid to the children of the deceased person (except if the death is caused by an occupational disease or a work accident, see "compensation for the loss of breadwinner due to accident at work or occupational disease"), irrespective of the fact whether they were dependent on the deceased person. Children below the age of 18 or children of any age if they are disabled from childhood are eligible for the survivor's pension. Other family members are eligible for the survivor's pension if they are not able to work and were dependent on the deceased person. The size of the pension depends on the prospective size of the deceased person's old-age pension and on the number of dependents, but there is a monthly minimum pension. The pension is subject to personal income tax.

Compensation for the loss of breadwinner due to accident at work or occupational disease (*atlīdzība par apgādnieka zaudējumu sakarā ar nelaimes gadījumu darbā vai arodslimību*): The compensation is paid to family members of a person who died because of a work accident or an occupational disease, if the person had been socially insured, and if the family members are unable to work and were fully or partially supported by the person. The size of the benefit depends on the deceased person's previous wage, on the degree of kinship and on the number of dependents. If a person simultaneously has a right to compensation for the loss of breadwinner and disability pension, only one of these services shall be granted taking into account the choice of this person. The benefit is not taxable.

State social security benefit in case of a loss of a breadwinner (*valsts sociālā nodrošinājuma pabalsts apgādnieka zaudējuma gadījumā*): A benefit paid to the survivors in case they are not entitled to the survivor's pension. The benefit is a fixed amount per month. Starting from 2021 the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). Not taxable.

1.2.4. Sickness benefits

Sickness benefit (*slimības pabalsts*): sickness benefit is a contributory benefit paid to employees and socially insured self-employed. The benefit is also paid to a parent taking care of a sick child under age 14. During the first 10 days the benefit is paid by the employer, but starting from the 11th day, the benefit is paid by State Social Insurance Agency. The benefit is subject to personal income tax.

Sickness benefit in case of a work accident or an occupational disease (*slimības pabalsts sakarā ar nelaimes gadījumu darbā vai arodslimību*): The benefit is paid to a socially insured person who has temporarily lost capacity for work due to a work accident or an occupational disease. The benefit amounts to a certain percentage of the previous average wage. The benefit is subject to personal income tax.

Health service benefit provided by municipalities (*pašvaldības pabalsts medicīnas pakalpojumiem*): This benefit can be provided by municipalities to low-income individuals/households. The size and eligibility conditions of the benefit are determined by municipal regulations. The benefit is not taxable.

1.2.5. Disability benefits

Disability pension (*invaliditātes pensija*): A person is eligible for disability pension if she/he has a disability status, is below the retirement age, has social insurance record (employment period) of at least three years and if disability is not caused by an accident at work or occupational disease. The amount of the benefit depends on the previous average social insurance contribution wage, on the length of social insurance record and on the degree of disability. In Latvia, the amount of disability pension may not be smaller than the base for the calculation of the minimum public pension stipulated by the Cabinet of Ministers and for disabled of group I and II is multiplied by the coefficient depending on the length of the person`s social insurance record ensuring higher minimum pension amount for pensioners with longer social insurance records. In general case, the base for the calculation of the minimum disability pension is equal to 64.03 EUR in 2017-2019, 80 EUR in 2020, 136 EUR in 2021, but for people suffering from disabilities since childhood this amount is 106.72 EUR in 2017-2019, 122.69 EUR in 2020 and 163 EUR in 2021. Starting from 2021, the base for the calculation of the minimum disability pension is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). In 2021, it is set as a percentage of the median income of 2018. The base for the calculation of the minimum disability pension will be reviewed at least every three years. The disability pension is subject to personal income tax.

State social security benefit in case of disability (*valsts sociālā nodrošinājuma pabalsts invaliditātes gadījumā*): A benefit paid to people with disability in case they are not entitled to the disability pension. The benefit is a fixed amount per month. Starting from 2021 the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). Not taxable.

Compensation for the loss of capacity for work due to a work accident or occupational disease (*atlīdzība par darbspējas zaudējumu*): Compensation is provided to persons who have permanently lost capacity for work due to a work accident or an occupational disease. The amount of compensation depends on the average social insurance contribution wage and the proportion of loss of work capacity. Compensation cannot be less than the minimum amount of disability pension determined for the relevant disability group.

Allowance to compensate transport expenses of persons with limited mobility (*pabalsts transporta izdevumu kompensācijai invalīdiem, kuriem ir apgrūtināta pārvietošanās*): The benefit is a fixed amount paid once per six months period to persons certified as needing a specialized care. Not taxable.

Benefit to disabled with special care need (*pabalsts invalīdam, kuram nepieciešama kopšana*): The benefit is assigned to a person above 18 years old, who has a disability status and certified by the Health and Capacity for Work Expert Physicians' Commission as needing special care. The benefit is not taxable.

1.2.6. Benefits for parents, adoptive parents and foster parents

State family benefit *(ģimenes valsts pabalsts)*: Non-contributory. The benefit is paid to one of a child's parents or a person who actually takes care of a child according to a court's decision, or to the child himself after 18 years, if he/she was previously under guardianship. The benefit is a fixed sum per month. The amount for the second and each subsequent child is larger than the benefit paid for the first child. The benefit is granted until the child reaches 15 years of age or, if he/she continues education, until he/she is 20 years old as long as he/she gets married. New supplementary payments to the state family benefit are introduced to households with 2 and more children starting from March 2018 and are paid like the state family benefit, until the child reaches 15 or 20 years. The benefit and supplementary payments are not taxable.

Child birth benefit (*bērna piedzimšanas pabalsts*): Non-contributory benefit. The benefit is a lump-sum, paid shortly after the child birth to one of the child's parents or a legal guardian. The benefit is not taxable.

Maternity benefit (*maternitātes pabalsts*): A contributory benefit paid to a woman before and after the child birth. Socially insured employees and self-employed persons are eligible for this benefit. The benefit is paid in two payments. Generally, the first payment is made for last 70 days of pregnancy. And the second payment is made after the child birth and covers 56 days in the general case or 70 days in case the mother has had health problems during the pregnancy, childbirth or postpartum, or in case two or more babies were born. The size of the benefit is equal to a percentage of the average contribution wage. The benefit is not taxable.

Paternity benefit (*paternitātes pabalsts*): A contributory benefit paid to socially insured father of a newborn child. The father can claim a ten days paternity leave in the first two months of a child's life. The benefit amounts to a certain percentage of the father's average contribution wage. The benefit is not taxable.

Child care benefit (*bērna kopšanas pabalsts*): Non-contributory benefit. The benefit is provided on the monthly basis to one of the child's parents, or to a legal guardian or a person who actually takes care of the child following the court's decision, until the child reaches the age of 2. The benefit can be received by all categories of parents, irrespective of the length of their social insurance record. The benefit is not taxable.

Parental benefit (*vecāku pabalsts*): This is a contributory benefit and it is equal to a percentage of the average contribution wage. The benefit is paid to one of the child's parents or to a person who actually takes care of the child in accordance with a court decision. A person is eligible for the parental benefit starting from the moment when maternity benefit is over and until the child is one year old or one year and a half (in this case the monthly benefit amount is lower). The benefit is not taxable.

Disabled child care benefit (*bērna invalīda kopšanas pabalsts*): Non-contributory benefit. The benefit is a monthly lump-sum payment to one of the disabled child's parents or to a person who actually takes care of the child following the court decision. The benefit is paid until the child loses disability status or reaches the age of 18. The benefit is not taxable.

State support to the children suffering from celiac disease without formally stated disability (*valsts atbalsts ar celiakiju slimiem bērniem, kuriem nav noteikta invaliditāte*): Non-contributory benefit. This support is provided to children who have a diagnosis of celiac disease, but who are not certified as disabled. The benefit is not taxable.

Allowance for the maintenance of a child in custody (*pabalsts aizbildnībā esoša bērna uzturēšanai*): Non-contributory benefit. This is a fixed monthly benefit paid to a legal guardian of a child. The benefit is not taxable.

Remuneration for the fulfilment of guardian`s duties (*atlīdzība par aizbildņa pienākumu pildīšanu*): The remuneration is paid monthly to the guardian for the fulfilment of the duties of the guardian. The amount of the remuneration does not depend on the number of children in custody. Not taxable.

Remuneration for the fulfilment of foster family duties (*atlīdzība par audžuģimenes pienākumu pildīšanu*): The remuneration is paid monthly to the family or a person, who has obtained the status of a foster family. The amount of the remuneration depends on the number of foster children in the foster family. Not taxable.

Child adoption benefit (*bērna adopcijas pabalsts*): The benefit is paid monthly to one of the adopters for each adopted child. Not taxable.

Remuneration for the adoption of a child (*atlīdzība par bērna adopciju*): The remuneration is a single-time lump-sum payment to one of the stepparents of the adopted child, paid upon the court decision on the adoption of the child. Not taxable.

Remuneration for the adopted child care before the adoption period (*atlīdzība par adoptējamā bērna aprūpi*): Remuneration for the care of an adopted child is granted to an adopter in whose care and supervision the adopted child has been transferred before the approval of the adoption. Not taxable.

1.2.7. Social exclusion benefits

Guaranteed minimum income benefit (*garantētā minimālā ienākuma pabalsts (GMI)*): A separately living person or a household with income below the determined threshold can receive this benefit to ensure basic subsistence needs. The standard level of the GMI is set at the national level by the Cabinet of Ministers, but in 2018–2020 municipalities have the right to set a higher level. The benefit is calculated as the difference between the determined guaranteed minimum income level for each household member and a household's (person's) actual income (excluding some income sources). The benefit is not taxable.

Municipal benefit in an extraordinary situation (*pašvaldības pabalsti ārkārtas situācijās*): Municipalities can provide support to individuals in extraordinary situations. The benefit is lump-sum payment and can be provided regardless of the beneficiary's income level. The benefit is not taxable.

Other special purpose benefits provided by municipalities *(citi pašvaldību piešķirtie mērķa pabalsti):* Other municipality benefits include subsidized provision of lunches at schools and food in general, benefits for raising and educating children, allowances to cover transport expenses, benefits for foster families, benefits for orphans and people released from prison to start life, and benefits for other purposes.

Funeral benefit (*apbēdīšanas pabalsts*): Funeral benefit is a lump-sum payment paid to the family members of the deceased. The benefit is not taxable.

1.2.8. Housing benefits

Housing benefit *(dzīvokļa pabalsts)*: This benefit is provided by local governments to low-income households. The benefit is based on the income test and assessment of legitimate housing expenses. Eligibility rules and benefit amounts are slightly different across municipalities. Until 2021, each municipality can determine own rules on eligibility and amount of this benefit. Starting from 2021, common principles on eligibility for housing benefit are applied defining the income level that cannot be exceeded when the municipal councils specify the income threshold for a household or separately living person to be classified as a "low-income household". Starting from July 2021, a unified legal framework for the provision of housing benefit is applied, determining the minimum norms of expenditure items that are used to calculate the amount of housing benefit. Expenditure items include all heat sources for heating, including solid fuels; housing expenditure, telecommunications and internet expenditure. Municipalities have been delegated to set more favourable conditions for the norms of expenditure items in their binding regulations. The benefit is not taxable.

- ***Not strictly benefits***

Severance pay (*atlaišanas pabalsts*): is compensation paid by an employer to an employee if a labour contract is terminated on the employer's initiative for reasons other than breaking terms of the contract by the employee or, on the employee's initiative in case the employee has a good cause for being unable to continue employment relationships. The amount of the compensation depends on the length of service. The compensation is subject to personal income tax.

Pension from private pension fund (*pensija no privātā pensiju fonda*). A person making voluntary contributions to a private pension fund or having his/her employer making contributions on his/her behalf is entitled to additional old-age pension capital. If voluntary contributions to a private pension fund are made by a private person, private pensions are not taxed. If the contributions are made by employer, private pensions are subject to PIT.

State child support (alimony) (*valsts uztūrlīdzekļi bērniem (alimenti)*): state child support is provided to substitute for the child support payments that have to be paid by a child's parent in accordance with the court decision. The state child support is provided in case the collection of the payments from the parent is declared impossible by law enforcement officer or in case the parent's provided support is below the minimum stipulated by the Civil Law. The amount of the state child support is linked to the size of the minimum wage and is paid to a child until he/she reaches the age of 18.

EU support parcels (*ES atbalsta pakas*): Starting from end-2014, food products, hygiene and household goods, as well as essential school accessories are provided to the most deprived households and individuals if their per capita household income falls below a certain threshold (128.06 EUR in December 2014 – March 2018, 188 EUR in April 2018 – December 2018, 242 EUR in 2019–2020; starting from 2021 327 EUR for the first or only person in the household and 229 EUR for each subsequent person in the household) or if the person or the household is in an extraordinary situation as a result of a natural disaster or other unpredictable event.

1.3. Social insurance contributions

Social insurance contributions (*sociālās apdrošināšanas iemaksas*): There are three major social insurance regimes in Latvia: (i) general regime for **employees**, who are insured against all insurance cases, (ii) social insurance regime for **self-employed**, who are insured against all insurance cases except unemployment and work accidents or occupational disease, and (iii) **employees of enterprises that pay microenterprise tax**. Apart from the above three categories of economic agents, for whom social insurance is mandatory, there are certain categories of agents who can make voluntary contributions for pensions, disability, maternity, sickness and parents' insurance.

For employees, the base for social insurance contributions is all income received as remuneration for the work before any deductions. Self-employed can choose the level of income from which to make social insurance contributions, however, the base for the contributions may not be lower than a certain threshold set by the Cabinet of Ministers. If self-employment monthly income is lower than the threshold, contributions are not paid. Starting from 2018, if self-employment monthly income is below the minimum wage, contributions for pension insurance should be paid at the rate 5% (10% in 2021). If the self-employment income in a calendar year is below 50 EUR, contributions can be not paid. If the self-employment monthly income reaches or exceeds the minimum wage, contributions should be made according to general rules from a freely chosen amount, which is not smaller than the minimum wage, and contributions for pension insurance at the rate of 5% (10% in 2021) should be made from the difference between actual income and the minimum wage.

There is also a maximum level of income from which social insurance contributions can be made, which is binding for both employees and self-employed. For an employee of an enterprise that pays the microenterprise tax, the base for social insurance contributions depends on the company's turnover, company's wage bill and on the relative wage of the employee, compared to other employees of the enterprise.

1.4. Taxes

Personal income tax (*iedzīvotāju ienākuma nodoklis*): Personal income tax is paid on individual basis and is applied to income from regular employment and self-employment, public pensions, certain sickness benefits, as well as to dividends and other capital gains. Starting from 2018, dividends are subject to corporate income tax and are not taxed with personal income tax. The rate for other capital gains is set the same as for all kinds of income from capital. Starting from 2018, the flat PIT rate was replaced by a progressive rate with three brackets. Some progressivity is also ensured by the differentiated non-taxable allowance, applying to income from regular employment and self-employment. There are also fixed monthly allowances for dependents.

Solidarity tax (*solidaritātes nodoklis*): The tax is applied to incomes above a certain threshold. This is the same threshold which defines the maximum income subject to social insurance contributions. Effectively, solidarity tax partially substitutes social insurance contributions on high incomes.

Corporate income tax (*uzņēmuma ienākuma nodoklis*): Corporate income tax is paid only when a company pays dividends or makes other payments with the aim of actual profit distribution. Individuals who receive these dividends are not required to pay personal income tax. Tax rate of 20% is applied to the corporate income tax base which is equal to the value of the tax object divided by coefficient 0.8, resulting in effective tax rate of 25%.

Small companies complying with a set of criteria (referring to e.g., the number of employees and annual turnover) can choose to pay a **microenterprise tax** instead of the corporate income tax. The base for the microenterprise tax is enterprise turnover and the tax rate is lower than the standard enterprise tax. Microenterprise tax payments substitute corporate tax payments, as well as social insurance contributions and personal income tax payments for the employed personnel. Starting from 2021, rights to obtain a status of a microenterprise exist to individual merchants, individual enterprise, farms and fish farms and self-employed persons. The status of a microenterprise tax payer will no longer be available to limited liability companies (LLCs). LLCs who are already registered as microenterprise tax payers are able to continue to pay microenterprise tax until the end of 2021.

Property tax (*nekustamā īpašuma nodoklis*): Property tax is levied on buildings (including residential dwellings), constructions and land.

Value added tax *(pievienotās vērtības nodoklis)*: There are two different VAT rates in Latvia – a standard rate and a reduced rate applied to certain goods and services (e.g., medicines, energy, newspapers).

Excise tax *(akcīzes nodoklis)*: Excise tax is levied on alcoholic beverages, tobacco, oil products and some non-alcoholic beverages.

Vehicle Operation Tax *(transportlīdzekļu ekspluatācijas nodoklis):* the tax is levied every calendar year on all operating vehicles, except tractor-type machinery, trailers and semi-trailers with full weight not exceeding 3500 kilos, trams, trolleybuses, off-road vehicles, snow motorcycles, mopeds and bicycles. The tax rate is dependent on engine volume, engine maximum power and total weight.

1.5. Fiscal measures during the emergency situation related to the COVID-19 pandemic

Sickness benefit (*slimības pabalsts*): sickness benefit that is granted to a person to whom the sick-leave certificate is issued due to infection with COVID-19 or being under quarantine from March 22, 2020 until June 30, 2021 and from October 25, 2021 to December 31, 2021 is covered by the state (normally the first 10 days of the sickness leave is covered by the employer, but starting from the 11th day, the benefit is paid by State Social Insurance Agency). However, if the sick-leave certificate is issued from October 25, 2021 to December 31, 2021, the sickness benefit is covered by the state from the first day of the incapacity of work only if person has certificate of vaccination against COVID-19 or certificate of recovery from COVID-19 or if a person has received a conclusion of the medical council on permission to postpone vaccination against COVID-19.

If the sick-leave certificate is issued from March 22, 2020 until November 15, 2020 the sickness benefit is granted for the time period from the second day of the incapacity for work. If the sick-leave certificate is issued from November 16, 2020 until June 30, 2021 and from October 25, 2021 to December 31 of 2021 the sickness benefit is granted for the time period from the first day of the incapacity for work. The benefit is subject to personal income tax.

Sickness assistance benefit *(slimības palīdzības pabalsts):* Working parents who have a child under the age of ten are eligible for a sickness assistance benefit if a child may not attend a pre-school education institution because it is closed due to the circumstances related to the COVID-19 infection, or learning in general education programmes is organised remotely. A socially insured person is able to claim sickness benefit for 14 calendar days once from November 30, 2020 to December 31, 2020 and an unlimited number of times between January 1, 2021 and June 30, 2021. The benefit is calculated as a share of the previous average income from which social insurance contributions were paid. The size of the sickness assistance benefit equals 60% of the relevant average income and is not subject to personal income tax and social insurance contributions. To compare, the size of the sickness benefit equals 80% of the relevant average income and is subject to personal income tax.

Downtime benefit / the Assistance Allowance for Idle Time for Employed or Self-employed Persons *(dīkstāves pabalsts):* employees of the affected firms are eligible for a special wage compensation ("downtime benefit") if they have been put on a downtime and do not work at all in the affected firm. Those working part-time or less hours are not eligible for the benefit. Self-employed persons and microenterprise employees are also eligible for the downtime benefit. The benefit is paid for the downtime periods starting from March 14 to June 30, 2020 and from November 9, 2020 to June 30, 2021. The benefit is calculated as a share of the average contribution wage.

Recipients of the downtime benefit also receive an extra payment of 50 EUR per month for each dependent child (a child is considered dependent if he/she is below 18 years old or below 24 years old and continues secondary, professional, special or higher education). This extra payment is assigned to one of the parents. The benefit is not taxable.

Downtime assistance benefit *(dīkstāves palīdzības pabalsts):* employees and self-employed who applied for the downtime benefit within the time period starting from March 14 to June 30, 2020 but were refused the benefit because their employers does not fulfil some of the criteria (e.g., have tax arrears), or self-employed who do not qualify for the benefit, are eligible for a special downtime assistance benefit of 180 EUR per month. In case the downtime benefit does not exceed 180 EUR, the difference between 180 EUR and the downtime benefit is covered in the form of downtime assistance benefit This effectively means that the downtime benefit cannot be lower than 180 EUR per month. Recipients of the downtime assistance benefit are also eligible for an extra payment of 50 EUR per month for each dependent child. This extra payment is assigned to one of the parents.

The aid for wage subsidies for part-time employees ***(algu subsidījas – atbalsts nepilnu darba laiku strādājošu darbinieku atlīdzības kompensēšanai)*****:** the aid is provided to the firms affected by the crisis whose income from economic activity in the specific aid month has decreased by at least 20% in comparison with the average income in August, September, and October 2020 when the company was actually operating. The aid is available for the period starting from November 9, 2020 until June 30, 2021, but not longer than restrictions on economic activity are applied. Employer is eligible to apply for the wage subsidy for a particular employee if the workload of this employee has decreased compared to the average workload in August, September, and October 2020. There are no limits to the extent to which the workload shall be reduced in order to be eligible for the subsidy. The support amounts to 50% of the average monthly gross wage for the period from August 1 to October 31, 2020 but not more than 500 EUR per month. The amount of the wage subsidy does not depend on the number of hours lost due to the effect of the crisis. In the month, when employer applies for a subsidy for a particular employee, the gross wage of this employee is calculated based on the actual workload (e.g., number of hours actually worked). Employer pays social insurance contributions and personal income tax from the gross wage calculated in the particular month. Part of this gross wage is subsidized by the state in the form of wage subsidy. Employer is obliged to pay the difference between the gross wage calculated minus social insurance contributions and personal income tax and the wage subsidy paid by the state. If the gross wage calculated based on the actual workload minus social insurance contributions and personal income tax paid by employer is less than the wage subsidy, employer does not pay anything extra to an employee. This effectively means that the net wage of a particular employee cannot be lower than 50% of the average monthly gross wage in August, September, and October 2020. In addition, the employer should certify that the employment relationships with an employee (for which the wage subsidy is requested) will not be terminated during the time period for which the aid is granted, and also for one month following such period.

For the period from October 1 to November 30, 2021, the aid is provided to the firms, self-employed and patent payers affected by the crisis. The wage subsidy essentially corresponds to the wage compensation for partial employment or for downtime period. The number of sectors eligible for the aid for wage subsidies is limited, while the wage subsidies are available only if f employees, self-employed and patent payers have certificate of vaccination against COVID-19 or certificate of recovery from COVID-19 or if a person has received a conclusion of the medical council on permission to postpone vaccination against COVID-19. When applying for the aid for October 2021, at least one vaccine against Covid-19 should have been received. The support amounts to 50% of the average monthly gross wage (in the case of self-employed, the average monthly income from economic activity or royalties declared by the relevant person) for the period from July 1 to September 30, 2021 but not more than 700 EUR per month. For a patent payer, the amount of support is 250 EUR per month, if a patent is valid during the support period or it has been valid for at least three months before October 11, 2021, i.e., before the declaration of the state of emergency. The employer should certify that the employment relationships with an employee (for which the wage subsidy is requested) will not be terminated during the time period for which the aid is granted, and also for one month following such period. Self-employed persons and patent payers should certify that economic activity will not be terminated during the support period.

The wage subsidy can to a greater extent be considered as support for the employers: the wage subsidy covers part of the gross wage calculated on the actual workload rather than covers part of the wage corresponding to the hours lost. Furthermore, there is no data on the reduction of the workload of the recipients of the subsidy. Hence, the wage subsidy is not simulated in EUROMOD.

Unemployment assistance benefit *(bezdarbnieka palīdzības pabalsts):* An unemployment assistance benefit of 180 EUR per month is granted to a person if the payment of unemployment benefit ends on or after 12 March 2020 and a person continues to be unemployed due to the emergency situation related to the spread of COVID-19. The maximum duration of the unemployment assistance benefit is 4 months if the benefit is granted and the period of payment ends until November 9, 2020. If the unemployment assistance benefit is granted on or after November 9, 2020, the maximum duration of the benefit is six months. If the unemployment assistance benefit has been granted until November 8, 2020, but the period of payment of the benefit has continued after November 9, 2020, the period of payment of the benefit is extended by two months. Unlike the recipients of unemployment benefit, no mandatory social insurance contributions for pension insurance are made from state core budget and social insurance special budget the benefit for the recipients of unemployment assistance benefit. Unemployment assistance benefits are granted and paid between March 12, 2020 and June 30, 2021.

Municipal benefit in a crisis situation *(pašvaldības pabalsts krīzes situācijā):* A family (person) who is unable to meet his or her basic needs due to the crisis (e.g., income has significantly decreased or income is lost at all due to circumstances caused by the Covid-19 pandemic) is eligible for a special benefit from the municipality. The benefit is not granted to a person living separately or for an individual person in the household for the relevant time period when the downtime benefit or downtime assistance benefit is disbursed. If a family (person) cares for a child below 18 years old, the size of the benefit is increased by 50 EUR per month for each child. The benefit is paid for the period starting from March 12, 2020 until July 31, 2020 and for the period starting from November 9, 2020 until December 31, 2021. The size of the benefit varies across municipalities.

Parental benefit *(vecāku pabalsts):* parental benefit is prolonged until the end of the state of emergency to those parents who lose eligibility for the benefit (i.e., the child turns 1 or 1.5 years old, depending on the benefit scheme chosen by the parents) during the state of emergency and a person cannot return to work due to the circumstances of the state of emergency as their employer is affected by the crisis or a person cannot earn income from economic activity. This continuation to the parental benefit may be disbursed for the time period from March 12, 2020 until the day when the person starts earning income as an employee or a self-employed person, but not longer than until June 9, 2020 (in case of state of emergency declared on March 12, 2020), whereas for the period from November 9, 2020 - until the day when the person starts earning income as an employee or self-employed person, but not longer than until April 6, 2021 (the end of the emergency situation declared on November 9, 2020). The size of the benefit remains unchanged, but there is a ceiling of 700 EUR per month. In contrast to the recipients of the "normal" parental benefit, the recipients of the prolonged benefit are not socially insured by the state.

Single-time benefit for families with children: the persons who are raising a child are granted a single-time benefit in the amount of 500 EUR for each child within a time period from March 1, 2021 until April 6, 2021 (until the end of the emergency situation declared in relation to the spread of COVID-19). This aid is disbursed to the persons who have the right to childcare benefit for a child under one year of age, state family benefit or who have the right to receive maternity benefit due to the birth of a child and the child is born until April 6, 2021 (the end of the emergency situation declared on November 9, 2020).

Single-time benefit for pensioners: recipients of old-age, disability and survivor`s pensions as well as recipients of state social security benefits are granted a single-time benefit in the amount of 200 EUR as financial support during the pandemic. The benefit is disbursed within a time period from March 1, 2021 until April 6, 2021 (until the end of the emergency situation declared in relation to the spread of COVID-19).

Guaranteed minimum income benefit (GMI) and housing benefit (*garantētā minimālā ienākuma pabalsts (GMI) un mājokļa pabalsts*): To be eligible for means-tested benefits, a person/household has to have the status of "being in need" (for GMI) or a "low-income household" (for housing benefit). Normally, the eligibility for the benefit is reassessed every 3 months. Starting from 2021, the eligibility for the benefit is reassessed every three or six months depending on the composition of the household. The new measure foresees that the status is automatically prolonged and the granted benefits are retained for one calendar month after the end of the state of emergency. Since the COVID-19 pandemic began, in Latvia the state of emergency was declared three times: starting from March 12, 2020 until June 9, 2020, starting from November 9, 2020 until April 6, 2021, and starting from October 11, 2021 until January 11, 2022.

Property tax (*nekustamā īpašuma nodoklis*): Municipalities are allowed to **postpone property tax payments** for its inhabitants (for all inhabitants or specific groups).

- *Other measures to support companies affected by state of emergency in relation to COVID-19*

Personal income tax advance payments *(avansa maksājumi no saimnieciskās darbības ienākuma)* are postponed. A payer of PIT shall not perform the advance payments of PIT for the income from economic activity for the taxation years of 2020 and 2021. This condition shall be applicable to advance payments from January 1, 2020.

Companies operating in certain sectors affected by the crisis are eligible for up to three years of **tax holidays *(nodokļu samaksas termiņa pagarināšana)***: those companies which have been affected by the crisis are entitled to apply for the division of the payment for late tax payments in instalments or deferral thereof for a period of up to three years. The criteria for classifying a firm as affected are the same as in the case of the downtime benefit (see above). Companies are entitled to apply for this support measure until June 30, 2021.

State-guaranteed bank loan holidays *(kredītu brīvdienu garantija)* for affected companies: for companies that have experienced objective difficulties in making loan repayments to banks due to the COVID-19 crisis, the state provides a credit guarantee that allows the bank to defer payment of the principal amount.

Working capital loan (*apgrozāmo līdzekļu aizdevums*) is liquidity support for affected companies financed by the state.

Loans for large and medium-sized businesses *(aizdevumi lielajiem un mazajiem komersantiem)* is support aimed to maintaining and increasing exports and competitiveness.

A working capital subsidy *(apgrozāmo līdzekļu subsīdija):* state aid is granted to the taxpayers affected by the COVID-19 crisis for ensuring the flow of working capital. The aid is available starting from November 1, 2020.

Export guarantees *(eksporta kredīta garantijas):* restrictions on obtaining guarantees for exporters to the EU and certain OECD member states have been lifted, expanding the possibilities of the program specifically for large companies.

Reduced or abolished rent payments for companies renting state or municipal premises. This support measure is provided until June 30, 2021.

2. SIMULATION OF TAXES, SOCIAL INSURANCE CONTRIBUTIONS AND BENEFITS IN EUROMOD

2.1. Scope of simulation

Not all the taxes and benefits mentioned in the previous section are simulated by EUROMOD. Firstly, some are beyond its scope entirely and are neither included in the EUROMOD input database nor in its output income variables. Secondly, some are not possible to simulate accurately with the available data. They are included in the database and may be chosen as components of output variables, but the rules governing them may not be changed by the model. Here we distinguish benefits/taxes which are included as a separate variable and benefits/taxes which are included as a component of an aggregated variable (in case it is not possible to make a split). Thirdly, other benefits contain complicated rules and/or available data does not provide enough information to be able to simulate benefit in all detail; such benefits/taxes are partially simulated. Table 2.1 and Table 2.2 classify each of the tax-benefit instruments into one of these groups and provide a brief explanation as to why the instrument is not fully simulated if this is the case.

The unemployment benefit (*bun00_s*), the state social security benefits (*psuss_s, pdiss_s and poass_s*) and paternity benefit (*bfapl_s*), are partially simulated. This is for the following reason: as previous earnings are not observed in the SILC data, they are imputed using information on the reported receipt of the respective benefit in the SILC data. Therefore, the benefit simulation is conditional on the reported benefit receipt in the micro-data. Housing benefit (*bho_s*) and the benefit for ensuring the guaranteed minimum income level (*bsamm_s*) are partially simulated because specific municipality rules can't be simulated. Therefore, in case of *bsamm_s* in 2018–2020 we simulate only standard rules for all municipalities except Riga (starting from 2021 the standard rules are applied by all municipalities), but in case of *bho_s* the rules of the largest municipality (Riga) are applied.

The self-employed social insurance contributions (*tscse_s*) are partially simulated as we assume that if income of a self-employed exceeds the minimum threshold, he/she makes contributions at the general rate from the minimum threshold.

Table 2.1 Simulation of benefits in EUROMOD [2018-2021]

Benefit	Variable	Treatment in EUROMOD				Comments
		2018	2019	2020	2021	
Unemployment benefits						
Unemployment benefit	bun00_s	PS	PS	PS	PS	No precise information on relevant length of social insurance record, average pre-unemployment wage, duration of unemployment benefit.
Other payments related to unemployment	bunot	I	I	I	I	The variable includes stipends for training courses of unemployed persons, severance pay, as well as public works programme (workplaces with stipends in municipalities). These variables cannot be simulated due to lack of data on the length of social insurance record (employment history) with a particular employer and lack of information on participation in either training or public works programme.
Old-age benefits						
Old-age pension (including service pension)	poatx	I	I	I	I	No data on full length of social insurance record.
State social security benefit (in case of old age)	poass_s	PS	PS	PS	PS	Eligibility is taken from the input data.
Survivor's benefits						
Survivor's pension	psutx	I	I	I	I	No information on deceased persons.
State social security benefit (in case of a loss of a breadwinner)	psuss_s	PS	PS	PS	PS	Eligibility is taken from the input data.
Sickness benefits						
Sickness benefit	bhl	IA	IA	IA	IA	No data on sickness duration.

Benefit	Variable	Treatment in EUROMOD				Comments
		2018	2019	2020	2021	
Sickness benefit in case of a work accident or an occupational disease	bhl	IA	IA	IA	IA	No data on sickness cause and duration.
Health service benefit provided by municipalities	bhl	IA	IA	IA	IA	No data on eligibility for benefit and municipality which rules apply.
Disability benefits						
Disability pension	pditx	I	I	I	I	No data on degree of disability and length of social insurance record.
State social security benefit (in case of disability)	pdiss_s	PS	PS	PS	PS	Eligibility is taken from the input data.
Compensation for the loss of capacity for work due to a work accident or occupational disease	pdint	I	I	I	I	No data on the cause of disability.
Family and children related allowances						
State family benefit	bfana_s	S	S	S	S	-
Child birth benefit	bfaba_s	S	S	S	S	-
Child care benefit	bfacc_s	S	S	S	S	-
Parental benefit	bfawk_s	S	S	S	S	Average contribution wage before a child’s birth is imputed.
Maternity benefit	bfama_s	S	S	S	S	Average contribution wage before a child’s birth is imputed.
Paternity benefit	bfapl_s	PS	PS	PS	PS	Average contribution wage before a child’s birth is imputed; non-take up is modelled based on eligibility from the data.
Other child-related income	bfaot	I	I	I	I	No data on health condition of a child, no data on adoption (if the child has been adopted), impossible to simulate local governments’ specific rules related to child-related benefits.
Social exclusion benefits						

Benefit	Variable	Treatment in EUROMOD				Comments
		2018	2019	2020	2021	
Benefit for ensuring the guaranteed minimum income level	bsamm_s	PS	PS	PS	S	Specific municipality rules applied until 2021 can't be simulated. Until 2021 only standard rules and rules for Riga municipality are simulated. Residents of Riga are imputed based on information from the national data.
Municipal benefit in an extraordinary situation	bsaot	IA	IA	IA	IA	Eligibility rules can't be simulated.
Other special purpose benefits provided by municipalities	bsaot	IA	IA	IA	IA	Eligibility rules can't be simulated.
Funeral benefit	bsafu	IA	IA	IA	IA	No information on deceased members of household.
Housing allowances						
Housing benefit	bho_s	PS	PS	PS	PS	Specific municipality rules can't be simulated. The rules of the largest municipality (Riga) are applied.
COVID-19 wage and self-employment income compensation schemes						The simulation of COVID-19 wage and self-employment income compensation schemes is turned off in the baseline. The policy *TransLMA_lv* need to be turned on to simulate the transition from employment and self-employment to a COVID-19 related wage and self-employment income compensation scheme This policy is turned on automatically when the model is run in conjunction with the LMA add-on.
Downtime benefit paid to employees	bwkmcee_s	-	-	S	S	No data on the eligibility conditions for affected firms. Benefit is randomly assigned on the basis of external statistics.
Downtime benefit paid to self-employed	bwkmcse_s	-	-	S	S	No data on the eligibility conditions for affected self-employed. Benefit is randomly assigned on the basis of external statistics.
Supplementary payment to downtime benefit for dependent children	bwkmcch_s	-	-	S	S	Supplementary payment for dependent children is assigned to recipients of downtime benefit eligible for Personal Income Tax Dependent child allowance
Aid for wage subsidies for part-time employees	-	-	-	E	E	This measure is not simulated in EUROMOD as there is no data on the reduction of the workload of the recipients of the subsidy.

Benefit	Variable	Treatment in EUROMOD				Comments
		2018	2019	2020	2021	
Single-time benefits during COVID-19 pandemic						The simulation of single-time benefits during COVID-19 pandemic is turned on in the baseline.
Single-time benefit for families with children during COVID-19 pandemic	bfaec_s	-	-	-	S	
The single-time benefit for pensioners during COVID-19 pandemic	bpeec_s	-	-	-	S	

Notes: "-" policy did not exist in that year; "E" *excluded* from the model as it is neither included in the micro-data nor simulated; "I" *included* in the micro-data but not simulated; "IA" *included in the micro-data as a part of an aggregated variable* but not simulated; "PS" *partially simulated* as some of the 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 insurance contributions in EUROMOD [2018-2021]

Tax/SIC	Variable	Treatment in EUROMOD 2018	2019	2020	2021	Comments
Social Insurance Contributions						
Employees	tscee_s	S	S	S	S	Impossible to simulate special rules for persons with disability and recipients of service pension.
Employers	tscer_s	S	S	S	S	Impossible to simulate special rules for persons with disability and recipients of service pension.
Self-employed	tscse_s	PS	PS	PS	PS	Assume that self-employed makes contributions at the general rate from the minimum threshold.
Direct taxes						
Solidarity tax						
Employees	txcee_s	S	S	S	S	Impossible to simulate special rules for persons with disability and recipients of service pension that are in force in 2018.
Employers	txcer_s	S	S	S	S	Impossible to simulate special rules for persons with disability and recipients of service pension that are in force in 2018.
Self-employed	txcse_s	S	S	S	S	-
Personal income tax	tin_s	S	S	S	S	Some exemptions and types of income are impossible to identify.
Corporate income tax	-	E	E	E	E	Out of scope of the model.
Microenterprise tax	-	E	E	E	E	Out of scope of the model.
Property tax	tpr	I	I	I	I	Rules cannot be simulated.
Indirect taxes						
Value added tax	-	E	E	E	E	No information available, out of scope of the model.
Excise tax	-	E	E	E	E	No information available, out of scope of the model.
Vehicle operation tax	-	E	E	E	E	No information available, out of scope of the model.

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; "I" *included* in the micro-data but not simulated; "IA" *included in the micro-data as a part of an aggregated variable* but not simulated; "PS" policy is *partially simulated* as some of its relevant rules are not simulated; "S" policy is *simulated* although some minor or very specific rules may not be simulated.

2.2. Main policy changes

2.2.1. Main changes between 2017 and 2018

- **Direct taxes:**
  a) Changes in the personal income tax:
    - Starting from 2018, Latvia has a progressive PIT rate with three brackets;
    - Allowance for a dependent child, spouse or parent is increased;
    - Parameters of the differentiated non-taxable allowance have been changed;
    - Non-taxable minimum for pensioners is increased;
    - The tax rate applied for income from capital is increased to 20% (both for capital increase and other income from capital). In 2017 income from capital is taxed at a reduced rate of 15% (capital increase) or 10% (other income from capital).

  b) Changes in the solidarity tax:
    - The solidarity tax rates for employees, employers and self-employed are increased;
    - Revenues from the solidarity tax are used to finance the top PIT rate.

- **Benefits:**
  a) **Changes in family benefits:**
    - In the context of the state family benefit, the child is considered to be dependent if a child is between 1-20 years old (until 2018 1-19 years old) and continues secondary/professional education, is not married. Compared to the rules in force until 2018, the child continues to be considered as dependent even if he/she receives education related stipends.
    - Starting from March, 2018, new supplementary payments to the state family benefit are introduced to households with 2 and more dependent children.

  b) Changes in social exclusion benefits and housing benefit:
    - The standard level of GMI is increased.

- **Social insurance contributions:**
    - The rates of employee and employer social insurance contributions is increased;
    - The general rate of self-employed social insurance contributions is increased;
    - Income ceiling for employees, employers and self-employed for obligatory social insurance contributions is increased;
    - Minimum income from which self-employed make social insurance contributions at the general rate is increased;
    - Self-employed social insurance contributions for pension insurance are introduced:
        - In addition to the social insurance contributions at the general rate, self-employed should make the social insurance contributions for pension insurance at the rate of 5%. Self-employed social insurance contributions should be paid if self-employment monthly income is below the threshold (the minimum wage). If self-employment monthly income reaches or exceeds the threshold (the minimum wage), contributions for pension insurance should be made from the difference between the actual self-employment income and the selected amount from which social insurance contributions are made at the general rate.

- The minimum annual income for self-employed is set above which it is necessary to make social contributions for pension insurance (50 EUR).

- **Public pensions:**
  - Retirement age for both men and women is increased by three months;
  - Statutory indexation of public pensions in October 2018.

- **Other:**
  - Increase in the minimum wage level.

2.2.2. Main changes between 2018 and 2019

- **Direct taxes:**

  a) Changes in the personal income tax:
  - Annual income threshold is raised above which the top PIT rate (and the solidarity tax) is applied;
  - Allowance for a dependent child, spouse or parent is increased;
  - Parameters of the differentiated non-taxable allowance have been changed;
  - Non-taxable minimum for pensioners is increased;
  - Starting from July 2018, allowance for non-working spouse is applied if the spouse has a child below 3 years old or the spouse has three or more children below 18 years old (or below 24 years old if a child continues secondary, professional, special or higher education) of which at least one is below 7 years old or if the spouse has five children below 18 years old (or below 24 years old if a child continues secondary, professional, special or higher education).

  b) Changes in the solidarity tax:
  - The solidarity tax has been reformed. The total rate has been reduced to 25.5% (paid jointly by employer and employee or by self-employed). During the tax year, the tax is applied by using all statutory rates as the rates used in calculation of social insurance contributions (like in 2018). The difference between the solidarity tax actually paid during the tax year and the calculated solidarity tax is recorded as an overpaid solidarity tax. Overpaid solidarity tax is refunded to employer or self-employed in the post-tax year.
  - Annual income threshold is raised above which the solidarity tax (and the top PIT rate) is applied.

- **Benefits:**

  a) Changes in social exclusion benefits and housing benefit:
  - In Riga municipality the income per household member or for separately living person of working age must not exceed 320 EUR per month or must not exceed 400 EUR for a separately living recipients of old-age pensions, disability pensions or state social security benefit.

- **Social insurance contributions:**
  - Income ceiling for employees, employers and self-employed for obligatory social insurance contributions is increased.

- **Public pensions:**
  - Retirement age for both men and women is increased by three months;
  - Statutory indexation of public pensions in October 2019.

2.2.3. Main changes between 2019 and 2020

- **Direct taxes:**

  a) **Changes in the personal income tax:**
    - Allowance for a dependent child, spouse or parent is increased;
    - Parameters of the differentiated non-taxable allowance have been changed;
    - Non-taxable minimum for pensioners is increased.

- **Benefits:**

  a) Changes in disability benefits:
  - The amount of the state social security benefit in case of disability is increased.

  b) Changes in unemployment benefits:
  - The maximum duration of the unemployment benefit is reduced from 9 months to 8 months. Starting from 2020, the benefit is paid in full amount for the first 2 months (in 2018-2019 for the first three months), but then the size of the benefit is gradually tapered off but faster than before. In 7th and 8th month the benefit amount equals to 45% of the full benefit amount.

  c) Changes in social exclusion benefits and housing benefit:
    - The standard level of GMI is increased;
    - The GMI level for children below 18 years old in Riga municipality is increased.

- **Public pensions:**
  - Retirement age for both men and women is increased by three months;
  - Statutory indexation of public pensions in October 2020.
- **Financial support during the COVID-19 pandemic:**
  - Within specified periods employees of the affected firms are eligible for a special wage compensation ("downtime benefit") if they have been put on a downtime and do not work at all in the affected firm. There is a minimum and maximum amount of the downtime benefit for a full month. Recipients of the downtime benefit also receive an extra payment of 50 EUR per month for each dependent child;

2.2.4. Main changes between 2020 and 2021

- **Direct taxes:**

  a) Changes in the personal income tax:
  - The top rate of the personal income tax is reduced from 31.4% to 31%;
  - Parameters of the differentiated non-taxable allowance have been changed;
  - Non-taxable minimum for pensioners is increased;

  b) Changes in the solidarity tax:
  - The total solidarity tax rate is reduced to 25%.

- **Benefits:**
  a) Changes in old-age benefits, survivor's benefits and disability benefits:
    - The amount of the State social security benefit is increased. Starting from 2021 the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7);
    - A supplement to the State social security benefit is introduced to the disabled persons of Groups I and II is if they are not employed not self-employed.

  b) Changes in family benefits:
    - Starting from September 2020, in order to be eligible for paternity, maternity and parental benefit, state social insurance contributions had to made according to the relevant type of insurance for not less than three months in the period of the last six months before the month in which the insurance event occurred or not less than six months in the period of the last 24 months before the month in which the insurance event occurred.

  c) Changes in social exclusion benefits and housing benefit:
    - The GMI level is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). In 2021, the GMI level is set at 109 EUR for the first or only person in the household (20% of median income) and 76 EUR for each subsequent person in the household (70% of the GMI level set for the first person in the household).
    - The income threshold which determines the eligibility for the GMI benefit is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). In 2021, the income threshold is set to 272 EUR or 50% of the median income (544.41 EUR in 2018) for the first or the only person in the household and 190 EUR for each subsequent person in the household (70% of the income threshold set for the first person in the household). The minimum income threshold shall be reviewed at least every three years.
    - Common principles on eligibility for housing benefit are established defining the income level that cannot be exceeded when the municipal councils specify the income threshold for a separately living person or a household for being classified as a "low-income household".
    - The eligibility for the benefits is reassessed every three or six months depending on the composition of the household.
    - The income test excludes single-time benefits for families with children and for pensioners during COVID-19 pandemic.
- **Social insurance contributions:**
    - Minimum income from which self-employed make social insurance contributions at the general rate is increased;
    - The rates of employee and employer social insurance contributions is decreased;
    - The general rate of self-employed social insurance contributions is decreased;
    - The rate of the self-employed social insurance contribution for pension insurance is increased from 5% to 10%.

- **Public pensions:**
    - Retirement age for both men and women is increased by three months;
    - Statutory indexation of public pensions in October 2021.

- **Financial support during the COVID-19 pandemic:**
    - Single-time benefits have been disbursed to families with children and to pensioners (i.e., recipients of old-age, disability and survivor`s pensions as well as recipients of state social security benefits);
    - Within specified period employees of the affected firms are eligible for a special wage compensation ("downtime benefit") if they have been put on a downtime and do not work at all in the affected firm. The minimum amount of the downtime benefit for a full month is increased;

- **Other:**
    - Increase in the minimum wage level.

2.3. Order of simulation and interdependencies

Table 2.3 presents taxes and benefits that are simulated in the Latvian EUROMOD. Order of simulation is the same in all years.

In all policy years, we start the spine with general policies that define some concepts and offer to choose alternative assumptions. First, we set default values for some variables. Then there is a switch to choose how pensions are uprated. By default, pensions are uprated according to indexation rules (see policy *uprate_bands_lv*). The alternative approach is to uprate pensions according to the average growth of pensions. This together with uprating of other monetary variables is implemented in policy uprate_lv. The uprating factors are based on aggregate data on growth of respective income components (see Annex 1). In the beginning of the spine we also define constants and income lists. Policy *random_lv* creates random variables used for the identification of employees and self-employed entering employment and self-employment income compensation scheme (turned on in the baseline of the systems 2020 and 2021, n/a for other systems). The next policy *TransLMA_lv* selects individuals that do the transition to wage unemployment and COVID-19 related employment and self-employment income compensation scheme (turned off in the baseline of the systems 2020 and 2021, n/a for other systems). Then we define tax units. This is followed by the minimum wage simulation (switched OFF in the baseline).

The first policy which is run before simulation of social benefits is recoding of negative self-employment income into zeros. This is done in order to prevent incorrect calculation of taxes, social insurance contributions and means-tested benefits for self-employed persons with losses in the income reference period. There are 24 individuals with negative self-employment income in the Latvian input data (based on UDB EU-SILC 2019).

Next we simulate the downtime benefit paid by the state to employees (*yemcomp_lv*) and self-employed (*ysecomp_lv*) within COVID-19 related employment and self-employment compensation scheme (COVID-19 related employment and self-employment income compensation scheme is not included in the baseline of systems 2020 and 2021 despite they are "on" in the spine; the policy *TransLMA_lv* is automatically turned on when the model is run in conjunction with the LMA add-on to simulate the transition from employment and self-employment to unemployment and from employment and self-employment to a COVID-19 related wage and self-employment income compensation scheme). Policy *ycompdep_lv* simulate the supplementary payment to downtime benefit for those having dependent children.

The next simulated policy instruments are social insurance contributions; they have to be deducted from income before income tax is calculated. The next three policies simulate the solidarity tax. The solidarity tax is simulated before income tax, as it is also deducted from income before income tax is calculated. Next we simulate non means-tested benefits: state social security benefits, unemployment benefit, and family benefits. Then, we simulate the personal income tax. Finally, means-tested benefits are simulated: first, the GMI benefit (as it depends on net income after taxation); second, the housing benefit (as it depends on all net income including the GMI).

The spine finishes with the policies that define output files (i.e., which variables are included, at which level, etc.).

Table 2.3 EUROMOD Spine: order of simulation

Policy	2018	2019	2020	2021	Description of the instrument and main output
setdefault_lv	On	On	On	On	Default settings for variables not included in the input data
uprate_lv	On	On	On	On	Uprating factors defined
ConstDef_lv	On	On	On	On	Constants defined
Uprate_bands_lv	On	On	On	On	Uprating of pensions using indexation rules (indexes applied depend on the level of pensions)
Ilsdef_lv	On	On	On	On	Standard income lists defined
IlsUDBDef_lv	On	On	On	On	UDB income concepts
random_lv	n/a	n/a	On	On	Random assignment of COVID-19 compensation scheme
TransLMA_lv	n/a	n/a	Off	Off	Modelling labour market transitions
tudef_lv	On	On	On	On	Tax units (assessment units) defined
yem_lv	Off	Off	Off	Off	Minimum wage (switched OFF in the baseline): *yem* (overwrite)
neg_lv	On	On	On	On	Negative self-employment income recoded to zero: *yse* (overwrite)
yemcomp_lv	n/a	n/a	On	On	COVID-19 wage compensation scheme: *bwkmcee_s*
ysecomp_lv	n/a	n/a	On	On	Self-employment income compensation scheme Covid-19: *bwkmcse_s*
ycompdep_lv	n/a	n/a	On	On	Supplementary payment to compensation scheme for dependent children: *bwkmcch_s*
tscee_lv	On	On	On	On	Employee's social insurance contributions: *tscee_s*
tscer_lv	On	On	On	On	Employer's social insurance contributions: *tscer_s*
tscse_lv	On	On	On	On	Social insurance contributions paid by self-employed: *tscer_s*
txcee_lv	On	On	On	On	Solidarity tax paid by employee: *txcee_s*
txcer_lv	On	On	On	On	Solidarity tax paid by employer: *txcer_s*
txcse_lv	On	On	On	On	Solidarity tax paid by self-employed: *txcse_s*
pss_lv	On	On	On	On	State social security benefit: *pss_s* (includes *poass_s*, *psuss_s*, and *pdiss_s*)

bun00_lv	On	On	On	On	Unemployment benefit: *bun00_s*
bfana_lv	On	On	On	On	State family benefit: *bfana_s*
bfapl_lv	On	On	On	On	Paternity benefit: *bfapl_s*
bfama_lv	On	On	On	On	Maternity benefit: *bfama_s*
bec_lv	n/a	n/a	n/a	On	Single-time benefit for families with children and pensioners: financial support during COVID-19 pandemic (includes *bfaec_s* and *bpeec_s*)
bfaba_lv	On	On	On	On	Child birth benefit: *bfaba_s*
bfawk_lv	On	On	On	On	Parental benefit: *bfawk_s*
bfacc_lv	On	On	On	On	Child care benefit: *bfacc_s*
tin_lv	On	On	On	On	Personal income tax: *tin_s*
bsamm_lv	On	On	On	On	Guaranteed Minimum Income benefit: *bsamm_s*
bho_lv	On	On	On	On	Housing benefit: *bho_s*
output_std_lv	On	On	On	On	Standard EUROMOD output calculated on individual level
output_std_hh_lv	Off	Off	Off	Off	Standard EUROMOD output calculated on household level (OFF in the baseline)

2.4. Policy extensions

Policy extensions can be turned ON or OFF through the run dialog box without changing the model itself. In the baseline a policy extension is set to its default (ON or OFF) as specified in this documentation and in the model (country tools – set switches).

The Latvian model has three policy extensions: UAA, BTA and MWA. The first one allows choosing between two alternative approaches to pensions' uprating. By default, pensions (*poatx, pditx, psutx*) are uprated according to pension indexation rules (see Section 2.4.1 for details). As an alternative, pensions can be uprated according to the average growth of pensions. The second extension is adjustment for take-up of paternity benefit (*bfapl_lv*). If the adjustment is OFF – full take up is simulated. This means all fathers of newly born babies will take up paternity leave of 10 days (if eligible). In reality, many fathers in Latvia do not apply for paternity benefit. If the adjustment is ON (which is the default) the benefit will be simulated only to those fathers who have the benefit in the input data. The last extension is for the simulation of minimum wage, see section 2.4.2.

2.4.1. Statutory indexation of public pensions

By default, public old-age, disability and survivor**'s** pensions (*poatx, pditx and psutx*) in the model are uprated according to the statutory indexation rules. Pensions in Latvia are indexed once a year, on 1 October. The indexation rules stipulate that only pensions below a threshold, which is set at 50% of the average social insurance contribution wage in the previous calendar year, are indexed. Pensions that exceed the threshold are indexed partially – only part below the threshold is indexed. The index is composed of CPI in the 12 months preceding the indexation and a fraction of real growth of social insurance contribution wage in the previous calendar year. For old-age pensioners with longer social insurance records the index is computed taking into account a larger share of the wage growth ensuring that pensioners with longer social insurance records will have their pensions indexed with a higher value of index. Thus, the index takes into account 50% of the average wage growth for pensioners with social insurance records less than 30 years, 60% of the average wage growth for pensioners with social insurance records from 30 to 39 years, and 70% of the average wage growth for pensioners with social insurance records 40 years or more. Starting from 2019, for pensioners with the social insurance records 45 years or more, the index takes into account 80% of the average wage growth. The index for disability and survivor**'s** pensions (*pditx and psutx*) is not linked to the length of the social insurance records and is composed of CPI in the 12 months preceding the indexation and a 50% of real growth of the social insurance contribution wage in the previous calendar year.

The pensions are not indexed in case the index is below 1. In case real wage growth in the previous calendar year exceeds 15%, 15% growth is used in the index. Table 2.4 shows indexation indices and thresholds that were applied in 2018-2021.

Table 2.4 Pension indexation in 2018–2021

Date of indexation	Threshold for indexation, EUR	Social insurance record	Index
October 2018	382	Less than 30 years	1.0590
		30-39 years	1.0655
		40 years and more	1.0720
October 2019	420	Less than 30 years	1.0719
		30-39 years	1.0805
		40-44 years	1.0891
		45 years and more	1.0977
October 2020	454	Less than 30 years	1.0380
		30-39 years	1.0446
		40-44 years	1.0512
		45 years and more	1.0578
October 2021	470	Less than 30 years	1.0423
		30-39 years	1.0451
		40-44 years	1.0479
		45 years and more	1.0507

Notes: In the model, we take into account that pensions are indexed in October. Thus, the average pension in a given year is computed as a weighted average of monthly pensions before the October indexation and after the October indexation.

- ***EUROMOD modelling***

In July, 2018, the supplement payments for one year of insurance period accumulated up to December 31, 1995 were increased from 1 EUR to 1.5 EUR for people who retired before 1996. These changes are not simulated because the persons who retired before 1996 and the length of social insurance record prior and after December 31, 1995 cannot be precisely identified using EU-SILC data.

Until 2019, the supplement payments for one year of insurance period accumulated up to December 31, 1995 were not included in the amount of the indexable pension. Starting from October 2019, the supplement payments are uprated using the index composed of CPI in the 12 months preceding the indexation and 50% of real growth of social insurance contribution wage in the previous calendar year (1.0719 in 2019, 1.0380 in 2020 and 1.0423 in 2021). These changes are not simulated because we cannot separate the amount of the supplement payments from the total pension amount (the persons who retired before 1996 and the length of social insurance record prior and after December 31, 1995 cannot be precisely identified using EU-SILC data).

2.4.2. Minimum wage

In Latvia minimum monthly wage is set every year by the Cabinet of Ministers. The minimum wage rule covers employees in all sectors. It is not differentiated between the types of employees. The level of minimum (gross) monthly wage was 430 EUR in 2018–2020 and 500 EUR in 2021. The simulation of the minimum wage is switched off in the baseline.

2.5. Benefits

2.5.1. Unemployment benefit (*bun00_lv*)

The benefit is provided to a previously employed and socially insured person in case of unemployment (self-employed are not insured against the risk of unemployment and hence are not eligible for unemployment benefit). The maximum duration of the unemployment benefit in 2018–2019 was 9 months and in 2020 the maximum duration was reduced to 8 months. The benefit amount per month gradually decreases with time in order to provide incentives to look for a new job.

- ***Definitions***

The unit of analysis is an individual.

- ***Eligibility conditions***

(1) First of all, a person must register as unemployed in State Employment Agency (SEA). There is no information on registration at the SEA in the input data. We assume that all people who report unemployment are registered.

(2) Second, there are some restrictions on age. Only people above 15 years and people below the statutory retirement age are eligible for the unemployment benefit. In case a person below the statutory retirement age is granted an old-age pension (including early retirement), the person is not eligible for the unemployment benefit. In the model, we simulate the benefit to people below or at the statutory retirement age to account for situations when people retire in the course of the year, but receive unemployment benefit before the retirement.

(3) Third, a person must have paid social insurance contributions for no less than 12 months in total (we use variable *liwwh* as a proxy for this).

(4) Finally, an individual has to make social insurance contributions for at least 12 months over the 16 months before unemployment.

- ***EUROMOD modelling***

For people who are currently unemployed and receive unemployment benefits we assume that the eligibility criterion (4) is met (as this can’t be checked with the input data).

For those who are currently unemployed but do not receive unemployment benefits we assume that the eligibility criterion (4) is not met.

Finally, for calculation of replacement rates or modelling labour market transitions, we assess eligibility of currently employed individuals based on the number of months currently in work (*liwmy*).

For 2020 COVID-19 related transition to unemployment, the benefit for employees and the self-employed can only produce results if the model is run in conjunction with the LMA add-on. The individuals that are selected to undergo transitions to unemployment (or transition to employment from unemployment) are defined in the *TransLMA_lv* policy, which is switched on automatically by the LMA add-on. For more information about the modelling of labour market transitions please consult the '*Simulating labour market transitions in EUROMOD*' document. Unemployment transition data are produced by Eurostat, using detailed distributional information on the loss of jobs from the Labour Force Survey and administrative data. The impact across different categories of individuals and the duration of unemployment are modelled using the EU-LFS longitudinal and quarterly transitions as target. For more information please consult the methodological note available at 9a70fb55-ceb7-d25a-1b31-ab0c030095d2 (europa.eu)

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

The full amount of the benefit is a percentage of the previous average income (from which social insurance contributions were paid) and it depends on working experience:

1) If working experience is 1 to 9 years the full benefit equals 50% of the gross average wage from which social insurance contributions were made;
2) If working experience is 10 to 19 years the full benefit equals 55% of the gross average wage;
3) If working experience is 20 to 29 years the full benefit equals 60% of the gross average wage;
4) If working experience is above 30 years the full benefit equals 65% of the gross average wage.

Average contribution wage is calculated over the twelve months period which ends two months before the person obtains unemployment status. Two months – the month with the highest income and the month with the lowest income – are excluded from the average wage calculations. If a person does not receive income in some of these months, these months are excluded from calculations of the average wage. If the person is on child care leave, the average wage is calculated over the 12-months period ending before the child care leave.

- ***EUROMOD modelling***

For those who are currently unemployed and receive unemployment benefit accurate information on the gross average wage cannot be obtained from the data. Therefore, we reverse the rules for benefit calculations, and impute the gross average wage before unemployment (*yempv*) based on the total amount of unemployment benefit, approximate duration of unemployment, and the length of social insurance record (employment history).

- ***Benefit duration***

In 2018–2019, the maximum duration of the benefit was 9 months irrespective of the length of previous employment history, but in 2020 the maximum duration was reduced to 8 months. For the first three months in 2018–2019 and first 2 months in 2020–2021, the benefit is paid in the full amount (see the sub-section "Benefit amount" above), but then the size of the benefit is gradually tapered off to give stronger incentives for job search (see Table 2.5)

Table 2.5 Calculation of the unemployment benefit (*bun00_s*) in 2018-2021

	Work experience	**Max duration**	**Proportion of the full benefit received**			
			100%	75%	50%	45%
2018–2019	All unemployed	9 months	1^{st} - 3^{rd} month	4^{th} - 6^{th} month	7^{th} - 9^{th} month	
2020–2021	All unemployed	8 months	1^{st}-2^{nd} month	3^{rd}-4^{th} month	5^{th}-6^{th} month	7^{th} – 8^{th} month

Table 2.6 summarizes unemployment benefit rules in 2018–2021.

Table 2.6 Characteristics of the unemployment benefit (*bun00_s*) in 2018–2021

Eligibility	Contribution period (in months)	12
	Other conditions	contributions made for at least 12 months in 16 months preceding unemployment
	Eligibility of self-employed	no
Payment	Contribution base	yem
	Basic amount	50% - 65% of wage, depending on the length of social insurance record (employment history)
	Additional amount	n/a
	Floor	n/a
	Ceiling	n/a*
Duration	Standard (in months)	9 months in 2018–2019 and 8 months in 2020–2021
	Special cases (in months)	n/a
Subject to	Taxes	no
	SIC	no

Notes: There is an implicit ceiling on the benefit, ensured by a cap on social insurance contributions (see Table 2.15).

- ***EUROMOD modelling***

For identification of work experience we use variable *liwwh*. As a proxy of unemployment duration we use *lunmy*.

2.5.2. State family benefit (bfana_lv)

- ***Definitions***

The benefit is a lump sum granted to one of the parents of a dependent child. There is a basic benefit paid to all eligible persons and a supplementary payment, which is paid only to eligible families with two and more dependent children.

The unit of analysis is a family with a dependent child.

The child is considered to be dependent if:

a) a child is between 1-15 years old *(dag>=1 & dag<15)*;

b) Until 2018, a child is between 1-19 years old *(dag>=1 & dag<19)* and continues secondary/professional education *(dec > 2)*, is not married *(dms = 1)*, and does not receive any education related stipends *(bed = 0)*.

c) Starting from 2018, a child is between 1-20 years old *(dag>=1 & dag<20)* and continues secondary/professional education *(dec > 2)*, is not married *(dms = 1)*.

- ***Eligibility conditions***

The benefit is assigned to one of the parents of a dependent child in a family. Usually, a mother applies for the benefit.

- ***EUROMOD modelling***

In the model we assign the benefit to the mother. If there is no mother, then a father is eligible.

- ***Income test***

The benefit is not means-tested.

- ***Benefit duration***

The benefit is paid while the child is considered as dependent. The supplementary payments are paid as long as the person has at least two dependent children.

- ***Benefit amount***

The size of the benefit for the first child is 11.38 EUR per month. For each subsequent child, the benefit is higher: for the second child the benefit equals the standard amount multiplied by the coefficient of 2, for the third child - multiplied by the coefficient of 3, and for the fourth and each consecutive child - multiplied by the coefficient of 4.4.

Starting from March, 2018, new supplementary payments to the state family benefit are introduced to households with two and more dependent children. The size of the supplementary payments is 10 EUR per month if there are two dependent children in the family and 66 EUR if there are three dependent children in the family. For each subsequent child in the family, the supplementary payment is increased by 50 EUR per month.

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

The benefit is tax exempt.

- ***EUROMOD modelling***

When calculating the amount of the benefit, the number of children is determined taking into account all children raised by a recipient, even if some of them are no longer dependent, as well as deceased children of the recipient. The amount of the benefit is determined by the child`s sequential number in the family according to the birth date, e.g., if there is one adult child in a family and one child below the age of 15, the child aged below 15 will be treated as the second child.

A different approach is applied to the calculation of the number of children which is used to determine the amount of the supplementary payment. The amount of the supplementary payment is determined taking into account the actual number of dependent children in a family, i.e., taking into account only those children for whom the state family benefit is paid.

In EUROMOD, we simulate both the state family benefit and the supplementary payments based on the actual number of dependent children in a household, because it is not possible to identify adult children of a person based on EU-SILC data.

2.5.3. Child birth benefit (*bfaba_lv*)

- ***Definitions***

The benefit is a lump sum granted to one of the parents of a newborn child. The unit of analysis is a family with a newborn child.

- ***Eligibility conditions***

The benefit is granted to one of the parents of a child. Usually, a mother applies for the benefit. A parent can apply for the benefit starting from the child's eighth day of life.

- ***EUROMOD modelling***

In the model we assign the benefit to the mother. If there is no mother, then a father is eligible.

- ***Income test***

The benefit is not means-tested.

- ***Benefit duration***

This is a lump sum benefit.

- ***Benefit amount***

The amount of the benefit for a newly born child is 421.17 EUR.

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

Exempt.

- ***EUROMOD modelling***

We identify eligible parents by selecting households with a newborn child. A child is considered newborn if his/her precise age (*dag00*) is less than 1 year: *dag00 <= 1*, which implies that the child is born during the income reference year.

2.5.4. Maternity benefit (bfama_lv)

The benefit is paid to socially insured mothers covering the period shortly before and shortly after the childbirth. The size of the benefit is tied to the mother's previous earnings.

- ***Definitions***

The unit of analysis is a family with a newborn child.

- ***Eligibility conditions***

In general case, a mother is eligible for the benefit in case she has registered the pregnancy and is socially insured.

In case of mother's death a farther (or a person who actually cares about a baby) is eligible for the second part of maternity benefit.

Starting from 2020, women who have lost the status of employee or self-employed person no more than 60 days before the maternity leave are also entitled to maternity benefit. To compare, in 2018-2019, only employed women and self-employed women who pay social insurance contributions are eligible for maternity benefit.

- ***EUROMOD modelling***

In the model, a person is considered to be socially ensured for maternity if she has a positive employment history *(liwwh > 0).* Since this eligibility condition cannot be simulated accurately enough, the eligibility is taken from the data.

Starting from September 2020, in order to be eligible for maternity benefit, state social insurance contributions had to made for not less than three months in the period of the last six months before the month in which the insurance event occurred or not less than six months in the period of the last 24 months before the month in which the insurance event occurred. Since this eligibility condition cannot be simulated accurately enough, we take the eligibility condition from the data (as it is done in 2018–2020) and in addition we assume that in 2021 a person is eligible for the maternity benefit if employment history is at least 3 months long *(liwwh > 3).*

We can identify recipients of maternity benefit by selecting households which have children below one year old. Like with the childbirth benefit, a newborn child is identified based on the variable *dag00* (*dag00 <= 1*). However, we do not simulate pregnancy benefit received in the end of income reference period in case children are born after the reference period.

In the model in 2020–2021, when we take the eligibility condition from the data (with income reference year before 2020), we actually do not assign maternity benefit to those women who have lost the status of employee or self-employed person up to 60 days before the maternity leave. However, even though we cannot accurately simulate these changes, we could argue that such a case when a woman voluntarily terminates her employment or stop being self-employed in the period up to 2 months before the maternity leave is a rather rare. There are several reasons for that. The first reason is that a pregnant woman might expect that terminating voluntarily her employment before the maternity leave could make reintegration into the labour market more difficult after the end of the parental leave. Another reason is that before 2020, a woman loses the right to maternity benefit and parental benefit if she terminates her employment relationship before the maternity leave begins (it means that we expect to have a little number or no such observations in EU-SILC with income reference year before 2020). In turn, the employer has the right to dismiss a pregnant woman only in certain cases (for example, an employee without a justifiable reason has materially violated the employment contract or the established working procedure regulations). The new conditions regarding the entitlement to maternity benefit apply also to women having fixed-term employment contract that is terminated no more than 60 days before maternity leave. However, we also expect to have a little number of such observations in EU-SILC with income reference year before 2020, because a fixed-term employment contract is not widespread in Latvia among women (women with a fixed-term contract constitute 2.4–2.5% of all employed women in 2018–2019).

- ***Income test***

The benefit is not means-tested.

- ***Benefit duration.***

The benefit is paid in two instalments. The first part is given for the last 70 calendar days of pregnancy (56 days if a mother registered pregnancy later than after 12 weeks). The second part is generally given for a period of 56 days after a child's birth. In case two or more children were born or if a mother has health problems related to a child's birth, then 70 days after birth are covered by the benefit.

- ***EUROMOD modelling***

Since there is no information on registration of pregnancy or health status of a mother, we assume benefit duration of 70+56 days (i.e., 126 days in total). If more than one child is born, then benefit duration is assumed to be 70+70 days (140 in total).

- ***Benefit amount***

The benefit is calculated as a share of the previous average income from which social insurance contributions were paid. The size of the benefit equals 80% of the relevant average income.

For employees, the relevant income is average income received over twelve months ending two months before the person is entitled to the benefit.

For self-employed, the relevant income is calculated over the period of 12 months ending three months before the quarter in which the person is entitled to the benefit.

If a person's income is a mixture of employment and self-employment income, then a weighted average is taken.

- ***EUROMOD modelling***

Simulations are based on previous average wage, which was calculated by using data on maternity benefit (imputed from the national data) and by inverting maternity benefit rules to obtain the benefit recipient's previous earnings. For mothers of newly born children for whom we do not observe maternity benefit in the data, we use earnings predicted by a wage equation.

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

Exempt.

2.5.5. Paternity benefit (bfapl_lv)

The benefit is paid to socially insured fathers covering a short period after the childbirth. The size of the benefit is tied to the father's previous earnings.

- ***Definitions***

The unit of analysis is a family with a newborn child.

- ***Eligibility conditions***

A father of a newborn child is eligible for the benefit in case he is socially insured.

The benefit can be claimed during the first two months of a child's life.

- ***EUROMOD modelling***

We identify newborn children based on variable *dag00* (precise age). The child is considered newborn if *dag00 <=1*. We assume that a father is socially ensured for paternity leave if he works as an employee or self-employed *(yemmy>0 or ysemy>0)*.

Starting from September 2020, in order to be eligible for paternity benefit, state social insurance contributions had to made for not less than three months in the period of the last six months before the month in which the insurance event occurred or not less than six months in the period of the last 24 months before the month in which the insurance event occurred. Since this eligibility condition cannot be simulated accurately enough, we assume that in 2021 a person is eligible for the paternity benefit if he works as an employee or self-employed *(yemmy>0 or ysemy>0)* and employment history is at least 3 months long (liwwh > 3).

- ***Income test***

The benefit is not means-tested.

- ***Benefit duration***

The benefit is paid to a child's father during 10 days of a paternity leave.

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

Exempt.

- ***Benefit amount***

Relevant income which is used to calculate the paternity benefit is calculated similar to that for maternity benefit (see the previous section).

Similar to maternity benefit, the benefit equals 80% of the relevant average income.

- ***EUROMOD modelling***

Similar to maternity benefit, previous earnings for paternity benefit recipients were calculated by using data on paternity benefit (imputed from the national data) and by inverting paternity benefit rules.

Many fathers do not apply for paternity benefit. We account for non-take-up (see switch BTA_lv) if the model is used with the input datasets based on SILC 2010, SILC 2012, SILC 2015, SILC 2016, SILC 2017, SILC 2018 or SILC 2019 data. The eligibility for paternity benefit is restricted to those fathers who receive the benefit in the data. For earlier datasets the non-take-up is not modelled. Full take-up can be simulated turning BTA_lv switch OFF when running the model.

2.5.6. Parental benefit (bfawk_lv)

The benefit is targeted at socially insured parents of a newly born child. It is not paid during the months in which a mother receives the maternity benefit.

- ***Definitions***

The unit of analysis is a family with a small child.

- ***Eligibility conditions***

A socially insured parent is eligible for the benefit during the first year (or 1.5 years) of a child's life. Only one of parents can receive the benefit.

Parents can work and at the same time receive the parental benefit. If a person chooses to work while receiving the parental benefit, only 30% of the benefit amount is paid. In Latvia it is common that a mother stays at home with a child. So, we assume that if a woman applies for parental benefit she will not work and she will receive the full amount of the benefit. If a man applies for the benefit, he will continue working and he will receive 30% of the benefit (unless he is a lone father). We assume that the parent who can claim the highest benefit applies for it. Therefore, in EUROMOD we assign the benefit to a mother if her previous earnings exceed 30% of the father's previous earnings.

- ***EUROMOD modelling***

Starting from September 2020, in order to be eligible for parental benefit, state social insurance contributions had to made for not less than three months in the period of the last six months before the month in which the insurance event occurred or not less than six months in the period of the last 24 months before the month in which the insurance event occurred. Since this eligibility condition cannot be simulated accurately enough, we assume that in 2021 a person is eligible for the parental benefit if employment history is at least 3 months long (*liwwh > 3*).

- ***Income test***

The benefit is not means-tested.

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

Exempt.

- ***Benefit amount***

A recipient of the benefit may choose the period over which the benefit is received: 1 year or 1.5 years. If 1 year is chosen, the size of the benefit is 60% of the relevant income; if 1.5 years is chosen – 43.75%. In EUROMOD we assume that all parents choose to receive the benefit for 1.5 years. First, this is more widespread according to State Social Insurance Agency data, and second, cumulatively this results in a higher total benefit amount (by one month average gross earnings).

If the parent is working while receiving the benefit, only 30% of the benefit is paid.

- ***Benefit duration***

A recipient of the benefit may choose the period over which the benefit is received: 1 year or 1.5 years.

- ***EUROMOD modelling***

We model benefit duration based on the child's precise age (*dag00*) derived from the quarter of birth. Table 2.7 shows the maximum number of months (during the income reference year) in which the benefit can be received depending on the age of the child in the end of that year. E.g., if the child's age is ≤ 0.25 (see the first row of Table 2.7), i.e., the child is born in the 4th quarter of the income reference year, the child will be observed for a maximum of three months in the income reference year, and he/she will be below the age of 1 during this period (columns 5 and 6 of Table 2.7). Parents of children aged below 1 are eligible for the parental benefit after the maternity benefit expires. Hence, as column 7 of Table 2.7 show, duration of the parental benefit for a child aged 0.25 or less is 3 months, but, if the maternity benefit is paid, duration of the maternity benefit should be subtracted. This approach to modelling benefit duration allows to more precisely model the benefit amount and to capture benefit recipients whose children were born before the income reference year and are above the benefit eligibility age threshold at the end of the income reference year.

Table 2.7 Modelling duration of parental benefit (*bfawk_s*) in 2018–2021

Age (*dag00*) of the child in the end of the income reference year	Child's age in income reference year by quarters[1]				Number of months the child belongs to the indicated age group in the income reference year		Duration of parental benefit (months)[2]
	Q1	Q2	Q3	Q4	0-1 years	1-1.5 years	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<=0.25					3	0	3
0.5					6	0	6
0.75					9	0	9
1					12	0	12
1.25					9	3	12
1.5					6	6	12
1.75					3	6	9
2					0	6	6
2.25					0	3	3

Notes: (1) ☰ age 0-1 years, ■ age 1-1.5 years, ▨ age 1.5-2 years; (2) duration of maternity benefit should be subtracted.

- ***EUROMOD modelling***

Relevant income which is used to calculate the parental benefit is calculated similar to that for maternity/paternity benefits.

Starting from 2020, in case a woman who is taking care of a child aged up to 3 years gives birth to another child, the parental benefit for taking care of the next child may not be less than the parental benefit granted for the previous child. These provisions are also applied to the father of the both children if he is the recipient of the parental benefit in both cases. We cannot simulate these provisions since we do not observe the parental benefit granted for the previous child in the data.

Starting from 2020, women who are not employed on the day of granting the benefit (are not regarded as an employees or self-employed) can be still entitled to the parental benefit if she has been granted maternity benefit for this child (for more details, see section 2.5.4.), i.e. in the following cases: (i) as a woman who has lost the status of employee or self-employed person no more than 60 days before the date when maternity leave starts, (ii) as a woman who has lost the status of employee due to company liquidation 210 days before the date when maternity leave starts, (iii) or has lost the status of employee or self-employed person during maternity leave (while maternity benefit is received). However, even though we cannot accurately simulate these changes, we could argue that such a case when a woman voluntarily terminates her employment or stop being self-employed in the period up to 2 months before the maternity leave is a rather rare. There are several reasons for that. The first reason is that a pregnant woman might expect that terminating voluntarily her employment before the maternity leave could make reintegration into the labour market more difficult after the end of the parental leave. Another reason is that before 2020, a woman loses the right to maternity benefit and parental benefit if she terminates her employment relationship before the maternity leave begins (it means that we expect to have a little number or no such observations in EU-SILC with income reference year before 2020). In turn, the employer has the right to dismiss a pregnant woman only in certain cases (for example, an employee without a justifiable reason has materially violated the employment contract or the established working procedure regulations). The new conditions regarding the entitlement to parental benefit apply also to women having fixed-term employment contract that is terminated no more than 60 days before maternity leave. However, we also expect to have a little number of such observations in the EU-SILC with income reference year before 2020, because a fixed-term employment contract is not widespread in Latvia among women (women with a fixed-term contract constitute 2.4–2.5% of all employed women in 2018–2019).

2.5.7. Child care benefit (bfacc_lv)

The benefit is provided on a monthly basis to one of a child's parents during the first two years of a child's life. All parents, regardless of their employment status, are eligible for this benefit. For socially insured parents, the childcare benefit is complimented by a more generous parental benefit (see section 2.5.6 for the description of the parental benefit), while for socially uninsured parents the childcare benefit is the key benefit that they are eligible for during the first two years of a child's life.

- ***Definitions***

The unit of analysis is a family with a small child.

- ***Eligibility conditions***

One of a child's parents is eligible for the benefit (usually mother).

- ***EUROMOD modelling***

In the model the benefit is assigned to a mother, if there is no mother, then to a father.

- ***Income test***

The benefit is not means-tested.

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

Exempt.

- ***Benefit amount***

A. <u>For a child under 1.5 years of age:</u>

The monthly benefit amounts to 171 EUR. The benefit is paid from the first month of a child's life or after maternity benefit expires.

B. <u>For a child above 1.5 and below 2 years of age:</u>

The monthly benefit amount is 42.69 EUR.

- ***Benefit duration***

Duration of the childcare benefit is modelled in a very similar way to duration of parental benefit. Parents eligible for the childcare benefit are identified based on the detailed age of a child – *dag00* (see Table 2.8 and previous section 2.5.6 for details). The table also shows how the amount of the childcare benefit (low or high) depends on the child's age.

Table 2.8 Modelling duration of childcare benefit (*bfacc_s*) in 2018–2021

Age (*dag00*) of the child in the end of the income reference year	Child's age in income reference year by quarters[1]				Number of months the child belongs to the indicated age group in the income reference year			Benefit duration (months)	
	Q1	Q2	Q3	Q4	0-1 years	1-1.5 years	1.5-2 years	High childcare benefit[2]	Low childcare benefit[3]
<=0.25					3	0	0	3	-
0.5					6	0	0	6	-
0.75					9	0	0	9	-
1					12	0	0	12	-
1.25					9	3	0	12	-
1.5					6	6	0	12	-
1.75					3	6	3	9	3
2					0	6	6	6	6
2.25					0	3	6	3	6
2.5					0	0	6	-	6
2.75					0	0	3	-	3

Notes: (1) age 0-1 years, age 1-1.5 years, age 1.5-2 years; (2) duration of maternity benefit should be subtracted; (2) paid until the child reaches 1.5 years; (3) paid after the child reaches the age of 1.5 and until he/she reaches the age of 2.

2.5.8. Guaranteed minimum income benefit (bsamm_lv)

The benefit is provided to households with low income to ensure primary needs and survival.

- ***Definitions***

The unit of analysis is a household or a separately living person with low income level per household member.

- ***Eligibility conditions***

In order to be eligible for the guaranteed minimum income (GMI) benefit a separately living person or a household have to be classified as "being in need", which requires income per family member in the last three months to be lower than 128.06 EUR per month in 2018–2020. Starting from 2021 the income threshold is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). In 2021, the income threshold is set to 272 EUR or 50% of the median income (544.41 EUR in 2018) for the first or the only person in the household and 190 EUR for each subsequent person in the household (70% of the income threshold set for the first person in the household). The minimum income threshold shall be reviewed at least every three years. A person must have no deposits or other financial assets, private property from which it could get income (we can identify income from property rent or land: ypr).

The eligibility for the benefit is reassessed every three months. As of 2021, the eligibility for the benefit is reassessed every three or six months depending on the composition of the household. Reassessment takes place every six months if none in a household is a person of working age except for the cases when (i) a person of working age is disabled, (ii) a woman being on the maternity leave, (iii) one of the parents of a child is on a child care leave or another person in a household is ensuring care for a child of pre-school age, if it is not possible to ensure childcare otherwise due to objective reasons; (iv) one of a disabled child's parents is ensuring care for a child if the child does not receive appropriate care services; (v) a person from 15 years of age continues basic/secondary/professional/higher education.

- ***EUROMOD modelling***

In EUROMOD the assessment of the eligibility for the benefit is made on annual basis.

- ***Income test***

The benefit is means-tested. A person or a household can receive the benefit if net income per household member is below the GMI level. Income test includes all net income excluding income from municipal social benefits *(bsaot)*, the child birth benefit *(bfaba_s)*,the funeral benefit *(bsafu)* and the state family benefit *(bfana_s)*. In 2021, the income test excludes also single-time benefits during COVID-19 pandemic (*bfaec_s* and *bpeec_s*).

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

Exempt.

- ***Benefit amount***

A) Standard rules

The benefit amount is calculated as the difference between the GMI level and all relevant net income:

$$GMI\ benefit = B - I\ ,$$

where B is the total sum of GMI levels for all household members and I is monthly net income calculated as an average for three months of a given household.

In 2018–2020 the standard level of the GMI is set by the Cabinet of Ministers, but municipalities have the right to set a higher level for certain population groups. In 2018–2019, the standard level of GMI is set at 53 EUR. In 2020, the standard level of GMI was increased to 64 EUR.

As of 2021, the GMI level is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7). In 2021, the GMI level is set at 109 EUR for the first or only person in the household (20% of median income) and 76 EUR for each subsequent person in the household (70% of the GMI level set for the first person in the household).

B) Rules of Riga municipality (applied in 2018–2020)

In 2018–2020, municipalities have the right to set higher level of the GMI for certain population groups than the standard GMI level.

In 2018-2019, the standard GMI level in Riga is higher than the level set by the Cabinet of Ministers: 56.91 EUR per month (instead of usual 53 EUR in 2018-2019). In 2020, the standard GMI level in Riga (for a person of working age) is equal to the standard level of GMI which is set by the Cabinet of Ministers (64 EUR).

In 2018–2020 Riga municipality sets a higher GMI levels also for certain population groups (see Table 2.9). In case a person belongs to several categories, the highest GMI level is applied (but the GMI levels cannot be added up).

Table 2.9 GMI levels for certain population groups in Riga municipality in 2018–2020, EUR per month

Target group	Definition	2018-2019	2020
		Amount, EUR	
Children	Children below 18 years old	64.03	80.00
Pensioners	Recipients of disability pensions (id variables: pdiss_s, pditx)	128.06	128.06
	Recipients of old-age pensions: (id variables: poass_s, poatx)	128.06	128.06

- ***EUROMOD modelling***

We cannot account for all municipality differences in the model, because there is no detailed information on people's residence in the input dataset. However, we try to model the rules of Riga municipality separately (as this is the biggest municipality).

In 2018–2020, municipalities have the right to substitute part of the calculated benefit amount by in-kind provisions. This is decided on a case-by-case basis by social workers. We model the total benefit amount as a cash payment because it is not possible to separate the part of the benefit that is paid in kind. EU-SILC data contains information on the total amount of the benefit (both cash and in-kind). In model validation, we report external statistics on total expenditures on GMI, which include both cash and in-kind GMI benefit.

One of the components of sickness benefits (*bhl*) is health service benefit provided by municipality. It should not be included in the income test. However, it is not possible to separate this component from the aggregate benefit. This should not create big distortions in the income test, because health service benefit provided by municipality is a rather small benefit.

2.5.9. Housing benefit (bho_lv)

The benefit is provided to families with low income to support their primary needs for living space. Until 2021, each municipality can determine own rules on eligibility and amount of this benefit. Starting from 2021, common principles on eligibility for housing benefit are applied defining the income level that cannot be exceeded when the municipal councils specify the income threshold for a separately living person or a household for being classified as a "low-income household". Starting from July 2021, a unified legal framework for the provision of housing benefit is applied determining the minimum norms of expenditure items that are used to calculate the amount of housing benefit. Expenditure items include all heat sources for heating, including solid fuels; housing expenditure, telecommunications and internet expenditure. Municipalities have been delegated to set more favourable conditions for the norms of expenditure items in their binding regulations.

Since rules of municipalities differ, and we have no detailed information on the residence of people, we model only rules applied by the largest municipality of Latvia: Riga municipality. We apply these rules to all population of Latvia. Since the rules of Riga municipality are more generous than elsewhere, the simulated benefit is likely to be overestimated.

- ***Definitions***

The unit of analysis is a household or a separately living individual.

- ***Eligibility conditions***

In order to be eligible for household allowance a separately living person or a household has to be classified as a "low-income household". In addition, a person must have no deposits or other financial assets, private property from which it can get income.

Until 2021, a separately living person or a household is classified as a "low-income household" if income does not exceed the income threshold specified by the relevant municipal council, which in turn may not be lower than the income threshold for a household "being in need" specified by the Cabinet of Ministers (see Section 2.5.8). Starting from 2021, each municipality is entitled to set the income threshold of a low-income household not higher than 436 EUR for the first or the only person in the household and 305 EUR for each subsequent person in the household, but not lower than the income threshold for a household "being in need" (i.e., not less than 272 EUR for the first or the only person and 190 EUR for each subsequent person in the household).

In Riga municipality starting from 2019, the income per household member or for separately living person of working age must not exceed 320 EUR (284.57 EUR in 2018) per month or must not exceed 400 EUR (355.72 EUR in 2018) for a separately living recipients of old-age pensions, disability pensions or state social security benefit. As of end of May 2021, the income threshold of a low-income household is set at 436 EUR for the first or the only person in the household and 305 EUR for each subsequent person in the household.

The eligibility for the benefit is reassessed every three months. Starting from 2021, the eligibility for the benefit is reassessed every three or six months depending on the composition of the household. Reassessment takes place every six months if none in a household is a person of working age except for the cases when (i) a person of working age is disabled, (ii) a woman being on the maternity leave, (iii) one of the parents of a child is on a child care leave or another person in a household is ensuring care for a child of pre-school age, if it is not possible to ensure childcare otherwise due to objective reasons; (iv) one of a disabled child's parents is ensuring care for a child if the child does not receive appropriate care services; (v) a person from 15 years of age continues basic/secondary/professional/higher education.

- ***EUROMOD modelling***

In EUROMOD the assessment of the eligibility for the benefit is made on annual basis.

- ***Income test***

The benefit is means-tested. The income test is the same as in case of the GMI benefit. The only difference is that the GMI benefit itself (*bsamm_s*) is also taken into account.

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

Exempt.

- ***Benefit amount***

The benefit is calculated according to the following formula:

$$Housing\ benefit = B + K - I\ ,$$

where B is the total sum of GMI levels for all household members, K are normative expenses for rent and utilities and I is a total net monthly income (including an average amount of actual GMI benefit for the last three months).

Until July 2021, each municipality has its own rules for determining normative housing expenses (K). Starting from July 2021, a unified legal framework for the provision of housing benefit is applied determining the minimum norms of expenditure items that are used to calculate the amount of housing benefit. In many cases normative housing expenses will not cover all the housing expenses that households have. To determine normative housing expenses, we use a proxy variable *xhc*, which shows actual housing expenses. However, since actual expenses in some cases are quite high, we introduce an upper bound. It is equal to the average housing expenditure calculated based on Household Budget Survey data separately in urban and rural areas and in households of different size (see Table 2.10).

Table 2.10 Average household housing expenditure by number of persons in the household (EUR per month), 2019–2021

Year	URBAN Number of household members				RURAL Number of household members			
	1	**2**	**3**	**>3**	**1**	**2**	**3**	**>3**
2019*	110.14	73.64	48.90	41.79	77.00	52.46	37.51	30.89
2020**	107.77	72.06	47.84	40.88	75.34	51.33	36.70	30.22
2021***	109.60	73.28	48.65	41.58	76.62	52.20	37.33	30.74

Note: The numbers show total expenditure on housing, water, electricity, gas, and other fuels (excluding expenditure on maintenance and repair of the dwelling, and expenditure on security service).
Source:
* Household Budget Survey microdata, calculated on request by Central Statistical Bureau of Latvia.
** Actual data on housing expenditure from the Household Budget Survey is not available; the figures for 2020 are estimated by uprating previous year's figures using HICP component that accounts for price changes in actual rentals for housing (item CP041).

*** Actual data on housing expenditure from the Household Budget Survey is not available; the figures for 2021 are estimated by uprating 2020 figures using European Commission's projected change in overall HICP in 2021 Spring economic forecasts (European Commission, 2021[2]).

- ***EUROMOD modelling***

Municipalities have the right to substitute part of the calculated benefit amount by in-kind provisions. This is decided on a case-by-case basis by social workers. We model the total benefit amount as a cash payment because it is not possible to separate the part of the benefit that is received in kind. EU-SILC data contains information on the total amount of the benefit (both cash and in-kind). In model validation, we report external statistics on total expenditures on the housing benefit, which include both cash and in-kind benefits.

To receive housing allowance a person has to reside and declare his/her address in a certain municipality, however we are not able to check whether the person has actually declared his residence from the data available.

2.5.10. State social security benefit (pss_lv)

The benefit is aimed to ensure minimum income for old-age people who are not eligible for old-age pension, dependent children of a deceased person in case they are not entitled to the survivor's pension, and disabled people who do not have right for a disability pension.

- ***Definitions***

The unit of analysis is an individual.

- ***Eligibility conditions***

A. Old age

In case of old age, a person is eligible for the benefit if the person reached the retirement age, and if the person is not eligible for old-age pension (i.e., working experience is less than 15 years). Also a person should not receive any compensation related to the accident at work or occupational disease (including compensation for the death of a spouse).

In order to be eligible for the benefit a person has to reside in Latvia at least 5 years of his/her life and last 12 months in a row before receiving the benefit. However, we are not able to check this information from the data available.

- ***EUROMOD modelling***

Since eligibility conditions cannot be simulated accurately enough, the eligibility is taken from the data.

[2] European Commission (2021). "European Economic Forecast – Spring 2021", Institutional Paper 149. May 2021. Luxembourg: Publications Office of the European Union. Available: https://ec.europa.eu/info/sites/default/files/economy-finance/ip149_en.pdf

B. Survivors

Children of age below 18 or below 20 if they continue secondary or professional education or below 24 if they continue higher full-time education and are not married are eligible for the state social security benefit in case they are not eligible for survivor's pension.

- ***EUROMOD modelling***

From the structure of a household we cannot identify the cases when a breadwinner was lost. And we do not have information on whether a breadwinner was socially insured or not (therefore we don't know if children are eligible for survivor's pension or state social security benefit). So we take eligibility for the benefit from the data.

C. Disabled

A person has to be classified as disabled but should not receive disability pension or compensation related to the accident at work or occupational disease (including compensation for the death of a spouse).

In order to be eligible for the benefit a person has to reside in Latvia for at least five years and for the last 12 months in a row before receiving the benefit. However we are not able to check this information from the data.

- ***EUROMOD modelling***

Since it is not possible to simulate eligibility criteria, eligibility is assigned from the data.

- ***Income test***

The benefit is not means-tested.

- ***Benefit amount***

For old-age people, the benefit amount equals 64.03 EUR per month in 2018–2020. Starting from 2021 the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7) and in 2021 the benefit amount equals to 109 EUR or 20% of the median income (544.41 EUR in 2018).

For survivors, in 2018–2020 the size of the benefit is 92.5 EUR per month for children below 7, and to 111 EUR per month for children aged 7 -18 (24) years. Starting from 2021, the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7) and in 2021 the benefit amount equals to 136 EUR per month for children below 7, and to 163 EUR per month for children aged 7 – 18 (24) years.

In case of disability, for those disabled of Group I the benefit is 152.60 EUR per month in 2021 (83.24 EUR per month in 2017-2019; 104 EUR in 2020), of Group II – 130.80 EUR in 2021 (76.84 EUR in 2017-2019; 96 EUR in 2020), and of group III – 109 EUR in 2021 (64.03EUR in 2017-2019, 80 EUR in 2020), to the disabled of Group I since childhood – 190.40 EUR in 2021 (138.74 EUR in 2017-2019; 159.50 EUR in 2020), to the disabled of Group II since childhood – 163.20 EUR (128.06 EUR in 2017-2019; 147.23 EUR in 2020), and to the disabled of Group III since childhood – 136 EUR (106.72 EUR in 2017-2019; 122.69 EUR in 2020). Starting from 2021, the benefit amount is set as a percentage of the median equivalised disposable income by applying the equivalence scale (1; 0.7; 0.7).

Starting from 2021, there is a supplement to the benefit to the disabled persons of Groups I and II if they are not employed not self-employed: for the person who has a Group I disability - in the amount of 30 per cent of the benefit amount; for the person who has a Group II disability - in the amount of 20 per cent of the benefit amount.

- ***EUROMOD modelling***

Since we have no information about the degree of disability in the data, we simulate the benefit in case of disability and in case of disability from childhood to be equal to simple average across the three groups of disability. The supplement to the benefit introduced in 2021 is simulated to be equal to simple average across the three groups of disability.

2.5.11. COVID-19 related employment and self-employment income compensation scheme (yemcomp_lv, ysecomp_lv, ycompdep_lv)

The downtime benefit is granted to employed and self-employed persons within the COVID-19 related employment and self-employment income compensation scheme. The benefit is paid for the periods starting from March 14 to June 30, 2020 and from November 9, 2020 to June 30, 2021.

Employees who applied for the downtime benefit within the time period starting from March 14 to June 30, 2020 but were refused the benefit because their employer does not fulfil some of the criteria (e.g., income from economic activity has decreased less than specified in the law or employer has tax arrears), or self-employed who do not qualify for the benefit (e.g., due to offences detected as a result of the tax review (audit) for the previous year), are eligible for a *downtime assistance benefit* of 180 EUR per month. Those employees and self-employed whose downtime benefit is less than 180 EUR per month are eligible for a *downtime assistance benefit* which is equal to the difference between 180 EUR and downtime benefit. This effectively means that within the time period starting from March 14 to June 30, 2020 the downtime benefit cannot be lower than 180 EUR per month.

- ***EUROMOD modelling***

Since there is no data that would allow us to evaluate eligibility for the downtime benefit, we are not able to simulate *downtime benefit* and *downtime assistance benefit* as two different benefits within income compensation scheme. Instead we simulate downtime benefit assuming that it cannot be lower than 180 EUR per month.

- ***Definitions***

The unit of analysis is an individual.

- ***Eligibility conditions***

A. Employees

The employee is eligible for the benefit if:

(1) He/she is employed in the affected firm. A firm is classified as affected by the crisis if
   a. with regards to the time period starting from March 14 to June 30, 2020: its income from economic activity in March, April, May or June 2020 is at least 30% lower than

the average income in the twelve months of 2019. In addition, employees of firms whose income from economic activity declined by 20% are eligible for the downtime benefit if one of the following conditions is met: (i) exports in 2019 accounted for at least 10% of the firm's turnover or were at least 500,000 EUR; (ii) the average monthly wage that the firm paid to its employees in 2019 was at least 800 EUR; (iii) firm's long-term fixed capital investments in December 2019 were at least 500,000 EUR;

b. with regards to the time period starting from November 9, 2020 to June 30, 2021: its income from economic activity for a given month of support within the time period November 2020 – June 2021 has decreased by at least 20 % compared to the average monthly income in August, September and October 2020 in which the firm actually operated.

(2) He/she has been put on a downtime and does not work at all in the affected firm. Those working part-time or less hours are not eligible for benefit;

(3) He/she has entered into employment

   a. before March 2020 if the downtime benefit is claimed for the downtime starting from March 14 to June 30, 2020;
   b. before November 2020 if the downtime benefit is claimed for the downtime starting from November 9, 2020 to June 30, 2021;

(4) He/she is not working for the state and local government budget institutions and also for the merchants controlled by the state or local governments, except for employees who are employed in the private sector and at the same time do pedagogical or creative work in a state or local government institution or a capital company, and his/her income from work in a state or local government institution or capital company does not exceed the minimum monthly wage (430 EUR per month) (note that this exception refers only to the downtime period starting from March 14 to June 30, 2020);

(5) Employees who are at the same time self-employed are eligible for the benefit only if their income from self-employment does not exceed 430 EUR per month (note that this condition refers to the downtime period starting from March 14 to June 30, 2020).

- ***EUROMOD modelling***

In the model we assume that an employee is eligible for the benefit if he/she is working at least for one month (eligibility criterion (3)) in the private sector (eligibility criterion (4)) and if simultaneously being self-employed his/her monthly self-employment income does not exceed 430 EUR per month (eligibility criterion (5)). If eligibility criteria, (3), (4) and (5) are met, we assume that the eligibility criterion (1) is also met (as this can't be checked with the input data).

To meet (2) eligibility criterion, we assume the selected employee or self-employed are idle for a whole month or several months (see benefit duration).

Eligibility criterion (5) should be met only in the downtime period starting from March 14 to June 30, 2020. However, taking into account that in 2020 the downtime benefit is paid for a total of up to 162 days (for the periods starting from March 14 to June 30, 2020 and from November 9, 2020 to December 31, 2020), and the greater part is the duration of the first benefit payment period (i.e., 109 days starting from March 14 to June 30, 2020), in the model we assume that eligibility criterion (5) should be met for the whole 2020.

We cannot take into account the exception mentioned in the eligibility criterion (4), which determines the eligibility for employees working in the private sector as the main job and doing pedagogical or creative work in a state or local government institution or capital company as the second job. This is because the information on the industry in which the employee is employed (*lindi*) is only available for the main job, while the employment income is available in aggregate form for all jobs. In practice, the downtime benefit would be calculated on the basis of employment income from the main job (private sector).

B. Self-employed

The self-employed is eligible for the benefit if:

(1) the occurrence of the downtime for the self-employed person is related to the circumstances caused by the crisis. If the downtime benefit is claimed for the downtime starting from November 9, 2020 to June 30, 2021, self-employed are eligible for the downtime benefit if income from economic activity for a given month of support has decreased by at least 20 % compared to the average monthly revenue in August, September and October 2020 in which the self-employed actually operated;
(2) the economic activity is registered
    a. before March 2020 if the downtime benefit is claimed for the downtime starting from March 14 to June 30, 2020;
    b. before November 2020 if the downtime benefit is claimed for the downtime starting from November 9, 2020 to June 30, 2021;
(3) for the period of the last two quarters of 2019 the self-employed has paid social insurance contributions in the amount of not less than 20 EUR on average per month (note that this condition refers to the downtime starting from March 14 to June 30, 2020);
(4) does not receive the downtime benefit as an employee of the affected firm (note that this condition refers to the downtime starting from March 14 to June 30, 2020);
(5) the self-employed person is at the same time employed with another employer less than full working time (note that this condition refers to the downtime starting from March 14 to June 30, 2020);
(6) the self-employed person is not at the same time employed in state and local government budgetary institutions and also merchants controlled by the state and local governments, except for the self-employed persons doing pedagogical or creative work whose monthly income from the pedagogical or creative work on average does not exceed the minimum monthly wage (430 EUR per month) (note that this condition refers to the downtime starting from March 14 to June 30, 2020);

- ***EUROMOD modelling***

In the model we assume that a self-employed person is eligible for the benefit if he/she receives self-employment income at least for one month (eligibility criterion (2)), the self-employed social insurance contributions are paid in the amount of not less than 20 EUR on average per month during the entire income reference period (eligibility criterion (3)), does not receive the downtime benefit as an employee of the affected firm (eligibility criterion (4)), is not working in public sector except in education sector (eligibility criterion (6)) and receives employment income not exceeding the minimum wage (eligibility criteria (5) and (6)). If eligibility criteria (2) - (6) are met, we assume that the eligibility criterion (1) is also met (as this can't be checked with the input data).

Eligibility criteria (3), (4), (5) and (6) which refer to self-employed should be met only in the downtime period starting from March 14 to June 30, 2020. However, taking into account that in 2020 the downtime benefit is paid for a total of up to 162 days (for the periods starting from March 14 to June 30, 2020 and from November 9, 2020 to December 31, 2020), and the greater part is the duration of the first benefit payment period (i.e., 109 days starting from March 14 to June 30, 2020), in the model we assume that eligibility criterion (3) should be met for the whole 2020.

- ***EUROMOD modelling (random allocation of the downtime benefit in the model)***

In the model, the downtime benefit is randomly allocated among eligible employees and self-employed (see eligibility conditions) in such a way that the share of employees in each industry (*lindi*) and the share of self-employed which transit into monetary compensation, as well as the gender structure (only for employees in 2020) correspond to external statistics (see Table 2.11, Table 2.12). Policy *random_lv* creates random variables used for the random allocation of the downtime benefit to employees and self-employed. Policy *TransLMA_lv* simulates transition to COVID-19 related employment and self-employment income compensation scheme (this policy becomes operational if the model is run in conjunction with the LMA add-on.).

The external statistics on the financial support provided to employees and self-employed during the COVID-19 pandemic is generally published for 3 time periods: (1) March 14 – June 30, 2020; (2) November 9 – December 31, 2020; (3) November 9 – June 30, 2021. Data covering the entire period in 2020 in which the aid was provided is not available.

In the model, **for 2020** we use data on the shares of unique employees in each industry transited to monetary compensation scheme within time period March 14 – June 30, 2020 (see columns 1 and 2 in Table 2.11). This choice is based on the fact that the total number of unique employees - recipients of the downtime benefit within time period March 14 – June 30, 2020 is 2 times larger than within the time period November 9 – December 31, 2020. **For 2021**, we use data on the time period November 9 – June 30, 2021 (see column 5 in Table 2.11).

Table 2.11: Share of unique employees in each industry transited to monetary compensation scheme, March 14, 2020 – June 30, 2021

	March 14, 2020 – June 30, 2020			Nov 9, 2020 – Dec 31, 2020	Nov 9, 2020 – June 30, 2021
	Men	Women	Total	Total	Total
	(1)	(2)	(3)	(4)	(5)
lindi = 1	0.6%	0.9%	0.7%	0.0%	0.0%
lindi = 2	6.3%	10.1%	7.8%	1.3%	5.3%
lindi = 3	1.7%	1.9%	1.7%	0.6%	3.9%
lindi = 4	4.4%	7.8%	6.5%	3.8%	14.8%
lindi = 5	51.2%	42.3%	44.5%	32.6%	47.3%
lindi = 6	4.6%	6.7%	5.1%	0.8%	3.2%
lindi = 7	0.4%	0.7%	0.6%	0.0%	0.0%
lindi = 8	5.1%	6.8%	6.0%	3.3%	7.1%
lindi = 9	0.0%	0.0%	0.0%	0.0%	0.0%
lindi = 10	2.1%	1.2%	1.4%	0.4%	1.2%
lindi = 11	4.2%	5.8%	5.5%	0.0%	0.0%
lindi = 12	14.7%	13.4%	13.8%	11.1%	17.4%

Source: (1); (2); (3): Data on the gender structure of the recipients of the downtime benefit is received on the request from the State Revenue Service. (4); (5): authors` calculations using data published by the State Revenue Service and the Central Statistical Bureau.
Note: Shares of employees in each industry transited to monetary compensation scheme are calculated as the ratio of the number of employees in each industry transited to monetary compensation scheme to the total number of employees in the industry. Structure by gender is available only for the downtime benefit payment period of March 14 – June 30, 2020.

The share of self-employed transited to monetary compensation scheme is larger within the time period November 9 – December 31, 2020 than within the time period March 14 – June 30, 2020 that can be explained by the abolishing of the number of eligibility criteria. Therefore, **for 2020** we use data on the share of unique self-employed transited to monetary compensation within the time period Nov 9 – Dec 31, 2020 in total number of socially-insured self-employed, and **for 2021** we use the respective data for the time period Nov 9, 2020 – June 30, 2021

Table 2.12: Share of self-employed transited to monetary compensation scheme in total number of socially insured self-employed, March 14, 2020 – June 30, 2021

March 14 – June 30, 2020	Nov 9, 2020 – Dec 31, 2020	Nov 9, 2020 – June 30, 2021
8.1%	14.3%	35.2%

Source: authors` calculations using data published by the State Revenue Service and the Central Statistical Bureau.
Note: Share of self-employed transited to monetary compensation scheme is calculated as the ratio of the number of self-employed transited to monetary compensation scheme to the total number of socially insured self-employed.

- ***Income list***

The benefit is not means-tested.

- ***Benefit amount***

Policies *yemcomp_lv* and *ysecomp_lv* simulate the downtime benefit paid to employees and self-employed. The benefit is calculated as a share of the previous average income from which social insurance contributions were paid. For the period from March 14 to June 30, 2020, the size of the benefit equals 75% of the relevant average income. For employees, the relevant income is average income received over the previous six months. In case the employee has worked for less than 6 months before the declaration of the state of emergency, the average income is calculated over the months actually worked. For self-employed, the relevant income is calculated over the period of two last quarters of 2019. For both employee and self-employed the benefit amount cannot exceed 700 EUR per month. In case the downtime benefit does not exceed 180 EUR, the difference between 180 EUR and the downtime benefit is covered by State Social Insurance Agency in the form of the downtime assistance benefit. This effectively means that the total compensation cannot be lower than 180 EUR.

If the support is claimed for the downtime within the time period November 9, 2020–June 30, 2021, the downtime benefit is granted to employees in the amount of 70% of the average monthly gross wage for the period from 1 August to 31 October 2020 and to self-employed in the amount of 70% of the average income from economic activity in the 3rd quarter of year 2020. The minimum amount of the benefit is set to 330 EUR for a full month (starting from January 2021, 500 EUR for a full month) and maximum amount is 1000 EUR per month.

Recipients of the downtime benefit also receive an extra payment of 50 EUR per month for each dependent child (a child is considered dependent if he/she is below 18 years old or below 24 years old and continues secondary, professional, special or higher education). This extra payment (*bwkmcch_s*) is assigned to one of the parents who is eligible for the Personal Income Tax dependent allowance (*tintach_s*).

- ***EUROMOD modelling***

In the model, use assume that for 2020 the benefit amount cannot be lower than 180 EUR and cannot exceed 700 EUR (these are the rules which refer to the time period March 14 –June 30, 2020 where the total number of unique employees - recipients of the downtime benefit is 2 times larger than within the time period Nov 9 – Dec 31, 2020).

- ***Benefit duration***

In 2020 the benefit is paid for the period from March 14, 2020 to June 30, 2020 and from November 9, 2020 until December 31, 2020. In 2021, the benefit is paid from January 2021 to June 30, 2021. This implies that employees and self-employed can be eligible for the downtime benefit for up to 6 months during each year.

- ***EUROMOD modelling***

The benefit is assigned to employees and self-employed for up to 6 months on the basis of external statistics (see Table 2.13). It is important to note, that external statistics that is used reports the number of times the aid was received not the number of months the aid was received meaning that the aid can be requested and received also several times per months. However, due to the lack of data, in the model we use the number of times as a proxy for number of months the aid was received.

Table 2.13: Structure of employees and self-employed by the number of times the downtime benefit was received

	Employees		Self-employed	
Year	2020[a]	2021[b]	2020[a]	2021[b]
Unique recipients	100.0%	100.0%	100.0%	100.0%
Of them…				
… received benefit once	16.8%	16.2%	20.5%	18.8%
… received benefit 2 times	15.9%	14.8%	21.7%	18.6%
… received benefit 3 times	17.3%	14.1%	22.8%	18,6%
… received benefit 4 times	16.8%	12.6%	17.4%	15.4%
… received benefit 5 times	20.4%	10.9%	12.3%	12.7%
… received benefit 6 and more times	12.8%	31.4%	5.3%	15.9%

Note: (a) Data on the aid (both the downtime benefit and the wage subsidy) earmarked for payment until May 16, 2021. (b) Data on the aid (both the downtime benefit and the wage subsidy) for the period starting from November 9, 2020 to June 30, 2021.
Source: The State Revenue Service.

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

The benefit is tax exempt.

- ***EUROMOD modelling***

The downtime benefit policies for employees and the self-employed 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_lv* 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.

2.5.12. Single-time benefits during COVID-19 pandemic (bec_lv)

In March 2021 families with dependent children and recipients of old-age, disability and survivor`s pensions as well as recipients of state social security benefits are granted a single-time benefit as financial support during the pandemic.

- ***Definitions***

The units of analysis are

- a family with a dependent child born until April 6, 2021, i.e., the end of the emergency situation declared in relation to the spread of COVID-19;
- recipients of old-age, disability and survivor`s pensions as well as recipients of state social security benefits.

- ***Eligibility conditions***

The single-time benefit for families with children is disbursed to the persons who have the right to childcare benefit for a child under one year of age (see Section 2.5.7), state family benefit (see Section 2.5.2), or who have the right to receive maternity benefit due to the birth of a child and the child is born until the end of the emergency situation April 6, 2021 (see Section 2.5.4).

The single-time benefit for pensioners is disbursed to the recipients of old-age (poatx > 0), disability (pditx > 0) and survivor`s pensions (psutx > 0) as well as recipients of state social security benefits (poass > 0; pdiss > 0; psuss > 0).

- ***EUROMOD modelling***

In EUROMOD we assume that a person is eligible for a single-time benefit if is eligible for the state family benefit (bfana_s > 0) or is eligible for the maternity benefit if a child is born in the first quarter of the income reference year (bfama_s > 0; dag00 = 0.75).

- ***Income test***

The benefit is not means-tested.

- ***Benefit duration***

The benefit is a single-time benefit and is paid within a time period from March 1, 2021 until April 6, 2021 (the end of the emergency situation declared in relation to the spread of COVID-19).

- ***Benefit amount***

The amount of the single-time benefit for families with children is 500 EUR for each child. The amount of the single-time benefit for recipients of old-age, disability and survivor`s pensions as well as recipients of state social security benefits is 200 EUR.

- ***EUROMOD modelling***

The single-time benefit of 200 EUR is not granted to the recipients of survivor`s pension and recipient of state social security benefit in case of a loss of a breadwinner if a child for whom the survivor`s pension or state social security benefit is granted is at the same time a dependent child and a single-time benefit of 500 EUR has been paid to his/her family. In EUROMOD we cannot account for these provisions since in the data we observe only the recipients of the survivor`s pension and the state social security benefit in case of a loss of a breadwinner but do not observe who is the person for whom the survivor`s pension and the state social security benefit in case of a loss of a breadwinner are granted.

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

The benefit is tax exempt.

2.6. Social insurance contributions (tscee_lv; tscer_lv; tscse_lv)

Social insurance contributions are mandatory for all employees and self-employed persons (if their income exceeds the minimum threshold). The contribution rate is flat and in case of private/public employment it is split between an employee and an employer.

The employees who work at enterprises that pay microenterprise tax face a special social insurance contributions regime. Employees of microenterprises who are hired after January 2021, are liable to social insurance contribution in a regular social insurance contributions’ regime. Those employees of microenterprises who have been hired by 2021, are liable to regular procedures of social insurance contributions payments starting from July 2021.

Total contribution rate may vary, depending on the insured person’s employment status, age and disability status: e.g., in general, employees are insured against all insurance cases, but employees above the retirement age are not insured against unemployment and disability.

- ***EUROMOD modelling***

We are not able to simulate a special social insurance contributions regime, because it requires information about income of all employees of the enterprise. Therefore, we simulate social insurance contributions for all employees assuming they face a regular social insurance contributions regime[3].

[3] According to the data of State Revenue Service, employees of firms paying the microenterprise tax accounted for approximately 8.3% of total number of employees in 2018. https://www.lsm.lv/raksts/zinas/ekonomika/saruk-latvija-registreto-mikrouznemumu-skaits.a291474/

2.6.1. Employee social insurance contributions (tscee_lv)

- ***Liability to contributions***

All employees are liable to social insurance contributions.

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

Social insurance payments are calculated based on gross income from employment (*yem*). Income from which social insurance contributions are made is capped (see Table 2.15).

- ***Contribution rates***

A person below the retirement age faces the standard social insurance contributions rate which includes all insurance cases. After the person reaches the retirement age, he/she is not insured against the risk of unemployment and disability and his/her wage becomes subject to a lower contributions rate. Table 2.14 summarizes the rates of social insurance contributions faced by employees in 2018–2021 and the distribution of the rate across different insurance cases.

2.6.2. Employer social insurance contributions (tscer_lv)

- ***Liability to contributions***

All employers in public/private sector are liable to paying social insurance contributions on behalf of employees.

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

Social insurance payments are calculated based on gross income from employment (*yem*). Income from which employers make social insurance contributions on behalf of the employees is capped (see Table 2.15).

- ***Contribution rates***

An employer pays the standard social insurance contribution rate on behalf of an employee below the retirement age. The rate is lower if the insured employee has reached the retirement age (see Table 2.14).

Table 2.14 Social insurance contributions rate faced by employee and employer, 2018-2021

	2018–2020	2021
Employee under the retirement age: Total rate/ Employee rate/ Employer rate, %	35.09 / 11.00/ 24.09	34.09/ 10.50/ 23.59
of which		
Pension social insurance	24.50	23.91
Unemployment social insurance	1.84	1.60
Insurance against work accidents and occupational diseases	0.53	0.66
Disability social insurance	2.23	2.29
Maternity and sickness social insurance	3.65	3.47
Parents' social insurance	1.34	1.16
Health insurance	1.00	1.00
Employee above the retirement age: Total rate/ Employee rate/ Employer rate, %	30.87 / 9.56/ 21.31	30.02 / 9.25 / 20.77
of which		
Pension social insurance	24.50	23.91
Insurance against work accidents and occupational diseases	0.53	0.66
Maternity and sickness social insurance	3.50	3.29
Parents' social insurance	1.34	1.16
Health insurance	1.00	1.00

Source: Latvijas Vēstnesis (2021)

Table 2.15 Income ceiling for employees and employers for obligatory social insurance contributions in 2018-2021, EUR per year

2018	2019–2021
55,000	62,800

Source: Latvijas Vēstnesis (2021)

2.6.3. Self-employed social insurance contributions (tscse_lv)

- ***Liability to contributions***

All self-employed are liable to social insurance contributions if their income exceeds the minimum threshold which is equal to the amount of twelve times the minimum monthly wage in the relevant year (see Table 2.17). If self-employment monthly income is below the threshold (the minimum monthly wage), the only contributions should be paid are contributions for pension insurance at the rate of 5% (10% as of 2021). If self-employment income in a calendar year is below 50 EUR, a self-employed can choose not to pay social insurance contributions.

Similar to employees, income from which self-employed make social insurance contributions is capped (see Table 2.15).

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

Social insurance payments by self-employed are calculated based on gross income from self-employment (*yse*). A self-employed person can choose the level of income from which to make social insurance contributions, but there is a minimum level of income from which contributions have to be made. This boundary is linked to the minimum monthly wage and is stipulated in annual terms in the law (see Table 2.16). Assessment of self-employment income is made on the monthly basis – if self-employment monthly income is below $1/12^{th}$ of the annual boundary, paying social insurance contributions at the general rate for the month when income falls below the threshold is not mandatory.

If self-employment monthly income is below the threshold (the minimum wage), contributions for pension insurance should be paid at the rate of 5% (10% as of 2021). If self-employment income in a calendar year is below 50 EUR, a self-employed can choose not to make the contributions (the first 50 EUR of self-employment income per year are exempted from contributions for pension insurance).

If self-employment monthly income reaches or exceeds the threshold (the minimum wage), contributions should be made in accordance with general rules from any selected amount that is not lower than the minimum wage, and contributions for pension insurance at the rate of 5% (10% starting from 2021) should be made from the difference between the actual self-employment income and the selected amount from which social insurance contributions are made in accordance with general rules minus 50 EUR (since the first 50 EUR of self-employment income per year are exempted from contributions for pension insurance).

Table 2.16 Minimum income from which self-employed make social insurance contributions at the general rate in 2018–2021, EUR per year

	2018–2020	**2021**
Minimum income*	5,160	6,000

Source: Latvijas Vēstnesis (2021)
* Note: if self-employment income is below the threshold but exceeds 50 EUR per year, the self-employed is obliged to pay 5% (10% starting from 2021) contributions for pension insurance.

- ***Contribution rates***

A self-employed person below the retirement age has to make obligatory social insurance contributions against all insurance cases except unemployment, work accidents and occupational diseases. Thus, a self-employed person faces a lower contributions rate than the total rate borne by an employee and an employer. When a self-employed person reaches the retirement age, he or she is also not insured against the risk of disability (see Table 2.18).

Table 2.18 Social insurance contributions general rate faced by self-employed, 2018–2021

	2018-2020	2021
Self-employed under the retirement age: Total rate, %	32.15	31.07
of which:		
Pension social insurance	24.50	23.91
Disability social insurance	1.77	1.68
Maternity and sickness social insurance	3.54	3.32
Parents` social insurance	1.34	1.16
Health insurance	1.00	1.00
Self-employed above the retirement age: Total rate, %	30.34	29.36
of which:		
Pension social insurance	24.50	23.91
Maternity and sickness social insurance	3.50	3.29
Parents` social insurance	1.34	1.16
Health insurance	1.00	1.00

Source: Latvijas Vēstnesis (2021)

- ***EUROMOD modelling***

A self-employed person can pay social insurance contributions from any amount of income above the minimum threshold. In the model we assume that if income of a self-employed exceeds the minimum threshold, he/she makes contributions at the general rate from the minimum threshold and contributions for pension insurance at the rate of 5% (10% starting from 2021) from the difference between actual income and the minimum threshold (taking into account that the first 50 EUR of self-employment income per year are exempted from contributions for pension insurance). We assume that if monthly income from self-employment is less than 1/12 of the annual threshold but annual income from self-employment is above 50 EUR, the person pays contributions at the rate 5% (10% starting from 2021). We assume that if annual income is below 50 EUR, the person does not make any social insurance contributions.

2.7. Direct taxes (*tin_lv; txcee_lv; txcer_lv; txcse_lv*)

2.7.1. Personal income tax (*tin_lv*)

2.7.1.1. Tax unit

Taxation in Latvia is on the individual level. However, for tax allowance purposes an extended family unit is defined. It includes a partner, dependent children and dependent parents.

2.7.1.2. Tax allowances

The following tax allowances are simulated in EUROMOD:

- Differentiated non-taxable allowance

There is a standard non-taxable income allowance which is applied to employees or self-employed persons who do not receive old-age or disability pensions. The tax allowance is differentiated with respect to the level of income – the higher the income, the lower the allowance. The non-taxable allowance is forecasted using information on the taxpayer`s previous earnings. Thus, non-taxable allowance for the period from January 1, 2021 to July 31, 2021 is determined by the taxpayer's earnings in the period October 1, 2019 - September 30, 2020. The non-taxable allowance for the period August 1, 2021 – December 31, 2021 is determined by the taxpayer's earnings in the period December 1, 2020 - May 31, 2021. Starting from 2020, the non-taxable allowance is forecasted taking the expected income growth rate into account (1.09 in 2020 and 1.06 in 2021), so that personal income taxpayers do not incur an obligation to pay the tax debt as their income increases.

Any overpaid (underpaid) tax amount can be recovered (reimbursed to state budget) at the beginning of the next calendar year by filling in an income declaration.

Persons who receive pensions are eligible for the non-taxable minimum income allowance for pensioners, which is flat amount, irrespective of the income level. Up to year 2019 and in 2021, the non-taxable minimum for pensioners is higher than maximum monthly size of the non-taxable allowance (applied to employees or self-employed persons who do not receive old-age or disability pensions), but in 2020 they are set at the same amount.

- ***EUROMOD modelling***

In EUROMOD we assume that everyone claims the tax refund.

- Allowance for a dependent child, spouse or parent

A child is considered dependent if he/she is below 18 years old or below 24 years old and continues secondary, professional, special or higher education. Tax allowance for a dependent child is assigned to one of the parents (we assume that the parent with the highest taxable income gets the allowance). The allowances for dependent spouse or parents are applicable only if the spouse or parents are disabled. Starting from July 2018, allowance for non-working spouse is applied if the spouse has a child below 3 years old or the spouse has three or more children below 18 years old (or below 24 years old if a child continues secondary, professional, special or higher education) of which at least one is below 7 years old or if the spouse has five children below 18 years old (or below 24 years old if a child continues secondary, professional, special or higher education). Generally, for tax allowance purposes a child, a spouse or a parent can be considered dependents of a tax payer only if they do not work, do not receive unemployment benefit (or unemployment stipend), old-age or disability pension, do not receive taxable income above the allowance amount, and are not dependents of any other person.

- Social insurance contributions by employees and self-employed
- Solidarity tax payments by employees and self-employed

If a person is dependent, he or she is not eligible for non-taxable minimum allowance. The income of dependents is declared in the income declaration of a person responsible for them (i.e., the person who receives tax allowance for these dependents).

The following tax allowances are not simulated in EUROMOD because of lack of information:

- for a grandchild or a child taken for raising;
- for siblings until the age of 18 or below 24 years old and continues secondary, professional, special or higher education, if they don't have parents capable of working;
- for a person under guardianship or trusteeship of the payer;
- for politically repressed persons;
- additional allowances for disabled persons.

Table 2.18 summarizes the size of tax allowances that are applicable in the cases listed above; Table 2.19 shows parameters of the differentiated non-taxable allowance.

Table 2.18 Personal income tax allowances, EUR per month, 2018–2021

Allowances	2018	2019	2020	2021
Non-taxable minimum for pensioners	250	270	300	330
Allowance for a dependant	200	230	250	250
Additional allowance for the disabled of 1st and 2nd degree [a]	154	154	154	154
Additional allowance for the disabled of 3rd degree [a]	120	120	120	120
Additional allowance for a politically repressed person [a]	154	154	154	154

Notes: [a] Not simulated in the model.
Source: Latvijas Vēstnesis (2021)

Table 2.19 Parameters of the differentiated non-taxable allowance, 2018–2021

Differentiated non-taxable allowance	2018	2019	2020	2021
Maximum size of the non-taxable allowance, EUR per year	2,400	2,760	3,600	3,600
Income level below which the maximum allowance is applied, EUR per year	5,280	5,280	6,000	6,000
Minimum size of the non-taxable allowance, EUR per month	0	0	0	0
Income level above which the minimum allowance is applied, EUR per year	12,000	13,200	14,400	21,600

Source: Latvijas Vēstnesis (2021)

The allowance withdrawal rate, i.e., the amount by which the allowance is reduced with each additional euro of income, is calculated according to the following formula:

$$K = (A^{max} - A^{min} \times 12)/(Y^{lim1} - Y^{lim2})$$

Where K is the withdrawal rate, A^{max} is the maximum size of non-taxable allowance (EUR per year), A^{min} is the minimum size of non-taxable allowance (EUR per month), Y^{lim1} is income level above which the minimum allowance is applied (EUR per year) and Y^{lim2} is income level below which the maximum allowance is applied (EUR per year).

2.7.1.3. Tax base

Income from the following sources is included in the taxable income:

- income from employment including wage premiums, systematic or one time compensations and other work-related income (*yem* and *yot*);
- income from individual work or enterprise if it is not subject to enterprise tax (*yse*);
- income from renting private property (*ypr*);

- public pensions (*poatx, pditx, psutx*);
- taxable benefits (sickness benefit – *bhl*);
- dividends and interests (*yiy*).

The tax base is defined as the taxable income minus tax allowances (see section 2.7.1.2) and deductible expenditures (see section 2.7.1.5).

In the years when different tax rates are applied to different taxable income components, we assume that tax allowances are first subtracted from the income with the highest tax schedule.

Income from property is subject to the same rate as income from self-employment if the recipient of this income registers as self-employed. Sickness benefit and pensions are taxed similar to employment income.

- ***EUROMOD modelling***

In the model, we assume that everyone receiving income from property is registered as self-employed and hence applies progressive tax schedule to this type of income.

2.7.1.4. Tax schedule

In 2018–2021, the flat PIT rate is replaced by a progressive rate with three brackets: a reduced rate of 20% is applied to annual income not exceeding 20,004 EUR; 23% is applied to annual income above 20,004 EUR and below 55,000 EUR in 2018 (62,800 EUR in 2019–2021); and 31.4% is applied to annual income exceeding 55,000 EUR in 2018 (62,800 EUR in 2019–2021). In 2021 the top PIT rate has been reduced from 31.4% to 31%. It is important to emphasize that the income threshold for the top PIT rate is the same as the income threshold that determines a taxpayer's obligation to pay the solidarity tax.

The bottom and the middle tax rates are applied to taxpayers' income in the course of the year, depending on the amount of received income. Income exceeding the threshold of 55,000 EUR in 2018 and 62,800 EUR in 2019–2021 is subject to the solidarity tax and at the same time is subject to the top PIT rate. However, the tax rules stipulate that revenues from the solidarity tax are used to finance the top PIT rate, i.e., the difference between the middle rate of 23% and the top rate of 31.4% (31% in 2021). This effectively means that income above the threshold of 55,000 EUR in 2018 and 62,800 EUR in 2019–2021 per year is taxed at the PIT rate 23%, not the top rate of 31.4% (31% in 2021).

In case an individual has more than one job, the appropriate PIT rates may be not applied during the tax year resulting in eligibility for a tax refund or an obligation to pay tax debt. These individuals have to fill in income declaration to apply for a tax refund or pay the tax debt at the beginning of the next calendar year.

In 2018–2021 the tax rate applied for income from capital is 20% (both for capital increase and other income from capital).

All tax schedules are demonstrated in Table 2.20.

The minimum annual personal income tax for self-employed is 50 EUR. This does not apply to the self-employed who made social insurance contributions in the fiscal year or paid income tax and/or social insurance contributions also as an employee. This provision does not apply to the taxpayers in the first two years of their economic activity, as well as in the last year (i.e., in the year when economic activity is terminated). These exemptions can't be simulated because the duration of self-employment is not known.

Table 2.20 Personal income tax rate (%), 2018-2021

Income source	2017	2018-2020	2021
Regular rate (e.g., income from employment)	23	Progressive rate with three brackets: 20%, 23% and 31.4%	Progressive rate with three brackets: 20%, 23% and 31%
Income from capital:			
capital increase	15	20	20
other income from capital	10	20	20
Income from self-employment	23	Progressive rate with three brackets: 20%, 23% and 31.4%	Progressive rate with three brackets: 20%, 23% and 31%

Source: Latvijas Vēstnesis (2021)

- ***EUROMOD modelling***

In EUROMOD, we introduce a parameter that defines the share of the top PIT rate that is financed from the solidarity tax revenues. In systems of 2018–2021, this parameter is set at 1.

2.7.1.5. Deductible expenditure

Before calculating his/her tax obligations, a resident taxpayer is authorized to reduce his/her taxable income by the amount of the following expenditures:

- expenditures on education, health services and health insurance premiums (there is a maximum level of expenditures that can be deducted, being stipulated in the Cabinet of Ministers' regulations);
- gifts and donations to foundations and religious organisations registered in Latvia;
- expenditures on creation, publication, performance or other utilisation of works of arts, science or inventions, for which the authors receive royalty fees;
- contributions to private pension funds;
- life insurance premiums;
- donations to political parties.

It is not possible to simulate deductible expenditures in EUROMOD because the data on expenditure is not available in the input dataset. The only exception is contributions to private pension funds *(xpp)*.

2.7.1.6. Special taxation rules for pensioners

There are some special rules of taxation which are applied to pensioners.

- For non-working pensioners:
  Non-taxable minimum allowance is applicable to pensions.
- For working pensioners:
  Non-taxable minimum is applicable to the whole income (pension + other taxable income).

2.7.2. Solidarity tax (txcee_lv; txcer_lv; txcse_lv)

Solidarity tax was introduced in 2016. The aim of the new tax was to eliminate regressivity from the tax system that was generated by a cap on social insurance contributions, i.e., to tax income above the threshold above which social insurance contributions are not applied.

Except the fact that solidarity tax payments are not taken into account when contributory benefits are calculated (i.e., income that determines the size of contributory benefits remains capped), in 2018 the solidarity tax is in all respects identical to the social insurance contributions. Effectively, the new tax removed the cap on social insurance contributions, but the payments that are collected from income exceeding the threshold are classified as revenues from the solidarity tax. In 2018, all statutory rates (including the tax rates that are faced by individuals above the retirement age) and income base are the same as the rates and income base used in calculation of social insurance contributions (see Section 2.6). As of 2019, the solidarity tax has been reformed. The total tax rate is 25.5% in 2019–2020 and 25% in 2021 (paid jointly by employer and employee or by self-employed). During the tax year, the tax is applied by using all statutory rates as the rates used in calculation of social insurance contributions (like in 2018). The difference between the solidarity tax actually paid during the tax year, e.g., solidarity tax for income of employees below the retirement age at the rate of 35.09% in 2019–2020 and 34.09% in 2021 (consisting of the solidarity tax actually paid by employer and employee), and the calculated solidarity tax of 25.5% in 2019–2020 and 25% in 2021, is recorded as an overpaid solidarity tax. Overpaid solidarity tax is refunded to employer or self-employed in the post-tax year.

Revenues from the solidarity tax are partly used to finance the top PIT rate (i.e., the difference between the middle rate of 23% and the top PIT rate of 31.4% in 2018–2020 and 31% in 2021), and therefore, those falling into the top PIT bracket effectively pay only the middle PIT rate of 23% (for more details, see section 2.7.1). In 2018 the rest of the revenue from the solidarity tax is distributed as follows: part of the solidarity tax (1% rate) is transferred to the state basic budget revenues for the financing the health services, but another part is allocated to the taxpayer's state funded pension scheme (2nd pillar), private voluntary pension scheme (3rd pillar) and to the state pension special budget. In 2019–2021, after financing the top PIT rate, part of the solidarity tax (1% rate) is transferred to the state basic budget revenues for the financing the health services and the remainder is transferred to the state pension special budget.

Table 2.21 Solidarity tax rate faced by employee, employer and self-employed, 2018–2021

	2018	2019–2020	2021
The statutory rate of the solidarity tax	Tax rate is the same as the social insurance contributions rate* E.g., if an employee is under the retirement age and has been insured for all types of social insurance then the rate is 35.09%	25.5%	25%
The tax rate faced by			
employee	Tax rate is the same as the social insurance contributions rate*. E.g., if an employee is under the retirement age and has been insured for all types of social insurance then the rate is 11%	11%	10.5%
employer	Tax rate is the same as the social insurance contributions rate*. E.g., if an employee is under the retirement age and has been insured for all types of social insurance then the rate is 24.09%	The rate is equal to the difference between the total statutory rate of the solidarity tax and the rate of the solidarity tax paid by employee. E.g., if an employee is under the retirement age and has been insured for all types of social insurance then the rate is 14.5%	
self-employed	Tax rate is the same as the social insurance contributions rate*. E.g., if self-employed is under the retirement age, then the rate is 32.15%.	25.5%	25%

Notes: * see Section 2.6 for the social insurance contribution rates.

- ***EUROMOD modelling***

In EUROMOD, in 2019–2021 we simulate the solidarity tax as if it had been paid at the statutory rate (25.5% in 2019–2020 and 25% in 2021) during the tax year. Solidarity tax rate faced by employer is not stipulated in the law. In EUROMOD we calculate the rate of the solidarity tax faced by employers as the difference between the total statutory rate of the solidarity tax and the rate of the solidarity tax paid by employee during the tax year (see Table 2.21) – this is explained by the fact that the overpaid tax is refunded to employer in the post-tax year.

3. DATA

3.1. General description

The EUROMOD database is derived from EU-SILC, EU-SILC UDB 2019 – version of 2019–1 20–09 release.

The Latvian EU-SILC survey is an annual survey with a four-year rotational panel. The 2019 year survey took place in January 2019 – March 2019 and contains data on 2018 year incomes. The database is provided by Eurostat.

Table 3.1 EUROMOD database description

EUROMOD database	LV_2019_a1
Original name	EU-SILC UDB 2019 – version of 2019–1 20–09 release
Provider	Eurostat
Year of collection	2019
Period of collection	January – March
Income reference period	2018
Sample size	5,279 households 11,394 individuals
Response rate	67.7%

3.2. Data adjustment

In order to preserve consistency between demographic data (refers to data collection moment) and income data (refers to the previous calendar year), children born after the income reference period were dropped from the sample (29 children in total).

3.3. Imputation and assumptions

3.3.1. Time period

Socio-demographic characteristics of the respondents contained in EU-SILC 2019 refer to the time of data collection, i.e., January – March 2019. Most economic and labour variables also refer to the time of the interview, however, the database also contains some information referring to the income reference period (2018), e.g., employment status of the respondent in each month of 2018. Whenever possible, the corresponding demographic, labour and socio-economic information in the EUROMOD database was based on the EU-SILC variables referring to the income reference period. The EU-SILC UDB does not provide information on the number of periods a particular income was paid to a respondent. In some cases the number of periods was derived from non-monetary variables, e.g., the number of periods a respondent receives income from employment is based on the number of months spent at full-time or at part-time work, the number of months a respondent receives unemployment benefit is based on the number of months spent in unemployment.

3.3.2. Gross incomes

In Latvian SILC, gross employee cash or near cash income (PY010G) is calculated by summing net employee cash or near cash income (PY010N) and paid income taxes and social insurance contributions, obtained from the State Revenue Service (SRS) data. Data on net employee cash or near cash income (PY010N) is also obtained from the SRS data except cases when net income reported by a respondent in the survey is higher than suggested by the SRS data. Most of data on benefits is also obtained from administrative data (from the State Social Insurance Agency and local governments).

3.3.3. Disaggregation of harmonized variables

Some information important for simulations was not available in the EU-SILC UDB dataset, hence it was obtained from aggregated harmonized variables through imputations. The following key variables were fully imputed:

- Detailed degree of urbanization: residents of Riga (*dgrur00 = 1*) are imputed based on the national data[4].
- Unemployment benefit: UDB variable PY090G in the Latvian case includes unemployment benefit, stipends for training courses of unemployed persons and mobility support benefit (compensation of transport expenditures and/or covering the rent). The unemployment benefit *(bun00)* was imputed from aggregated PY090 variable using information from the national database.
- Previous income from employment *(yempv)* for people who receive unemployment benefit was imputed by inverting unemployment benefit rules and using information about the benefit amount.
- Family/children-related benefits: UDB variable HY050G contains information about all benefits that are paid to families with children. Information from the Latvian national database is used to impute major child-related benefits that exist in Latvia: state family benefit *(bfana)*, childcare benefit *(bfacc)*, parental benefit *(bfawk)*, maternity benefit *(bfama)*, paternity benefit *(bfapl)* and childbirth benefit *(bfaba)*.
- Previous employment income for parents *(yivwg02)* eligible for contributory family benefits (maternity benefit, paternity benefit and parental benefit) was imputed by inverting maternity and paternity benefit rules and using information about the size of these benefits. For those parents of small children who do not receive maternity or paternity benefit in the database, we predict previous earnings using wage equation.
- Social exclusion benefits: information from the national database is used to impute GMI benefit *(bsamm)* from the UDB variable HY060G (social exclusion not elsewhere classified).and funeral benefit *(bsafu* from the UDB variable PY110 (survivor's benefits).
- State social security benefit in case of old-age *(poass)*, in case of a loss of a breadwinner *(psuss)* or in case of disability *(pdiss01 and pdiss02)*: recipients imputed based on information from the national database and size of the benefit.
- Disability pension *(pditx)* was obtained by comparing net and gross values of the aggregate disability benefits. The number of recipients was adjusted in accordance with the national statistics.

[4] Selected variables from national EU-SILC 2019 survey dataset were provided by the Central Statistical Bureau of Latvia under a separate contract. These variables were used for indirect imputations in the EUROMOD input data.

- Old-age pension *(poatx)*, survivor**'s** pension *(psutx)*, non-taxable disability benefits *(pdint)*, as well as other minor unemployment *(bunot)*, family *(bfaot)* and social exclusion *(bsaot)* benefits were calculated as residual components of aggregate variables.

3.4. Updating

To account for any time inconsistencies between income levels in the input dataset and the target policy year, uprating indices are used. Each non-simulated monetary variable (i.e., market incomes, non-simulated benefits and expenditure) is updated so as to account for changes that have taken place between the income data year and the year of the simulated tax-benefit system. Uprating indices are generally based on changes in the average value of an income component or on statutory indexation or policy rules. For detailed information about the construction of each uprating index as well as the sources that have been used, see 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

The differences between the definition of disposable income in EUROMOD and SILC are minor (see Table 4.1). In EU-SILC, variable HY020 (total disposable income) includes company car (variable PY021G), while in EUROMOD the variable *kfbcc* (company car) does not enter the definition of disposable income.

Table 4.1 Components of disposable income

	EUROMOD 2018	EU-SILC 2019
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	0
Company car	0	+
Cash benefits or losses from self-employment	+	+
Pension from individual private plans	+	+
Unemployment benefits	+	+
Old-age benefits	+	+
Survivor's benefits	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
Family/children related allowances	+	+
Social exclusion not elsewhere classified	+	+
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 insurance contributions	-	-
Repayments/receipts for tax adjustment	+	+

4.1.2. Validation of incomes inputted into the simulation

Latvia is a country with a high proportion of informal employment. Informal employment may take a form of unregistered employment/self-employment or registered employment/self-employment with tax evasion (e.g., a part of wage is paid informally and is not subject to taxes and social insurance contributions). The 2019 EU-SILC data may partly cover unreported employment as it collects information on income both from the registers and survey of individuals.

Table 4.2 in Annex 3 shows the number of employed and unemployed in the EUROMOD input data and in the external statistics, which is based on Labour Force Survey. On the whole, both the number of employed and the number of unemployed in EU-SILC data are very close to the LFS figures in 2018. A slight undervaluation of the number of employed might be due to different definitions of employment status in two surveys or different degree of undeclared employment covered by SILC and LFS. Another possible reason for the slight underestimation of the number of employed is that in EUROMOD it is computed in full-time units (accounting for number of months in work), while LFS data shows the number of employed (employees and self-employed) irrespective of the number of months or hours worked.

The number of unemployed in 2018 in EUROMOD is very close to the LFS figures, but in 2019 the gap increased with EUROMOD data notably overestimating LFS figures, while in 2020 the gap narrowed with EUROMOD data slightly underestimating LFS figures. This is due to the fact that the

Latvian EUROMOD input data is not adjusted for the changes in the labour market characteristics of individuals which occurred over the period 2018–2020.[5] Taking into account that unemployment declined in 2019 (from 7.4% in 2018 to 6.3% in 2019), the gap between SILC data on unemployment and external statistics widened. In 2020 the unemployment rate increased (from 6.3% in 2019 to 8.1% in 2020) and even exceeded the 2018 unemployment rate leading to slight underestimation of LFS figures. The number of employed, on the other hand, virtually did not change in 2018–2020, hence the difference between the EUROMOD and external data remained quite stable.

Table 4.3 reports the number of market income recipients. Here SILC data strongly overestimates number of employees receiving income from employment as compared to LFS, while the number of self-employed is underestimated. First, the reason for the fact that in Table 4.3 we report overestimation for the number of employees, while reporting underestimation in Table 4.2 is that in Table 4.3 we report the number of employees receiving income from employment without adjusting it for the number of months worked. Another reason for overestimation compared to LFS data is different degree of shadow economy covered by different databases.

In terms of the total aggregate amount of market income received, the only income component that we can validate against the external statistics is income from employment, due to lack of external statistics on other income types. Total income from employment is validated against the national accounts item (D11 "Wages and salaries"). The EU-SILC data corresponds to the external data quite well (see Table 4.4). Average annual income per person is however undervalued in EU-SILC data compared to the national accounts data (D11 item divided by the number of employees from the national accounts).

In the Latvian EU-SILC, starting from survey year 2015, information on all major benefits comes from the administrative records (the State Social Insurance Agency and local governments), therefore, all major non-simulated benefits included in the EUROMOD data correspond quite well to external statistics (see Tables 4.5 and 4.6). The only benefit that is not well captured in the input data is the funeral benefit, which is a relatively minor benefit. Due to lack of external statistics on property tax revenues collected from households, we cannot validate this tax component.

4.1.3. Validation of outputted (simulated) incomes

Table 4.7 and Table 4.8 in Annex 3 provide comparison of the benefits and taxes simulated in the model to external statistics.

The number of unemployment benefit recipients in 2018 is simulated very precisely. In 2020–2021, we simulate a slight increase in the number of benefit recipients, which is due to an increase in the retirement age in 2020–2021[6] (by 3 months every year, reaching 64 years in 2021). Since individuals above full retirement age are not eligible for the unemployment benefit, the increase in the number of the benefit recipients is due to those who are aged 63.5 to 64 and consequently are not eligible for the benefit in 2018, but become eligible in 2020–2021. The annual amount of unemployment benefit (see Table 4.8) is slightly undersimulated as compared to SILC data due to underestimation of the size of the benefit. As compared to external statistics, in 2018–2019 the number of unemployment benefit

[5] Labour market adjustments are included in EUROMOD for Latvia as a part of a separate exercise on estimating current poverty indicators. More information is available in Rastrigina et al. (2016).

[6] In 2019, we do not simulate an increase in the number of unemployment benefit recipients despite the increase in the retirement age in 2019 (from 63.25 in 2018 to 63.5 in 2019). This is explained by the fact that in EUROMOD data there are not individuals who are aged 63.25–63.5, who are not eligible for the unemployment benefit in 2018, but become eligible for the unemployment benefit in 2019.

recipients and the annual amount of unemployment benefit is simulated quite precisely, while in 2020 the number of unemployment benefit recipients and the annual amount of unemployment benefit is underestimated. This is due to the increase in number of unemployment benefit recipients in 2020 and the fact that the Latvian EUROMOD input data is not adjusted for the changes in the labour market characteristics of individuals which occurred over years.

The number of recipients of child-related benefits is modelled quite precisely, with the exception of childbirth benefit and maternity benefit, where we oversimulate the number of recipients and annual amount of childbirth and maternity benefit. The reason for oversimulation is that we identify eligible parents by selecting households with a newborn child under the age of one year at the end of the income reference period (*dag00*<=1). However, some of the selected families have the right to apply for the childbirth and/or maternity benefit before or after the income reference year. In particular, there are cases where some of these children were born at the end of the year prior the income reference year and their parents might receive childbirth and/or maternity benefit at the end of the year prior the income reference year. Other cases that lead to the oversimulation are households with a newborn child born in the income reference year, but parents have not received the childbirth and/or maternity benefit in the income reference year, as they have the right to apply for the childbirth and maternity benefit 6 months from the birth of the child.

The number of recipients of parental benefit is slightly overestimated, but annual amount of parental benefit is strongly overestimated. Partly the overestimation of the annual amount is likely to be due to the identification strategy of eligible parents, i.e., the model considers that parents of children aged below 1 are eligible for parental benefit after the maternity benefit expires, while in reality the benefit can be claimed within 6 months from the date the maternity benefit expired. This rule entitles some eligible parents to claim the parental benefit after the income reference year.

The number of recipients of the state social security benefit in case of disability is modelled quite precisely. The model does not assign the state social security benefit in case of a loss of a breadwinner to anyone, that is explained by the fact that the eligibility conditions for this benefit is taken from the data and the data does not contain any recipient of state social security benefit in case of a loss of a breadwinner. The model underestimates the number of recipients and annual amount of old-age state social security benefit. However, the recipients of the state social security benefit in case of a loss of a breadwinner and the state social security benefit in case of old-age are a very small group of people.

Annual amount of state social security benefit in case of disability is slightly overestimated. This is explained by the fact, that the size of the state social security benefit in case of disability varies depending on the disability group of the recipient. Since we have no information about the degree of disability in the data, we simulate the benefit in case of disability and in case of disability from childhood to be equal to simple average across the three groups of disability.

The number of the GMI recipients is strongly overestimated in 2018, while the number of recipients of the housing benefit is strongly underestimated. The main reason for the overestimation of GMI is that we assume full take-up, while in reality some eligible persons do not apply for the benefits because benefits are rather small. With respect to the housing benefit, there are two possible reasons for the underestimation. First, this is partly due to the fact that we overestimate the GMI – it is possible that the GMI is assigned to persons who in fact receive the housing benefit. Second, the definition of the measurement units in external statistics on the housing benefit might be different than the one used in EUROMOD; comparability of the units needs to be further investigated. In terms of the benefit amounts, the GMI is strongly overestimated, while the housing benefit is slightly overestimated.

The number of people who pay social insurance contributions is overestimated in the model because (1) the data is likely to include a part of people employed in the shadow economy, (2) some tax allowances and deductible expenses cannot be simulated. Tax revenues are overestimated for the same reasons. The model especially poorly simulates social insurance contributions of self-employed. However, this is a very small group of people. It is also likely that tax evasion is more widespread among self-employed (because it is more difficult to control their income and expenditure flows).

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

Table 4.9 in Annex 3 compares income distribution generated by the EUROMOD with external statistics from Eurostat based on the EU-SILC data. The mean and the median income are slightly underestimated in the model. This partly due to oversimulation of taxes (as full tax compliance is assumed). The income quintile ratio and GINI coefficient in 2018 are also lower than in the external statistics. This is mainly because income in the bottom deciles is overestimated, which in turn is (1) due to oversimulation of social assistance and housing benefits and (2) due to different degree of overestimation of taxes for individuals with different income levels (for more details, see section Poverty rates below). In 2019, the income quintile ratio and GINI coefficient are modelled more precisely, which is mainly due to smaller overestimation of incomes in the bottom decile.

4.2.2. Poverty rates

Table 4.10 shows the poverty rates calculated by the model and compares them to external statistics from the Eurostat based on the EU-SILC data. The model slightly underestimates poverty rates for the cut-off points of 40% and 50%, however, in the baseline for the cut-off points of 60% and 70% the estimates are very close to the external figures.

By the age groups, the poverty rate is underestimated for the elderly, while the poverty rate is estimated quite precisely for working-age population. As we cannot account for tax evasion and some tax deductions, we simulate higher tax payments and hence lower disposable income of working-age population. For elderly people who mainly get their income from old-age pensions, taxes constitute a smaller share of their income due to a higher non-taxable allowance, and, even though we overestimate tax payments also for pensioners (mainly because we can't account for all tax deductions), the resulting effect on disposable income of the elderly is smaller. As a result, we undersimulate disposable income in all income groups, but the degree of underestimation for the elderly is smaller and hence we underestimate poverty rate for the elderly.

4.3. Summary of "health warnings"

This section summarizes particular aspects of the Latvian part of EUROMOD or its database that should be borne in mind when planning appropriate uses of the model and in interpreting results.

- The EUROMOD input data is not adjusted for any demographic or labour market changes taking place in the period from 2018 to 2021 (except for updating of monetary incomes).

- Tax evasion is widely spread in Latvia; however, the model does not account for it. This results in overestimation of simulated taxes and social insurance contributions.

- Full take up of benefits is assumed for simulation of the GMI benefit. This results in overestimation of both number of recipients and aggregate expenditure on this benefit.

- Income test for the GMI and housing benefit cannot be simulated precisely because some benefits (which must be included) in the income test cannot be separated from aggregate variables. This should not create big distortions in the income test, nevertheless a user of the model should be aware of this. Moreover, in the model income test is performed on annual income while in reality income of the previous three months is assessed (starting from 2021, the eligibility for the benefit is reassessed every three or six months depending on the composition of the household).

- Simulating municipality benefits (the GMI benefit and housing benefit) we cannot reproduce all the rules of Latvia's municipalities because they are quite complicated and the data does not provide detailed regional information. Therefore, in case of GMI, in 2018–2020 we model only rules applied by the largest municipality of Latvia, Riga municipality and the standard GMI regime for residents of all other municipalities (starting from 2021, the standard rules are applied by all municipalities). In case of housing benefit, we use Riga rules for all citizens of Latvia. The simulation of monetary compensation schemes (*yemcomp_lv*, *ysecomp_lv*, *ycompdep_lv*) is triggered by the simulation of labour market transitions defined in policy *TransLMA_lv*. This policy becomes 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.

- 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 and 2021 to be higher than disposable income in previous years.

REFERENCES

European Commission (2021). "European Economic Forecast – Spring 2021", Institutional Paper 149. May 2021. Luxembourg: Publications Office of the European Union.

Rastrigina, Olga, Chrysa Leventi, Sanja Vujackov and Holly Sutherland (2016). "Nowcasting: estimating developments in median household income and risk of poverty in 2014 and 2015", Research note 1/2015, European Commission, April 2016.

- ***Sources for tax-benefit descriptions/rules***

On-line legislation (mainly in Latvian):

Latvijas Vēstnesis (2021). Database on Latvian legislation. Available at http://www.likumi.lv

ANNEX 1. UPRATING FACTORS

Table A1: Uprating indices in 2018–2021

Name	Notation used in the model	Applied to variables	2018	2019	2020	2021	Source
Harmonised CPI (index 2015=100)	$f_cpi	*afc, bed, kfb, kfbcc, yiynt, yiytx, ypp, yot, xmp, xpp*	105.6	108.5	108.6	110.5	Eurostat, 2015=100 (prc_hicp_aind).
HICP - actual rentals for housing, item CP041 (index 2015=100)	$f_house	*bho, kivho, ypr, xhc, xhcrt, xhcmomi, xhcot*	102.4	107.1	104.8	106.6	Eurostat, 2015=100 (prc_hicp_aind).
Average monthly wage in the economy, gross, EUR	$f_wageoffic	*ypt,*	1004.0	1076.0	1143.0	1177.3	Central Statistical Bureau of Latvia (DSV010).
Average monthly wage in the public sector, gross, EUR	$f_wageoffic_pu	*yem* (if employed in the public sector)	1032.0	1103.0	1156.0	1190.7	Central Statistical Bureau of Latvia (DSV010).
Average monthly wage in the economy, gross, EUR (with one year lag)	$f_wageoffic_1	*yempv, pdint, bhl, bsafu*	926.0	1004.0	1076.0	1143.0	Central Statistical Bureau of Latvia (DSV010).
Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee	$f_wagena	*yem_a, yempv_a, yivwg*	14429.5	15640.1	16646.3	17145.7	Eurostat (nama_10_a10 and nama_10_a10_e) and authors' calculations.
Average compensation per employee in the private sector, based on national accounts, EUR per year per employee	$f_wagena_pr	*yem* (if employed in the private sector), *yse*	14658.6	15932.0	17050.1	17561.6	Eurostat (nama_10_a10 and nama_10_a10_e) and authors' calculations.
Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee (with one year lag)	$f_wagena_1	*yivwg01, yivwg02, yempv01*	13440.4	14429.5	15640.1	16646.3	Eurostat (nama_10_a10 and nama_10_a10_e) and authors' calculations.

Name	Notation used in the model	Applied to variables	2018	2019	2020	2021	Source
Unemployment benefit, average monthly benefit, EUR	$f_bun	*bunot*	306.6	335.4	339.3	349.5	State Social Insurance Agency of Latvia, average unemployment benefit, derived from monthly data.
Social assistance benefit, weighed average, EUR	$f_bsa	*bsaot*	511.3	591.7	592.2	602.3	Welfare ministry (Local governments' reports), Central statistical bureau (SDG05 and SDG06), authors' calculations. Weighted average of GMI and funeral benefit.
Property tax, average monthly payment, EUR	$f_tpr	*tpr*	226.2	229.1	221.2	225.0	State Treasury (Monthly reports on budget revenues), State land service, authors' calculations.
Disposable income, average per household per month, EUR	$f_yds		1229.5	1330.9	1413.8	1456.2	Central Statistical Bureau (MIS010).
Old-age pension - taxable part, based on average pension, EUR	$f_poatx_av	*poatx*[1]	332.0	359.9	389.3	413.5	State Social Insurance Agency of Latvia, average old-age pension, derived from monthly data.
Disability pension - taxable part, based on average pension, EUR	$f_pditx_av	*pdintx*[1]	173.5	181.6	193.5	205.6	State Social Insurance Agency of Latvia, average disability pension, derived from monthly data.
Survivor's pension - taxable part, based on average pension, EUR	$f_psutx_av	*psutx*[1]	179.4	191.3	202.9	215.6	State Social Insurance Agency of Latvia, average survivor's pension, derived from monthly data.
Family benefits, weighed average, EUR	$f_bfa	*bfaot*	173.5	194.0	199.6	205.6	State Social Insurance Agency of Latvia, weighted average of state family benefit, childcare benefit, maternity benefit, childbirth benefit, paternity benefit and parental benefit.

Table A2: Uprating indices in 2019–2021 (Index = 100 in 2018)

Name	Notation used in the model	2019	2020	2021
Harmonised CPI (index 2015=100)	$f_cpi	1.028	1.028	1.046[1]
HICP - actual rentals for housing, item CP041 (index 2015=100)	$f_house	1.046	1.024	1.041[1]
Average monthly wage in the economy, gross, EUR	$f_wageoffic	1.072	1.138	1.173[2]
Average monthly wage in the public sector, gross, EUR	$f_wageoffic_pu	1.069	1.120	1.154[2]
Average monthly wage in the economy, gross, EUR (with one year lag)	$f_wageoffic_1	1.084	1.162	1.234
Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee	$f_wagena	1.084	1.154	1.188[2]
Average compensation per employee in the private sector, based on national accounts, EUR per year per employee	$f_wagena_pr	1.087	1.163	1.198[2]
Average compensation per employee, total in the economy, based on national accounts, EUR per year per employee (with one year lag)	$f_wagena_1	1.074	1.164	1.239
Unemployment benefit, average monthly benefit, EUR	$f_bun	1.094	1.107	1.140[2]
Social assistance benefit, weighed average, EUR	$f_bsa	1.157	1.158	1.178[1]
Property tax, average monthly payment, EUR	$f_tpr	1.013	0.978	0.995[1]
Disposable income, average per household per month, EUR	$f_yds	1.083	1.150	1.184[2]
Old-age pension - taxable part, based on average pension, EUR	$f_poatx_av	1.084	1.173	1.246[3]
Disability pension - taxable part, based on average pension, EUR	$f_pditx_av	1.047	1.115	1.185[3]
Survivor's pension - taxable part, based on average pension, EUR	$f_psutx_av	1.067	1.132	1.202[3]
Family benefits, weighed average, EUR	$f_bfa	1.118	1.150	1.185[2]

Notes: (1) AMECO forecast for HICP change in 2021; (2) Ministry of Finance’s forecast for average wage growth in the economy in 2021; (3) Assume growth equal to the growth of the average wage.

ANNEX 2. POLICY EFFECTS IN 2018–2019, 2019–2020 AND 2020–2021

Table A1, Figure A1.1. and A1.2. show the effect of policy changes in 2018–2019 on mean equivalised household disposable income by income component and income decile group, as a percentage of mean equivalised household disposable income in 2018. Table A2, Figure A2.1 and A2.2 show the effect of policy changes in 2019–2020. Table A3, Figure A3.1 and A3.2 show the effect of policy changes in 2020–2021.

Each policy system has been applied to the same input data, deflating monetary parameters of Year 2 policies (i.e., 2019 in case of Table A1 and Figure A1.1 and A1.2, 2020 in case of Table A2 and Figure A2.1 and A2.2, and 2021 in case of Table A3 and Figure A3.1 and A3.2) by Eurostat's Harmonized Index of Consumer Prices (HICP) – 2.7% in 2019, 0.1% in 2020 and 1.7% in case of 2021[7].

[7] Actual HICP change in 2019 and 2020, and EC forecast for HICP change in 2021.

Table A1: Policy effects in 2018 – 2019, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	2.30	-0.15	0.18	0.00	0.01	0.21	2.54
2	0.00	2.46	-0.01	0.23	0.00	0.02	0.35	3.04
3	0.00	1.67	0.00	0.36	0.00	-0.04	0.52	2.51
4	0.00	0.82	0.00	0.28	0.00	0.02	0.71	1.82
5	0.00	0.65	0.00	0.29	0.00	0.01	0.71	1.65
6	0.00	0.43	0.00	0.22	0.00	0.01	0.63	1.29
7	0.00	0.33	0.00	0.21	0.00	0.01	0.47	1.02
8	0.00	0.26	0.00	0.13	-0.01	0.01	0.37	0.76
9	0.00	0.20	0.00	0.13	0.00	0.01	0.24	0.58
10	0.00	0.07	0.00	0.09	-0.20	0.00	0.29	0.26
Total	0.00	0.51	0.00	0.18	-0.06	0.01	0.42	1.05

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 2018, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by 2.7% - Eurostat's Harmonized Index of Consumer Prices (HICP) in 2019.

Figure A1.1: Policy effects in 2018 – 2019, using the CPI-indexation, %

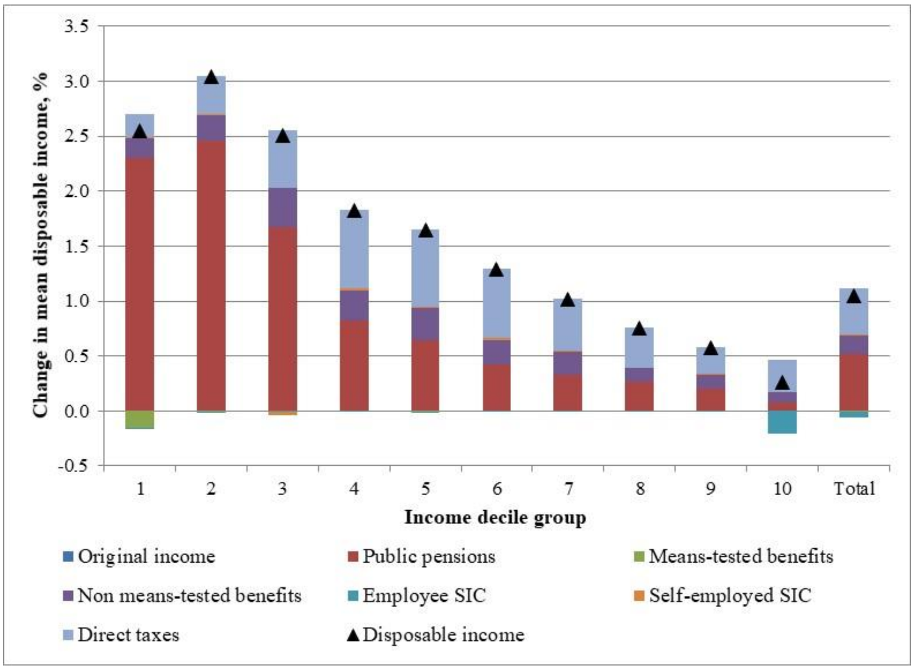
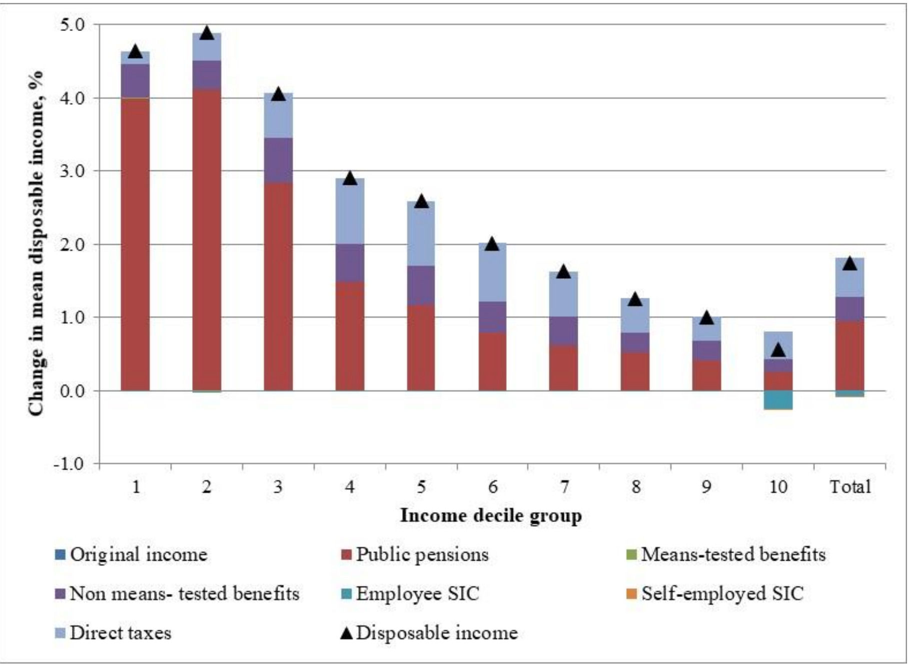


Figure A1.2: Policy effects in 2018 – 2019, nominal, %



Policies implemented in 2019 produced a strong progressive effect on disposable income – disposable income increased in all deciles but the increase was larger in the bottom deciles. The main contribution to the increase in income came from public pension and direct taxes. Changes in pensions had a progressive effect on income, mainly due to pension indexation rules, which imply a larger proportional increase in low pensions.

The basic allowance in 2019 was further increased for low wage earners, while the income level above which the basic allowance is not applied was increased, producing a positive and progressive impact on disposable income. The smaller effect of direct taxes in the bottom deciles is due to a smaller proportion of employed individuals, higher proportion of pensioners who are eligible for a higher non-taxable allowance, and due to the fact that for many low wage earners their income was fully covered by non-taxable allowances that were effective before the reform, hence they do not gain from changes in the differentiated non-taxable allowance that came into force in 2019.

The effect of non-means-tested benefits in 2018 – 2019 was positive and was quite uniform across the income distribution, which mainly reflected growth in average earnings.

Despite no policy changes in means-tested benefits (the GMI and housing benefit), these benefits had a negative effect on disposable income in the bottom deciles, which was driven by changes in other policies that had a positive effect on disposable income of low-income households.

The negative effect of employee SIC on disposable income in the top decile of income distribution is driven by the increase in income ceiling for mandatory social insurance contributions.

Table A2: Policy effects in 2019 – 2020, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	4.36	1.11	0.02	-0.01	0.00	0.60	6.07

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
2	0.00	4.33	0.04	0.03	0.00	0.00	0.91	5.31
3	0.00	3.05	0.01	0.05	0.00	0.00	1.16	4.27
4	0.00	1.69	0.01	0.09	-0.01	0.00	1.42	3.20
5	0.00	1.21	0.02	0.03	0.00	0.00	1.25	2.50
6	0.00	0.81	0.00	0.09	-0.01	0.00	1.11	2.01
7	0.00	0.70	0.00	-0.03	-0.01	0.00	0.81	1.47
8	0.00	0.53	0.00	0.07	-0.01	0.00	0.63	1.22
9	0.00	0.46	0.00	-0.03	0.00	0.00	0.41	0.83
10	0.00	0.26	0.00	-0.04	-0.01	0.00	0.13	0.35
Total	0.00	1.02	0.03	0.01	-0.01	0.00	0.67	1.72

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 0.1% - Eurostat's Harmonized Index of Consumer Prices (HICP) in 2020.

Figure A2.1: Policy effects in 2019 – 2020, using the CPI-indexation, %

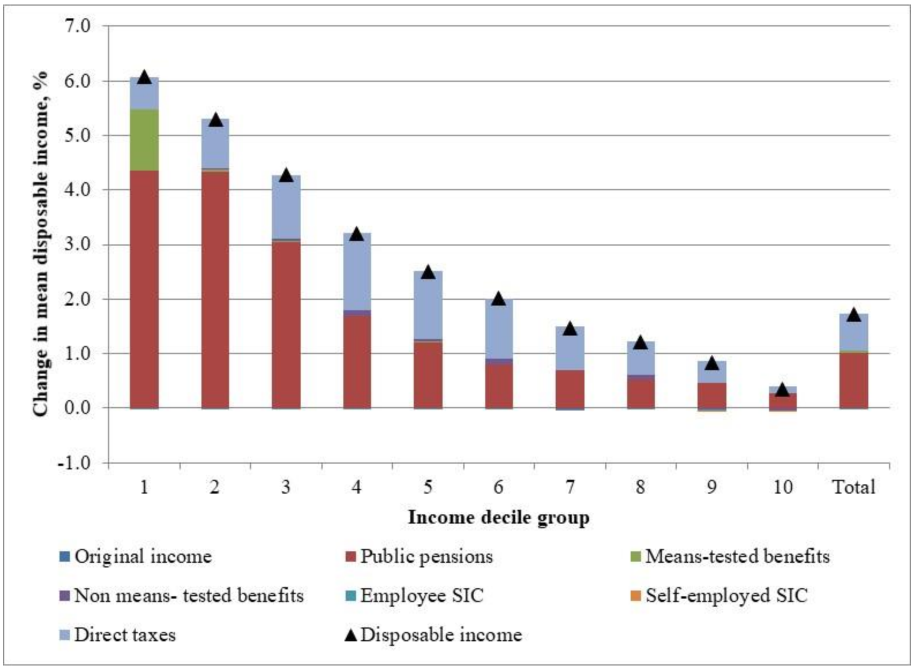
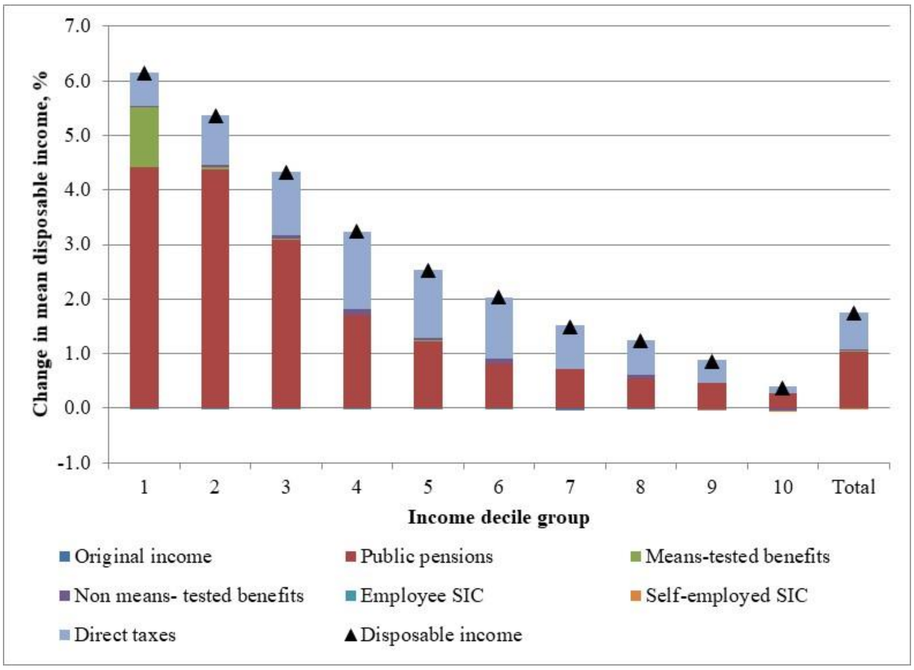


Figure A2.2: Policy effects in 2019 – 2020, nominal, %



The effect of policies implemented in 2020 was clearly progressive and the progressivity was mainly ensured by public pensions and means tested benefits. The effect of means tested benefits was driven by the increase in the standard level of the GMI across the country and the GMI level for children in Riga. Change in public pensions had a progressive effect on income mainly due to pension indexation rules, which imply a larger proportional increase in low pensions.

In 2020 the maximum size of the non-taxable allowance which is applied to low wage earners was further increased, while the income level above which the basic allowance is not applied was increased. This had a progressive positive effect on disposable income, however, the effect in the bottom deciles is weaker as the share of employed individuals in the bottom deciles is relatively small and due to the fact that for many low wage earners their income was fully covered by non-taxable allowances that were effective before the reform.

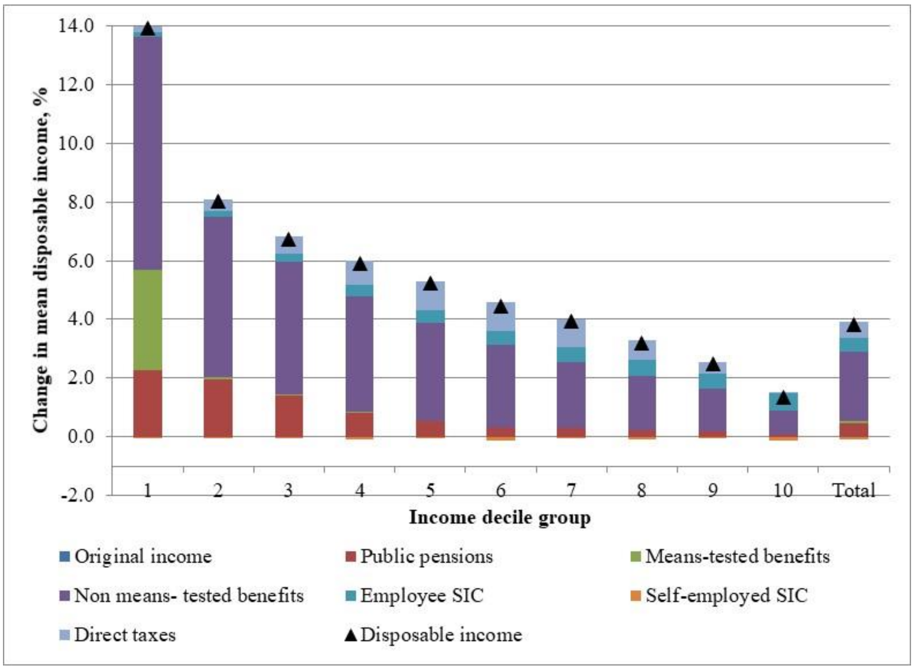
Fiscal measures implemented during the emergency situation related to the COVID-19 pandemic are not included in the analysis of PET.

Table A3: Policy effects in 2020 – 2021, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	2.25	3.45	7.96	0.13	-0.06	0.22	13.95
2	0.00	1.95	0.09	5.46	0.19	-0.07	0.42	8.03
3	0.00	1.41	0.02	4.53	0.28	-0.07	0.58	6.75
4	0.00	0.80	0.06	3.93	0.38	-0.08	0.83	5.92
5	0.00	0.54	0.01	3.35	0.43	-0.06	0.96	5.22
6	0.00	0.31	0.00	2.81	0.48	-0.12	0.97	4.46
7	0.00	0.29	0.00	2.25	0.51	-0.04	0.93	3.95
8	0.00	0.20	0.00	1.87	0.54	-0.11	0.69	3.19
9	0.00	0.18	0.00	1.45	0.54	-0.07	0.37	2.47
10	0.00	0.07	0.00	0.82	0.57	-0.14	0.03	1.36
Total	0.00	0.44	0.10	2.37	0.48	-0.09	0.52	3.82

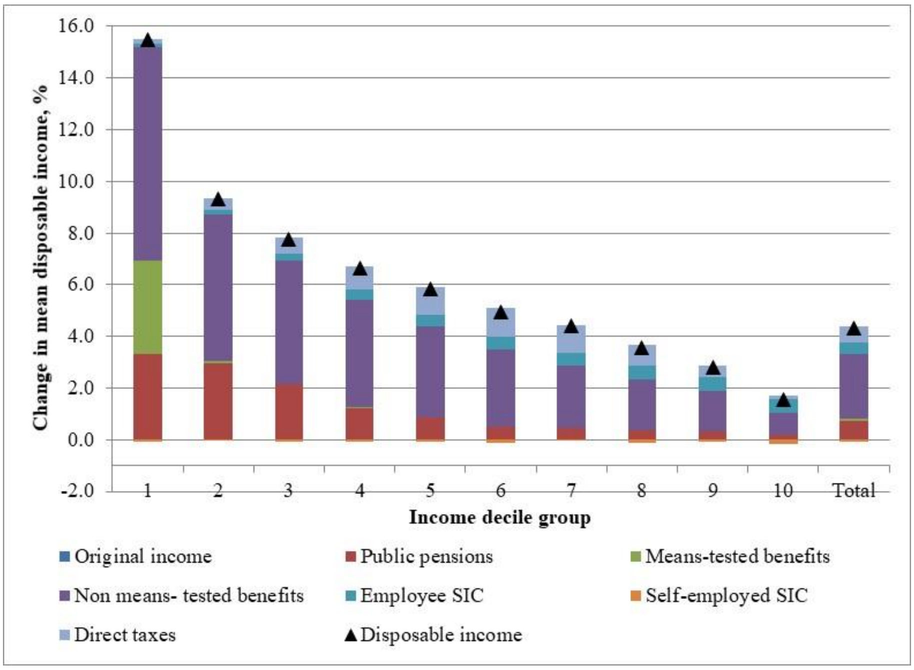
Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2020, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2021 policies by 1.7% - European Commission's forecast for Harmonized Index of Consumer Prices (HICP) in 2021. Fiscal measures implemented during the emergency situation related to the COVID-19 pandemic are not included in the analysis of PET.

Figure A3.1: Policy effects in 2020 – 2021, using the CPI-indexation, %



Note: Fiscal measures implemented during the emergency situation related to the COVID-19 pandemic are not included in the analysis of PET.

Figure A3.2: Policy effects in 2020 – 2021, nominal, %



Note: Fiscal measures implemented during the emergency situation related to the COVID-19 pandemic are not included in the analysis of PET.

Policies implemented in 2021 produced a strong progressive effect on disposable income. The main contribution to the increase of income came from non means-tested benefits, means-tested benefits and public pensions.

The effect of non-means tested benefits was driven by the single time benefit paid to the families with dependent children and recipients of old-age, disability and survivor`s pensions as well as recipients of the state social security benefits as financial support during the pandemic. There are two main explanations for the progressivity of the effect. First, there is a relatively high proportion of pensioners in the bottom deciles. Secondly, the single-time benefit for families with children amounts a fixed amount per child resulting in a larger proportional increase in bottom deciles.

The effect of means-tested benefits was driven mainly by the increase of the GMI level and the increase of income threshold used to assess eligibility for the receipt of the GMI benefit.

The progressive effect of public pensions is explained by pension indexation rules, i.e., only pensions below a certain threshold are indexed, that produce a proportionally stronger effect on low pensions.

The positive effect of employee SIC on disposable income in all deciles of income distribution is driven by a decrease in the SIC rate for employees. The progressivity of the effect is due to the higher proportion of non-employed individuals at the bottom of income distribution.

The effect of self-employed SIC was slightly negative due to the increase of the SIC rate for pension insurance (at the same time the general SIC rate for self-employed was slightly decreased, but to a lesser extent than SIC rate for pension insurance resulting in negative effect in all deciles of income distribution).

In 2021 the income level above which the non-taxable allowance is not applied was further increased resulting in the decrease of the differentiated non-taxable allowance withdrawal rate, thus increasing not only the number of employed individuals to whom the non-taxable allowance applies, but also increasing the size of the non-taxable allowance for those employed individuals for whom it has been lower than the maximum so far. This had a progressive positive effect on disposable income, however, the effect in the bottom deciles is weaker due to a smaller proportion of employed individuals in the bottom deciles and due to the fact that for many low wage earners their income was fully covered by non-taxable allowances that were effective before the reform. The positive effect of the direct taxes in the top deciles is slightly reduced by a small solidarity tax rate cut for both employees and self-employed.

Fiscal measures implemented during the emergency situation related to the COVID-19 pandemic are not included in the analysis of PET.

ANNEX 3. VALIDATION TABLES

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

	EUROMOD	External			Ratio		
	2018	2018	2019	2020	2018	2019	2020
Number of employed	842.1	909.4	910.0	893.0	0.93	0.93	0.94
Number of unemployed	74.8	72.8	61.3	78.7	1.03	1.22	0.95

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

	EUROMOD	External			Ratio		
	2018	2018	2019	2020	2018	2019	2020
Employment income	1004.1	830.5	835.0	804.2	1.21	1.20	1.25
Self-employment income	79.5	105.1	105.5	113.3	0.76	0.75	0.70
Private pensions	18.7	N/A	N/A	N/A	N/A	N/A	N/A
Rent income	48.4	N/A	N/A	N/A	N/A	N/A	N/A
Investment income	262.8	N/A	N/A	N/A	N/A	N/A	N/A

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

	EUROMOD				External			Ratio		
	2018	2019	2020	2021	2018	2019	2020	2018	2019	2020
Average employment income (in EUR)	11359.0	12291.3	13082.6	13475.0	14429.5	15640.1	16539.2	0.79	0.79	0.79
Employment income	11405.8	12341.9	13136.4	13530.5	11454.3	12395.6	12632.8	1.00	1.00	1.04
Self-employment income	416.8	453.0	484.8	499.3	N/A	N/A	N/A	N/A	N/A	N/A
Private pensions	47.5	48.8	48.9	49.7	N/A	N/A	N/A	N/A	N/A	N/A
Rent income	105.0	109.8	107.5	109.3	N/A	N/A	N/A	N/A	N/A	N/A
Investment income	109.7	112.7	112.8	114.7	N/A	N/A	N/A	N/A	N/A	N/A

Table 4.5-Tax benefit instruments included but not simulated in EUROMOD

-Number of recipients/ payers (in thousands)

	EUROMOD	External			Ratio		
	2018	2018	2019	2020	2018	2019	2020
Benefits							
Sickness and injury benefits	226.3	196.0	212.4	230.4	1.15	1.07	0.98
Old-age pensions	452.4	452.8	449.8	447.2	1.00	1.01	1.01
Disability pensions	75.0	74.9	75.0	74.7	1.00	1.00	1.00
Survivor's pensions	18.9	15.7	15.4	15.3	1.20	1.23	1.24
Funeral benefit	5.0	26.5	26	27	0.19	0.19	0.19
Taxes and Social Insurance contributions							
Property tax	666.3	N/A	N/A	N/A	N/A	N/A	N/A

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

	EUROMOD				External			Ratio		
	2018	2019	2020	2021	2018	2019	2020	2018	2019	2020
Benefits										
Sickness and injury benefits	167.6	181.7	194.7	206.8	165.1	200.3	242.5	1.02	0.91	0.80
Old-age pensions	1867.4	1985.4	2119.2	2210.7	1838.4	1939.8	2078.6	1.02	1.02	1.02
Disability pensions	162.6	171.8	181.8	188.5	158.6	162.1	173.4	1.02	1.06	1.05
Survivor's pensions	37.3	39.6	42.0	43.6	34.9	35.8	37.5	1.07	1.11	1.12
Funeral benefit	4.0	4.3	4.6	4.9	15.1	17.7	20.0	0.26	0.24	0.23
Taxes and Social Insurance contributions										
Property tax	60.8	61.5	59.4	60.5	N/A	N/A	N/A	N/A	N/A	N/A

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

	EUROMOD				SILC	Ratio	External			Ratio		
	2018	2019	2020	2021	2018	2018	2018	2019	2020	2018	2019	2020
Benefits												
State social security benefit	20.5	20.5	20.5	20.5	20.5	1.00	20.9	21.1	21.2	0.98	0.97	0.97
In case of old-age	1.3	1.3	1.3	1.3	1.3	1.00	1.6	1.8	2.0	0.78	0.70	0.63
In case of a loss of a breadwinner	0.0	0.0	0.0	0.0	0.0	N/A	0.4	0.3	0.3	N/A	N/A	N/A
In case of disability	19.3	19.3	19.3	19.3	19.3	1.00	18.9	18.9	18.9	1.02	1.02	1.02
Unemployment benefit	83.2	83.2	83.4	83.4	85.5	0.97	83.5	85.6	105.2	1.00	0.97	0.79
Childbirth benefit	22.8	22.8	22.8	22.8	17.7	1.28	18.8	18.3	17.4	1.21	1.25	1.31
Maternity benefit	18.3	18.3	18.3	18.3	16.2	1.13	16.8	16.6	15.9	1.09	1.10	1.15
Paternity benefit	10.7	10.7	10.7	10.7	12.3	0.87	10.3	10.5	9.8	1.04	1.02	1.09
Parental benefit	41.9	42.0	42.0	41.9	40.3	1.04	38.2	36.7	35.4	1.10	1.15	1.19
Childcare benefit	58.6	58.6	58.6	58.6	56.1	1.04	56.3	53.1	50.3	1.04	1.10	1.16
State family benefit	233.3	233.3	233.3	233.3	244.2	0.96	237.2	233.5	229.8	0.98	1.00	1.02
Benefit for ensuring GMI level	29.2	26.4	28.9	37.3	18.3	1.60	20.9	17.2	16.5	1.40	1.53	1.75
Housing benefit	49.1	45.3	48.4	61.5	86.1	0.57	83.0	71.0	64.5	0.59	0.64	0.75
Taxes and Social nsurance contributions												
Income tax	1230.8	1223.7	1184.9	1156.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employee SIC	1004.1	1004.1	1004.1	1004.1	N/A	N/A	810.7	822.3	806.1	1.24	1.22	1.25
Self-employed' SIC	79.2	79.5	79.5	79.5	N/A	N/A	23.6	27.7	29.4	3.35	2.87	2.70
Employer SIC	1004.1	1004.1	1004.1	1004.1	955.3	1.05	810.7	822.3	806.1	1.24	1.22	1.25

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

	EUROMOD				SILC	Ratio	External			Ratio		
	2018	2019	2020	2021	2018	2018	2018	2019	2020	2018	2019	2020
Benefits												
State social security benefit	26.6	26.6	30.9	41.0	25.8	1.03	24.8	24.8	28.7	1.07	1.07	1.08
In case of old-age	1.0	1.0	1.0	1.6	0.8	1.23	1.1	1.3	1.4	0.88	0.77	0.68
In case of a loss of a breadwinner	0.0	0.0	0.0	0.0	0.0	N/A	0.5	0.4	0.4	0.00	0.00	0.00
In case of disability	25.6	25.6	29.9	39.4	25.0	1.02	23.2	23.1	26.8	1.10	1.11	1.12
Unemployment benefit	124.6	135.1	125.4	133.1	135.0	0.92	119.9	131.9	155.2	1.04	1.02	0.81
Childbirth benefit	9.8	9.8	9.8	9.8	7.6	1.29	8.0	7.8	7.3	1.22	1.25	1.33
Maternity benefit	57.0	61.1	66.1	70.5	52.5	1.08	47.0	50.2	51.1	1.21	1.22	1.29
Paternity benefit	3.7	3.9	4.3	4.5	4.1	0.90	3.4	3.8	3.8	1.08	1.04	1.14
Parental benefit	131.7	141.6	153.5	163.0	121.7	1.08	103.9	107.6	116.1	1.27	1.32	1.32
Childcare benefit	71.0	71.0	71.0	71.0	67.4	1.05	62.9	59.0	56.3	1.13	1.20	1.26
State family benefit*	110.7	110.7	110.7	110.7	88.1	1.26	108.8	116.8	115.8	1.02	0.95	0.96
Benefit for ensuring GMI level	10.3	9.6	12.2	21.3	4.4	2.32	5.5	4.7	5.2	1.87	2.04	2.36
Housing benefit	17.3	17.8	17.9	24.3	15.4	1.12	14.9	13.8	13.3	1.16	1.30	1.34
Taxes and Social insurance contributions												
Income tax	2032.6	2181.6	2270.6	2272.0	N/A	N/A	1741.5	1978.20	N/A	1.17	1.10	N/A
Employee SIC	1222.3	1326.6	1408.7	1383.9	N/A	N/A	778.8	847.40	N/A	1.57	1.57	N/A
Self-employed' SIC	59.7	66.1	70.8	84.9	N/A	N/A	24.7	27.40	N/A	2.42	2.41	N/A
Employer SIC	2679.3	2907.8	3087.5	3109.1	2353.0	1.14	1854.8	2036.70	N/A	1.44	1.43	N/A

Note: * Results of EUROMOD simulation and external statistics report the annual amounts of the sum of the state family benefit and the supplementary payments to the state family benefit. The SILC data reports the annual amounts of the state family benefit and excludes the supplementary payments. In the SILC data; the supplementary payments to the state family benefit are included as one of the components of other family benefits (*bfaot*).

Table 4.9-Distribution of equivalised disposable income

	EUROMOD				External		Ratio	
	2018	2019	2020	2021	2018	2019	2018	2019
D1	2.5	2.5	2.5	2.7	2.3	2.4	1.092	1.036
D2	4.2	4.2	4.2	4.4	4.1	4.2	1.025	0.998
D3	5.4	5.4	5.5	5.6	5.3	5.5	1.019	0.990
D4	6.6	6.6	6.7	6.8	6.6	6.7	1.006	0.984
D5	7.8	7.8	7.8	7.9	7.8	7.8	0.995	1.002
D6	9.1	9.1	9.2	9.2	9.1	9.1	0.998	0.997
D7	10.6	10.7	10.5	10.7	10.6	10.6	1.001	1.005
D8	12.6	12.6	12.6	12.5	12.7	12.3	0.993	1.021
D9	15.4	15.5	15.3	15.2	15.5	15.4	0.996	1.006
D10	25.7	25.7	25.6	25.0	26.0	26.0	0.990	0.988
Median	7744.0	8359.9	8959.9	9679.6	8187.0	8827.0	0.95	0.95
Mean	9263.8	9993.1	10647.5	11347.0	9749.0	10413.3	0.95	0.96
Gini	34.5	34.5	34.2	33.1	35.2	34.5	0.98	1.00
S80/S20	6.1	6.2	6.1	5.7	6.5	6.3	0.94	0.98

Table 4.10-Poverty rates by gender and age

		EUROMOD				External		Ratio	
years		2018	2019	2020	2021	2018	2019	2018	2019
	40% median HDI								
poor40	Total	8.4	8.5	8.3	7.6	9.5	9.0	0.88	0.94
poor_male40	Males	8.1	8.2	8.1	7.7	8.8	8.4	0.93	0.98
poor_fem40	Females	8.5	8.7	8.5	7.6	10.0	9.4	0.85	0.93
	50% median HDI								
poor50	Total	14.8	14.8	14.8	14.1	16.2	15.0	0.92	0.98
poor_male50	Males	12.8	12.7	12.7	12.2	13.9	13.2	0.92	0.96
poor_fem50	Females	16.6	16.5	16.5	15.7	18.2	16.6	0.91	0.99
	60% median HDI								
poor60	Total	21.8	21.7	21.5	20.9	22.9	21.6	0.95	1.01
poor_male60	Males	19.3	19.3	18.9	18.1	20.3	19.1	0.95	1.01
poor_fem60	Females	23.9	23.8	23.7	23.3	25.1	23.7	0.95	1.01
	70% median HDI								
poor70	Total	28.9	29.1	29.0	28.2	29.5	28.7	0.98	1.01
poor_male70	Males	26.2	26.4	26.1	25.3	26.5	26.2	0.99	1.01
poor_fem70	Females	31.3	31.4	31.4	30.6	32.0	30.8	0.98	1.02
	60% median HDI								
poor_age1	0-15 years	12.7	12.6	12.6	11.6	14.0	14.9	0.91	0.85
poor_age2	16-24 years	15.2	15.3	15.7	15.0	17.0	18.8	0.90	0.79
poor_age3	25-49 years	12.2	12.0	11.9	11.8	12.8	13.6	0.95	0.89
poor_age4	50-64 years	24.2	24.1	23.9	24.6	24.6	22.0	0.98	1.10
poor_age5	65+ years	45.6	45.9	44.9	42.6	47.9	40.9	0.95	1.12