

# **EUROMOD**

## **COUNTRY REPORT**



# **BULGARIA (BG)**

## **2017-2020**

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

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

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

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

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

<https://www.euromod.ac.uk>

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## 1. Basic Information

### 1.1. Basic information about the tax-benefit system

- The Bulgarian tax-benefit system is largely a unified national system. The Consolidated National Budget has three major components: the budget of the central government (Republican Budget), the budget of the Social Insurance Funds, and the summary budget of the local governments (or Municipal Budgets). The parameters of the main taxes (VAT, corporate tax, personal income tax (PIT), and social insurance contributions (SIC)) are determined by legal acts of the National Parliament and the respective revenues are collected by the central government. Under some regulation, the local taxes are set by the local governments (Municipal Councils) but the revenues from these taxes have insignificant shares in the overall tax burden. Social transfers are set and administered by agencies of the central government and there are not any significant benefits that are provided by the local governments

- Social benefit system is governed at a central level and there are no regional differences in the application of the relevant legislative acts. The legislation is adopted by the National Assembly (laws) but some of the legislative acts (regulations, decrees, orders, etc.) are adopted by the Council of Ministers.

- The municipalities, at their own initiative, can also adopt and implement policies in that field. In principle, these initiatives envisage the provision of in-kind benefits (housing, social services, targeted support to the vulnerable groups of the population, transportation services for people with disabilities, etc.).

- The fiscal year for taxes and benefits runs from 1<sup>st</sup> of January to 31<sup>st</sup> of December. The start of the calendar year is usually the moment when changes in tax-benefit regimes apply

- According to Code on Social Insurance (*Кодекс за социално осигуряване*) the standard retirement age in 2020 is 61 years and 6 months for women and 64 years and 3 months for men. The right to an old-age pension arises if the following cumulative conditions are fulfilled: (1) the person has reached the statutory retirement age and (2) the person can prove the existence of a minimum period of a contributory service.

**Table 1.1 Conditions for acquiring a right to an insurance and old-age pension (2017-2020)**

Year	Women		Men	
	Standard retirement age	Minimum period of contributory service	Standard retirement age	Minimum period of contributory service
2017	61 y. 0 m.	35 y. 4 m.	64 y. 0 m.	38 y. 4 m.
2018	61 y. 2 m.	35 y. 6 m.	64 y. 1 m.	38 y. 6 m.
2019	61 y. 4 m.	35 y. 8 m.	64 y. 2 m.	38 y. 8 m.
2020	61 y. 6 m.	35 y. 10 m.	64 y. 3 m.	38 y. 10 m.

- In 2015, a pension reform regarding conditions for acquiring a right to an old-age pension was introduced. According to the reform, the retirement age for women should rise by 2 months per calendar year and by 3 months until reaching 65 years of age for both sexes. The retirement age for men should rise by 2 months per calendar year in 2017, and by 1 month per calendar year after that until reaching 65 years of age. In addition, from 2017 the length of required contributory service will rise by 2 months per calendar year until reaching 37 years for women and 40 years for men. In addition, as of 2016, people who have the required length of insurance can retire 1 year earlier than the standard retirement age with a reduced pension (0.4% per each month of earlier retirement).

- If the condition on the minimum period of contributory service is not fulfilled, both women and men can retire at the age of 66 years and 4 months (65 years and 10 months in 2016) if they can prove that they have completed at least 15 years of contributory service. From 2017, the required minimum age will be increased by 2 months per calendar year until reaching 67 years of age.

- There are specific early retirement regimes for some categories of insured such as people working at hazardous and unhealthy working conditions, military servicemen, teachers, etc.

- Main definitions used in tax-benefit system in Bulgaria:

**Family:** The Bulgarian tax-benefit legislation contains different definitions of “family”:

**Family Allowances Act (Закон за семейни помощи за деца):** Family includes: (a) spouses (married couples) and their children up to 18 years of age and children aged 18-20 years if they are still in secondary education (born, fathered, adopted, stepchildren, except those who have marriage); (b) parents living together outside marriage (have the same current address) and their children up to 18 years of age and children aged 18-20 years if they are still in secondary education (born or fathered, except those who have marriage); (c) the parent and her/his children up to 18 years of age and children aged 18-20 years if they are still in secondary education (born, fathered or adopted, except those who have marriage). This definition entered into force in August 2015 as the points (b) and (c) were added to the existing definition.

**Regulation on the Implementation of the Social Assistance Act (Правилник за прилагане на Закона за социално подпомагане):** For the purposes of social assistance policy, “family” includes spouses (married couple) and their spouses (married couples) and their children up to 18 years of age and children aged 18-20 years if they are still in secondary education (born, fathered, adopted, stepchildren, except those who have marriage). However, the Social Assistance Law distinguishes the category “cohabiting people”, i.e. people, relatives or not, who live together, share the same dwelling and are registered at the same address.

**Child:** The Child Protection Act (Закон за закрила на детето) stipulates that “child” is any natural person, who has not reached the age of 18. However, for social protection purposes a broader definition for a “dependent child” is used. According to the Family Allowances Act (Закон за семейни помощи за деца) and Social Assistance Act (Закон за социално подпомагане) apply a “child” could be a person up to 20 years of age if he/she is still enrolled in the secondary school (see the definition of “family”). According to the Law on preschool and school education (Закон за предучилищното и училищното образование), schooling up to the age of 16 is compulsory.

**Twins:** Family Allowances Act (Закон за семейни помощи за деца) stipulates that “twins” are two or more children born alive after multiple gestation pregnancy.

**Single parent (lone parent):** According to the Regulation on the Implementation of the Social Assistance Act (Правилник за прилагане на Закона за социално подпомагане), “single parent” is a person, who, due to widowhood, divorce or other reason, brings up alone children up to 18 years of age (20 years of age if the child is still enrolled in the secondary school).

**Child with one living parent:** Family Allowances Act (*Закон за семейни помощи за деца*) stipulates that “*child with one living parent*” is a child who has not come of age, or a child of legal age who continues his/her studies, until graduation from high school, but not after the age of 20, one of whose parents (adoptive parents) has died, and who is being brought up by his/her other parent (adoptive parent), where the latter has not been married before the registrar.

**Child with permanent disability:** As of 01.1.2017, according to the Family Allowance Act (*Закон за семейни помощи за деца*), “child with permanent disability” is a person up to 20 years of age with a type and degree of disability of 50% or more, or permanently reduced working capacity. This is a major change as far as until the end of 2016, the definition considered that “child with permanent disability” is a child who has not reached the age of 16 with a specific type and degree of disability of 50% or more and a person between 16 and 20 years of age with reduced working capacity of 50% or more.

**Orphan child:** According to the Regulation on the Implementation of the Social Assistance Act (*Правилник за прилагане на Закона за социално подпомагане*), “orphan child” is a child who has not reached age of 18 and whose parent (or both parents) has passed away.

**Mothers of multiple children:** Family Allowances Act (*Закон за семейни помощи за деца*) stipulates that “mothers of multiple children” are mothers who have given birth, or have adopted, and brought up three or more children above the age of one.

**People with disabilities:** According to the People with Disabilities Act which entered into force from 01.1.2019, people with disabilities are individuals with physical, mental, intellectual and sensory impairment who, in interaction with their surroundings, could impede their full and effective participation in public life.

**People with permanent disabilities:** According to the People with Disabilities Act which entered into force from 01.1.2019, people with permanent disabilities are individuals with permanent physical, mental, intellectual and sensory impairment that, in interaction with the surrounding environment, could impede their full and effective participation in public life and to which the medical expertise has established a type and degree of disability 50 and over 50 per cent.

- Bulgarian PIT system is based on the taxation of the individual, with the spouses being assessed independently. After subtracting the tax exemptions from the annual tax base and applying all legal deductions, the personal income tax amount since 2008 has been calculated using a flat income tax rate of 10%.

- The incomes from different sources are taxed with the same tax rate of 10%, but the tax exemption from the annual tax base varies for different income sources

- The period of taxation with PIT covers one fiscal year. Each individual with taxable income is obliged to submit a Tax Declaration regulated by the Income Taxes on Natural Persons Act (*Закон за данъка върху доходите на физическите лица*) usually till the end of April the following year. There is an important exclusion for this duty – it applies to any individual that has received income **only** from employment relations on labour contract.

- The social insurance contribution rates are determined in the Code on Social Insurance (*Кодекс за социално осигуряване*) with the exception of the rates of the contributions to Employment Injury and Occupational Disease Fund (*Фонд „Трудова злополука и професионална болест“*) to the Guaranteed Receivables of Workers and Employees Fund (*Фонд „Гарантирани вземания на работниците и служителите*) which are determined in the Law on the Budget of Public Social Insurance (*Закон за бюджета на държавното обществено осигуряване*). The health insurance contribution rate is determined in the Health Insurance Fund Budget Act (*Закон за бюджета на Националната здравно-осигурителна каса*).



- The Law on the Budget of Public Social Insurance (*Закон за бюджета на държавното обществено осигуряване*) determines: (1) the maximum monthly amount of the contributory income during the calendar year for all categories of insured people; (2) the minimum monthly amount of contributory income for the calendar year for self-employed persons; (3) the minimum monthly amount of the contributory income for employees, according to main economic activities and occupation groups.

- In Bulgarian tax-benefit system all social insurance and social assistance benefits *are not taxable*.

- There is no systematic statutory indexation of tax schedules and benefit levels to inflation in general in Bulgaria. There are no specific rules imposing an obligation to the public authorities to apply an automatic indexation of social benefits. The following table gives an overview of the indexation of pensions as they have the largest share in the total social protection expenditures: **Table 1.2 Pension indexation rules (2017-2020)**

Year	Indexation rules	Ad-hoc increases and lump-sum supplements
2016	As of 01.7.2016, all pensions granted before 31.12.2015 were increased by 2.6%.	In April 2016, all pensioners the amount of whose pension was below BGN 300 per month, received a lump-sum supplement of BGN 40. In December 2016, all pensioners the amount of whose pension was below BGN 300 per month, received a lump-sum supplement of BGN 40.
2017	As of 01.7.2017, all pensions granted before 31.12.2016 were increased by 2.4%.	In April 2017, all pensioners the amount of whose pension is below BGN 314 per month, received a lump-sum supplement of BGN 40. In December 2017, all pensioners the amount of whose pension was below BGN 321 per month, received a lump-sum supplement of BGN 40.
2018	As of 01.7.2018, all pensions granted before 31.12.2017 were increased by 3.8%	In April 2018, all pensioners the amount of whose pension was below BGN 321 per month, received a lump-sum supplement of BGN 40. In December 2018, all pensioners the amount of whose pension was below BGN 348, received a lump-sum supplement of BGN 40.
2019	As of 01.7.2019, all pensions granted before 31.12.2018 were increased by 5,7%.	In April 2019, all pensioners the amount of whose pension was below BGN 348, received a lump-sum supplement of BGN 40. In December 2019, all pensioners the amount of whose pension was below BGN 363, received a lump-sum supplement of BGN 40.
2020	As of 01.7.2020, all pensions granted before 31.12.2019 were increased by 6,7%.	In April 2020, all pensioners the amount of whose pension was below BGN 363,

received a lump-sum supplement of BGN 40.

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- Pension indexation rules and absolute amount of the minimum old-age pension is determined annually in the Law on the Budget of the Public Social Insurance (*Закон за бюджета на държавното обществено осигуряване*). With regard to pension indexation, as of 01.1.2017, new rules have entered into force. It is envisaged that the pensions granted before 31.12 of the previous year shall be increased by annual re-calculation – the weight of each contributory year in the pension formula was 1.1% until the end of 2016 and since the beginning of 2017 it shall be increased according to the sum equal to 50% of the consumer price index and 50% of the increase of the average contributory income for the country for the previous calendar year. These rules will last until the weight of each year of insurance in the pension formula reaches 1.5%. In 2017, this percentage is fixed at 1.126%, i.e. pensions granted before 31.12.2016 shall be increased as of 01.07.2017 by 2.4% approximately. In 2018 the “weight” of each year of insurance in the pension formula was 1.169%. In 2019, it is 1,200%. As of 01.1.2019, amendments of the Code on Social Insurance entered into force. The amendments envisage that the increase of the percentage of each year of insurance in the pension formula will not be continued after 2019 and it will remain at its current level, namely 1,200%. In addition, in 2020 and afterwards, pensions will be increased by a percentage calculated as the sum equal to 50% of the consumer price index and 50% of the increase of the average contributory income for the country for the previous calendar year. The percentage will be set by the Supervisory Council of the National Social Security Institute (*Надзорен съвет на Националния осигурителен институт*).

- The maximum pension amount is determined as of 1<sup>st</sup> of July as 40% of the maximum amount of the contributory income for the country for the respective calendar year (BGN 2 600 in 2018 and BGN 3 000 in 2019). In 2019, the maximum pension amount is BGN 910 from 01.1.2019 to 30.6.2019 and BGN 1 200 after 01.07.2019.

- The amounts of the newly granted pensions shall be calculated by using the “weight” of each year of insurance determined for the respective year. In 2019 the amounts of newly granted pensions shall be calculated by using the percentage of 1.200%.

- The minimum and maximum amounts of the unemployment benefit and the amount of the cash benefit for bringing up a child up to age of 2 are determined in the Law on the Budget of the Public Social Insurance (*Закон за бюджета на държавното обществено осигуряване*). The maximum amount of unemployment benefit has been introduced since the beginning of 2018.

- The amount of the social old-age pension is determined in a decree adopted by the Council of the Ministers.

- The absolute amounts of the family allowances are determined annually in the State Budget of the Republic of Bulgaria Act (*Закон за държавния бюджет на Република България*) as that they should not be lower than the levels in the previous year.

- Regarding the social assistance benefits, the benefit amount is determined on the basis of the amount of the Guaranteed Minimum Income (*Гарантиран минимален доход – GMI*). The GMI amount is determined by the Council of Ministers.

- The access to targeted heating benefits are dependent upon the so-called “Differentiated Heating Income” (*Диференциран доход за отопление – DHI*). The benefit amount is determined according to the value of the so-called “Basic Heating Income” (*Базов доход за отопление – BHI*). Both DHI and BHI have been introduced since 2019/2020 heating season and its amount is equal to the 2-fold amount of GMI.

- There are **different rules** concerning the assessment of the means-tested benefits:

### Allowances under the Family Allowances Act (Закон за семейни помощи за деца):

- The means-test includes all gross incomes of the family, taxable under the Income Taxes on Natural Persons Act (*Закон за данъците върху доходите на физическите лица*), as well as all received pensions, benefits and scholarships
- Scholarships of students until graduation from high school, but not after the age of 20, as well as allowances and funds received under the Family Allowances Act and under the Child Protection Act are not included in the means-test. As of 01.01.2017, all allowances and benefits received under the Integration of People with Disabilities Act (*Закон за интеграцията на хората с увреждания*) shall not be included in the means-test as well.
- The supplement for care by assistant, which is granted under the Code on Social Insurance (*Кодекс за социално осигуряване*), and some other forms of assistance provided to families with children, are not included in the means-test (see 2.4.9 for details).
- The reference income is the income for the last 12 months.
- The assessment is done annually. However, the recipients are obliged to inform public authorities and to declare any changes which might have influence their eligibility.

### Allowances under the Social Assistance Act (Закон за социално подпомагане):

- The means-test includes: wages and all other incomes from labour activities; incomes from economic activity in agriculture, forestry and fishing; income from sales of immovable or/and movable property; income from rents, leases, etc.; royalties; equity yields and other capital incomes; allowances and benefits; pensions; scholarships; monthly family allowances; alimonies; other incomes (not included in the list).
- The following incomes are not included in the means-test: allowances granted under the Social Assistance Act (*Закон за социално подпомагане*); the supplement for care by assistant; one-off pensions and ad-hoc compensations to the pensions; supplements to pensions of war veterans; the one-off benefit upon childbirth; targeted allowances for free railway and bus transport to mothers of multiple children; targeted allowances to schoolchildren; monthly allowances for social integration of people with disabilities; allowances granted by the Council of Ministers' act.
- The reference income for determining the right to monthly social assistance allowance is the income for the last month. The income for the last 6 months is used for determining the right to targeted heating allowances.
- The recipients are obliged to inform public authorities and to declare any changes which might have influence their eligibility to social assistance benefits.

### Allowances under the Child Protection Act (Закон за закрила на детето):

- The means-test includes: wages and all other incomes from labour activities; incomes from economic activity in agriculture, forestry and fishing; income from sales of immovable or/and movable property; income from rents, leases, etc.; royalties; equity yields and other capital incomes; allowances and benefits; pensions; scholarships; monthly family allowances; alimonies; other incomes (not included in the list).

- The following incomes are not included in the means-test: allowances granted under the Child Protection Act (*Закон за закрила на детето*); the supplement for care by assistant; one-off pensions and ad-hoc compensations to the pensions; supplements to pensions of war veterans; the one-off benefit upon childbirth; monthly allowances for social integration of people with disabilities; allowances granted by the Council of Ministers' act.
- The reference income for determining the right to monthly social assistance allowance is the income for the last month.
- The assessment is done once (for the one-off allowances) and annually (for the monthly allowances). The recipients are obliged to inform public authorities and to declare any changes which might have influence their eligibility.

**Allowances under the Integration of People with Disabilities Act (Закон за интеграция на хората с увреждания) (until 31.12.2018 as it has been repealed by the People with Disabilities Act entered into force from 01.1.2019):**

- The means-test includes: wages and other incomes from labour activity; incomes from economic activity in the agriculture, forestry and fishing; income from rents, leases, etc.; equity yields and all capital income; royalties; family allowances; social assistance allowances; pensions; scholarships; alimonies; other incomes (not included in the list).
- The following incomes are not included in the means-test: all allowances granted under the Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*); the supplement for care by assistant; the one-off benefit upon childbirth; one-off pensions and ad-hoc compensations to pensions; allowances granted under the Child Protection Act (*Закон за закрила на детето*); humanitarian aid; supplements to the pensions of the war veterans; allowances granted by the Council of Ministers' act.
- The reference income is the income for the last 12 months.
- As means-tested allowances granted under the Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*) are one-offs, the assessment is done only once.

**Allowances under the People with Disabilities Act (Закон за хората с увреждания) (entry into force from 01.1.2019):**

- The means-test includes: gross income of the family from all sources which are subject to taxation under the Income Taxes on Natural Persons Act (*Закон за данъка върху доходите на физическите лица*) – wages, salaries, fees, rents, income from property, income from activities in agriculture, forestry and fisheries; income from pensions; benefits; allowances; scholarships; alimonies.
- The following incomes are not included in the means-test: financial support received under the People with Disabilities Act (*Закон за хората с увреждания*); supplement for care by assistant (*Добавка за чужда помощ*); one-off allowance upon childbirth under the Family Allowances Act (*Еднократна парична помощ при раждане на дете*); humanitarian aid; lump-sum pension payments; pension supplements received by war veterans; all benefits and allowances received under the Child Protection Act (*Закон за закрила на детето*).
- The reference income for determining the right to targeted lump-sum allowances is the income for the last 12 months.

- As means-tested allowances granted under the People with Disabilities Act (*Закон за хората с увреждания*) are one-offs, the assessment is done only once.

## 1.2. Social benefits

### 1.2.1. Unemployment benefits

**Unemployment benefit** (*Обезщетение за безработица*): it is a contributory benefit provided to the unemployed, only if the person became unemployed involuntarily and is actively searching for a job. The beneficiary should not be entitled to an old-age pension and should not undertake an economic activity requiring compulsory social insurance. Furthermore, since the benefit is contributory it is granted if the unemployed person has been insured for *at least 12 months during the last 18 months* before the termination of the employment (9 months during the last 15 months before 2018). It is equal to 60% of the contributory income for the last 24 months (since 01.01.2012) and its daily amount should not be lower than fixed minimum and maximum amounts. The duration of the benefit is between 4 and 12 months depending on the length of the contribution history of the individual.

### 1.2.2. Sickness benefits

**Cash benefit for sickness due to general disease** (*Парично обезщетение за временна неработоспособност поради общо заболяване*): it is a contributory benefit granted upon a medical referral and under the condition that the person has been insured for at least 6 months. The requirement for 6 months of insured length of service shall not apply to those under the age of 18. The daily cash benefit for temporary disability through common disease shall be calculated at the rate of 80 % of the contributory income for the last 18 months (18 months – since 01.1.2012).

**Cash benefit for sickness due to an employment injury or occupational disease** (*Парично обезщетение за временна неработоспособност поради трудова злополука или професионална болест*): it is a contributory benefit granted upon a medical referral. Notwithstanding that the benefit is contributory, no qualification period is required. The daily cash benefit for temporary disability through common disease shall be calculated at the rate of 90 % of the contributory income for the last 18 months (18 months – since 01.1.2012).

### 1.2.3. Maternity benefits and family allowances

**Cash benefit for pregnancy and childbirth** (*Парично обезщетение при бременност и раждане*): it is a contributory non means-tested benefit granted to mothers upon a medical referral and under the condition that the mother has been insured at least for 12 months. The benefit is paid for a period of 410 days, 45 days of which – before the anticipated date of delivery. Fathers have a right to a benefit for a period of 15 days immediately after the childbirth. The same eligibility conditions apply. Moreover, the benefit can be received by the fathers (instead of mothers) from the 6<sup>th</sup> month until the 1<sup>st</sup> year of the child and upon the mother's approval. The benefit amounts 90% of the contributory income for the last 24 months (2013) and for the last 18 months (2014) and for the last 24 months (from 2015). The daily cash benefit may not be more than the average daily net remuneration for the period based on which the benefit has been calculated, or less than the minimum daily wage. As of 01.06.2017, mothers can receive 50% of the benefit if they do not use the rights that they are entitled to (if eligibility conditions are fulfilled), or if they interrupt the receipt of the benefit due returning to work. In some cases (in case of mother's death or if she has been denied paternity rights) this opportunity can be used by the father (if he fulfills the eligibility conditions). As of 01.06.2017, if some of the following events occur before the 42th day after the

childbirth: (1) the child is born dead or deceases before; (2) the child is accommodated to a family of relatives or foster families as a child protection measure; (3) the child is included in the list of children available to be fostered, mothers can receive a maternity and family benefit until the 42th day following the childbirth. If her working capacity is not fully recovered, the duration of receipt can be prolonged upon a decision of competent medical authorities. If the mentioned events occur after the 42th day following the childbirth, the benefit receipt shall be terminated if mother's working capacity is fully recovered.

**Cash benefit for bringing up a child up to age of 2** (*Парично обезщетение при оглеждане на дете до 2-годишна възраст*): it is a contributory non means-tested benefit granted upon a medical referral and under the condition that the person has been insured at least for 12 months. The mother can receive 50% of the benefit if she does not use the right which she is entitled to (in case that she fulfills all eligibility conditions), or if she interrupts the receipt of the benefit due to returning to work. In some cases, the benefit can be paid to the father or, since June 2017, to one of the mother's parents – if the following conditions are fulfilled: (1) the mother is severely diseased and father is either deceased or missing, and (2) the mother's parent should be employed on a labour contract. The person whom the benefit is paid to has to use the paid-leave for bringing up a child up to age 2 according to the regulations of Bulgarian Labour Code (*Кодекс на труда*). The amount of the benefit is determined by the Public Social Insurance Budget Act (*Закон за бюджета на държавното обществено осигуряване*).

**Cash benefit in case of adoption of a child up to age of 5** (*Парично обезщетение при осиновяване на дете до 5-годишна възраст*): it is a contributory non means-tested benefit which has been introduced since 01.1.2014. It is given to people who have been insured against the sickness and maternity risks for at least 12 months and who are in paid leave in case of adoption of child between 2 and 5 years, according to the Labour Code (*Кодекс на труда*). The duration of the benefit is 365 days, but cannot be received after the 5<sup>th</sup> year of the child. The benefit amount is equal to 90% of the contributory income for the last 24 months. The daily cash benefit may not be higher than the average daily net remuneration for the period used as a basis for determining the amount of the benefit, or lower than the minimum daily wage.

**Monthly allowance for bringing up a child up to age of 1** (*Месечна помощ за отглеждане на дете до навършване на 1 година*): it is a non-contributory means-tested allowance paid to mothers of children up to one year of age. The benefit is means-tested and shall be paid to claimants living in families where the average monthly income per family member for the last 12 months is lower than a certain threshold. To receive the benefit, mothers should not be insured and should not be in receipt of contributory benefit for pregnancy and childbirth, benefit for bringing up a child up to age 2 and benefit in case of adoption of a child between 2 and 5 years 9. The threshold level and the amount of the allowance are determined by the State Budget Act.

**Monthly allowances for a child until graduation from high school, but not after the age of 20** (*Месечна помощ за дете до завършване на средно образование, но не повече от 20-годишна възраст*): it is a non-contributory means-tested allowance paid to a parent bringing up a child until the completion of secondary education, but no longer than the moment when the child reaches 20 of age. The benefit is means-tested and shall be paid to claimants living in families where the average monthly income per family member for the last 12 months is lower than a certain threshold. The threshold level and the amount of the allowance are determined by the State Budget Act. As of 01.1.2017, this allowance cannot be received simultaneously with the monthly allowance for permanently disabled children below 18 years of age and prior to finishing secondary school, but not later than reaching 20 years of age. This allowance should be terminated in case: (1) the child has been accommodated to other family as a child protection measure under the Child Protection Act; (2) when, within one month of the school year, a child attending a group for compulsory preschool education has more than three absence days and there are no valid reasons justifying the absence; (3) when, within one month of the school year, a child in school education has missed more than 5 school hours without valid reasons justifying the absence; (4) when the child receiving

the allowance becomes a parent. The child who has become a parent is entitled to a lump-sum allowance which amount is equal to the amount of the suspended allowance for the period from the termination to the expiration of the period for which it was granted. In order to receive the lump-sum allowance, the child should continue to attend school and should not have missed, within a month, 5 school hours, for which there are no valid reasons.

**Monthly allowance for permanently disabled children below 18 years of age and prior to finishing secondary school, but not later than reaching 20 years of age** (*Месечна добавка за деца с трайни увреждания до 18-годишна възраст и до завършване на средното образование, но не по-късно от 20-годишна възраст*): it is a non-contributory non-means tested allowance paid to a parent of a child with permanent disability up to 18 years of age and until completion of secondary education but not later than 20 years of age. The allowance is paid regardless of the family income and upon a medical referral. The amount of the allowance is determined by the State Budget Act. As of 01.1.2017, this allowance cannot be received simultaneously with the monthly allowances for a child until graduation from high school, but not after the age of 20, and (2) monthly allowances for social integration under the Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*). The allowance amount depends on the severity of the permanent disability and in 2018 and on whether the child is placed in a family of relatives or foster care family (as a child protection measure). In 2019 and 2020 the amounts are (per each child):

Type and degree of invalidity	Own family	Family of relatives or foster care family
90% +	BGN 930 per month	BGN 490 per month
70-90%	BGN 450 per month	BGN 420 per month
50-70%	BGN 350 per month	BGN 350 per month

**Lump sum pregnancy grant** (*Еднократна парична помощ при бременност*): it is a non-contributory means-tested lump sum allowance paid to mothers who are not insured and do not receive a contributory maternity benefit. The allowance is means-tested and is paid to persons living in families where the average monthly income per family member for the last 12 months (preceding the period which starts from the 45<sup>th</sup> day prior to the anticipated date of delivery) is lower or equal to a certain threshold. If the parents are divorced, only the income of the parent who has received the right to take care for the child shall be taken into account. The threshold level and the amount of the allowance are determined by the State Budget Act.

**Monthly allowance for a child without a right to a survivor's pension** (*Месечна помощ за дете без право на наследствена пенсия от починал родител*): It is a non-contributory non-means tested benefit that has been introduced since the beginning of 2019. The main requirement regarding the right to this allowance is that the child should be entitled to a survivor's pensions granted under the Social Insurance Code (*Кодекс за социално осигуряване*). Additional requirements are: (1) the child permanently lives in the country; (2) the child is not accommodated into a foster care or relatives as a child protection measure; (3) the child has all immunizations and has passed all preventive medical checkups required for the respective age and health condition; (4) the child attends the kindergarten or school on a regular basis. The benefit is paid until completion of secondary education but not after the child reaches 20 years of age. Its amount is determined by the State Budget Act.

**One-off allowance upon childbirth** (*Еднократна парична помощ при раждане на дете*): it is a non-contributory non-means-tested allowance paid to mothers upon childbirth regardless of the family income. The right to a benefit occurs since the date of the childbirth. The amount of the benefit depends upon the number of the born children. It is determined by the State Budget Act. In case of twins, the benefit for each child shall be paid in the amount for the second child. If the

parents are divorced, only the income of the parent who has received the right to take care for the children shall be taken into account.

**Targeted allowance for schoolchildren** (*Целева помощ за ученици*): it is a non-contributory means-tested lump sum allowance paid to a family whose child is enrolled in 1<sup>st</sup> grade at state or municipal schools. The benefit is means-tested and is paid to persons living in families where the average monthly income per family member for the last 12 months is lower or equal to a certain threshold. The threshold level is determined by the State Budget Act and the amount of the benefit – by an act of the Council of Ministers. As of 1.07.2019, the allowance shall be paid on two instalments, as 50 per cent of its amount shall be paid after the entry into force of the order for its granting, and the remainder shall be paid at the beginning of the second school term, if the child continues to attend school.

**Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students** (*Еднократна помощ за отглеждане на дете до навършване на 1 година за майки студентки в редовна форма на обучение*): it is a non-contributory non means-tested allowance introduced in 2009. Its amount is determined by the State Budget Act.

**Lump sum allowance for raising twins until 1 year of age** (*Еднократна помощ за отглеждане на близнаци до навършване на 1 година*): it is a non-contributory non means-tested allowance introduced in 2009. Its amount is determined by the State Budget Act.

**Lump sum allowance in case of adoption** (*Еднократна помощ при осиновяване на дете*): it is a non-contributory non means-tested benefit granted to adoptive parents if they and the adopted child/children reside in Bulgaria permanently, i.e. more than 183 days per year. The amount of the benefit is determined annually in the State Budget Act – it should not be lower than the amount for the previous year and not higher than the amount of the cash benefit for pregnancy and childbirth (*Парично обезщетение при бременност и раждане*). The allowance has been introduced since 1<sup>st</sup> of January 2016.

### 1.2.4. Child Protection Allowances

**Financial support for the prevention of the abandonment, bringing up of a child by relatives or foster family** (*Помощ за превенция, отглеждане на детето при близки и роднини или в приемно семейство*): there are some non-contributory means tested allowances granted in order to support the bringing up of a child at risk. Allowances could be paid on a monthly basis or as a one-off payment. The total amount of the one-off allowance cannot be higher the 5-time amount of the GMI. The monthly amount of the allowance could be up to 3 times the amount of the GMI (for children up to 7 years of age), up to 3.5 times the amount of the GMI (for children between 7 and 14 years of age) or up to 4 times the amount of the GMI (for children between 14 and 20 years of age). For children with disabilities, a supplement of 75% of the GMI should be paid to the monthly allowances. Social workers assess the income of the family and the necessity the financial support to be provided.

### 1.2.5. Pensions

**Pension for insurance and old age** (*Пенсия за осигурителен стаж и възраст*): it is a contributory benefit granted to persons who have reached the standard retirement age (in 2020 – 61 years and 6 months for women and 64 years and 3 month for men) and whose length of contributory service is minimum 35 years and 10 months (women) and 38 years and 10 months (men). Persons having insufficient period of insurance can retire at age of 66 years and 4 months (in 2019) if they have at least 15 years of insurance. The amount of the pension depends on: (1) the amount of the average contributory income for the country for the last 12 months preceding the date of retirement; (2) the monthly ratios between the past earnings of the claimant and the average contributory income for the country for the assessment period; (3) the duration of the pension insurance (number



of years). Since 01.1.2016 individuals who have the necessary length of contributory service can get an insurance and old-age pension maximum 12 months prior reaching the statutory retirement age, i.e. to retire up to one year earlier. In that case the amount of their pension shall be reduced by 0.4% per each insufficient month. The minimum amount of the insurance and old-age pension is determined by the Public Social Insurance Budget Act. The maximum amount of the pension is equal to 35% of the maximum amount of the contributory income for the country (40% - as of 01.07.2019).

**Pension for invalidity due to general sickness** (*Пенсия за инвалидност поради общо заболяване*): it is a contributory benefit granted to persons with permanent disabilities upon a medical referral. The minimum required period of insurance varies according to the age of the claimant – it is between 0 for persons up to age 20 and 5 years for persons of age 30 or above. The calculation formula is the same as for the pension for insurance and old age. However, the number of years of insurance is corrected with a coefficient based on the percentage of reduced working capacity. The calculation formula is the same as for the pension for insurance and old age but it cannot be lower than a certain minimum (which varies according to the degree of reduced working capacity) and higher than a certain maximum (35% of the maximum amount of the contributory income for the country and 40% - as of 01.7.2019).

**Pension for invalidity due to employment injury or occupational disease** (*Пенсия за инвалидност поради трудова злополука или професионална болест*): it is a contributory benefit granted to persons with permanent disabilities upon a medical referral. A minimum qualifying period is not required. The calculation formula is the same as for the pension for insurance and old age. However, the number of years of insurance is corrected with a coefficient based on the percentage of reduced working capacity. The calculation formula is the same as for the pension for insurance and old age but it cannot be lower than a certain minimum (which varies according to the degree of reduced working capacity) and higher than a certain maximum (35% of the maximum amount of the contributory income for the country and 40% - as of 01.7.2019).

**Social Old-Age Pension** (*Социална пенсия за старост*): it is a non-contributory benefit granted to persons who are over 70 years of age. In order to receive that benefit, the person should live in a family where the annual income per family member by the date after reaching the age is less than the sum of the so-called “Guaranteed Minimum Income” (*Гарантиран минимален доход*) for the last 12 months. Furthermore, the claimant shall not be granted any other type of pension.

**Social Invalidity Pension** (*Социална пенсия за инвалидност*): it is a non-contributory and non-means tested benefit granted to persons who have reached 16 years of age with reduced working capacity of over 71%. The amount of the social invalidity pension varies according to the degree of reduced working capacity and should be determined as a percentage of the social old-age pension.

**Survivor’s pension** (*Наследствена пенсия*): it is a contributory benefit and can be received by the surviving spouse, children (not older than 18 years of age; 26 years of age for students) and parents. Divorced and non-married partners are not entitled to that benefit. The survivor’s pension is calculated as a percentage of the pension of the deceased person (one survivor – 50%; two survivors – 75%; three or more survivors – 100%). It is granted to all entitled persons and is divided equally between them. The amount of the survivor’s pension (provided to all the survivors) cannot be lower than the 75% of the minimum amount of the insurance and old age pension and cannot be higher than a certain maximum (35% of the maximum amount of the contributory income for the country – for pensions granted until 31.12.2018, and 40% - as of 01.7.2019). As of 01.1.2017, the survivor’s pension for insurance and old age or survivor’s pension for disability due to general disease cannot be received together with a survivor’s pension of the same kind.

**Pension supplement in case of deceased spouse** (*Добавка от пенсията на починал съпруг*): it is a non-contributory benefit granted to a pensioner whose spouse has deceased. Since 01.9.2011 the amount of the allowance has been fixed at 26.5% of the pension (or the sum of pensions) of the

deceased spouse). It is granted for life but should be terminated in case of re-marriage. The supplement cannot be combined with a survivor's pension, but full accumulation with other pensions is possible.

**Pension from supplementary mandatory pension insurance** (*Пенсия от фонд за допълнително задължително пенсионно осигуряване*): it is a contributory benefit paid to persons having been insured in a private fund for supplementary mandatory pension insurance. Pension contributions are accumulated in the so-called “individual accounts”. There are two types of such funds: (1) Universal Pension Funds (*Универсални пенсионни фондове*) – the insurance is mandatory only for people born after 31<sup>st</sup> of December 1959) and (2) Professional Pension Funds (*Професионални пенсионни фондове*) – the insurance is mandatory for persons working under the 1<sup>st</sup> and 2<sup>nd</sup> category of labour, i.e. in risky and unhealthy working conditions. The insurance in the Universal Pension Funds (*Универсални пенсионни фондове*) entitle the insured person to: (1) a supplementary lifelong old-age pension after acquisition of an insurance and old age pension; (2) a lump-sum payment of up to 50 % of the resources accrued on the individual account in case of lifelong, permanently reduced working capacity exceeding 89.99% (70.99% until 31<sup>st</sup> of December 2015); (3) a lump-sum payment or payment by installments of amounts to the survivors of a deceased person or of a pensioner. The insurance in the Professional Pension Funds (*Професионални пенсионни фондове*) entitle the insured person to: (1) fixed-period early-retirement occupational pension; (2) lump-sum payment of up to 50 % of the resources accrued on the individual account in case of lifelong, permanently reduced working capacity exceeding 89.99% (70.99% until 31.12.2015); (3) lump-sum payment or payment by installments of amounts to the survivors of a deceased insured person or of a pensioner. Since 01.1.2016, people insured in both Universal Pension Funds (*Универсални пенсионни фондове*) and Professional Pension Funds (*Професионални пенсионни фондове*) have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance (*Държавно обществено осигуряване*) with an increased pension contribution. Individuals insured in Universal Pension Funds (*Универсални пенсионни фондове*) who decide to be insured only in the State Public Social Insurance (*Държавно обществено осигуряване*), can restore their insurance in the Universal Pension Funds (*Универсални пенсионни фондове*) not later than 5 years before reaching the statutory retirement age if they do not receive an insurance and old-age pension from the existing public schemes. Individuals insured in Professional Pension Funds (*Професионални пенсионни фондове*) cannot reverse their choice to be insured only in the State Public Social Insurance (*Държавно обществено осигуряване*).

**Pension from voluntary pension insurance** (*Пенсия от фонд за допълнително доброволно пенсионно осигуряване*): it is a contributory benefit paid to persons having been insured in a private fund for supplementary voluntary pension insurance. Pension contributions are accumulated in the so-called “individual retirement accounts”. There are two types of pensions – old-age pension (paid if the person has gained a right to a pension from public pension fund) and invalidity pension (paid upon a medical referral). The pension can be paid as a periodic or lump-sum benefit depending on the choice of the insured person.

### 1.2.6. Social Assistance, Heating and Housing Allowances

Bulgarian system of social assistance allowances is based upon the concept of the so-called “Guaranteed Minimum Income” (*Гарантиран минимален доход – GMI*). The amount of the GMI is determined by the Council of Ministers. Its amount has been fixed at BGN 65 for the period 2009-2017. As of 01.1.2018, the GMI amount is BGN 75.

**Monthly social assistance allowance** (*Месечна социална помощ*): it is a non-contributory means-tested allowance granted to persons living alone or to families whose income for the previous month is below the so-called “Differentiated Minimum Income” (DMI). Except the income-test, the beneficiaries should fulfill other eligibility criteria. DMI is determined for each person that falls in

a particular beneficiary category as a percentage of GMI. It shall be calculated at individual (when a person lives alone) or at family level. The DMI at family level is calculated as a sum of the DMIs of all family members. DMI varies between 30% of GMI for a child between 7 and 16 years of age (20 years of age when studying) and 165% of GMI for a person aged 75 or more who lives alone. The amount of the monthly social assistance allowance is equal to the difference of the DMI for the individual/family and their actual income.

**Targeted Heating Allowance** (*Целева помощ за отопление*): it is a non-contributory means-tested allowance granted to persons living alone or families whose income is below the so-called “Differentiated Heating Income” (DHI) and who also fulfill other eligibility criteria. DHI is calculated on the basis of the so-called “Basic Heating Income” (BHI) following a similar procedure as the DMI for the monthly social assistance allowance, but the percentages for the different categories of beneficiaries are higher. It varies from 0.30 times for a child between 5 and 16 years who does not attend school to 1.85 times BMI for a person aged 75 years or more who lives alone. The amount of the allowance is determined by the Minister of Labour and Social Policy. It is granted for a period of 5 months – from November to March – because this period is considered as the heating season in the country.

**Lump-sum social assistance allowance** (*Еднократна социална помощ*): it is a non-contributory means-tested allowance. Its amount is up to 5 times the GMI amount. It can be granted only once per year to cover unexpected health, educational, living and other emergencies. The allowance can be received by all citizens regardless of their income or material status but upon the result of the so-called “social assessment” by the social workers. **Targeted allowance for issuing a personal ID card** (*Целева помощ за издаване на лична карта*): it is a non-contributory means-tested allowance. It is granted upon an assessment of needs made by social workers and its amount is determined by the social workers.

**Targeted allowance for medical treatment abroad** (*Целева помощ за лечение в чужбина*): it is a non-contributory means-tested allowance. It is granted upon an assessment of needs made by the social workers only to persons having received permission for medical treatment abroad from the Ministry of Health, at the expense of its budget. The financial support shall be granted as a lump-sum allowance to cover the personal expenses of the beneficiary and her/his relatives.

**Targeted allowance for free traveling** (*Целева помощ за безплатно пътуване*): it is a non-contributory non-means tested allowance. It is granted to mothers of many children, persons with reduced working capacity over 71%, and children up to age 16 with permanent disabilities. Mothers of many children are entitled to free travel once per year – 1 return ticket by the railway or bus transport anywhere within the country. To facilitate the social adaptation individuals with reduced working capacity over 71%, children up to age 16 with a specific type and degree of disability of 50% or more, and war-disabled individuals have the right to free travel twice a year – 2 return tickets by rail or bus transport anywhere within the country.

**Targeted allowance for paying rent for a municipal lodging** (*Целева помощ за наем на общински жилища*): it is a non-contributory means-tested allowance paid to persons accommodated in municipal lodgings whose income for the previous month are below 150% of the DMI (see “*Monthly social assistance allowances*”). Only the following groups are entitled to such allowance: (1) orphans up to 25 years of age who have graduated at a specialized institution providing vocational training for disabled children and children at risk; (2) persons over 70 years of age living alone, and (3) lone parents. The amount of the benefit depends on the actual expenditures made by the beneficiaries.

### 1.2.7. Non-contributory allowances for the integration of people with disabilities

**Monthly financial support** (*Месечна финансова подкрепа*): it is a non-contributory non-means tested allowance granted to people with permanent disabilities. The allowance has been introduced

since 01.1.2019 with the adoption of the People with Disabilities Act (*Закон за хората с увреждания*). It is paid to individual aged 18 or more. Individuals aged from 18 to 20 are entitled to this form of support if they don't receive monthly allowance for permanently disabled children below 18 years of age and prior to finishing secondary school, but not later than reaching 20 years of age (*Месечна добавка за деца с трайни увреждания до 18-годишна възраст и до завършване на средното образование, но не по-късно от 20-годишна възраст*). The amount of the allowance is determined as a percentage of the official poverty line for the respective calendar year (between 7 and 57%). The exact percentage depends on the combination of the following factors: (1) the degree of disability; (2) whether the individual receives a pension; (3) whether the individual receives supplement for care by assistant (*Добавка за чужда помощ*).

**Targeted support for people with disabilities (Целеви помощи):** it is a non-contributory in-kind allowance provided to people with permanent disability. There are five types of targeted support (for supporting means, devices, equipment and medical products; purchase of personal vehicle; adjustment of dwelling; balneotherapy and/or rehabilitation services; rent of a municipal lodging):

- the Minister of Labour and Social Policy and the Minister of Finance determine the maximum amount of the allowance for the supporting means, devices, equipment and medical products;
- the amount of allowance for purchasing a personal vehicle is granted to people with disabilities who have mobility limitations and live in families whose average monthly income per family member for the last 12 months does not exceed the amount of the official poverty line (it is adopted by the Council of Ministers on annual basis and in 2020 its amount is BGN 363). The amount of the allowance is up to the 4-fold amount of the official poverty line;
- people with permanent disabilities (90% reduced working capacity or more) who travel by wheelchair are entitled to targeted support up to twice the amount of the official poverty line for the country for the adjustment of dwelling if the average monthly income per family member for the past 12 months is equal to or less than the official poverty line;
- people with permanent disabilities (90% reduced working capacity or more) are entitled to targeted support for using balneotherapy and/or rehabilitation services which amount is up to 80% of the amount of the official poverty line for the country, but not more than the actual costs incurred;
- people with disabilities are entitled to a targeted support for paying the rent of a municipal lodging if they are single or single parents with a child with permanent disability and the rent contract are concluded with them.

**Monthly allowance for social integration (Месечна добавка за социална интеграция):** it is a non-contributory non-means tested allowance granted to people with permanent disabilities. There are 7 types of social integration allowances (for transport services; for ICT services; for education; for medical bath treatment and rehabilitation; for dietary purposes and medicines; for accessible information; for paying the rent of a municipal dwelling). Their amounts are calculated as a percentage of GMI and vary from 15%, for example - monthly allowance for transport services, to 300% of GMI, for example the allowance for medical bath treatment and rehabilitation. As of 01.1.2017, only permanently disabled people above 18 years of age are entitled to this allowance. The allowance was paid until 31.12.2018 as the Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*) has been repealed as of 01.1.2019.

**Targeted financial support for buying and repairing supportive means, devices, equipment and medical products (Целева помощ за покупка и ремонт на помощни средства, приспособления, съоръжения и медицински изделия):** it is a non-contributory in-kind benefit provided to persons with permanent disabilities. The support is granted upon a medical referral and without means-test. The support is provided in form of reimbursement of the expenses actually made by the beneficiary, but not more than a fixed maximum level. The maximum level of the possible financial support is determined per each item (mean, device, equipment, or other product)

by an Ordinance of the Minister of Labour and Social Policy. The allowance was paid until 31.12.2018 as the Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*) has been repealed as of 01.1.2019.

**Supplement for care by assistant** (*Добавка за чужда помощ*): it is non-contributory benefit paid to pensioners with disability over 90% who need permanent assistance of an attendant. The amount of the supplement is determined as 75% of the social-old age pension amount.

### 1.2.8. Education related allowances

**Scholarship for pupils** (*Стипендия за ученици*): it is a non-contributory means-tested benefit provided to pupils enrolled in state and municipal schools depending on their marks achieved during the last school year. The scholarship is paid for the period from October 1<sup>st</sup> to June 30<sup>th</sup> (or paid 12 months for pupils with special educational needs and orphans). There are three types of scholarships which amount depends on whether the pupil has special educational needs or not; what is the average mark of the pupil; what is the family income of the pupil.

**Scholarship for students, PhD students and post-graduate students** (*Стипендия за студенти, докторанти и специализанти*): it is a non-contributory and means-tested benefit. Scholarships for students are paid for a period of 5 months (per each semester). The eligibility rules and scholarship amounts are determined by each university. While determining the eligibility rules the state universities shall take into account two criteria: average grade per semester and average monthly income per family member for the last 6 months. PhD students studying in Bulgaria at state-supported organizations (universities, institutes at the Bulgarian Academy of Sciences, or other scientific organizations) can receive a scholarship amounting to BGN 500 per month (BGN 450 until 31.12.2017). The scholarship is paid for a period of 3 years. The rector of a state university can grant students lump-sum awards and allowances in case of severe financial difficulties experienced by the students.

### 1.2.9. Other incomes – not part of the benefit system

**Cash benefit for the first three days of the temporary incapacity** (*Парично обезщетение за временна неработоспособност поради общо заболяване*): The insurer (employer) shall pay out to the insured person, for the first three business days of the temporary incapacity to work – the amount of the benefit is 70% of the contributory income.

**Loans for students and doctoral candidates** (*Кредити за студенти и докторанти*): Eligibility to apply for a loan is limited to students and doctoral candidates who meet simultaneously the following requirements have not attained the age of 35 and are studying full-time. The State guarantees shall guarantee the principal and the interest (interest agreed and interest for delay) on the amount payable under the loan.

## 1.3. Social contributions

The statutory contributions in the social insurance system in Bulgaria are compulsory for all individuals having earnings from at least one source of taxable income. The Social insurance contributions (SIC) are to be split between the employer and employee. There are three different classes of insured (Labour categories) according to the level of professional risk. The vast majority of hired employment in Bulgaria work under the so-called “3<sup>rd</sup> category of labour”. For this category the proportion of SIC is 56.657% for the employer and 44.343% for the employee (pension insurance) and 60% to 40% (other risks). In addition, the State provides additional transfers (to cover financial shortages) which amount is determined by the State Public Social Insurance Budget Act (*Закон за бюджета на държавното обществено осигуряване*). Until 01.1.2016, except for

transfers to cover the financial shortages, the State had been providing an additional contribution in amount of 12% for each person insured in Pensions Fund. The insurance against employment injury and occupational disease is for the sake of the employer. In the same time, for the public employee (civil servants, soldiers and other military personnel, policemen, firemen, investigators both within the system of the Ministry of Interior, personnel within the judicial system) the total amount of compulsory SIC is covered by the State.

Bulgarian pension insurance is built on the so called “three pillar” system. The first pillar is the public PAYG pension insurance and it is a part of State Public Social Insurance (*Държавно обществено осигуряване*). The second pillar is the so called “Supplementary Mandatory Pension Insurance” (*Допълнително задължително пенсионно осигуряване*). It operates on a funding principle and is managed by private pension funds. In the second pillar there are two types of pension funds – “Universal Pension Funds” (*Универсални пенсионни фондове*) for people born after 31.12.1959 and “Professional Pension Funds” (*Професионални пенсионни фондове*) for people working under the 1<sup>st</sup> and 2<sup>nd</sup> category of labour (risky and hazardous working conditions). SIC on this pillar are allocated to an individual retirement account /IRA/ at a private fund selected by each individual. It entitles the employee to a second pension upon retirement. Since 01.1.2016, people insured in Universal and Professional Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance (first pillar) or to participate simultaneously in the first and second pillar. The third pillar is the “Supplementary Voluntary Pension Insurance” (*Допълнително доброволно пенсионно осигуряване*) which is managed also by private funds and the respective SIC are also allocated to IRAs at these private funds.

As a general rule, all insured are obliged to contribute to the State Public Social Insurance. The risks covered and contribution amount depend on the occupation, the category of labour and the economic status of the respective person. The main principle is that persons employed on a labour contract are insured against all social risks and are obliged to contribute to the State Public Social Insurance. The coverage of insurance is lower for self-employed, free-lancers, craftsmen, registered farmers and tobacco producers, people performing work on a so-called “civil contracts” (see below).

All residents are obliged to pay health insurance contributions regardless of their status. The State pays the health insurance contributions for some categories among which are pensioners, unemployment benefit recipients, people under 18 years of age, students up to the age of 26 and PhD candidates – state funded education, people performing military service, people receiving social assistance benefits, etc. The others who are not covered by the health system not insured on any other grounds are obliged to pay health insurance contributions at their own expense – for example unemployed people not receiving cash unemployment benefits and people above 18 years of age who are neither students nor employees.

### **1.3.1. Pensions Fund (Фонд „Пенсии“)**

People contributing to Pensions Fund are insured against the old-age, invalidity and survivors’ risks. Insurance in the Pensions Fund is mandatory for all categories of insured regardless of their income, occupation or economic status.

### **1.3.2. General Diseases and Maternity Fund (Фонд „Общо заболяване и майчинство“)**

This SIC is used to provide eligibility of the employee to benefits in cases of general sickness or maternity. The following categories of insured are not obliged to pay contributions to this fund: (1) free-lancers and craftsmen; (2) persons performing work as sole traders, owners or partners in commercial corporations and natural persons who are members of unincorporated associations; (3) PhD candidates unless insured on other grounds; (4) registered farmers and tobacco producers; (5)

people who perform work without entering into an employment relationships (so-called “civil contracts”) and who receive a monthly remuneration equal to or exceeding one minimum wage less the expenses for the activity for standard deduction – unless insured on other grounds during the respective month; (6) people who perform work without entering into an employment relationship (so-called “civil contracts”) and who are insured on other grounds – regardless of the amount of the remuneration received. Insured mentioned in points (1), (2) and (4) can pay contributions to the Fund on a voluntary basis.

### **1.3.3. Unemployment Fund (Фонд „Безработица”)**

The contribution to the Unemployment Fund is used to provide eligibility of the employee to cash benefits in cases of unemployment spells. The categories of insured listed under 1.3.2 and insured people registered as seafarers are not obliged to contribute to this fund.

### **1.3.4. Employment Injury and Occupational Disease Fund (Фонд „Трудова злополука и професионална болест“)**

The contribution to this fund is between 0.4 and 1.1% and is paid solely by the employer. The contribution rate is determined by economic sector in the Public Social Insurance Budget Act (*Закон за бюджета на държавното обществено осигуряване*).

### **1.3.5. Teachers’ Pension Fund (Учителски пенсионен фонд)**

The teachers insure themselves for old age in the Teachers’ Pensions Fund with a separate insurance contribution. The contribution is 4.3% and is paid solely by the employer.

### **1.3.6. Fund “Pensions for the individuals under art. 69” (Фонд „Пенсии за лицата по чл. 69“)**

The fund has been established since 1<sup>st</sup> of January 2016. The insurance in that fund is obligatory for military servicemen and several categories of civil servants performing their duties within the systems of Ministry of Interior, Ministry of Defense and Ministry of Justice. The contribution rate to the Fund depends on whether the insured have decided not to insure themselves in the Professional Pension Funds.

### **1.3.7. Fund “Guaranteed claims of workers and employees”**

The insurance to this fund provides protection to workers and employees in case of insolvency of their employer. The contribution is paid by employers only. Since 2011 the contribution rate to this Fund has been fixed at 0.0% as the accumulated funds are sufficient to cover all arising expenditures on benefits.

### **1.3.8. Health insurance (Здравно осигуряване)**

The compulsory health insurance is the main source of funding for the public health system. Only the recognized contributors are eligible to use the services of the state health system. The state budget contributes to the health fund for the pensioners, registered unemployed, individuals under 18 years, students in the tertiary education and public employees.

## **1.4. Taxes**

### **1.4.1. Personal Income Tax (данък върху доходите на физическите лица)**

Personal income tax /PIT/ is levied on the earnings of the individual defined in the system as “physical” (or “natural”) person. The period of taxation with PIT is one fiscal year and every individual with taxable income is obliged to submit a Tax Declaration about her income. There is an important *exclusion* for this duty – in case that the individual has received income *only from* employment relations under a Labour Contract or as a kind of public servant – in this case it is assumed that the employer has calculated, withheld, and transferred the due PIT liability on behalf of the employee and submission of a Declaration is not necessary.

The Tax Declaration consists of several consecutive sections each of which is to be filled out if earnings from the respective source have been received by the individual. Specific preliminary treatment of the income from some sources is applied (for example, in respect of the standard rates for exempting parts of the gross taxable income). After deriving the amounts of tax bases in each section, the total annual tax base is obtained as a sum of the tax bases from the sections. All contributory and non-contributory (social assistance) benefits are exempted from income taxation, the main of which are. Since the beginning of 2013 incomes from interest on deposits have been included in the annual tax base. In the tax base are included also incomes from sole entrepreneurship and the tax base from this source is obtained as an annual financial result of the business activity. It can be assumed that the net income from this source has been utilized by the family budget and is plausibly recorded in the survey data.

### **1.4.2. Property (real estate) tax (данък сгради)**

Property tax is a local tax levied on the so called “tax estimate” of the value of any real estate object (building, land spot, etc.). Its revenues are allocated directly to the respective local (or municipal) budget. The tax on buildings is determined along with the sewage fee using differentiated rates on the basis of the tax estimate. The local governments (Municipal Councils) are allowed to set the local tax rates by their own legal act in established by the National Parliament limits (minimum and maximum thresholds).

### **1.4.3. Inheritance tax (данък наследство)**

Inheritance tax is also a local tax and is a version of a tax on capital transfer. It is a liability of both the heritor and heritage-giver and emerges as payable at the time of enacting the inheritance. Any kind of assets (both non-financial and financial) can be objects of the tax and its rate is determined differentially for each inheritor depending on her relation to the heritage-giver and the legal evaluation of the amount inherited. If the recipients are the partner and/or/ the children there is no liability for inheritance tax. In other cases the rates vary between 0.4% and 6.6% for amounts higher than BGN 250,000.

### **1.4.4. Motor vehicle tax (данък превозни средства)**

Motor vehicle tax is also a local tax and is determined by the Municipal Councils. The local government can set the unit tax as much as three times its minimum threshold. The tax is due to the owners of motor vehicles and is determined according to the power of the engine corrected by a coefficient depending on the year of its first registration.



### 1.4.5. Corporate profit tax (корпоративен данък)

Corporate tax is due by all resident companies – Bulgarian or foreign controlled – that are registered as legal entities under the Commercial Law. Also, non-profit organizations or public bodies that have own divisions operating as business units are also subject to the corporate tax. For the period 2011-2020 the tax rate is 10% and is levied on the corporate profit value specifically assessed by a financial accounting procedure under the regulations of the Accounting Law and the Law on Corporate Taxation.

### 1.4.6. Value added tax (данък върху добавената стойност)

Value added tax has a rate for the period 2015-2020 of 20% for almost all goods and services. Since 01.04.2011 **for hotel accommodation the rate has been 9%**. VAT is levied on the sales of domestically produced goods and services as well as on the sale of products imported to Bulgarian market, except on a list of VAT-exempted products.

From 01.07.2020 to 31.12.2021, VAT is 9% for: 1) accommodation provided in hotels and similar establishments, including the provision of holiday accommodation and rental of camping sites or caravans; 2) delivery of books on physical media or by electronic means, or both (including textbooks, instructional books and study sets, children's illustrated books for drawing or coloring, printed or handwritten musical editions), other than publications which are wholly or mainly intended for advertising, and other than publications which are wholly or mainly composed of video or audio-music content; 3) restaurant and catering services, consisting of the delivery of prepared or uncooked food; this does not apply to restaurant and catering services which consist of the supply of beer, wine and spirits; 4) foods suitable for babies or young children; 5) baby diapers and similar baby hygiene articles.

### 1.4.7. Excise duties (акцизи)

Excise duties are levied on various products (so called “excise goods”), e.g. alcohol and alcohol beverages, coffee, tobacco products, fuels and energy products (mineral oils, gas, etc.), electricity, and gambling. The amount of each excise duty is determined per unit of the naturally measured quantity of the respective excise good (e.g. per kilogram, liter, cubic meter, etc.).

## 1.5. Temporary support measures

### 1.5.1. Wage compensation (“60/40 measure”)

In March 2020, as a part of the policies to counteract the economic consequences of COVID-19 pandemics, the Bulgarian government launched a wage compensation scheme to support the jobs of workers from sectors hit particularly hard by the confinement measures (the so-called “60/40 measure”). Wage compensations are paid directly to employers and cover 60% of the individual contributory income for January 2020 of the worker plus statutory employer’s social and health insurance contributions on that sum. The support is provided for a maximum three months between March and June. There are two target groups:

(1) employers which activity is restricted as a result of the confinement measures - economic sectors 47 (except for 47.11, 47.2, 47.73, 47.74, 47.8, 47.9), 49.3, 51.1, 55, 56.1, 56.3, 59.14, 79, 82.30, 85.10, 85.53, 88.91, 90, 91, 93, 96.04 (NACE, rev. 2008);

(2) employers, except for these operating in the economic sectors A, K, O, P, Q, T and U (NACE, rev. 2008), that can provide a proof of 20% drop in their revenues compared to a year ago.

In July, the measure was extended to include additional period of three months (July, August and September) for which employers can receive state support. The eligibility conditions were eased. Target group are all employers, with the exception of those operating in the economic sectors A, K, O, P, Q, T and U (NACE, rev. 2008), that can prove a drop of their revenues compared to a year ago. The support is provided for:

1. workers and employees whose work has been suspended during the period of the state of emergency or the declared emergency epidemic situation with an order under Art. 120c of the Labor Code (*Кодекс на труда*);
2. workers and employees who during the period of the state of emergency or the declared emergency epidemic situation have worked part-time on the grounds of Art. 138a, para. 2 of the Labor Code (*Кодекс на труда*);
3. workers and employees who during the period of the state of emergency or the extraordinary epidemic situation have used unpaid leave on the grounds of art. 173a of the Labor Code (*Кодекс на труда*);
4. workers and employees whose employment has been retained after a notification of mass dismissals has been submitted pursuant to Art. 130a of the Labor Code (*Кодекс на труда*) and Art. 24 of the Employment Promotion Act (*Закон за насърчаване на заетостта*) during the period from March 13 to June 30, 2020;
5. workers and employees, other than those specified in items 1 - 4, employed in sector I - “Hotels and restaurants” (NACE, rev. 2008).

The period of support remains three months. The amount of the wage compensations is determined as 60% of the monthly contributory income of the employee for May 2020, plus 60% of the statutory social and health insurance contributions that have to be paid by the employer.

In October 2020, this measure was additionally extended to cover the period until the end of the year. All conditions remain the same with two exceptions: (1) employers operating in road passenger transport have been included in the group of employers whose employees must not have worked part-time or temporary suspended from work during the period of emergency; (2) the reference income has been changed to the contributory income for August 2020.

Therefore, employers can receive support for preserving one and the same workplace of a employee for whom either a part-time working schedule or temporary lay-off has been introduced within the period from March to June. The maximum period of support is nine months during the period March-December 2020. In the other cases the maximum period of support is six months - from July to December.

Wage compensations are paid from Unemployment Fund (*фонд “Безработица”*) of the Bulgarian State Public Social Insurance (*Държавно обществено осигуряване*).

We simulate the rules of the scheme as of 30<sup>th</sup> of June, i.e. for its duration from March to June 2020.

### **1.5.2. Support measures for self-employed and freelancers in the field of culture**

Ministry of Culture provides a monthly grant of BGN 720 for a period of three months to self-employed and freelancers working in the field of culture whose average monthly income for 2019 is below BGN 1,000. Grants are paid by the Culture Fund (*фонд “Култура”*). This measure is not simulated in the EUROMOD, as we cannot identify in the data who is potentially eligible to the support.

### **1.5.3. Wage compensations for tourism and transport sectors**

Employers and self-employed operating in the tourism and transport sectors are eligible to receive support of BGN 290 per each employee for a period of maximum 6 months. The amount of BGN 290 includes BGN 189 for the employee and the other part consists of the mandatory social and health insurance contributions on behalf of the employer and the employee. In order to receive the support, they have to prove that their revenues have dropped by at least 20% compared to a year ago. Eligible sectors, according to NACE, rev. 2008, are as follows: 49.31, 49.39, 49.41, 50, 51.10, 51.21, 52.23, 55, 56, 79.

Employers operating in these sectors are eligible to receive support both under this and the “60/40 measure” for the same employee. The total amount of the support cannot exceed 80% of the wage of the employee, plus the statutory employer’s social and health insurance contributions.

### **1.5.4. Lump-sum payments to all pensioners**

The Bulgarian government has decided that all pensioners, regardless of the amount of their pension, should receive a lump-sum payment of BGN 50 in August, September, October, November and December 2020.

### **1.5.5. Extended scope of the lump-sum social assistance allowance**

In summary, this benefit is a discretionary form of support, where social workers apply a form of a means-test to determine entitlement. The main eligibility condition is that parents are not able to work from home and to go on a paid leave. In more detail, parents of children up to 7th grade who have reached the age of 14, as well as families in which one or both parents have lost their job but are not entitled to unemployment benefits, can receive a one-time benefit of BGN 375. The scope of the target groups for which support is given as a matter of priority is extended in order to reduce the negative effects on families with children experiencing financial difficulties during the state of emergency. The priority groups are parents who fulfill the following cumulative conditions: (1) are single parents or jobless parents without other incomes; (2) are not entitled to an unemployment benefit; (3) has used a paid leave of at least 20 days and had to go on an unpaid leave; (4) income per a family member not exceeding BGN 610 for the period before going on an unpaid leave; (5) haven’t received another lump-sum social assistance allowance in 2020; (6) have paid all social and health insurance contributions for the last 6 months except in the case they have lost their job and incomes due to COVID-19 containment measures; (7) their jobs are not protected under wage compensation schemes; (8) their children attended a creche, kindergarten or school before March 13, 2020. Due to data limitations, the benefit is not simulated in EUROMOD.

## **2. Simulation of taxes and benefits in EUROMOD**

### **2.1. Scope of simulation**

The scope of taxes and benefits in Bulgarian tax-benefit system 2017-2020 simulated by EUROMOD covers only those instruments that have been identified as feasible for simulation in the framework of EU-SILC 2018 survey data coverage. Tables 2.1 and 2.2 present the status of simulation feasibility about social benefits and taxes covered by this country report along with brief comments on the main reasons for each instrument not simulated.

- Some items such as VAT and excise taxes are beyond the scope of the model. The reason is the lack of information in the underlying dataset on these items and/or on the components necessary to simulate them in EUROMOD.

- Other items available in SILC were, however, found to be infeasible to simulate due to lack of data which would allow for simulating eligibility conditions and/or conditions for the assessment of tax or benefit amount (e.g. information on contributory history necessary to simulate IOA pension, or on rights necessary for “patent” income tax, etc.).

- In fact, most of the contributory benefits are not simulated by EUROMOD due to lack of data essential for the simulation of entitlement rights (e.g. contribution and/or former employment history /including earnings received/, occurrence of disability or work accident, deceased spouse contribution history, etc.). There are several exclusions from this rule (marked as “partially simulated”). For these cases, some necessary conditions have been plausibly assumed in order to identify eligible individuals and simulate their entitlements.

- As a rule, the major direct income taxes and SIC are simulated (as far as they are assessed on the basis of the gross employment and self-employment available in the EU-SILC database). However, application of some income tax or SIC legal rules in detail is not practically possible due to lack of information about some economic activity type, specific income sources or other elements that are not recorded by the EU-SILC survey. A particular case is the social insurance of the self-employed where the minimum wage is used as a simulation basis for SIC. In reality, the minimum contributory base differs depending on the occupation (type of profession and type of the industry).

- For some of the contributory and for most of the non-contributory means-tested benefits the assessment unit is the family. Family shall mean parents (married or cohabiting) and their dependent children till the age of 18 or till the age of 20 but only if they are enrolled in school (see page 6).

**Table 2.1 Simulation of benefits in EUROMOD**

Benefit	Variable name(s)	Policy years				Why not fully simulated?
		2017	2018	2019	2020	
Unemployment benefit	<i>bunct_s</i>	PS	PS	PS	PS	No data on contribution history; eligibility partially simulated based on observed receipt of the benefit
Benefit for long-term unemployment						The benefit was abolished
Cash benefit for sickness due to general disease		IA	IA	IA	IA	No data on contribution history and sickness duration
Cash benefit for sickness due to employment injury or occupational disease		IA	IA	IA	IA	No data on contribution history and events occurrence
Cash benefit for the quarantine		E	E	E	E	
Cash benefit for sanatorium treatment		E	E	E	E	
Cash benefit for caring for a sick family member		E	E	E	E	
Cash benefit for reassignment		E	E	E	E	
Cash benefit for pregnancy and childbirth	<i>bmapret_s</i>	PS	PS	PS	PS	No data on contribution history; eligibility partially simulated based on observed receipt of the benefit
Cash benefit for bringing up child up to age of 2	<i>bmaycct_s</i>	PS	PS	PS	PS	No data on contribution history; eligibility partially simulated based on observed receipt of the benefit
Cash benefit in case of adoption of child up to age of 5 years						No data on whether the children in the household are adopted or not; No data on contribution history
Monthly allowance for bringing up child up to age of 1	<i>bmaprnc_s</i>	S	S	S	S	
Monthly child allowance for bringing up a child until completion of secondary education but not longer than 20 years of age	<i>bchmt00_s</i>	S	S	S	S	
Monthly child allowance for bringing up a permanently disabled child up to 18 years of age and until completion of secondary education but not longer than 20 years of age		IA	IA	IA	IA	No data on individual disability level

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Monthly allowance for a child without a right to a survivor's pension						The allowance was introduced in 2019 and therefore is not covered by EU-SILC 2018.
Lump sum pregnancy grant		IA	IA	IA	IA	
Lump sum allowance upon childbirth	<i>bchbals_s</i>	S	S	S	S	
Targeted allowance for pupils	<i>bchedyc_s</i>	S	S	S	S	
Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	<i>bchmm01_s</i>	S	S	S	S	
Lump sum allowance for raising twins until 1 year of age	<i>bchmm02_s</i>	S	S	S	S	
Lump sum allowance in case of adoption						No data on whether the children in the household are adopted or not
Pension for insurance and old age /IOA/		IA	IA	IA	IA	No data on contribution history
Pension for invalidity due to general sickness		IA	IA	IA	IA	No data on contribution history and incapacity occurrence
Pension for invalidity due to employment injury or occupational disease		IA	IA	IA	IA	No data on contribution history and incapacity occurrence
Social old-age pension	<i>poamt_s</i>	S	S	S	S	
Social invalidity pension		IA	IA	IA	IA	No data on individual disability level
Survivor's pension		IA	IA	IA	IA	No data on the loss of family members, their contribution history, and benefit split among the relatives
Pension supplement in case of deceased spouse		IA	IA	IA	IA	No data on the loss of family members and their contribution history
Pension from voluntary pension insurance		I	I	I	I	No data on contribution history
Monthly social assistance allowance	<i>bsa00_s</i>	S	S	S	S	
Targeted allowance for heating	<i>bsaht_s</i>	S	S	S	S	
Monthly allowance for social integration		IA	IA	IA	IA	No information on special purchases or other relevant conditions
Monthly financial support						The benefit was introduced in 2019 and therefore is not covered by EU-SILC 2018.
Targeted financial support for buying and repairing of supportive means, devices, equipment and medical products		IA	IA	IA	IA	No information on special purchases or other relevant conditions
Supplement for care by assistant		IA	IA	IA	IA	No data on explicit medical certification of a person in need of such care
Scholarships		IA	IA	IA	IA	No information on school achievements and grades

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

**Table 2.2 Simulation of taxes and social contributions in EUROMOD**

Tax/SIC	Policy years				Why not fully simulated?
	2017	2018	2019	2020	
Employers SIC	S	S	S	S	Only IIIrd category employees; no data necessary to identify the three different categories
Employees SIC	S	S	S	S	Only IIIrd category employees; no data necessary to identify the three different categories
Self-employed SIC	S	S	S	S	Note: minimum compulsory insurance assumed
Health insurance contributions	S	S	S	S	
Personal income tax	S	S	S	S	Note: “patent” tax on small businesses excluded
Motor vehicle tax	E	E	E	E	No relevant characteristics of the vehicles owned
Real estate tax	E	E	E	E	No relevant characteristics of the real estate assets owned
Value added tax	E	E	E	E	Out of scope of the model; no data on consumption
Excise taxes	E	E	E	E	Out of scope of the model; no data on consumption

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

**Table 2.3 Means-testing and legal provisions of the social benefits covered by the Country Report for Bulgaria, 2017-2020**

Social benefit	Means test	Provided under the regulation of:
1. Unemployment benefit	No	CSI
2. Cash benefit for sickness due to general disease	No	CSI
3. Cash benefit for sickness due to employment injury or occupational disease	No	CSI
4. Cash benefit for the quarantine	No	CSI
5. Cash benefit for sanatorium treatment	No	CSI
6. Cash benefit for caring for a sick family member	No	CSI
7. Cash benefit for reassignment	No	CSI
8. Cash benefit for pregnancy and childbirth	No	CSI
9. Cash benefit for bringing up child up to age of 2	No	CSI
10. Cash benefit in case of adoption of child up to age of 5	No	CSI
11. Monthly allowance for bringing up child up to age of 1	Yes	FACA
12. Monthly child allowance for bringing up a child until completion of secondary education but not longer than 20 years of age	Yes	FACA
13. Monthly child allowance for bringing up a permanently disabled child up to 18 years of age and until completion of secondary education but not longer than 20 years of age	No	FACA
14. Monthly allowance for a child without a right to a survivor's pension	No	FACA
15. Lump sum pregnancy grant	Yes	FACA
16. Lump sum allowance upon childbirth	No	FACA
17. Targeted allowance for pupils	Yes	FACA
18. Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	No	FACA
19. Lump sum allowance for raising twins until 1 year of age	No	FACA
20. Lump sum allowance in case of adoption	No	FACA
21. Pension for insurance and old age	No	CSI
22. Pension for invalidity due to general sickness	No	CSI
23. Pension for invalidity due to employment injury or occupational disease	No	CSI
24. Social old-age pension	Yes	CSI
25. Social invalidity pension	No	CSI
26. Survivor's pension	No	CSI
27. Pension supplement in case of deceased spouse	No	CSI
28. Pension from voluntary pension insurance	No	CSI
29. Monthly social assistance allowance	Yes	SAA
30. Targeted allowance for heating	Yes	SAA
31. Monthly allowance for social integration (by 31.12.2018)	No	IPDA
32. Monthly financial assistance (from 01.01.2019)	No	PDA
33. Targeted financial support for buying and repairing of supportive means, devices, equipment and medical products	No	IPDA/ PDA
34. Supplement for care by assistant	No	CSI
35. Scholarships	No	Reg.№ 90 & 207*

Abbreviations:

CSI – Code on Social Insurance (*Кодекс за социално осигуряване*)

FACA – Family Allowances for Children Act (*Закон за семейни помощи за деца*)

SAA – Social Assistance Act (*Закон за социално подпомагане*)



IPDA – Integration of Persons with Disabilities Act (*Закон за интеграция на хората с увреждания*) – repealed as of 01.1.2019.

PDA – People with Disabilities Act (*Закон за хората с увреждания*) – in force as of 01.1.2019

Regulation № 207 of the Council of Ministers: On the conditions for receiving scholarships by pupils after completion of basic education/ Regulation № 90 of the Council of Ministers: On the conditions and procedure for granting scholarships to students, PhD and other post-graduate students at the state tertiary schools and scientific organizations.

Table 2.3 summarizes the sources of legal regulations of the tax-benefit instruments covered by this Country Report. Regarding the means tested benefits, four of them are child-related allowances which are simulated according to the Family Allowances for Children Act /FACA/. As a general rule, for each such benefit the scope of income test excludes any benefit received under the same law. The other three benefits (social old age pension, targeted heating allowance and monthly social assistance allowance) are simulated according to different regulations: the first one under the Code on Social Insurance /CSI/ and the next two under the Social Assistance Act /SAA/. The benefits provided under SAA are subjected to the same rule as those under FACA, i.e. the scope of the income tests excludes any benefit received under SAA.

Benefits which entitlement is granted after a submission of a medical evidence for a type/level of disability or pregnancy/childbirth are assumed to have fulfilled this condition. Such benefits are the social invalidity pension, supplement for care by assistant, cash benefit for pregnancy and childbirth, cash benefits for bringing up child up to 2 years of age, monthly child allowance for bringing up a permanently disabled child up to 18 years of age and until completion of secondary education.

Following the logic of the social protection system, the last benefit in the order of simulation should be the social assistance for low income – if the family unit does not have any other sources of income (which otherwise can be received due to various circumstances, e.g. retirement and/or old age, large multi-child families, health problems and/or disability, etc.) or the income is at a very low level, the system evaluates the necessity of income support at a level related to GMI.

### **2.1.1. Part-simulated tax-benefit components**

The unemployment benefit (`bunct_s`), contributory maternity benefit for pregnancy and child birth (`bmaprct_s`) and the contributory maternity benefit for bringing up a child up to the age of 2 (`bmaycct_s`) are part-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.

The standard deduction for permanently disabled persons is also part-simulated. As entitlement for this deduction depends on whether the person has a disability, with a measured level of 50% or more, we use information on self-reported disability (`ddi`) as well as on receipt of disability pensions (`pdi`) in the SILC data. Individuals with a disability (of 50% or more) would be generally entitled to disability benefits which are recorded in the variable for disability pensions. Using information on self-reported disability, we ensure that the disability benefits are not just received on behalf of other persons in the household (e.g. a child). As a result, the tax deduction simulation is conditional on the reported receipt of disability pensions in the micro-data.

## 2.2. Order of simulation and interdependencies

**Table 2.4 EUROMOD Spine: order of simulation, 2017-2020**

Policy	Description	Main output
SetDefault_bg	DEF: DEFAULT VALUES	
Uprate_bg	DEF: UPDATING FACTORS (includes option for alternative updating of pensions based on the growth in the average pension amounts)	
Uprate_bands_bg	DEF: UPDATING PENSIONS IN BANDS (policy switched off with alternative full-year adjustment)	
random_bg	DEF: create random variables to identify workers on Covid-19 wage compensation schemes	
TransLMA_bg	LMA transitions	
ConstDef_bg	DEF: CONSTANTS	
FYA_bg	SWITCH: Full Year Adjustments, i.e. model annual policies instead of 30th June (switch on/off to apply)	
IIsDef_bg	DEF: STANDARD INCOME CONCEPTS	
IIsUDBDef_bg	DEF: STANDARD UDB INCOME CONCEPTS	
IIDef_bg	DEF: NON-STANDARD INCOME CONCEPTS	
TUDef_bg	DEF: ASSESSMENT UNITS	
TCA_bg	SWITCH: correction for tax evasion: 1) UDB SILC - comparing gross and net income from employment; 2) UDB SILC+ national SILC variables - using information on base for calculating SIC	
yem_bg	DEF: minimum wage (минимална заплата)	yem
neg_bg	DEF: recode negative self-employment income to zero yse (отрицателен доход от самостоятелна заетост да е равен на нула)	
yemcomp_bg	BEN: Wage compensation scheme in response to Covid-19	bwkmcee_s, yemme_s
InitVars_bg	DEF: initialise variables (for multiple births and quarter of birth)	
tscer_bg	SIC: social insurance contributions employer (вноски за социално осигуряване платени от работодателите)	tscerpi_s, tscersi_s, tscerui_s, tscerac_s, tscerhl_s, tsctpi_s, tsctsi_s, tsctui_s, tsctac_s, tscthl_s
tscee_bg	SIC: social insurance contributions employee (вноски за социално осигуряване на работниците и служителите)	tsceepi_s, tsceesi_s, tsceeu_s, tsceehl_s
tscse_bg	SIC: social insurance contributions self-employed (вноски за социално осигуряване на самостоятелно заети)	tscsepi_s, tscsehl_s
bunct_bg	BEN: unemployment benefit (обезщетение за безработица) (PART SIMULATED)	bunct_s
bmaycct_bg	BEN: contributory maternity benefit for bringing up a child up to age of 2 (обезщетение за отглеждане на дете до 2 годишна възраст)	bmaycct_s
bmaprct_bg	BEN: contributory maternity benefit for pregnancy and childbirth (обезщетение за бременност и майчинство)	bmaprct_s
bsa00_bg	BEN: guaranteed minimum income (помощ за социално подпомагане - гарантиран минимален доход) ( <i>1<sup>st</sup> run</i> )	bsa00_s
bsaht_bg	BEN: heating benefit (целева помощ за отопление) ( <i>1<sup>st</sup> run</i> )	bsaht_s

bchmt00_bg	BEN: means-tested child benefit (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20 годишна възраст)	
bchedyc_bg	BEN: child benefit for education (целева помощ за bchedyc_s ученици)	
bchbals_bg	BEN: birth grant (also for adoption) (еднократна bchbals_s помощ при раждане)	
bmaprnc_bg	BEN: non-contributory benefit for raising a child under the age of 1 (месечна помощ за отглеждане на дете до 1 годишна възраст)	
bchnm01_bg	BEN: non means-tested child benefit for mothers in tertiary education (from 2009 on)	
bchnm02_bg	BEN: non means-tested child benefit for twins (from 2009 on)	
poamt_bg	BEN: Social old-age pension (Социална пенсия за старост) - AMOUNT IS SIMULATED ONLY IF SILC MICRO-DATA FOR 2016 OR LATER ARE USED (Note: amount is always simulated if hypothetical data are used)	
bsa00_bg	BEN: guaranteed minimum income (помощ за социално подпомагане - гарантиран минимален доход) (2 <sup>nd</sup> run)	
bsaht_bg	BEN: heating benefit (целева помощ за отопление) (2 <sup>nd</sup> run)	
tin_bg	TAX: income tax (данък общ доход)	tin_s

Bulgarian tax-benefit system has not undergone any substantial structural changes for the 5-years period covered, so the spine sequence is identical for all five years. For this reason we present only one table with the suggested order of simulation (table 2.4).

The order of simulation is dependent on some interactions between particular tax and benefit policies. For example, the entitlement for the “lump sum pregnancy grant” (a non-contributory benefit) is granted only for those mothers who have not received “cash benefit for pregnancy and childbirth” (a contributory benefit). Hence, the contributory cash benefit is simulated before the non-contributory one.

The order of simulation is established as a sequence of the social transfers that can facilitate an accurate – as much as possible – application of the income tests. These tests are conducted on the basis of the gross income of the assessment units. In principle, no social transfer is subjected to SIC and Personal Income Taxation (PIT) so income taxation could be positioned at the start of the policy spine. However, in 2014 a tax exemption for employees was introduced (abolished again in 2015) which interacts with the income received from family and social assistance benefits. Therefore, the PIT policy is placed at the end of the policy spine. Employee’s SIC are simulated before PIT since they are deductible from the taxable income assessed for PIT.

- **Structural changes between 2017 and 2018**

For the means-tested child benefit (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст) (bchmt00\_s): As of 1.01.2018, there are two income thresholds are introduced – BGN 400 per month and BGN 500 per month. Families whose incomes are below the BGN 400 per month receive 100% of the amount of the benefit and families whose incomes are between BGN 400.01 and BGN 500.00 per month receive 80% of the benefit amount.

Furthermore, since 2018, lone parents who are widowed receive the benefit without an income-test.

- *Structural changes between 2018 and 2019*

Since of 01.1.2019, a major reform of the policy towards people with disabilities has entered into force. The former Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*) was repealed by the People with Disabilities Act (*Закон за хората с увреждания*). The new law rearranged the system for supporting the people with disabilities by introducing new forms of monthly financial support and redefining the entitlement rules with regard to in-kind support. However, taking into account that there is no full information about the degree of lost working capacity these new forms of support cannot be simulated in the EUROMOD environment.

- *Structural changes between 2019 and 2020*

In response to Covid-19, the government introduced the so called “60/40” wage compensation scheme for workers affected by the pandemic. To support pensioners’ incomes, the government also introduced universal pension supplements paid out from August 2020 until the end of the year (the supplements are planned until March 2021).

### 2.3. Policy extensions

There are several so-called policy *extensions* in EUROMOD. More than one policy as well as functions from different policies can belong to a single extension. Furthermore, the same policy or function can belong to more than one extension. Extensions can be by default “switched on”, i.e. calculations are carried out, or “off”. Noteworthy, users can select whether to run the tax-benefit simulations with the extension being on or off.

The extension *Tax Compliance Adjustment (TCA)* adjusts the results from the policy simulations for tax compliance. In the baseline, the extension is switched on in all policy years; hence, the results are adjusted for tax compliance. For detailed explanation on how the adjustment is carried out, see section 3.3.4.

The extension *Up-rating by Average Amounts (UAA)* adjusts the up-rating of public pensions. In the baseline simulations, the extension is off and public pensions are up-rated over time by taking into account the indexation rules, coded in the policy `Uprate_bands_bg` (see section 3.4 for more details on up-rating). However, for certain research purposes e.g. nowcasting poverty figures, it might be more useful to adjust pensions by the growth in their average amounts, to account for structural changes in the pension system and population compositional changes. This adjustment can be enabled by switching on the extension UAA, which in turn disables the up-rating by indexation rules (policy `Uprate_bands_bg`).

Baseline simulations in EUROMOD refer to the policy rules on 30<sup>th</sup> of June of the respective year. The extension *Full Year Adjustment (FYA)* – which is switched off in the baseline but can be switched on by the user – accounts for policy changes that occurred throughout the whole year. In more detail, in October 2020 the minimum unemployment benefit was increased from BGN 9 to BGN 12 per day and the minimum benefit duration was extended from 4 to 7 months. FYA takes this into account by adjusting the average benefit amount and duration.

The extension *Minimum Wage Adjustments (MWA)* allows for the simulation of the Minimum Wage. The extension is off by default. But if switched on, people’s earnings are modified, so everyone earns at least at the level of the minimum wage.

The extension *Covid-19: Simulation of Shocks (C19)* allows for the simulation of Covid-19 shocks, i.e. that some workers receive the 60/40 wage compensation. The extension is switched off in the baseline. For more details on the simulations, see section 2.8.

## 2.4. Social benefits

### 2.4.1. Unemployment benefit (обезщетение за безработица) (bunct\_s)

- **Definition**

The unit of analysis is the individual (*tu\_individual\_bg*).

- **Eligibility conditions**

This is a contributory benefit. It is granted to a resident person who:

- is currently not entitled to an old-age pension;
- is not undertaking an economic activity requiring compulsory social insurance (i.e. employed or self-employed; registered agricultural producer) became unemployed involuntarily;
- has been insured for *at least 12 months* amid the last 18 months before the termination of the employment;
- is registered at the Territorial Public Employment Office as an unemployed person and is ready to accept a proposed job.

- **Income test**

Not applicable

- **Benefit amount**

The amount of the benefit is equal to 60% of the average gross contributory income calculated for the assessment period which is the last 24 months (since 1<sup>st</sup> of January 2012). The amount of the benefit shall not be lower than a certain amount (BGN 7.20 per day or approximately 151.20 per month for the period from 2012 to 2017 and BGN 9.00 per day thereafter). Since 1.01.2018, a maximum daily amount of the unemployment benefit has been introduced – BGN 74.29 (approximately BGN 1 560 per month):

Monthly thresholds for the	2017	2018	2019	2020
unemployment benefit:				
Minimum (BGN)	151.20	189.00	189.00	189.00
Maximum (BGN)	N/A	1 560.00	1 560.00	1 560.00

As of 01.1.2018, the periods are determined according to the duration of the contributory history acquired after 31.12.2001, as follows:

Contribution period (years and days, after 31.12.2001)	0 to 3 years	3 years and 1 day to 7	7 years and 1 day to 11	11 years and 1 day to 15	Over 15 years
Payment period (months)	4	6	8	10	12

**In response to Covid-19**, from October 2020 the minimum benefit amount was increased from BGN 9 to BGN 12 per day (i.e. from BGN 189 to BGN 252 per month). The simulation of this benefit increase can be activated via the Full Year Adjustment (FYA) extension (see section 2.3).

**EUROMOD Note:** The estimation of contributory history is based on the variable for time spent in work (*liwwh*). Previous earnings for those who are observed to receive the

unemployment benefit in SILC survey are imputed based on the amount of the benefit (using the inverse function).

The table below provides a summary of the benefit characteristics (those simulated in EUROMOD):

		<b>2017-2020</b>
<b>Eligibility</b>	Contribution period	Last 2 years
	Other conditions	No receipt of old-age pension, aged 16+ and not above retirement age
	Eligibility of self-employed	n/a
<b>Payment</b>	Contribution base	Gross earnings
	Basic amount	60% of previous gross earnings
	Additional amount	n/a
	Floor	BGN 189.00 per month
	Ceiling	BGN 1 560.00 per month
<b>Duration</b>	Standard (in months)	Between 4 and 12 months
	Special cases (in month)	n/a
<b>Subject to</b>	Taxes	No
	SIC	No

**2.4.2. Contributory maternity benefit for pregnancy and childbirth (обезщетение за бременност и майчинство) (bmaprct\_s)**

• **Definition**

The unit of analysis is the family (*tu\_bmaprct\_bg*).

• **Eligibility conditions**

This is a contributory benefit provided to mothers who have been insured for a certain period before the childbirth. There is a minimum contributory period at the time the benefit is claimed:

Years	2017-2020
Contributory period	12 months

• **Income test**

Not applicable

• **Benefit amount**

The amount of the benefit is 90% of the average gross contributory income for the last 24 calendar months (24 months – since 01.1.2015). The amount of the benefit should not be lower than the statutory minimum wage and not higher than the person's net wage:

Thresholds	2017-2020
Minimum (BGN)	Minimum monthly wage
Maximum (BGN)	Person's net wage

The benefit is paid for a particular period linked to the birth date. It is split into two parts: (1) 45 days – before the anticipated date of birth delivery; (2) the rest of the days – after the birth.

Years	2017-2020
Payment period	410 days (45/365)

- **Subject to taxes/SIC**

Not applicable.

- **Take up**

It is assumed to be 100% (no evidence for incomplete take-up).

**EUROMOD Note:** The estimation of contributory history is based on the variable for time spent in work (*liwwh*). Previous earnings for those who are observed to receive the cash benefit for pregnancy and childbirth in SILC are imputed based on the amount of the benefit (using the inverse function).

Benefit duration is adjusted for the quarter of birth of the child. If the child is aged 0 at the end of the income reference period and was born in the first quarter of the year, the benefit is paid out for the full duration. If the child is aged 0 (1) and is born in the second (last) quarter of the year, the benefit is paid out for 3/4 of the duration. If the child is aged 0 or 1 and is born in the third quarter of the year, the benefit is paid out for 2/4 of the duration. If the child is aged 0 (1) and is born in the last (second) quarter of the year, the benefit is paid out for 1/4 of the duration. If the child is aged 1 and is born in the first quarter of the year, the woman with a child is no longer entitled to the benefit.

### 2.4.3. Birth grant (also for adoption) (еднократна помощ при раждане) (bchbals\_s)

- **Definition**

The unit of analysis is the family (*tu\_bmaprct\_bg*).

- **Eligibility conditions**

The benefit is a non-contributory benefit performing as a universal birth grant paid to every mother upon childbirth. The benefit is not paid if the child is placed in a specialized child-care institution after the birth.

- **Income test**

Not applicable

- **Benefit amount**

The amount of the benefit depends on the child rank:

Birth grant amount (BGN)	2017	2018	2019	2020
First child	250	250	250	250
Second child	600	600	600	600
Third child	300	300	300	300
Fourth and each subsequent child	200	200	200	200

**2.4.4. Contributory maternity benefit for bringing up a child up to the age of 2 (обезщетение за отглеждане на дете до 2г.) (bmaycct\_s)**

- **Definition**

The unit of analysis is the family (*tu\_bmaycct\_bg*).

- **Eligibility conditions**

This is a contributory benefit provided to an insured mother with a dependent child of age 1 until completion of age 2. It is paid after the expiration of the pregnancy-and-childbirth leave during which the mother receives the cash benefit for pregnancy and childbirth. There is a minimum contributory period at the time of benefit claim:

Years	2017	2018	2019	2020
Contributory period	12 months			

However, according to the Bulgarian social insurance legislation all periods of leave (paid or not paid) due to pregnancy and childbirth are recognized as a period of insurance.

- **Income test**

Not applicable

- **Benefit amount**

Years	2017	2018	2019	2020
Benefit amount (BGN)	340	380	380	380

The benefit is paid for up to 12 months (after 1 year of age and up to 2 years of age of the child).

- **Subject to taxes/SIC**

Not applicable.

- **Take up**

It is assumed to be 100% (no evidence for incomplete take-up).

**EUROMOD Note:** Assumptions for contributory history and previous earnings are the same as for the cash benefit for pregnancy and childbirth (see 2.4.2).

Benefit duration is adjusted for the quarter of birth of the child. If the child is aged 1 at the end of the income reference period and was born in the first quarter of the year, the benefit is paid out for the full duration. If the child is aged 1 (2) and is born in the second (last) quarter of the year, the benefit is paid out for 3/4 of the duration. If the child is aged 1 or 2 and is born in the third quarter of the year, the benefit is paid out for 2/4 of the duration. If the child is aged 1 (2) and is born in the last (second) quarter of the year, the benefit is paid out for 1/4 of the duration. If the child is aged 2 and is born in the first quarter of the year, the woman with a child is no longer entitled to the benefit.



**2.4.5. Non-means-tested child benefit for mothers in tertiary education (bchnm01\_s)**

- **Definition**

The unit of analysis is the family (*tu\_bmaprnc\_bg*).

- **Eligibility conditions**

This is a non-contributory lump sum benefit for a mother of a child up to age 1 under the condition that she is a regular tertiary student. The benefit can be received if the child is not placed in a specialized child-care institution. In addition, the mother shall not be insured and shall not receive contributory maternity benefit for pregnancy and childbirth or contributory maternity benefit for bringing up a child up to the age of 2.

- **Income test**

Not applicable

- **Benefit amount**

The benefit is introduced in 2009 and is determined as a fixed amount.

Year	2017	2018	2019	2020
Annual benefit amount (BGN)	2,880	2,880	2,880	2,880

**EUROMOD Note:** Since 1<sup>st</sup> of January 2016, the benefit is paid on two instalments. The first instalment is paid immediately after the approval of the application and the second – after the mother proves that she has been enrolled in the next semester. For the purposes of the simulations, it is presumed that the benefit is paid in full during the policy year.

**2.4.6. Non-means-tested child benefit for twins (bchnm02\_s)**

- **Definition**

The unit of analysis is the family (*tu\_bmaprnc\_bg*).

- **Eligibility conditions**

This is a non-contributory lump sum benefit for a mother of twins up to age 1. The benefit (BGN 1 200 for each child) cannot be received if even one of the children is placed in a specialized child-care institution.

- **Income test**

Not applicable

- **Benefit amount**

The benefit was introduced in 2009.

Year	2017	2018	2019	2020
Annual benefit amount (BGN)	2,400	2,400	2,400	2,400

**2.4.7. Child benefit for education (целева помощ за ученици) (bchedyc\_s)**

- **Definition**

The unit of analysis is the family (*tu\_bchedyc\_bg*).

- **Eligibility conditions**

It is a non-contributory lump-sum allowance paid to a family which has one or more children enrolled in 1<sup>st</sup> grade at state or municipal schools in the respective calendar year.

- **Income test**

The benefit is paid to a family with average monthly income per family member for the last 12 months up to the following threshold:

Year	2017	2018	2019	2020
Upper monthly threshold (BGN)	400	450	450	450

Calculation of the average income does not apply any equalization method. The income definition for the test includes the **gross income from all sources** of all family members, namely:

(1) All components of the original (market) income which are defined as taxable by PITA.

(2) All pensions:

- pension for insurance and old age;
- pensions for invalidity due to general sickness;
- pension for invalidity due to employment injury or occupational disease;
- social old-age pension;
- social invalidity pension;
- survivor's pension;
- pension supplement in case of deceased spouse;
- pension from voluntary pension insurance.

(3) All contributory benefits:

- unemployment benefit;
- cash benefit for sickness due to general disease;
- cash benefit for sickness due to employment injury of occupational disease;
- cash benefit for pregnancy and childbirth;
- cash benefit for bringing up a child up to the age of 2.
- cash benefit in case of adoption of a child up to age of 5.

(4) All social assistance benefits and allowances:

- monthly social assistance allowance;
- targeted allowance for heating;
- monthly allowances for social integration.
- monthly financial assistance for people with disabilities.

(5) All tertiary education scholarships (for students, PhD and other post-graduate students).

### Exceptions:

(1) All benefits granted under FACA:

- monthly allowance for bringing up child up to age of 1;
- monthly child allowance for bringing up a child until completion of secondary education (but not longer than 20 years of age);
- monthly child allowance for bringing up a permanently disabled child up to 18 years of age and until completion of secondary education but not longer than 20 years of age;
- monthly allowance for a child without a right to a survivor's pension;
- lump sum allowance upon childbirth;
- lump sum pregnancy grant;
- lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students;
- lump sum allowance for raising twins until 1 year of age.
- lump sum allowance in case of adoption.

(2) All secondary education scholarships (for pupils still in secondary school)

(3) Allowances under the Child Protection Act

(4) Supplement for care by assistant

(5) Allowances granted under the Integration of People with Disabilities Act

- ***Benefit amount***

School year	2016/17	2017/18	2018/19	2019/20
Lump-sum amount (BGN)	250	250	250	250

**EUROMOD Notes:** (1) Until 30.06.2019, this lump-sum benefit was paid in the beginning of the school year (September of the respective year). As of 1.07.2019, the allowance shall be paid on two instalments, as 50 per cent of its amount shall be paid after the entry into force of the order for its granting, and the remainder shall be paid at the beginning of the second school term, if the child continues to attend school. (2) The amount of the benefit is determined for a school year (September – May of the respective calendar year). Thus, the school year differs from the calendar year.

### **2.4.8. Non-contributory benefit for raising a child under the age of 1 (месечна помощ за отглеждане на дете до 1 г. възраст) (bmaprnc\_s)**

- ***Definition***

The unit of analysis is the family (*tu\_bmaprnc\_bg*).

- **Eligibility conditions**

This is a non-contributory allowance paid to mothers of children up to one year of age. The benefit is granted under the condition that the mother is not in receipt of the cash benefit for pregnancy and childbirth or the cash benefit for bringing up a child up to age of 2, i.e. it is granted only to the so-called „non-insured mothers”.

**EUROMOD Note:** Some specific eligibility rules are not simulated here but a substantial bias is not expected as a result of this.

- **Income test**

The benefit is paid to individuals living in families with average monthly income per family member for the last 12 months (preceding the childbirth) up to the following threshold:

Year	2017	2018	2019	2020
Upper monthly threshold (BGN)	400	450	450	450

The components included in the income test are the same as for benefit 2.4.7.

- **Benefit amount**

The monthly amount of the benefit is BGN 100 and is a constant for the period 2007-2020. It is paid each month until the completion of age 1 of the child.

**EUROMOD Note:** Benefit duration is adjusted for the quarter of birth of the child. If the child is aged 0 at the end of the income reference period and was born in the first quarter of the year, the benefit is paid out for the full duration. If the child is aged 0 (1) and is born in the second (last) quarter of the year, the benefit is paid out for 3/4 of the duration. If the child is aged 0 or 1 and is born in the third quarter of the year, the benefit is paid out for 2/4 of the duration. If the child is aged 0 (1) and is born in the last (second) quarter of the year, the benefit is paid out for 1/4 of the duration. If the child is aged 1 and is born in the first quarter of the year, the woman with a child is no longer entitled to the benefit.

#### **2.4.9. Means-tested child benefit (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст) (bchmt00\_s)**

- **Definition**

The unit of analysis is the family (*tu\_bchmt00\_bg*).

- **Eligibility conditions**

This is a non-contributory allowance paid to families with children up to 18 years of age (or 20 years of age if the child is enrolled in secondary education).

- **Income test**

The benefit is paid to families with average monthly income per family member for the last 12 months. As of 1.01.2018, there are two income thresholds are introduced – BGN 400 per month and BGN 500 per month. Families whose incomes are below the BGN 400 per month receive 100% of the amount of the benefit and families whose incomes are between BGN 400.01 and BGN 500.00 per month receive 80% of the benefit amount.

Year	2017	2018	2019	2020
<i>Income group 1</i> – recipients receive 100% of the benefit	0,00 – 400,00	0,00 – 400,00	0,00 – 400,00	0,00 – 400,00

<i>Income group 2 – recipients receive 80% of the benefit</i>	400,01 – N/A	400,01 – 500,00	400,01 – 500,00	400,01 – 500,00
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The components included in the income test are the same as for benefit 2.4.7.

Since 2018, lone parents who are widowed receive the benefit without an income-test.

- **Benefit amount**

Since 1<sup>st</sup> of January 2016, the amount of the benefit is determined at family level, i.e. not per child and depends on how many children are entitled to monthly allowances.

Year	2017	2018	2019	2020
Family with one child	37	40	40	40
Family with two children	85	90	90	90
Family with three children	130	135	135	135
Family with four children	140	145	145	145
Each child after the fourth	+20	+20	+20	+20
Twins (per child)	75	75	75	75
Permanently disabled child (per child)	N/A	N/A	N/A	N/A

Note: Figures are in BGN, per month.

#### **EUROMOD Note:**

Special case: (1) Until 1<sup>st</sup> of January 2016, the amount of the allowance for twins was determined as 50% higher than the standard amount of the benefit (per each child). From 1<sup>st</sup> of January 2016, the Family Allowances for Children Act (*Закон за семейни помощи за деца*) stipulates that when determining the amount of family allowances per family, the amount of the allowance for twins shall be at least 1.5 times the amount of the allowances for family with one child. The exact amount is determined in State Budget Act and in 2016 it is BGN 75 per month per each child. (2) Until 1<sup>st</sup> of January 2016, the amount of the allowance for a child with permanent disability (i.e. with reduced capacity level of 50% or more) was 2 times the amount of the allowance for the 1<sup>st</sup> child. From 1<sup>st</sup> of January 2016, the Family Allowances Act (*Закон за семейни помощи за деца*) stipulates that when determining the total amount of all family allowances to be received by a given family, the amount of the allowance for a permanently disabled child shall be at least 2 times the amount of the allowances for family with one child. The exact amount is determined in State Budget Act and in 2016 it is BGN 100 per month per each child. The additional monthly allowance for permanently disabled children is granted without means-testing and only in case the family does not receive the newly introduced monthly allowance for permanently disabled children below 18 years of age and prior to finishing secondary school, but not later than reaching 20 years of age.

As of 01.1.2017, this allowance cannot be received simultaneously with the monthly allowances for a child until graduation from high school, but not after the age of 20, and (2) monthly allowances for social integration under the Integration of People with Disabilities Act (*Закон за интеграция на хората с увреждания*). The allowance amount depends on the severity of the permanent disability and in 2018 and on whether the child is placed in a family of relatives or foster care family (as a child protection measure).

To simulate the new allowance for a permanently disabled child, we need information on i) whether the child – aged below 18 or below 20 if in education - has a disability and ii) the level of disability. However, in UDB SILC (variable PL031), there is no information on disability for individuals aged below 16 and no information on the level of disability. Thus, we cannot simulate this new allowance. Note that due to the lack of information in SILC, we also cannot

fully simulate the component of the means-tested child benefit, which is provided to permanently disabled children up to 2016.

### 2.4.10. Social old-age pension (социална пенсия за старост) (poamt\_s)

- **Definition**

The unit of analysis is the household (*tu\_individual\_bg*).

The legislation does not use the term “household” but the actual scope of the assessment unit practically includes all individuals which cohabit with the claimant in the same dwelling.

- **Eligibility conditions**

This is a non-contributory benefit granted to a person who has turned 70 years of age. The person should not be in receipt of any other pension.

- **Income test**

The benefit is paid to individuals living alone or in households with annual income per household member which is below a threshold obtained as “annual Guaranteed Minimum Income”:

Year	2017	2018	2019	2020
Monthly GMI (BGN)	65	75	75	75
Annual GMI (BGN)	780	900	900	900

The amount of the “annual GMI” for the test of particular claimant is obtained as a sum of the monthly amounts of GMI for the last 12 months preceding the date of turning the age of 70.

The income definition for the test includes the **gross income from all sources** of all household members, namely:

(1) All components of the original (market) income which are defined as taxable by PITA.

(2) All pensions:

- pension for insurance and old age;
- pensions for invalidity due to general sickness;
- pension for invalidity due to employment injury or occupational disease;
- social old-age pension;
- social invalidity pension;
- survivor’s pension;
- pension supplement in case of deceased spouse;
- pension from voluntary pension insurance.

(3) All contributory benefits:

- unemployment benefit (incl. the benefit for long-term unemployment);
- cash benefit for sickness due to general disease;
- cash benefit for sickness due to employment injury of occupational disease;

- cash benefit for pregnancy and childbirth;
- cash benefit for bringing up a child up to the age of 2.

(4) All family benefits:

- monthly allowance for bringing up child up to age of 1;
- monthly child allowance for bringing up a child until completion of secondary education but not longer than 20 years of age;
- monthly child allowance for bringing up a permanently disabled child up to 18 years of age and until completion of secondary education but not longer than 20 years of age;
- targeted allowance for pupils;
- lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students;
- lump sum allowance for raising twins until 1 year of age;
- lump sum allowance in case of adoption.

(5) Irregular income sources (e.g. lottery winnings, bequests, etc.).

### Exceptions:

(1) All benefits granted under LSA:

- monthly social assistance allowance;
- targeted allowance for heating.

(2) Supplement for care by assistant

(3) All allowances for social integration of disabled people

(4) Lump sum pregnancy grant

(5) Lump sum grant upon childbirth.

### • **Benefit amount**

Year	2017	2018	2019	2020
Social old-age pension	119.56	123.28	129.16	137.19

Note: Figures are in BGN, annual averages, per month.

**EUROMOD Note:** The social old-age pension is simulated only with EUROMOD input data for 2016 (that is SILC 2016 and 2017). SILC 2016/2017 records contributory pensions (SILC variable PY102) and non-contributory pensions (SILC variable PY103) in two separate variables. Hence, EUROMOD calculation of household net income includes the reported value of contributory pensions (poa00) and the simulated value of the social old-age pension (poamt\_s).

In comparison, in earlier versions of SILC data *all* old-age pensions are recorded in a single variable (SILC variable PY100 and EUROMOD variable poa00). So that the social old-age pension is not double counted in household net income – once as poamt\_s and once as part of

poa00 – the value of poamt\_s is set to 0 if earlier waves (before 2016) of the EUROMOD input data are used.

**2.4.11. Targeted allowance for heating (целева помощ за отопление) (bsaht\_s)**

- **Definition**

The unit of analysis is the household (*tu\_hh\_bg*).

- **Eligibility conditions**

This is a non-contributory allowance granted to lone persons or households with low incomes.

- **Income test**

For the 2018/2019 heating season, the allowance is granted to households whose average income per household member is below the threshold of the so-called “Differentiated Minimum Income for Heating” (DMIH). The following table contains the levels of DMIH for various categories of persons.

Category of person	2016-2019
person living alone	233.08%
person with reduced working capacity of 50% or more living alone	272.68%
orphan child	219.88%
lone parent with one or more children aged under 18 (under 20 for children attending school)	272.68%
two spouses living together (per each spouse)	167.08%
child aged between 0-18 (up to 20 when studying)	180.28%
child with permanent disabilities	219.88%
child accommodated in relatives’ family or in foster family (as a result of a child protection measure)	224.68%
person cohabiting with other persons	224.68%
pregnant woman 45 days before the term	206.68%
parent taking care of a child under age of 3	206.68%
person over the age of 70	206.68%
person over the age of 75 living alone	297.88%
person over the age of 65 living alone	311.08%
person with reduced working capacity of 50% or more	206.68%
person with reduced working capacity of 70% or more	246.28%
person with reduced working capacity of 90% or more	297.88%

Since the 2019/2020 heating season, the allowance is granted to households whose average income for the last 6 months per household member is below the threshold of the so-called “Differentiated Heating Income” (DHI). DHI is calculated as a product of the so-called “Basic Heating Income” (BHI) and a coefficient set in the legislation. BHI amount is equal to the 2-fold amount of the so-called “Guaranteed Minimum Income” (GMI). For 2019/2020 heating season, BMI is equal to BGN 150. The following table contains the coefficient used to calculate DHI threshold for various categories of persons:

Category of person	2020
person living alone	1.30
person with reduced working capacity of 50% or more living alone	1.57
orphan child up to age of 18 (under 20 for children attending school)	1.27
lone parent with one or more children aged under 18 (under 20 for children attending school)	1.57
two spouses living together (per each spouse)	1.00



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child aged up to age of 18 (up to 20 when studying)	1.03
child with permanent disabilities aged up to 8 (up to 20 when studying)	1.30
child aged up to the age of 18 (up to 20 when studying) accommodated in relatives' family or in foster family (as a result of a child protection measure)	1.25
child aged 5-16 not attending school	0.30
child aged 16-18 not attending school and registered as unemployed jobseeker at local employment office	0.90
parent of a child up to the age of 18 not attending school	0.50
person cohabiting with other persons	1.24
pregnant woman 45 days before the term	1.20
parent taking care of a child under age of 3	1.20
person over the age of 70	1.20
person over the age of 75 living alone	1.85
person over the age of 65 living alone	1.75
person with reduced working capacity of 50% or more	1.20
person with reduced working capacity of 70% or more	1.42
person with reduced working capacity of 90% or more	1.72

Calculation of the average income does not apply any equalization method. The income definition for the test is the same as defined for 2.4.10.

### Exceptions:

- (1) Supplement for care by assistant;
- (2) All allowances for social integration of disabled people (until 31.12.2018) and all allowances granted under the Law on People with Disabilities (as of 01.1.2019).
- (3) Lump sum grant upon childbirth.
- (4) Targeted allowance for free traveling.
- (5) Child benefit for education.
- (6) Monthly allowance for permanently disabled children below 18 years of age and prior to finishing secondary school, but not later than reaching 20 years of age.

**EUROMOD note:** While determining the right to a benefit, the income from pensions, granted after 1.07.2008, shall be reduced by a coefficient equal to 1.302 (1.269 – heating seasons 2015/2016; 1.245 for the heating season 2014/2015). As of 1.07.2018, the approach is changed: (1) pensions granted before 1.07.2017, shall be reduced by a coefficient equal to 1,302; (2) pensions which amount does not exceed BGN 180.00 and which are granted after 30.06.2017 shall be reduced by a coefficient equal to 1.452; (3) pensions which amount exceeds BGN 180.00 and which granted after 30.6.2017 shall be reduced by a coefficient equal to 1.333. Amendments introduced in July 2018 stipulate that pensions, regardless of their amount, granted after 01.7.2018 shall be reduced by a coefficient equal to 1.384; (4) As of July 2019, the coefficient shall be updated on the basis of an order issued by the Minister of Labour and Social Policy. The adjustment shall be equal or larger than the percentage used for the indexation of pensions.

### • *Benefit amount*

The amount of the benefit is determined by the Minister of Labour and Social Policy for each “heating season” (a period of 5 months: from 1<sup>st</sup> of November to 30<sup>th</sup> of March). The allowance for electricity, solid fuel and natural gas is paid to the beneficiary in accordance with the following schedule: 1) for November and December – not later than the month in which the

allowance is granted; 2) for January, February and March – not later than 31 January. The allowance for central heating is paid by the Social Assistance Agency to the given heating companies, i.e. in that case this is in-kind (not cash) benefit. It is paid for each month of the heating season. The amount of the allowance is the same for all heating types.

	2016/2017 heating season	2017/2018 heating season	2018/2019	2019/2020
Benefit amount	72.46	73.02	74.83	93.18

Note: Figures are in BGN, per month of the heating season.

### 2.4.12. Monthly social assistance allowance (guaranteed minimum income) (месечна социална помощ поради ниски доходи) (bsa00\_s)

- **Definition**

The unit of analysis is the household (*tu\_hh\_bg*). See also the definition in 2.3.14.

- **Eligibility conditions**

- This is a non-contributory allowance granted to households with low incomes. However, there are particular categories of persons who are non-eligible for this benefit. If such persons are part of the household, then they should be removed from the assessment unit. These categories are:
  - persons who have relatives that are legally obliged to maintain them;
  - persons accommodated for more than 30 days in medical, social, military or other institutions;
  - persons studying in high schools or in evening form of education, including pupils who are enrolled in private schools (exceptions: disabled persons, pregnant women, and parents caring for a child up to age 3);
  - persons who have refused cultivating state or municipal land suggested to them.

In addition, the right to monthly social assistance benefits depends on the following conditions:

- the claimant should live in a lodging composed of maximum 1 room per household member;
- the claimant should not be registered as sole proprietor and should own shares of the capital of an economic undertaking;
- the claimant should not have shares or equities above 500 BGN;
- the claimant should not possess mobile and immobile assets that can be a source of income, except for the belongings that serve the usual needs of the family (this is evaluated by the social worker);
- the claimant should not have contracts for a transfer of property in return for the obligation for support and care (e.g. caring for lone elderly owners);
- the claimant should not have acquired residential or summerhouse property or ideal parts of such property through purchase or donation during the last 5 years;
- claimants who are unemployed people should have a registration at local public employment offices for at least 6 months prior the application and should not have declined a job or training offer (this requirement is not applicable for single parent

taking care for a child below 3 years of age; a person with permanently reduced working capacity of 50% or more; people taking care for a severely diseased family member; people with mental disorders).

**EUROMOD note:** It is assumed that all additional requirements for granting a monthly social assistance allowances are met.

- **Income test**

The allowance is granted to households whose average income per household member is below the threshold of the so-called “Differentiated Minimum Income” (DMI). DMI is determined for each category of a beneficiary as a percentage of GMI. It is calculated for each individual depending on her/his age, health, family and educational status. The sum of all DMIs represents the DMI for the whole assessment unit (the household). The following table contains the levels of DMI for various categories of persons:

Category of person	2017	2018	2019	2020
person over the age of 75 living alone	165.0%	165.0%	165.0%	165.0%
person over the age of 65 living alone	140.0%	140.0%	140.0%	140.0%
person over the age of 65, cohabiting with other persons	100.0%	100.0%	100.0%	100.0%
person under the age of 65 living alone	73.0%	73.0%	73.0%	73.0%
person under the age of 65, cohabiting with other persons	66.0%	66.0%	66.0%	66.0%
two spouses living together (per each spouse)	66.0%	66.0%	66.0%	66.0%
person with reduced working capacity of 50% or more	100.0%	100.0%	100.0%	100.0%
person with reduced working capacity of 70% or more	125.0%	125.0%	125.0%	125.0%
child aged between 0 and 16 (up to 20 if attending school)	91.0%	91.0%	91.0%	91.0%
orphan child aged between 0 and 16 (up to 20 if attending school)	N/A	N/A	N/A	100%
child accommodated to another family as a result of child protection measure aged between 0 and 16 (up to 20 if attending school)	N/A	N/A	N/A	100.0%
child aged between 7 and 16 (up to 20 if attending school), if having 5 or more unexcused absences from school	N/A	N/A	N/A	N/A
child aged between 5 and 16 (up to 20 if attending school), if having 5 or more unexcused absences from school within a month	30.0%	30.0%	30.0%	30.0%
child aged between 7 and 16 and not attending school	N/A	N/A	N/A	N/A
child aged between 5 and 16 and not attending school	20.0%	20.0%	20.0%	20.0%
children (up to 20 when studying) if it is not proved that all mandatory immunisations and preventive medical checkups and done	30.0%	30.0%	30.0%	30.0%
child aged 16-18, not attending school and is registered at a local public employment office	66.0%	66.0%	66.0%	66.0%
orphan or child accommodated in a foster family	100.0%	100.0%	100.0%	N/A
child with permanent disability up to 18 years of age	100.0%	100.0%	100.0%	100.0%
lone parent taking care of a child under age of 3	120.0%	120.0%	120.0%	120.0%

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lone parent with one or more children aged under 16 (under 20 if attending school)	100.0%	100.0%	100.0%	100.0%
parent taking care of a child up to 16 years of age (up to 20 years if studying)	N/A	N/A	N/A	73.0%
parent taking care of a child up to 18 years of age not attending school	N/A	N/A	N/A	20.0%
parent taking care of a child aged between 16-18 not attending school – if the child is registered at local employment office	N/A	N/A	N/A	66.0%
child aged between 5 and 16 (up to 20 if attending school), if having 5 or more unexcused absences from school within a month/ if missed 3 school days – for children attending preschool education	N/A	N/A	N/A	30.0%
pregnant woman 45 days before the term	100.0%	100.0%	100.0%	100.0%
parent taking care of a child aged under 3	100.0%	100.0%	100.0%	100.0%

Calculation of the average income does not apply any equalization method. The income definition for the test is the same as defined for 2.4.11.

### Exceptions:

- (1) Supplement for care by assistant;
- (2) All allowances for social integration of disabled people (until 31.12.2018) and all allowances granted under the Law on People with Disabilities (as of 01.1.2019).
- (3) Lump sum grant upon childbirth.
- (4) Targeted allowance for free traveling.
- (5) Child benefit for education.

- ***Benefit amount***

The amount of the benefit is determined as a difference between the DMI of the household and the gross family income from all sources, excluding the aforementioned exceptions.

Example: The household consists of: two adults (spouses), one child aged 16 and studying, and one more adult aged up to 65. Those persons do not have any sources of income but social assistance benefits.

Step 1: Calculating DMI

DMI = DMI 1st spouse (66% GMI) + DMI 2nd spouse (66% GMI) + DMI 1st adult (66% GMI) + DMI child (91% GMI) = BGN 42.9 + BGN 42.9 + BGN 42.9 + BGN 59.2 = BGN 187.85

Step 2: Calculating incomes

All cohabiting persons don't have any incomes in the defined range, i.e. their income is 0.

Step 3: Calculating benefit amount

Benefit = DMI – incomes = 187.85 – 0 = 187.85

## **2.5. Social contributions**

Depending on the occupation and the risk undertaken at work individuals may refer to 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> labour category. Based on the category employer's SIC vary. However, labour category of employees is not directly recorded in SILC survey data. Hence, it is assumed that all employees in the sample belong to the 3<sup>rd</sup> labour category. This assumption is based on the fact that the vast majority of employees (over 95%) perform work under 3<sup>rd</sup> category of labour. An underestimation bias could be expected regarding the simulation of SIC that are due to the employers. However, this bias is of minor significance because cases of employment on 2<sup>nd</sup> and especially on 1<sup>st</sup> category are rarely met among the population of employed. The social insurance and personal income taxation systems have not undergone substantial structural changes since 2008. For all cases of simulation of **social insurance contributions, health insurance contributions and personal income taxes the tax unit is *tu\_individual\_bg***.

### **2.5.1. Employee social contributions (вноски за социално осигуряване на работниците и служителите) (tsceepi\_s, tsceesi\_s, tsceei\_s)**

#### Liability to contributions:

- The employee social contributions for Pension fund are compulsory paid by all employees.
- The employee social contributions for General Sickness and Maternity Fund and Unemployment Fund are compulsory paid by all employees hired on a labour contract.
- For civil servants (state administration, military, judicial system, etc.) the total amounts of compulsory SIC are paid by the State.
- Employees receiving a pension and at the same time are hired on a labour contract are compulsory insured against all social and health risks. If they perform work under a civil contract and their remuneration is below the amount of the minimum wage (after normative allowed deductions) they do not have the obligation to pay health insurance contributions as they health insurance contributions are paid by the State in their capacity of pensioners. If the remuneration is above the minimum wage after the deductions, they are obliged to pay health insurance contributions. Regarding social insurance, pensioners performing work under civil contract pay pension contributions to the Pension Fund on a voluntary basis.

#### Income base used to calculate contributions:

- CI includes all gross remuneration from paid work performed under labour contract and civil contract.
- There is a minimum threshold for the monthly contributory base. The threshold varies by the occupation and economic activity of the company where the employee is hired at.
- There is a maximum threshold (table 2.5.1) for the monthly contributory income when the compulsory SIC are assessed – they are not due on the fraction of income beyond that threshold.

**Table 2.5.1 Social insurance contribution rates for employees at Labour Contract**

	2017	2018	2019	2020
1. Pension Fund				
1.a. PF rate for persons born before 1960	8.34%	8.78%	8.78%	8.78%
1.b. PF rate for persons born after 1959*	6.14%	6.58%	6.58%	6.58%
2. Supplementary Mandatory Pension Insurance Fund (Universal Pension Funds)				
2.a. SMPIF rate for persons born before 1960				
2.b. SMPIF rate for persons born after 1959*	2.2%	2.2%	2.2%	2.2%
3. General Sickness and Maternity Fund	1.4%	1.4%	1.4%	1.4%
4. Unemployment Fund	0.4%	0.4%	0.4%	0.4%
5. Work Injury and Occupational Disease Fund				
<b>Total</b>	<b>10.14%</b>	<b>10.58%</b>	<b>10.58%</b>	<b>10.58%</b>
<b>Upper threshold for the contributory income (BGN)</b>	<b>2 600</b>	<b>2 600</b>	<b>3 000</b>	<b>3 000</b>
<b>Minimum wage (BGN)</b>	<b>460</b>	<b>510</b>	<b>560</b>	<b>610</b>

**Notes:** \* Since 1<sup>st</sup> of January 2016, people insured in Universal Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance. If they decide so, their contribution to the Universal Pension Funds are transferred do the State Public Social Insurance.

**EUROMOD notes:**

The following assumptions are made:

- The first one concerns the minimum thresholds for the monthly contributory base. The survey does not provide data for reliable identification of each category for which a different minimum threshold is normatively set. Furthermore, in EU-SILC there are about 5 percent (weighted) of people who report employment income lower than the minimum wage level – they may belong to a labour category with lower minimum threshold than the minimum wage or they may be involved in the informal economy. Because of lack of data, in the simulations we have not taken into account for the minimum thresholds.
- Labour remuneration for each month of the year is not available in EU SILC survey. Hence, the average monthly amount of the earnings is assessed on the basis of the annual gross employment income (PY010G) and the number of months in hired employment as declared by the individual during the survey.
- Due to lack of reliable data about remunerations received on civil contracts in the EU SILC survey the gross earnings from civil contracts are merged with the major source, i.e. the earnings from labour contracts. For this reason, an overestimation bias could be expected regarding the compulsory SIC. However, this bias is of minor significance due to the following reasons:
  - a. *Partial exemption.* The gross remuneration on a civil contract is reduced for social insurance and income tax purposes by the standard exemption applied to obtain CI.
  - b. *Low levels of SIC rates on the skipped items.* The total rates applied on CI from labour and civil contracts differ by less than 2 percentage points.
  - c. *Low share in the total employment income.* The share of SIC revenue from this source is about 0.3% of total revenues from Labour and Civil Contracts (NSSI Edition State Social Security 2016).

**2.5.2. Employer social contributions (вноски за социално осигуряване платени от работодателите) (tscerpi\_s, tscersi\_s, tscerui\_s, tscerac\_s)**

The clauses stated in the preceding section 2.5.1 (regarding the employee share of SIC) are valid also for the SIC due by the employers. Hereafter only the specific issues are presented regarding the duties of the employer of an employee hired on a Labour Contract, on a Civil Contract, or as a Public Servant.

Since this is the typical case of a regular labour relation, SIC due to the employer are set in more detail (Table 2.5.2. 1a)

- The contribution to the “Work Injury and Occupational Disease” Fund /WIOD Fund/ varies from 0.4% to 1.1% depending on the type of economic activity of the employer.
- For employees working under the 1<sup>st</sup> or 2<sup>nd</sup> category of labour under a Labour Contract an additional component emerges regarding the second pillar – contribution to Professional Pension Fund. The rates on this fund increase from 0 (for 3<sup>rd</sup> category of labour) to 7% (2<sup>nd</sup> category of labour) and 12% (1<sup>st</sup> category of labour). The rate applied for the 3<sup>rd</sup> category (allocated to a Universal Pension Fund) is held constant for all three categories

**Table 2.5.2a**

<b>3<sup>rd</sup> category of labour</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
1. Pension Fund				
1.a. PF rate for persons born before 1960	10.46%	11.02%	11.02%	11.02%
1.b. PF rate for persons born after 1959*	7.66%	8.22%	8.22%	8.22%
2. Supplementary Mandatory Pension Insurance Fund (Universal Pension Fund)				
2.a. SMPIF rate for persons born before 1960	–	–	–	–
2.b. SMPIF rate for persons born after 1959*	2.8%	2.8%	2.8%	2.8%
3. General Sickness and Maternity Fund	2.1%	2.1%	2.1%	2.1%
4. Unemployment Fund	0.6%	0.6%	0.6%	0.6%
5. Work Injury and Occupational Disease Fund**	0.7%	0.7%	0.7%	0.7%
<b>Total</b>	<b>13.86%</b>	<b>14.42%</b>	<b>14.42%</b>	<b>14.42%</b>

**Notes:** \* Since 1.01.2016, people insured in Universal Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance. If they decide so, their contribution to the Universal Pension Funds are transferred do the State Public Social Insurance.

\*\* on average

**EUROMOD Notes:**

- The exact WIOD Fund contribution rate is not simulated since it is infeasible to identify the necessary categorization of the employer in the EU SILC survey data. For simulation purposes a uniform value is assigned at the mean level (0.7%).
- It is assumed that all employees belong to the 3<sup>rd</sup> category of labour. That is why for the simulation of the policy “SIC paid by employers” only the 3<sup>rd</sup> category of labour contributory rates are considered. Table 2.5.2.1b shows the SIC rates for the 1<sup>st</sup> and 2<sup>nd</sup> labour categories.
- Contributions for employees on a Civil Contract are not simulated in 2015 - 2020 policy systems (see EUROMOD Note in 2.5.1).

**Table 2.5.2b SIC rates for employers-insurers on Labour Contract – 1<sup>st</sup> and 2<sup>nd</sup> category of labour**

<b>2<sup>nd</sup> category of labour</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
1. Pension Fund				
1.a. PF rate for persons born before 1960	13.46%	14.02%	14.02%	14.02%
1.b. PF rate for persons born after 1959*	10.66%	11.22%	11.22%	11.22%
2. Supplementary Mandatory Pension Fund				
2.a. SMPIF rate for persons born before 1960				
PPF (Professional Pension Fund)**	7.0%	7.0%	7.0%	7.0%
UPF (Universal Pension Fund)	-	-	-	-
2.b. SMPIF rate for persons born after 1959				
PPF (Professional Pension Fund)**	7.0%	7.0%	7.0%	7.0%
UPF (Universal Pension Fund)*	2.8%	2.8%	2.8%	2.8%
3. General Sickness and Maternity Fund	2.1%	2.1%	2.1%	2.1%
4. Unemployment Fund	0.6%	0.6%	0.6%	0.6%
5. Work Injury and Occupational Disease Fund***	0.7%	0.7%	0.7%	0.7%
<b>Total</b>	<b>23.86%</b>	<b>24.42%</b>	<b>24.42%</b>	<b>24.42%</b>
<b>1<sup>st</sup> category of labour</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
1. Pension Fund				
1.a. PF rate for persons born before 1960	13.46%	14.02%	14.02%	14.02%
1.b. PF rate for persons born after 1959*	10.66%	11.22%	11.22%	11.22%
2. Supplementary Mandatory Pension Fund				
2.a. SMPIF rate for persons born before 1960				
PPF (Professional Pension Fund)**	12.0%	12.0%	12.0%	12.0%
UPF (Universal Pension Fund)	-	-	-	-
2.b. SMPIF rate for persons born after 1959				
PPF (Professional Pension Fund)**	12.0%	12.0%	12.0%	12.0%
UPF (Universal Pension Fund)*	2.8%	2.8%	2.8%	2.8%
3. General Sickness and Maternity Fund	2.1%	2.1%	2.1%	2.1%
4. Unemployment Fund	0.6%	0.6%	0.6%	0.6%
5. Work Injury and Occupational Disease Fund***	0.7%	0.7%	0.7%	0.7%
<b>Total</b>	<b>28.86%</b>	<b>29.42%</b>	<b>29.42%</b>	<b>29.42%</b>

**Notes:** \* Since 1.01.2016, people insured in Universal Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance. If they decide so, their contribution to the Universal Pension Funds are transferred do the State Public Social Insurance.

\*\* Since 1.01.2016, people insured in the Professional Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance with an increased pension contribution – 7% (2<sup>nd</sup> category of labour) or 12% (1<sup>st</sup> category of labour).

\*\*\* on average

### **2.5.3. Self-employed social contributions (вноски за социално осигуряване на самостоятелно заети) (tscsepi\_s)**

Self-employed individuals have a legal duty to contribute to social insurance funds at a minimum level which covers only pension and health insurance. The rates for this compulsory state social and health insurance are presented in table 2.5.4.

- A self-employed individual can choose a particular monthly value for her contributory base which could be higher than the minimum threshold and up to the ceiling.
- Compulsory SIC are due by entrepreneurs and other self-employed only for those months during which they have conducted business activity (i.e. have maintain records for business expenditures and revenues).
- Self-employed individuals can decide to pay contributions to General Sickness and Maternity Fund of the State Public Social Insurance on a voluntary basis.



**Table 2.5.3 Social insurance contribution rates for self-employed**

	2017	2018	2019	2020
1. Pension Fund				
1.a. PF rate for persons born before 1960	18.8%	19.8%	19.8%	19.8%
1.b. PF rate for persons born after 1959*	13.8%	14.8%	14.8%	14.8%
2. Supplementary Mandatory Pension Insurance Fund (Universal Pension Fund)*	5.0%	5.0%	5.0%	5.0%
3. General Sickness and Maternity Fund (insurance on a voluntary basis)	3.5%	3.5%	3.5%	3.5%
<b>Contributory income for self-employed</b>				
Lower threshold (BGN per month)	460	510	560	610
Upper threshold (BGN per month)	2 600	2 600	3 000	3 000
<b>Contributory income for registered farmers and tobacco producers</b>				
Lower threshold (BGN per month)	300	350	400	420
Upper threshold (BGN per month)	2 600	2 600	3 000	3 000

**Notes:** \* Since 1.01.2016, people insured in Universal Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance. If they decide so, their contribution to the Universal Pension Funds are transferred do the State Public Social Insurance.

\*\* The minimum threshold for the self-employed for the period 2014-2016 was based on the taxable income for the previous year and there is no differentiation from 2018 onwards:

**2017:** up to 5400 BGN – 460 BGN; from 5401.01 to 6500 BGN – 500 BGN; from 6501.01 to 7500 BGN – 550 BGN; for 7500.01 BGN and more– 600 BGN. For new self-employed and for self-employed without incomes form previous year the threshold is BGN 460.

**2018:** BGN 510.

**2019:** BGN 560.

**2020:** BGN 610.

**EUROMOD Note:** Due to lack of data in EU-SILC, we have assumed that the contributory income for each self-employed is equal to her income from self-employment. Self-employed individuals can expand the range of the insurance risks by deliberately contributing to “General Sickness and Maternity” Fund but this decision cannot be taken into account in the simulation.

#### 2.5.4. Health insurance contributions (tscerhl\_s, tsceeh\_s, tscsehl\_s, tsccthl\_s)

- The health insurance contributions are legal duty for all citizens in Bulgaria.
- The employees and employers pay different proportions from the rate of health insurance contributions.
- Health insurance contributions are due by entrepreneurs and other self-employed only for all months in the year.
- The State pays the health insurance contributions for the pensioners, unemployed receiving unemployment benefits, individuals under 18 years, students in the tertiary education and civil servants;
- People above 18 years of age, who simultaneously: (1) are not enrolled in education; (2) do not perform economic activity; (3) are not pensioners; (4) do not receive cash benefit for temporary reduced working capacity, pregnancy and childbirth or adoption of a child; (5) do not receive unemployment benefit; (6) do not receive monthly social assistance or heating allowance, are obliged to pay health insurance contributions at their own expense.

- The health insurance contribution rate is **8%** for the period 2014-2020. It is split 60% for the employer and 40% for the employee, i.e. 4.8% and 3.2% respectively. Self-employed pay the total rate;
- The minimum and maximum contributory thresholds are the same as those for the other categories of insured (table 2.5.1 for employee and 2.5.3 for self-employed).
- The monthly payment for people who are not insured and have to pay health insurance contributions at their expense was BGN 16.80 in 2014-2016, BGN 18.40 in 2017, BGN 20.40 in 2018, BGN 22.40 in 2019 and BGN 24.40 in 2020.

**2.5.5. Credited insurance contributions (вноски за социално осигуряване платени от работодателите) (tsctpi\_s, tsctsi\_s, tsctui\_s, tsctac\_s)**

Credited insurance contributions are the typical case for hired employment in the public administration system. Other special cases of central government jobs (e.g. military, judicial, and law enforcement employees) have almost the same treatment by the compulsory social insurance, thus no separate simulation is conducted about them. Table 2.5.5 contains the total SIC rates which are entirely due by the employer of public employees (no contributions are paid by the employees), up to the maximum thresholds.

**Table 2.5.5 Social insurance contribution rates for employers-insurers of civil servants**

	2017	2018	2019	2020
1. Pension Fund				
1.a. PF rate for persons born before 1960	18.8%	19.80%	19.80%	19.80%
1.b. PF rate for persons born after 1959*	13.8%	14.80%	14.80%	14.80%
2. Supplementary Mandatory Pension Insurance Fund (Universal Pension Funds)				
2.a. SMPPIF rate for persons born before 1960	-	-	-	-
2.b. SMPPIF rate for persons born after 1959*	5.0%	5.0%	5.0%	5.0%
3. General Sickness and Maternity Fund	3.5%	3.5%	3.5%	3.5%
4. Unemployment Fund	1.0%	1.0%	1.0%	1.0%
5. Work Injury and Occupational Disease Fund	0.7%	0.7%	0.7%	0.7%
6. Health insurance	8.0%	8.0%	8.0%	8.0%
<b>Total</b>	<b>32.0%</b>	<b>33.0%</b>	<b>33.0%</b>	<b>33.0%</b>
<b>Upper threshold for the contributory income</b>	<b>2 600</b>	<b>2 600</b>	<b>3 000</b>	<b>3 000</b>

**Note:**

\* Since 1.01.2016, people insured in Universal Pension Funds have been given the opportunity to decide whether to remain insured only in the State Public Social Insurance. If they decide so, their contribution to the Universal Pension Funds are transferred to the State Public Social Insurance.

**EUROMOD Note:** Identification of such employees is informed by the EU-SILC survey concerning the type of hired employment contracts on the main job as declared by the individuals for the respective income year. In addition, for some categories such as civil servants working under 1<sup>st</sup> and 2<sup>nd</sup> category of labour, civil servants within the system of Ministry of Interior, Ministry of Defense and Ministry of Justice, additional rates apply.

**2.6. Personal income tax (данък общ доход) (tin\_s)**

**2.6.1. Tax unit**

- PIT system in Bulgaria in 2014-2020 is based on the taxation of the individual (The unit of analysis is the individual (*tu\_individual\_bg*))

- PIT is due by any resident person who has earned income from one or more taxable sources in Bulgaria or from abroad during the fiscal year. It is assumed that an individual having one or more sources of taxable income *different from the earnings from employment on labour contract or on civil servant contract* has submitted a Tax Declaration about her income

### 2.6.2. Exemptions

A wide range of sources are exempted from personal income taxation (27 items explicitly defined in PITA). The main sources of income that are not included in the range of taxable income are:

- (a) all social insurance benefits and social assistance allowances;
- (b) income from private pension insurance (after regularly obtaining the right for pension);
- (c) since the beginning of 2013 incomes from interest in local commercial banks on deposits are taxed automatically and paid directly from the bank account (there is no information about incomes from interest on deposits in the tax declaration)
- (d) income from interest on treasury bills and bonds issued by the central or local governments;
- (e) insurance indemnities and compensations received;
- (f) income obtained by registered agricultural or tobacco producers from selling unprocessed agricultural goods;
- (g) as of 01.1.2017 – prizes given in the form of a supplementary game or an insignificant amount of prize money from slot machines within the meaning of the Gambling Act, as well as the cash and the object profits from gambling games organized under a license issued under the Gambling Act.

### 2.6.3. Tax allowances

Tax deductions (allowances) are applied in numerous sections of the Tax Declaration where each itemized tax base is obtained for every taxable income source. Table 2.6.3.1 presents the deductions from the major income sources that constitute the consolidated tax base on PIT.

**Table 2.6.3.1 Derivation of itemized tax bases from the main income sources**

<b>1. Earnings from Labour Contract</b>	2017	2018	2019	2020
Gross earnings				
SIC	8.34%	8.78%	8.78%	8.78%
HIC	3.20%	3.20%	3.20%	3.20%
Tax base = Gross earnings – SIC – HIC				
<b>2. Earnings from Civil Contract</b>	2017	2018	2019	2020
Gross earnings				
Normatively recognised expenditures (NRE)	25%	25%	25%	25%
Taxable income = Gross earnings – NRE				
SIC	8.34%	8.78%	8.78%	8.78%
HIC	3.20%	3.20%	3.20%	3.20%
Tax base = Taxable income – SIC – HIC				
<b>3. Income from self-employment as sole entrepreneur</b>	2017	2018	2019	2020
Gross self-employment earnings				
SIC	18.8%	19.8%	19.8%	19.8%
HIC	8%	8%	8%	8%
Tax base = Gross earnings – SIC – HIC				
<b>4. Other sources of self-employment income</b>	2017	2018	2019	2020
Gross self-employment earnings from each source				
NRE (separate by income source)				
• Freelance professions	25%	25%	25%	25%
• Agricultural activity (processed products)	40-60%	40-60%	40-60%	40-60%
• Forestry and fishery activity	40%	40%	40%	40%
• Income from crafts, trade with decorative plants	40%	40%	40%	40%
• Artistic/performance activities	40%	40%	40%	40%
• Income from authorship rights (scientific/art products)	40%	40%	40%	40%
Taxable income = Gross Earnings – NRE				
SIC	18.8%	19.8%	19.8%	19.8%
HIC	8%	8%	8%	8%
Tax base = Taxable income – SIC – HIC				
<b>5. Incomes from renting (real estate, non-financial assets)</b>	2017	2018	2019	2020
Gross income				
NRE	10%	10%	10%	10%
Taxable income = Gross income – NRE				
SIC	–	–	–	–
HIC	8%	8%	8%	8%
Tax base = Taxable income – SIC – HIC				

The tax allowances are subtracted from the consolidated tax base before the final calculation of PIT duty. The final tax base is obtained by reduction of the consolidated tax base by the amount of allowances. These allowances are stipulated in annual values.

**Table 2.6.3.2 Tax allowances from the consolidated tax base**

Allowances (annual amounts)	2017	2018	2019	2020
1. Standard deduction for permanently disabled persons, BGN (i.e. with 50% or higher level of disability)	up to 7920	up to 7920	up to 7920	up to 7920
2. Deduction for voluntary social, unemployment, health and life insurance (max.% from the consolidated tax base)	10%	10%	10%	10%
3. Standard child deduction				
For 1 child (BGN)	200	200	200	200
For 2 children (BGN)	400	400	400	400
For 3 and more children (BGN)	600	600	600	600
For permanently disabled child (BGN)	2000	2000	2000	2000
4. Deduction of bequests (max.% from the consolidated tax base)				
• For social and health institutions, Red Cross, NGOs	5%	5%	5%	5%
• For sponsoring cultural events or products	15%	15%	15%	15%
• For the National Fund “Children’s Health”	50%	50%	50%	50%

Since 01.1.2019, amendments regarding tax allowance for families with children have been introduced. The tax allowance can be used up to the individual tax base of the parent. If the tax allowance is higher than the individual tax base, the remainder can be used by the other parent.

In the period 2015 – 2020 there is a specific tax allowance for young families with mortgage. The amount of the mortgage interest paid during the year is subtracted from the annual consolidated tax base. The tax allowance for mortgage interest can be applied, if the family fulfill the following conditions simultaneously:

1. The mortgage contract is signed by a person with a registry marriage.
2. At least one of the married partners is below 35 years old.
3. The home with the mortgage is the only dwelling owned by the family.

The mortgage interest tax allowance is valid only for interests paid on the first BGN 100 000 (EUR 50 000) of the principal amount.

The mortgage interest tax allowance can be taken only by one of the partners.

Since 1.01.2017 a new specific tax allowance is introduced. It is connected with the non-cash transactions. The allowance is 1% from the tax duty, but no more than BGN 500. The tax allowance can be applied if:

1. All incomes are received by bank transactions.
2. The non-cash transactions are 80% or more from all incomes.

On the first stage, the consolidated tax base is obtained by summing-up all itemized tax bases from the specified taxable income sources. On the second stage, the final consolidated tax base is further reduced by the allowances in Table 2.6.3.2 (if applicable to a particular individual).

**EUROMOD note:** As entitlement for the standard deduction for permanently disabled persons depends on whether the person has a disability, with a measured level of 50% or more, we use information on self-reported disability (ddi) as well as on receipt of disability pensions (pdi) in the SILC data. Individuals with a disability (of 50% or more) would be generally entitled to disability benefits which are recorded in the variable for disability pensions. Using information on self-reported disability, we ensure that the disability benefits are not just received on behalf of other persons in the household (e.g. a child).

### 2.6.4. Tax schedule

The tax rate for 2016-2020 is flat: **10% of the final consolidated tax base.**

Since the beginning of 2013 incomes from interest on deposits have been included in the annual tax base. The tax rate is 8% for 2016-2020.

## 2.7. Minimum Wage (yem)

The minimum wage in Bulgaria is 420 BGN per month in 2016, BGN 460 in 2017, BGN 510 in 2018, BGN 560 in 2019 and BGN 610 in 2020.

- *EUROMOD notes*

Monthly income from employment, accounting for the number of months in work, is set equal to the minimum wage (proportional to hours worked) if the income from employment is less than the minimum wage. We do not apply the minimum wage correction when a person earns more than the monthly minimum wage, but its hourly wage is still less than a minimum wage.

The minimum wage adjustment is not applied in the baseline simulations.

## 2.8. “60/40” wage compensation scheme in response to Covid-19 (yemmc\_s & bwkmcee\_s)

- *Assessment unit*

The unit of analysis is the individual (tu\_individual\_bg).

- *Eligibility conditions*

The Covid-19 “60/40” wage compensations are paid directly to employers. There are two target groups:

(1) employers whose activity is restricted as a result of the confinement measures in economic sectors: 47 (G) (except for 47.11, 47.2, 47.73, 47.74, 47.8, 47.9); 49.3, 51.1 (H); 55, 56.1, 56.3 (I); 59.14 (J); 79, 82.30 (N); 85.10, 85.53 (P); 88.91 (Q); 90, 91, 93 (R); 96.04 (S) (NACE, rev. 2008).

(2) employers, except for those operating in the economic sectors A, K, O, P, Q, T and U (NACE, rev. 2008), who can provide a proof of 20% drop in their revenues compared to a year ago. In response to the pandemic, employers could have shutdown the entire/parts of the company or reduced the working hours of their employees.

Employers have to top-up the wage compensation up to the pre-Covid earnings level. Thus, the wage compensation paid by the state and employer’s earnings top-up are to ensure that employees’ earnings remain unchanged, at their pre-Covid level.

- *Wage compensation: contribution by the state*

The contribution by the state towards the wage compensation (EUROMOD variable *bwkmcee\_s*) is 60% of the worker’s contributory income (i.e. gross earnings) for January 2020 as well as the statutory employer’s social security contributions.

If employees are still working, but at a reduced number of hours due to the pandemic, the compensation equals 60% of the earnings for the non-worked hours, up to 4 hours per day.

- **Wage compensation: contribution by the employer**

The contribution by the employer towards the wage compensation (EUROMOD variable *yemmc\_s*) is 40% of the worker's contributory income. In other words, employers are required to top up the wage compensation up to the pre-Covid earnings level as well as pay the remainder of the employer SIC, not covered by the state.

- **Duration of scheme**

As of 30<sup>th</sup> of June 2010, the support is provided for a maximum of three months (EUROMOD variable *bwkmceemy\_s*).

The table shows the government and employer contribution where the employee does not work any hours or works at reduced number of hours due to Covid-19.

**Table 2.8.1: Government and employer contribution as part of the wage compensation scheme**

	Employee does not work any hours due to Covid-19	Employee works at a reduced number of hours
<b>Government contribution:</b>		
Employer SICs	Yes	Yes
Earnings	60% of earnings	60% of earnings for non-worked hours, up to 4 hours per day
<b>Employer contribution:</b>		
Employer SICs	Yes	Yes
Earnings	Remainder of earnings, i.e. 40% of earnings	Remainder of earnings, i.e. earnings for non-worked hours not compensated by the state (as well as earnings for hours worked)
<b>Employee receives</b>	earnings at pre-Covid level	earnings at pre-Covid level

- **Data on share of employees receiving the 60/40 wage compensation scheme**

We use information from the National Social Security Institute Information Bulletin on the number of employees covered by the wage compensation scheme by industry at the end of June 2020. Columns 4 and 5 in Table 2.8.2 show the number of employees i) on labour contract in the private sector back in 2017 and ii) covered by the wage compensation scheme in 2020, respectively. We assume that the number of workers by industry between 2017 and 2019 has remained broadly constant. The last column in Table 2.8.2 shows the share (in %) of employees covered by the wage compensation scheme by industry (the ratio ii/i).

**Table 2.8.2: Share of employees on 60/40 wage compensation scheme by industry**

EUROMOD detailed industry classification (variable <i>lindi</i> )	n (private) employees in 2017*	n employees on 60/40 wage compensation**	estimated % employees on 60/40 wage compensation
	(i)	(ii)	(ii/i)
1 Agriculture and Fishing	59,296	-	-
b-e 2 Mining, Manufacturing and Utilities	557,701	73,564	13.19
F 3 Construction	125,236	5,683	4.54

G	4	Wholesale and retail trade	379,358	25,258	6.66
I	5	Hotels and restaurants	114,787	17,523	15.27
h/j	6	Transport and communication	187,443	15,786	8.42
K	7	Financial intermediation Real estate and business	54,895	-	-
l-n	8	activities Public administration and	189,525	7,577	4.00
O	9	defence	-	-	-
P	10	Education	9,709	789	8.13
Q	11	Health and social work	37,625	-	-
r-u	12	Other	59,134	5,525	9.34
a/k/q			151,816	6,472	4.26
Total			1,774,709	157,862	8.90

Source: \* National Statistical Institute (NSI): Number of private employees on labour contract in 2017; \*\* National Social Security Institute (NSSI): 2020 Information Bulletin Number 2, Table 5 and Table 6 on number/% employees on the 60/40 wage compensation scheme by the end of June 2020 ([https://www.noi.bg/images/bg/users/infomaterials/izdania/buletin/2020/Bul\\_2\\_2020.pdf](https://www.noi.bg/images/bg/users/infomaterials/izdania/buletin/2020/Bul_2_2020.pdf)).

Notes: Own calculations with NSI and NSSI data.

In EUROMOD, workers are then selected randomly – based on the industry in which they work and subject to the proportions in the last column in Table 2.8.2 (in the model defined under the constant name  $\$p\_comp$ ) – to receive the 60/40 wage compensation scheme. Noteworthy, our simulations of who gets the wage compensation do not account for differences within industry, e.g. by education, sex or earnings quintile. At the time of writing, we do not have information, other than what is presented in Table 2.8.2, for whether and how much such differences matter.

**EUROMOD notes:** We make a number of assumptions to simulate the wage compensation scheme:

First, we assume the gross earnings for January 2020 equal the average monthly gross earnings in SILC 2018, uprated to 2020 to account for average growth in earnings (EUROMOD variable  $yem$ ). Employees who are on unpaid, sick or maternity/paternity leave during the duration of the compensation scheme are not eligible for the compensation. Employees who were on maternity leave for bringing up a child up to the age of 2 or unpaid leave in January 2020, but then returned to work, can receive an earnings compensation by the state equal to 60% of the minimum wage. For simplification, we assume that any employee in a gainful employment ( $yem > 0$ ) for any number of months ( $yemmy \geq 1$ ) is entitled to the compensation scheme.

Second, for employees working reduced number of hours we assume that employers claim the maximum compensation paid by the state of 4 hours per day.

Third, we assume that civil servants are not affected.

Fourth, we select randomly a % of employees by industry – as defined in Table 2.8.2 – to be covered by the wage compensation scheme. Furthermore, among the workers affected by the shocks we assume that 30%, who work more than 4 hours per day, receive a compensation by the state for 4 hours and work for the remainder number of hours. For example, someone who did 9 hours per day (45 hours per week) before Covid-19 is simulated to work for 5 hours and receive compensation by the state for 4 hours. The rest of workers are simulated to work zero hours. These assumptions are specified (and can be modified by the user) in policy  $yemcomptime\_bg$ .

The simulation of the wage compensation scheme within EUROMOD is broadly done in the following steps:

Step 1: The parameters of the compensation scheme – duration of the scheme (defined as the constant  $\$mc\_my$ ), replacement rate paid by the state ( $\$mc\_rate$ ), share of employees to be covered by the scheme ( $\$p\_comp$ ) – are defined as constants in the policy ConstDef\_bg.



Step 2: Policy `random_bg` draws random numbers from a uniform distribution. These numbers are then used in the simulation of Covid-related employment shocks.

Step 3: Policy `yemcomptime_bg` simulates the Covid-related employment shocks: employees by industry are randomly selected to be affected by Covid-19 and transition onto the wage compensation scheme. The policy also simulates the duration of the scheme (EUROMOD variable `bwkmceemy_s`), the number of months in work out of compensation (EUROMOD variable `yemmwwmy_s`) as well as the drop in number of working hours for each employee affected by the shocks (share of working hours is stored in the EUROMOD variable `lhwsr_s`). In the baseline, the policy is switched off, i.e. no employment shocks are simulated and no one receives the wage compensation scheme.

Step 4: Policy `yemcomp_bg` simulates the level of the compensation paid by the state (EUROMOD variable `bwkmcee_s`) and the employer (EUROMOD variable `yemmc_s`).

Step 5: Policy `yemadj_bg` re-calculates earnings paid by the employer accounting for earnings paid i) for the rest of the year while not on the compensation scheme and ii) for the hours spent in work (if any) during the compensation scheme (EUROMOD variable `yemtx`). The policy also re-calculates the number of months spent in work (EUROMOD variable `yemmy`).

Step 6: Policy `tscer_bg` simulates the employer Social Insurance Contributions (SIC) accounting for the share paid by the state versus the employer while employee is on the wage compensation scheme.

All elements that belong to the simulations of the Covid-19 shocks and policies in the model belong to the so-called Group “Covid-19 shocks and policy response”, highlighted by a blue square in the most left column in the model (for definition of Groups see EUROMOD Help file accessible via the User Interface). To expand all elements of the Group, go to tab “Display”, click on option “Expand” and select “Covid-19 shocks and policy response”.

This policy can only produce results if the model is run in combination with the LMA add-on. The individuals that are selected to undergo transitions to monetary compensation schemes are defined in the `TransLMA_bg` 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.

## 3. Data

### 3.1. General description

The Bulgarian dataset for EUROMOD 2017-2020 simulation is derived from the EU-SILC standard UDB 2018 (income reference year 2017). It contains the data from wave 2018 of the Bulgarian SILC survey which is implemented as a 6-year rotating household panel survey. The field work for the observation usually takes place in the period March-May each year.

The 2018 EU-SILC sample is designed as a stratified two-stage cluster sample representative for all private households in the country and is stratified by administrative districts and urban-rural type of residence. The primary sampling units are the so called “census enumeration clusters” and the final sampling units are the households. At the first stage, PSUs are selected with probability proportional to size (i.e. the number of households) and at the second stage the households are selected by systematic sampling within the respective cluster.

According to the EU-SILC general guidelines the data about living conditions, housing, and social exclusion is collected at the household level while personal, labour, and health information is recorded at the individual level – for each person aged 16 or over. Income components data is partially recorded at the individual level, however, some components are included in the household section of SILC.

**Table 3.1 EUROMOD database description**

EUROMOD database	BG_2018_b1
Original name	Статистика на доходите и условията на живот, 2018 (EU-SILC, version UDB_ver 2018-1)
Provider	National Statistical Institute of Bulgaria
Year of collection	2018
Period of collection	2018
Income reference period	2017
Unit of assessment	Household
Sample size	7,233 Households 16,957 Individuals
Household non-response rate	13.26
Individual non-response rate	12.92

Notes: “Household” is defined as a person living alone or a group of people who live together in the same dwelling and share expenditures, including the joint provision of the essentials of living. Family members living together but not sharing their income and expenditure with other family members make up separate households. Non-respondent individuals (41) and children born after the income reference period (24) were dropped from the initial sample.

The sample for EU-SILC 2018 is selected from the sampling frame based on the Population Census 2011. The database includes all private households and their current members residing in the respective territory. Persons living in collective households and in institutions are excluded from the target population. Students’ and workers’ hostels are excluded at the first stage of selection of PSUs because these individuals rarely stay on the same addresses and are difficult for tracing.

The sampling frame was updated according to the administrative changes occurred regarding the statute of some settlements (e.g. some villages were re-categorized as towns; transitions of municipalities or settlements from one administrative district to another were ratified, etc.). The sample is stratified by the administrative-territorial districts of the country (28 districts, NUTS3 level) and the type of residence of the household. As a result 56 strata are formed (28 of urban and 28 of rural population). In order to apply PPS sampling of clusters the settlements are sorted within each stratum according to the number of their population. The clusters on the first stage are chosen with probability proportional to size (i.e. the number of households in the PSUs). Systematic random sampling of secondary units (households) in each selected PSU is applied and 5 households are selected from the PSU. Addresses and household data within the selected PSUs are updated according to the Information System “Demography” /ISD/ data.

### **3.2. Data adjustment**

Data adjustments were performed occasionally as a result of edit checks and other controls. These validations were implemented for ensuring data correctness and consistency. Addresses and household data within the selected PSUs are updated according to the Information System “Demography” data (ISD). Data source for the natural movement and the internal migration of the population is the National Civil Registration System. ISD were used for verifying correctness of identifiers and for checking against previously collected information (e.g.

household composition, birth dates, gender, etc.) for those individuals who are not observed for the first time.

Weighting factors were calculated as required to take into account the units' probability of selection, non-response and to adjust the sample to external data relating to the distribution of households and persons in the target population, such as sex and age, residence or administrative-territorial districts (NUTS 3).

All gross income values were checked whether they are equal or greater than the net values and whether the net values are greater or equal than half the gross values (so called "soft error" check). Also, lower and upper boundaries were used to check for most of recorded social transfer components (e.g. social benefits, pensions) based upon the national legislation. Extreme income values (outliers) were compared with data provided by the National Social Security Institute (NSSI), other administrative sources, and data from previous waves.

The person-level National SILC survey records the main items of the maternity benefits that are by nature related to the social insurance rights of the insured individuals. Though, if an individual receives family-related social insurance benefits she is generally not eligible for non-contributory social assistance benefits. NSI checks for consistency of data collection in this particular case and adjusts the data records accordingly.

Relevant corrections and adjustments are conducted if necessary, e.g. if some values are found to exceed the maximum possible amounts of unemployment, old-age, survivor, sickness and disability benefits. Adjustments have been performed also in order to correct for possible double registration of income components. As typical examples, in particular cases child allowances or personal income from agriculture, property or land were found to be recorded in both household and individual questionnaires.

During the preparations of the EUROMOD input database, in order to guarantee consistency between demographic variables and income variables which refer to the previous year (and on which EUROMOD simulation are based), 15 children aged 0, i.e. born between the end of the income reference period and the date of interview, have been dropped from the sample. The resulting sample includes 7,286 households or 16,957 individuals.

### 3.3. Imputations and assumptions

#### 3.3.1. Time period

The reference period for the various attributes is:

- demographic variables (age, marital status, education): at the date of the interview;
- economic activity status: recorded both at the date of interview (RB210) and for each month during the income reference year (PL211A-L);
- current employment variables: at the date of the interview;
- income data: calendar year 2016 (based on 12-months period of receipt);
- housing, durables possessions, financial, social, and health situation of household: at the date of the interview;

All monetary incomes in the Bulgarian part of EUROMOD database are converted into monthly levels.

### 3.3.2. Gross incomes

In the Bulgarian SILC data missing values have been imputed, where necessary. Most of the imputations have been done by National Statistical Institute in Bulgaria. A few remaining imputations were done by the EUROMOD developer and they are described in detail in the Data Requirement Document (DRD).

Bulgarian SILC 2018 survey provided the respondents with the option of reporting their income net or gross at component level. From 2012 Employee cash or near cash income (PY010) collected only net. The form in which the net amounts were recorded in the database was net of both income tax and SIC. In the same time, each respondent was asked to record explicitly the average contributory base on which she has been insured by the employer (or has paid SIC as self-insured individual) during the income year. This amount was used for the calculation of SIC and PIT duties by “forward calculation” according to the respective legislation (about PIT and compulsory SIC).

However, when both the gross income and the information on the contributory base were missing these amounts were imputed by “backward calculation” applying the PIT-SIC rules on the net income. This net-to-gross conversion was performed internally by NSI without making special adjustments for tax evasion, i.e. assuming full tax compliance. The procedure was informed by all the relevant information available in the national SILC database. Moreover, administrative records from NSSI were used to assist this procedure. The gross income was obtained by summing up the assessed PIT duty and compulsory SIC to the recorded net income.

### 3.3.3. Disaggregation of benefit variables

A range of UDB EU-SILC benefit variables have been obtained after aggregation of several country-specific benefits that are recorded by the National SILC survey. The aggregation is done by benefit function, e.g. old-age, disability, sickness, unemployment, family. A typical case is the target variable HY052 “contributory non-means-tested family-/children-related allowances” which includes the sum of maternity benefits (see 1.3.3). However, to simulate certain policies in EUROMOD, information about the entitlement of single benefits is required. Thus, efforts were made to disaggregate the broader benefit categories by imputing the separate components. We impute the recipients and their entitlements to the separate benefits using information on the person/household characteristics in SILC data and the policy rules that were in place in 2016. In what follows, we explain in more detail how the benefit variables are disaggregated:

The approach to disaggregate HY052 (contributory, non-means-tested family/children-related allowances) is broadly the following: First, we identify women with children aged 1-2. If the woman has non-zero previous earnings (EUROMOD variable *yempv*), we assign to her the amount of HY052 and save the result into the imputed benefit variable *bmaycct* (Contributory maternity benefit for bringing up a child up to the age of 2). We also adjust the benefit amount for the child’s quarter of birth. Second, we identify women with babies aged 0 and with non-zero previous earnings. The amount of HY052 is assigned to them and the result is saved into the imputed benefit variable *bmaprct* (Cash benefits in case of pregnancy and childbirth). Again, we adjust the benefit amount for the child’s quarter of birth. Third, we ensure that the sum of the two imputed benefits *bmaycct* and *bmaprct* does not exceed the amount recorded in HY052.

To disaggregate HY054 (non-contributory, non-means-tested family/children-related allowances), we broadly do the following: First, we identify women with babies aged 0 and identify the order of the child birth (if it is the first, second, or third+ child). Second, we calculate for these women the amount for the Lump sum benefit for childbirth (variable *bchbals*), which equals the minimum between the legislated amount and HY054.

The difference between i) HY054 and ii) the derived benefit *bchbals* is saved into the derived benefit variable *bfanmot* (Other non-means-tested family benefits), which we cannot disaggregate any further.

The approach to disaggregate HY053 (non-contributory, means-tested family/children-related allowances) is broadly the following: First, we identify families with children up to the age of 18 (or 20 if the child is still in education). For those families, who satisfy the legislated income-test, we impute the Monthly allowance for a child (variable *bchmt00*) equal to the minimum between the legislated amount and HY053. Second, we identify women with children aged 0. For those women and their families, who satisfy the legislated income-test, we impute the Non-contributory benefit for raising a child under the age of 1 (variable *bmaprnc*) equal to the minimum between the legislated amount and HY053. The benefit amount is adjusted for the child’s quarter of birth. Third, we identify in a similar way families with children aged 7 and impute for them the Child benefit for education (variable *bchedyc*). Fourth, we ensure that the sum of the three imputed benefits *bchmt00*, *bmaprnc* and *bchedyc* does not exceed the value of HY053. The difference between i) HY053 and ii) the sum of the derived benefits is saved into the derived benefit variable *bfamtot* (Other means-tested benefits), which we cannot disaggregate any further.

To disaggregate PY090 (unemployment benefits), the following approach is used: First, we impute the Unemployment contributory benefit (variable *bunct*) by using information in the micro-data on number of months in unemployment, receiving unemployment benefits, and imputed previous employment income. Second, the difference between PY090 and the derived benefit *bunct* is set to equal the Redundancy/retirement benefits (*bunot*).

The disaggregation of HY063 (means-tested, non-contributory social exclusion not elsewhere classified) is a more challenging task compared to the disaggregation of other benefits as the eligibility criteria differs by population subgroups. Thus, the imputation approach is very crude and is close to randomly splitting the benefit into different categories. The benefit is first disaggregated into monthly social assistance (*bsa00*) and heating allowance (*bsaht*). The difference between HY063 and the sum of *bsa00* and *bsaht* is saved into the derived benefit variable *bsaot* (Other social assistance benefits), which we cannot disaggregate any further.

The variable HY064 (non-contributory, non-means-tested social exclusion not elsewhere classified) is not disaggregated but simply renamed to *bsacm* (Complementary social assistance benefits).

Table 3.3.3.1 lists the benefits derived in the EUROMOD input data set. The benefits captured in the variables *bfamtot*, *bfanmot*, *bunot*, *bsaot* and *bsacm* are not simulated in EUROMOD due to information limitations in the underlying micro-data. Thus, to calculate household net income, EUROMOD uses the *derived* values for these benefits and the *simulated* values for the remaining benefits (*bmaprct*, *bmaycct*, *bchbals*, *bchedyc*, *bunct*, *bsa00* and *bsaht*).

**Table 3.3.3.1 Derived variables based on EU-SILC 2018**

Variable name in EUROMOD input data	Variable description	Component of the aggregated variable in EU-SILC
<i>bmaprct</i>	Cash benefits in case of pregnancy and childbirth (Парично обезщетение при бременност и раждане на дете)	HY052
<i>bmaycct</i>	Paid parental leave for bringing up a small child (Платен отпуск за отглеждане на малко дете)	HY052
<i>bchbals</i>	Lump sum benefit for childbirth (еднократна помощ при раждане)	HY054

bchedyc	Child benefit for education (целева помощ за ученици в първи клас)	HY053
bmaprnc	Non-contributory benefit for raising a child under the age of 1 (месечна помощ за отглеждане на дете до 1 г. възраст)	HY053
bchmt00	Monthly allowance for a child (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст)	HY053
<b>bfamtot</b>	<b>Other means-tested family benefits</b>	<b>The residual benefit from HY053</b>
<b>bfanmot</b>	<b>Other non-means-tested family benefits</b>	<b>The residual benefit HY054</b>
bunct	Unemployment benefit (обезщетение за безработица)	bun/PY090
<b>bunot</b>	<b>Other unemployment benefit - Redundancy/retirement benefits (обезщетение при съкращение/пенсиониране)</b>	<b>The residual benefit from bun/PY090</b>
bsa00	Monthly social assistance allowance (guaranteed minimum income) (месечна парична помощ поради ниски доходи)	HY063
bsaht	Targeted allowance for heating (целева помощ за отопление)	HY063
<b>bsaot</b>	<b>Other social assistance benefits (means-tested)</b>	<b>The residual benefit from HY063</b>
<b>bsacm</b>	<b>Complementary social assistance benefits (non-means-tested)</b>	<b>HY064</b>

Table 3.3.3.2 compares the total amount of benefits reported in the national SILC (column 1) and the total amount of derived benefits in the EUROMOD input data (column 3). It does the same for the total number of benefit recipients reported in the national SILC (column 2) and based on the derived benefits in EUROMOD input data (column 4). By looking at the last two columns – which show the ratio between EUROMOD and national SILC figures for total benefit amount and number of recipients – it becomes clear that, despite our efforts, the derived benefits do not match perfectly the respective national SILC variables. This result poses a bias for EUROMOD-based estimates of the income distribution. First, the bias occurs through the inaccurate derivations of benefits which are directly included in household net income – bfamtot, bfanmot, bunot, bsaot, bsacm. Second, the quality of part-simulated benefits which are conditioned on the derived benefit values is worsened: this is the case with bmaprct\_s, bmaycct\_s and bunct\_s which are simulated based on bmaprct, bmaycct and bunct, respectively.

Table 3.3.3.2 Comparison between national SILC benefit variables and derived benefits in EUROMOD input data for 2018

EUROMOD variable	Name of benefit	National SILC 2018: Total amount (thousand) (1)	National SILC 2018: Number of recipients (2)	Total <b>derived</b> amount in EUROMOD input data (thousand) (3)	Number of <b>derived</b> recipients in EUROMOD input data (4)	Ratio (3)/(1)	Ratio (4)/(2)
<b>bfa (HY050 in SILC)</b>	<b>Family benefits (total)</b>	<b>1,171,083</b>	<b>624,207</b>	<b>1,171,083</b>	<b>624,207</b>	<b>1.00</b>	<b>1.00</b>
<i>bmaprct</i>	Contributory maternity benefit for pregnancy and childbirth (обезщетение за бременност и майчинство)	316,334	100,731	147,956	57,726	0.47	0.57
<i>bmaycct</i>	Contributory maternity benefit for bringing up a child up to the age of 2 (обезщетение за отглеждане на дете до 2г.)	158,202	74,896	120,561	58,487	0.76	0.78
<i>bchbals</i>	Birth grant (еднократна помощ при раждане)	30,956	63,502	14,431	31,587	0.47	0.50
<i>bchedyc</i>	Child benefit for education (целева помощ за ученици)	13,292	52,702	9,676	38,703	0.73	0.73
<i>bmaprnc</i>	Non-contributory benefit for raising a child under the age of 1 (месечна помощ за отглеждане на дете до 1 г. възраст)	19,448	28,039	7,486	14,733	0.38	0.53
<i>bchmt00</i>	Means-tested child benefit (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст)	389,386	534,617	242,742	364,331	0.62	0.68
<i>bfamtot</i>	Other means-tested family benefits	10,342		167,552	395,695	16.20	
<i>bfanmot</i>	Other non-means-tested family benefits	236,421		460,679	188,251	1.95	
<b>bun (PY090 in SILC)</b>	<b>Unemployment benefits (total)</b>	<b>518,855</b>	<b>279,677</b>	<b>518,855</b>	<b>279,677</b>	<b>1.00</b>	<b>1.00</b>

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<i>bunct</i>	Unemployment benefit (обезщетение за безработица)	441,630	269,298	394,838	183,384	0.89	0.68
<i>bunot</i>	Redundancy/retirement benefit (Обезщетения при съкращения/ пенсиониране)	76,029	9,735	124,016	96,293	1.63	9.89
<b>bsa (HY060 in SILC)</b>	<b>Social assistance (total)</b>	<b>145,210</b>	<b>291,365</b>	<b>145,210</b>	<b>291,365</b>	<b>1.00</b>	<b>1.00</b>
<i>bsa00</i>	Monthly social assistance allowance (guaranteed minimum income) (месечна парична помощ поради ниски доходи)	36,960	53,777	33,796	33,017	0.91	0.61
<i>bsaht</i>	Targeted allowance for heating (целева помощ за отопление)	103,605	264,353	97,899	222,982	0.94	0.84
<i>bsaot</i>	Other social assistance benefits (means-tested)	2,001		11,202	23,369	5.60	
<i>bsacm</i>	Complementary social assistance benefits (non-means-tested)	2,292		2,312	14,724	1.01	

*Notes:* EUROMOD input data are based on UDB SILC 2018. Benefit variables in italic are imputed based on the SILC disaggregated benefit variables. Total amount refers to the annual amount. Both total amount and number of recipients are weighted using the household survey weights in SILC.



**3.3.4. Tax compliance adjustment (TCA\_bg)**

In the simulation of social insurance contributions, income tax and means-tested family and social assistance benefits, an adjustment for tax compliance is taken into account. The user can apply the adjustment through the policy TCA\_bg which is based on a comparison between net and gross employment incomes. If gross employment income (yem01) is larger than net income (yem02) or if the individual is a civil servant, it is assumed that the whole amount of employment income is declared to the tax authorities (information is saved in the variable yemtx). If net and gross employment incomes are equal, then we assume that the person does not pay any taxes and social insurance contributions on their earnings. Thus, declared employment income is set to zero, while the entire employment income is classified as non-declared (information is saved in the variable yemnr). Only the declared employment income (yemtx) is taken into account in the simulation of income tax, social insurance contributions, means-tested family and social assistance benefits.

There is no adjustment for tax compliance of self-employment income.

**3.4. Uprating factors**

To account for any time inconsistencies between the input dataset and the policy year, uprating factors are used. Each monetary variable (i.e. each income component) is updated so as to account for changes in the non-simulated variables that have taken place between the year of the data and the year of the simulated tax-benefit system. Uprating factors are generally based on changes in the average value of an income component between the year of the data and the policy year. In case no data were available, official forecasts of prices is used. Uprating factors for pensions are based on the official indexation rules. They cover changes in pension amounts occurred during the period from 1st of July of the previous year to 30th of June of the current year. For social transfers which amounts are determined by the authorities, the change in the statutory amounts is used. For detailed information about the construction of each uprating factor as well as the sources that have been used, see Table 3.4 in Annex 1.

As a rule, updating factors are provided both for simulated and non-simulated income components present in the input dataset. It should be noted however that in the case of simulated variables, the actual simulated amounts are used in the baseline rather than the uprated original variables in the dataset. Uprating factors for simulated variables are provided so as to facilitate the use of the model in cases when the user wishes to turn off the simulation of a particular variable.

**3.4.1. Uprating of pensions by bands (Uprate\_bands\_bg)**

Although due to data limitations we do not simulate old-age, disability and survivor pensions, to account for changes in the pension amounts over-time, we uprate (backrate) pensions by the statutory indexation rule and approximate pension supplements in EUROMOD. Table 3.4.1.1 below shows the indexation rate we apply on pensions; in other words, this is the uprating factor from one year to another. Table 3.4.1.2 summarises the rules for calculating the December and Easter pension supplements.

**Table 3.4.1.1 Implementation of pension indexation rules (2017-2020) in EUROMOD**

	2017-2018	2018-2019	2019-2020
Indexation rate	1.024	1.038	1.057

*Note:* In October 2017, it became clear that not all pensions have received the July 2016 indexation of 2.4%. The issue is due to a change in the formula for indexation which unintentionally has left some pensions unchanged. At the time of writing, it seems unlikely that we can identify in the SILC data the affected pensions. Possibly, about 5,000 pensioners – out of 2.2 million – have been affected. Although our estimates for public pension changes will be overestimated, we do not expect any sizeable distributional effects.

**Table 3.4.1.2 Implementation of pension supplements (2017-2020) in EUROMOD**

	2017-2018	2018-2019	2019-2020
December (from start-year) supplement	- 40BGN if pensions<=321BGN	- 40#m BGN if pensions <=348BGN	- 40#m BNG if pensions<=363 BGN
Easter (April from end-year) supplement	- 40BGN if pensions<=321BGN	- 40#m BGN if pensions <=348BGN	- 40#m BNG if pensions<=363 BGN

Pension December and Easter supplements are granted to individuals who receive old-age, disability and/or survivor pensions. Whenever supplement entitlement is linked to the income received from pensions, the relevant income concept refers to the sum of all pensions received by the individual (i.e. the sum of all non-zero old-age, disability and survivor pensions).

In terms of receiving the payment, individuals can either collect their pensions and pension supplements from the post office or receive them via bank transfer. In both cases, they receive one payment which comprises the sum of all pensions and supplements they are entitled to and so, supplements are not directly linked to a particular pension type. Only if the individual receives just one type of pension (e.g. old-age), then it is clear that the supplement is granted on the basis of that particular pension type.

In terms of how pension supplements are reported in the SILC data, it is unclear in which variable respondents report them if they report more than one type of pension. In turn, this makes the simulation of pension supplements problematic and so, we had to make certain assumptions to deal with this issue.

In more detail, to be able to uprate (or backrate) pensions over time, we have made the following assumptions in EUROMOD about the way supplements are reported in SILC:

- a. If the person reports a non-zero amount of old-age pension ( $poa00 > 0$ ), we assume that the old-age pension variable contains the supplement. In case supplement entitlement is linked to the level of pension income, we consider the level of  $poa00$  or the sum of  $poa00$  and any other pension type that has been received ( $pdi00$  and/or  $psu$ ).
- b. If the person does not report  $poa00$  but reports disability pension ( $pdi00 > 0$ ) (irrespective of the amount of survival pension ( $psu$ )), we assume that the disability pension variable contains the information on the supplement. In case supplement entitlement is linked to the level of pension income, we consider the level of  $pdi00$  or the sum of  $pdi00$  and  $psu$  (if survivor pension is also received).
- c. If the person does not report  $poa00$  and  $pdi00$  but reports  $psu$ , we assume that  $psu$  contains the information on the supplement. In case supplement entitlement is linked to the level of pension income, we consider the level of  $psu$ .

Finally, the uprating/backrating of pensions is based on the following order of calculations:

- i. Uprating: 1. apply the indexation rate; 2. add the December supplement; 3. add the Easter supplement
- ii. Backrating: 1. subtract the Easter supplement; 2. subtract the December supplement; 3. apply the indexation rate.

**In response to Covid-19** in July 2020 it was announced that all pensioners, regardless of the amount of their pension, are entitled to a lump-sum payment of BGN 50 for each month in August to December 2020. Although not part of the baseline simulations which refer to the policy rules on 30<sup>th</sup> of June, the simulation of this supplement can be activated via the Full Year Adjustment (FYA) extension (see section 2.3).

## 4. Validation

### 4.1. Aggregate Validation

EUROMOD results are validated against external figures (also referred to as ‘official statistics’, ‘official sources’ or ‘external data’). Detailed comparisons of the number of people receiving a given income component and total yearly amounts are shown in Annex 2. 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 which is available for most items up to year 2018 – and for some up to year 2019 – at the moment of finalisation of this report. The main discrepancies between EUROMOD results and the external data are discussed in the following subsections. Possible factors that may explain the observed differences are also discussed.

#### 4.1.1. Components of disposable income

EU-SILC gross incomes are obtained following the standard Eurostat instruction regarding the common elements. The disposable household income variable is derived after the subtraction of the regular taxes on wealth, income tax and SIC, and any regular transfers paid to other households.

#### 4.1.2. Validation of incomes (not simulated in EUROMOD)

The annual average number of employed and unemployed in Bulgaria for the period 2017-2019 is presented in Table 4.2. The official number of employed – as collected by the annual compulsory census of enterprises – underestimates the actual number because of the systematic downward bias of the employment figures officially reported by small and medium-sized businesses (for example, the official number of employed under labour contract<sup>1</sup> for 2017 is 2.308 million whereas the sample estimate from LFS<sup>2</sup> is 3.150 million). For this reason data from the Labour Force Survey (LFS) are preferred since the LFS estimates the quarterly number of employed and unemployed taking into account the *actual* employment status of the sampled individuals at the critical moment of observation. This way the LFS statistics are suggested here as a better source of external statistics due to two main reasons:

- methodological consistency of the identification of target individuals;
- high accuracy of LFS (operating with the largest representative sample in the country).

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<sup>1</sup> Source: NSI, Annual Statistics on Employment and Labour Cost, Employees under Labour Contract, Total (<http://www.nsi.bg/en/content/6433/total>, retrieved on November 1<sup>st</sup> 2020).

<sup>2</sup> Source: NSI, Labour Force Survey, Employed and Employment Rates, National level (<https://www.nsi.bg/en/content/6500/employed-and-employment-rates-national-level-statistical-regions-districts>, retrieved on November 1<sup>st</sup> 2020).

Table 4.2 shows that the **number of employed** in EU-SILC is very close to the one in LFS (the EU-SILC figure is 4% less than the LFS figure in the baseline year 2017). However, this is not the case with the number of unemployed – in 2017 this number is over twice larger in EU-SILC than LFS. This could be explained by respondents misreporting their employment status, i.e. a tendency of overstating the unemployment status by some individuals, especially those working at the minimum wage and/or with temporary employment during the survey.

**Table 4.1 Components of disposable income**

	EUROMOD [2017-2020]	Bulgarian EU-SILC 2018 [income year 2017]
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	n/a
Company car	0	+
Contributions to individual private pension plans	n/a	n/a
Cash benefits or losses from self-employment	+	+
Pension from individual private plans	+	+
Unemployment benefits	+	+
Old-age benefits	+	+
Survivor' 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 contributions	–	–
Repayments/receipts for tax adjustment	0	+

It should be kept in mind that there are several sources providing data about the number of employed and self-employed (LFS; National Accounts; National Social Security Institute (NSSI): Statistics on insured persons). To maintain consistency, we validated the number of recipients of employment and self-employment income as well as the aggregate amounts of these income sources in EU-SILC against data from National Accounts (see Table 4.3 and Table 4.4 in Annex 2).

Table 4.3 shows that the **number of individuals with employment income** (EUROMOD variable name for employment income is yem) in the EU-SILC survey for 2017 is 32.9 percentage points (pp) higher than the number provided by the National Accounts data. This could be explained mainly by unofficial (“shadow economy”) employment providing incomes that are not reported to the NSSI and National Revenue Agency (NRA).<sup>3</sup> In contrast, Table 4.4 shows that in 2017 the total income from employment in EU-SILC is 11.3pp lower than the National Accounts figure for “Wages and Salaries” which slightly improves to 10.9pp in 2019. It should be noted though that, in addition to gross wages/salaries, the National Accounts data

<sup>3</sup> Latest analysis of the grey economy issues in Bulgaria can be found in BICA (2018). Recent estimates of the spread of shadow economy for various European countries, including Bulgaria, can be found in Kelmanson et al. (2019) and ACCA (2017).

include also in-kind payments which in EU-SILC are reported separately from employment income.

**The average employment income** in EU-SILC (Table 4.4) is around 33pp lower than the average in the National Accounts data for 2017-2019. One possible reason is that individuals involved in the grey economy – who may be captured in the survey but not in the National Accounts – earn lower wages which could push down the average employment income in EU-SILC. It is also possible that employment income (on average) has been underreported in EU-SILC (e.g. due to under-coverage of top earners in EU-SILC data).

In terms of the **self-employment income** (yse), Table 4.3 shows that the number of self-employed individuals in EU-SILC is about 70% (in 2017) to 74% (in 2019) of the National Accounts figures. The reason for this could be under-representation of entrepreneurs in the EU-SILC, particularly those in “A- Agriculture, Forestry and Fishing” sector. Furthermore, the aggregate self-employment income for 2017 in EU-SILC underestimates the National Accounts figure for 2017 by 27.5pp .

**Investment income** (yiy) was found not to be feasible for validation, as the recording of such sources in surveys is usually not reliable. Similarly, the income from shares and other securities, e.g. the dividend income, is not recorded consistently in the National Accounts or in the survey data. We could not find information from external sources on the number of recipients/payers and total amount of **private transfers** (paid to and received from other households). The figure for **incomes from rent** in the National Accounts is also not available at the time of writing. **Private pension** receivers are rarely met in the population; SILC survey covers about 32% of these cases and 17% of the amounts distributed by this item of income in 2017.

Table 4.5 and Table 4.6 contain the validation results for the benefits and pensions in EU-SILC which are not simulated in EUROMOD. As an overall result, EU-SILC provides a relatively good representation of the major cash benefits and public pensions paid to individuals and households in 2017 in Bulgaria.

Regarding the main types of **pensions recipients** (old-age, disability, and survivor), Table 4.5 shows that the total number of recipients identified in EU-SILC overestimates the external statistics: In 2017 the number of individuals receiving any pension in EU-SILC is 22.7pp higher than the external figure, while the number of pensions in EU-SILC is 5.2pp higher than the external figure. Looking at the different types of pension, in 2017 EU-SILC overestimates the number of old-age pension recipients by 10pp compared to the external data. The number of recipients of disability pensions is also overestimated in SILC by around 83pp for 2017-2018; however, the number of survivor pension receivers are underestimated in EU-SILC (by 10pp in 2017 to 8pp in 2019) as compared to the external source. These results suggest that individuals may be misreporting frequently the survivor pensions, merging its amount to the old-age or disability pensions.

In Table 4.6, we can see that the **total amount of pension expenditure** (all types of pensions) is overestimated in EU-SILC by 3.5pp in 2017 (1.8pp in 2018 and 1pp in 2019) compared to the external figure. Regarding the expenditure by pension type, old-age pensions are overestimated compared to the official NSSI data by 23.8pp, and disability and survivors pensions are underestimated by 18.6pp and 23.6pp respectively in 2017. As different types of pensions are paid jointly to recipients (either via a bank transfer or by post), it is possible that recipients do not distinguish the exact amounts of the different pensions they receive and thus, they may misclassify pensions in EU-SILC. This is why we see such discrepancies between EU-SILC and external statistics for the separate pension components than for all pensions combined. Beneficially, the deviations regarding the uprated amounts per component tend to shrink for 2018 and 2019 by few percentage points.

It should be noted that according to the legislation rules entitlements to family or social assistance benefits – which are simulated in EUROMOD – are *based on the sum of all pensions*.

Therefore, we can expect that misclassification of pensions across the different types does not pose an issue for the simulation of these benefits.

**Sickness benefits** seem to be captured quite well in SILC. The number of **recipients of sickness benefits** in EU-SILC is slightly lower compared to external data (in EU-SILC the number of benefit receipts is 4.5pp lower than the number from the official NSSI data for 2017). However, compared to the external figure, the aggregate amount of sickness benefits in EU-SILC is somewhat higher in 2017 (by 2.7pp) and lower in 2018-2019 (by 2.pp in 2018 and 6.1pp in - 2019). The small discrepancy between EU-SILC and the external figure could be due to possible information mismatches and occasional mis-reporting.

### 4.1.3. Validation of simulated incomes

In this subsection, we validate the results from the policy simulations carried out in EUROMOD. Table 4.7 shows the number of benefit recipients, social insurance contributors and tax payers according to EUROMOD simulations and external sources. Table 4.8 shows the aggregate amount of benefits, social insurance contributions or income tax simulated in EUROMOD and based on external data.

First, the **contributory unemployment benefit** (labeled in EUROMOD as `bunct_s`) is partially simulated – i.e. the entitlement is conditioned on the derived benefit receipt in EU-SILC (EUROMOD variable `bunct`). Thus, the number of recipients and total benefit amount based on EUROMOD are well in line with the figures based on EU-SILC data. However, compared to the external figure in 2017 the number of benefit recipients is oversimulated in EUROMOD more than twice (2.3-2.4 times for 2017-2019 in Table 4.7). On the other hand, the total benefit amount simulated in EUROMOD is slightly lower than the external figure by 1 pp in 2017 (8pp in 2018 and 5pp in 2019, Table 4.8). The discrepancy between EUROMOD and the external figures is therefore mainly due to: (i) imprecise identification of recipients of the unemployment benefit (`bunct`) in the SILC sample; and (ii) undersimulated average benefit amount with EUROMOD (see for more details section 3.3.3).

Second, there are various mismatches between EUROMOD simulation results and external figures for the different family related benefits.

Similar to `bunct_s`, the simulation of **contributory benefit for pregnancy and childbirth** (`bmaprct_s`) is partial, i.e. it is conditioned on the derived benefit receipt in EU-SILC survey (EUROMOD variable `bmaprct`). However, as Table 4.7 shows the derived variable includes only 58 thousand (weighted) benefit recipients in 2017. As a result, so does the simulated variable. This number is much lower than the external figure of 110 thousand benefit recipients in 2017. This way, the aggregate amount of this benefit simulated in EUROMOD is also substantially (by 44pp) lower compared to official NSSI source – BGN 214 million based on EUROMOD simulations versus BGN 386 million according to external figure for 2017. The divergence remains almost the same for 2018 and slightly shrinks to 39pp in 2019. These discrepancies can be at least partly explained by the already underlined difference in the derived and actual number of benefit recipients. Other possible reasons include: (i) assumed number of months different from the actual; (ii) monthly amount estimated on over-assessed contributory income base.

Compared to the official source, the number of recipients of and the total spending on the **birth grant** (`bchbals_s`) is undersimulated by 30pp and 19pp, respectively, in 2017. This is at least partly due to underrepresentation of newborns in EU-SILC 2018.<sup>4</sup>

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<sup>4</sup> The weighted number of children aged 0 in EU-SILC 2018 is 48 thousand. compared to 64 thousand according to NSI data for 2017 (0.9% of the total population). See NSI population statistics available online: [www.nsi.bg/sites/default/files/files/data/timeseries/Pop\\_6.1.2\\_Pop\\_DR\\_EN.xls](http://www.nsi.bg/sites/default/files/files/data/timeseries/Pop_6.1.2_Pop_DR_EN.xls)

The **non-contributory benefit for raising a child under the age of 1** (bmaprnc\_s) is oversimulated by 13pp in the baseline year 2017 regarding the number of benefit recipients; however, the total benefit amount for the same year is undersimulated by 40pp. The benefit is provided to women with young children who are not entitled to the two contributory maternity benefits (bmaprct\_s and bmaycct\_s). Since these two benefits are undersimulated, we oversimulate as a result the benefit entitlements to bmaprnc\_s. It is unclear though why we undersimulate the total spending on bmaprnc\_s – it may be that we do not model well the benefit duration as we lack information on the exact birth date of the child. Compared to 2017, the discrepancy in the simulation of total spending is reduced to 29pp in 2018 versus 37pp in 2019 mainly due to higher oversimulation of the number of recipients (by 30pp in 2018 and 20pp in 2019).

Recipients of the **non-means-tested child benefit for mothers in tertiary education** (bchnm01\_s) are occasionally found in the sample, so the simulation of this benefit is not reliable. The same is valid for the **non-means-tested child benefit for twins** (bchnm02\_s)

The **contributory maternity benefit for bringing up a child up to age of 2** (bmaycct\_s) is undersimulated in EUROMOD compared to external figures in terms of the number of benefit recipients and total benefit amount. This may be because SILC somewhat underestimates the number of children aged 1 to 4: the size of that population group in the sample is somewhat lower as compared to the official data for the population structure in Bulgaria.<sup>5</sup> The benefit is also partially simulated, i.e. it is conditioned on the derived benefit bmaycct (see section 3.3.3). Table 4.7 shows that in 2017 the number of receipts of the derived benefit in EU-SILC (58 thousand, weighted) is lower than the number of benefit receipts according to external data (84 thousand). As a result of the partial simulation, EUROMOD undersimulates the number of entitlements to bmaycct\_s in 2017 by 30pp, however, the aggregate benefit amount is underestimated by only 8pp (BGN 144 million, compared to external sources for 2017 of BGN 156 million).

The **child benefit for education** (bchedyc\_s) is oversimulated for both the number of benefit recipients and the total benefit amount by 15pp in 2017 which goes up to 27-28pp in 2018. This pattern however switches to undersimulation by 5pp in 2019 for both the recipients and total benefit amount.

The EUROMOD simulation results for the main **means-tested child benefit** (bchmt00\_s) in Bulgaria are higher than the external figures for 2017-2019. The number of benefit entitlements simulated with EUROMOD is 12pp over the official number in 2017; the discrepancy has intensified in 2018 to 31pp. Similar results are obtained regarding the total benefit amount – the amount based on EUROMOD simulations is 16pp over the official amount for 2017 which expands to 32pp in 2018 and goes down to 23pp in 2019. Insofar as the number of young children in the EU-SILC is lower than the official population figures, we could expect to undersimulate the benefit. However, potentially due to underreporting of incomes in SILC, used in the benefit income-test, we oversimulate the benefit, both in terms of the number of claimants and total benefit amount.

Third, the simulation results for the two main social assistance benefits – the **monthly social assistance allowance** (guaranteed minimum income: bsa00\_s) and the **heating allowance** (bsaht\_s) – deviate from the external data. Both the number of benefit recipients and aggregate benefit amounts are substantially oversimulated in EUROMOD relative to the official statistics. In 2017, the number of recipients and total benefit amount are oversimulated about 3 times the external figure for bsa00\_s and about 1.5-1.6 times the external figure, respectively, for bsaht\_s. This could be due to various reasons:

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<sup>5</sup> The weighted number of children aged 1 to 4 in EU-SILC 2018 is 238.6 thousand compared to 264 thousand (3.74% of the total population) according to the NSI data ([www.nsi.bg/sites/default/files/files/data/timeseries/Pop\\_6.1.2\\_Pop\\_DR\\_EN.xls](http://www.nsi.bg/sites/default/files/files/data/timeseries/Pop_6.1.2_Pop_DR_EN.xls)).

- In the presence of benefit non take-up (see Tasseva, 2016), the number of benefit entitlements and the total benefit amounts will be oversimulated in EUROMOD as the model assumes full take-up.
- Oversimulation could also occur when incomes, which are used in the benefit income-tests and determine benefit entitlements, are underreported in EU-SILC.
- Due to lack of information in EU-SILC on assets ownership, the asset-test for these benefits is not simulated. As a result, benefit entitlements could be oversimulated.
- In EUROMOD we have also assumed the maximum length of benefit receipt: 12 months for the monthly social assistance allowance and 5 months for the heating allowance. However, benefits may have been received for shorter periods of time. For example, the heating allowance is provided for the heating season which includes only the third quarter of year “t” and first quarter of year “t+1”. For more details on issues related to the targeting efficiency of the benefits (i.e. benefit non take-up and leakage) and data issues, see Tasseva (2016).

Fourth, the **social old-age pension** (poamt\_s) has been slightly oversimulated in EUROMOD in terms of the number of benefit recipients (by 22pp) and the total benefit amount (by 12pp) compared to the external figures for the baseline year (2017). The simulation results improve slightly for 2018 where the number of recipients has been oversimulated by 19pp and the total benefit amount by 10pp. Nevertheless, it should be noted that these numbers need to be treated with caution due to the small sample size of entitled individuals in the underlying SILC data.

Finally, the simulation results of **income tax** (tin\_s) and **social insurance contributions** (SICs) show the following:

Table 4.7 shows that the number of **employer and credited SICs** (ils\_sicer + ils\_sicct) in 2017-2019 is about 30-32pp higher based on EUROMOD simulations than the figure from the external source (NSSI). The number of **employee SICs** (ils\_sicee) simulated in EUROMOD is 23-25pp higher than the external figures on employee SICs in the same period. The oversimulations in EUROMOD could be due to the potential presence of informal economy. Although EUROMOD results are calibrated to account for potential tax non-compliance, the adjustment is very crude and most likely underestimates the extent of income underreporting to the National Social Security Institute and the National Revenue Agency (see section 3.3.4). Table 4.8 shows that the total amount of employee SIC based on EUROMOD simulations is 22pp higher than the external figures for 2017 (20pp in 2018 and 19pp in 2019). However, the total amount of **employer SIC** simulated in EUROMOD matches quite well the external figure (underestimation by about 6-7pp in 2017-2019). For credited SIC, the lack of external data does not allow direct validation.

Although self-employment income is underestimated by EU-SILC (see Table 4.3 and Table 4.4), the number of self-employed liable to pay SICs as well as the total amount of **self-employed SICs** (ils\_sicse) are significantly oversimulated by EUROMOD (2.6 times for the number of payers and 2.3 times for the total amount of revenue in 2017). This could be due to mis- or underreporting of self-employment income to the tax authorities – behaviour which we do not model in EUROMOD. This is especially valid for the rural areas where thousands of self-employed in family farming (i.e. without any labour contract) are not registered at NSSI for social insurance purposes.

According to the legislation, **income tax** is calculated after employees and self-employed SICs are subtracted from gross income. Thus, the quality of income tax simulation depends to a large extent on the accuracy of the SICs simulations. We could not find any official data on the number of taxpayers in the period 2017-2019. The aggregate amount of income tax simulated in EUROMOD overestimates the total tax revenue reported by external sources (NSI, Government Finance Statistics) by a relatively small amount: 8pp in the baseline and 4pp in



2018-2019. Nevertheless, given the issues with employment and self-employment incomes reported in EU-SILC and the simulations of respective SICs, the results on the income tax simulation should be treated with similar caution.

### 4.2. Income distribution

Table 4.9 and Table 4.10 present the distributional results based on equivalised household disposable income. Household disposable income (HDI) is the sum of market incomes, non-simulated pensions and benefits, and simulated benefits minus the non-simulated property tax, simulated income tax and social insurance contributions paid by employees and self-employed. HDI is equivalised by the “modified OECD” equivalence scale which assigns the following weights to the household members: 1 to the household head; 0.5 to any other household member aged 14+; 0.3 to any other household member aged below 14.

#### 4.2.1. Income inequality

Table 4.9 shows results on several income indicators estimated on the basis of equivalised Household Disposable Income (HDI) calculated with EUROMOD which are compared with Eurostat estimates calculated based on the reported incomes in EU-SILC data (referred to as the external source). The results for both 2017 and 2018 show that the shares of equivalised HDI of all decile groups except the first one (D1) are fairly well estimated by EUROMOD compared to the data from the external source. The income share of the first decile group is overestimated in EUROMOD: in 2017 it equals 2.37% compared to 2.1% according to the external source. The discrepancy is mainly driven by the oversimulation of the main means-tested benefits in EUROMOD (the means-tested child benefit, monthly social assistance and heating allowances, see Table 4.7 and Table 4.8). The median and mean equivalised HDI obtained from EUROMOD simulations are well in line with the external figures for 2017. However, in 2018 EUROMOD results underestimate the median and the mean income by 6.4pp and 8.2pp, respectively.

The inequality measures match quite well to the external sources. The Gini coefficient based on EUROMOD simulations in both years does not deviate from the external figures by more than 4pp. The S80/S20 ratio based on EUROMOD-estimated equivalised HDI is just 4.6pp lower than the ratio provided by the external source for the baseline year; however, this discrepancy expands to 9.4pp in 2018.

#### 4.2.2. Poverty rates

Table 4.10 shows the poverty rates based on different poverty thresholds, calculated as a percentage of the median HDI. Results based on EUROMOD simulations are compared with data based on the external source (Eurostat, EU-SILC). Mainly due to oversimulation of the main means-tested benefits, the poverty rates using the 40% of the median as poverty threshold are lower based on EUROMOD simulations compared to the poverty rates based on the external source. When the poverty threshold is raised to 50% of the median HDI, the poverty rates derived with EUROMOD become more in line with those from the external source. With a poverty threshold of 60% and 70% of the median, the poverty rates estimated with EUROMOD are slightly higher than those reported in the external source.

By age group, the poverty rates for those aged 0-15 and 16-24 years based on EUROMOD simulations are well in line with Eurostat estimates for 2017. The poverty rates for working-age individuals – aged 25-49 and 50-64 years – are slightly oversimulated with EUROMOD compared to the Eurostat figure: by 2pp and 5pp, respectively, in 2017. Finally, EUROMOD poverty estimate for those aged 65+ years is oversimulated by 10pp compared to the Eurostat figure for 2017. For 2018, EUROMOD poverty estimates for those aged 16 to 64 remain higher

than the external figure, by 2pp to 8pp; but become lower, compared to the Eurostat figure, for younger children (aged 0-15 years) and elderly (aged 65+).

### 4.3. Validation of minimum wage

In this section we compare several income statistics based on (i) EUROMOD baseline simulations and (ii) EUROMOD simulations assuming each employee is paid at least the minimum wage level. Table 4.11 (Annex 2) shows that, including the minimum wage adjustments, aggregate HDI and the total declared employment income in the baseline year would increase by 1.6% and 2.8% respectively. The total amount collected from income tax and social insurance contributions in 2017 would rise by about 2.5% and 3.2% respectively. In terms of income redistribution, the Gini coefficient would be reduced by 2.2 percentage points, and the poverty rate would fall by 5.4pp in the baseline year.

### 4.4. Summary of “health warnings”

This summary provides an overview of some of the main issues to be taken into account when using the Bulgarian component of EUROMOD with income simulations for 2017-2020:

- Information on investment income in EU-SILC is found to be unreliable.
- Despite our efforts to disaggregate the EU-SILC benefit variables into separate benefit components, our derivations do not score well compared to the respective national aggregates. This result poses a bias for EUROMOD-based estimates of the income distribution. First, the bias occurs through the inaccurate derivations of benefits which are directly included in household net income – `bfamtot`, `bfanmot`, `bunot`, `bsaot`, `bsacm`. Second, the quality of part-simulated benefits – those conditioned on the derived benefit values – is worsened: this is the case with `bmaprct_s`, `bmaycct_s` and `bunct_s` which are simulated based on the derived benefits `bmaprct`, `bmaycct` and `bunct`, respectively.
- Children aged 0 are underrepresented in EU-SILC. We suspect that this is one of the main reasons why some of the major benefits targeted at children aged 0 (the birth grant and the non-contributory benefit for raising a child under the age of 1) are undersimulated in EUROMOD.
- Although to a lesser extent, the number of children aged 1-4 is somewhat underestimated in EU-SILC. In addition to issues with the benefit imputations as stated above, we think that this is another reason for the undersimulation of the contributory maternity benefit for bringing up a child up the age of 2.
- Social assistance benefits – the monthly social assistance allowance and heating allowance – are oversimulated in EUROMOD. “The usual suspect” for the explanation of this result is the benefit non-take-up. Currently, EUROMOD assumes full benefit take-up.
- EUROMOD applies an adjustment for tax non-compliance. It should be noted that the aim of the adjustment is simply to calibrate the results. Due to lack of data the adjustment cannot reproduce the actual tax non-compliance behavior of individuals and households.
- Social insurance contributions by employers, employees and self-employed are oversimulated in EUROMOD due to issues with reporting of employment and self-employment incomes in EU-SILC and the presence of shadow economy. The results on the income tax simulation should be also treated with caution.
- The simulation of monetary compensation schemes is triggered by the simulation of labour market transitions defined in policy `TransLMA_cc`. 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 to be higher than disposable income in previous years.

## 5. References

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National Social Security Institute:

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National Statistical Institute:

[www.nsi.bg](http://www.nsi.bg)

Financial Supervision Commission:

[www.fsc.bg](http://www.fsc.bg)

## Annex 1: Uprating factors

Table 3.4: Uprating factors

Index	Constant name	Value of the indices				Source	Income components uprated by the index
		2017	2018	2019	2020		
Harmonised Index of Consumer Prices (2007=100)	\$HICP	99.85	102.48	104.99	106.13	EUROSTAT; AMECO forecasts for 2020 values	
Consumer price index (2007=100)	\$f_cpi	127.64	131.24	133.6	137.47	EUROSTAT; AMECO forecasts for 2020 values	ypp, bchprls, bchbals, bmaprnc, bchmt00, bho, bsa00, bsaht, afc, xhc, xhcmomi, xhcot, xhert, xpp, aoc, bchedyc, kfbcc, kfb, bed, kivho, bfanmot, bsaot, bfamtot,

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Index	Constant name	Value of the indices				Source	Income components updated by the index
		2017	2018	2019	2020		
Average salary (national level, BGN per month)	\$f_yem	1044.67	1135	1257	1350	National Statistical Institute - 2007-19 ( <a href="https://www.nsi.bg/en/content/6437/average-annual-wages-and-salaries-total-statistical-regions-district">https://www.nsi.bg/en/content/6437/average-annual-wages-and-salaries-total-statistical-regions-district</a> );  For 2020, the figure for 2019 is multiplied by the forecasted growth in "compensation per employee" (=1.074) published by Ministry of Finance ( <a href="https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf">https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf</a> )	bsacm, bfaot, yemtx, yemnr, yot, ypt, ysetx, ysenr, xmp, yivwg, yem01, yem02, ysebs, yem_a
Average pension per a retiree (BGN, per month)	\$f_pen_av	345.46	364.32	383.03	438.27	National Social Security Institute - 2007-19 ( <a href="http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf">http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf</a> );  Data for 2020 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	pdi, poa, psu, pdi00, pdinc, poa00, poamt, psuor
Average pregnancy and childbirth benefit (BGN, per day)	\$f_bmaprct	26.42	25.86	27.48	31.83	National Social Security Institute - 2007-19 ( <a href="http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf">http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf</a> );  Data for 2020 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	bmaprct

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Index	Constant name	Value of the indices				Source	Income components updated by the index
		2017	2018	2019	2020		
Average benefit for bringing-up a small child (BGN, per day)	\$f_bmaycct	15.51	17.14	17.15	18.1	National Statistical Institute - 2001-19 ( <a href="https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&amp;lang=en">https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&amp;lang=en</a> ); Ministry of Finance - 2019 ( <a href="https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf">https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf</a> )	bmaycct
GDP (BGN, mln., Current prices)	\$f_gdp	98631	107925	118669	126769	National Statistical Institute - 2001-19 ( <a href="https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&amp;lang=en">https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&amp;lang=en</a> ); Ministry of Finance - 2019 ( <a href="https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf">https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf</a> )	yi
Average unemployment benefit (BGN, per month)	\$f_bun	395.7	450.6	506.5	547.62	National Social Security Institute - 2007-19 ( <a href="http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf">http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf</a> );  Data for 2020 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	bunct, bunot
Average contributory income from previous year	\$f_yempv	770.07	821.51	889.9	986.52	National Social Security Institute - 2007-19	yempv, yempv_a

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Index	Constant name	Value of the indices				Source	Income components uprated by the index
		2017	2018	2019	2020		
(national level, BGN per month)							
Average per hh income from property (BGN, per month)	\$f_ypr	118	68	69	70.39	National Statistical Institute - 2007-18 and 2019 amount projected by uprating with the HCPI.	ypr, tpr, yprld, yprrt
Average contributory income all (national level, BGN per month)	\$f_sicee_base	821.51	889.90	986.52	1059.52	National Social Security Institute (http://www.noi.bg/images/bg/users/infomaterials/aboutpensions/SPR-SOD97-2019_IV.pdf);  For 2020, the figure for 2019 is multiplied by the forecasted growth in ""compensation per employee"" (=1.074) published by Ministry of Finance (https://www.minfin.bg/upload/42404/MacroForecasting_Oct_2019bg.pdf).	tsctber
Average contributory income for self-employed	\$f_sicse_base	513.03	566.06	589.05	610	National Social Security Institute (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf);  Data for 2020 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	tsctbse



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Index	Constant name	Value of the indices				Source	Income components updated by the index
		2017	2018	2019	2020		
General sickness benefit	\$f_bhl	28.5	29.62	29.24	34.7	National Social Security Institute - 2007-19 ( <a href="http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf">http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2019.pdf</a> ); Data for 2020 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	bhl
Pension indexation (2007=100)	\$f_pen_ind	1.979	2.026	2.103	2.223	National Social Security Institute, Annex I of Statistical Yearbook "Pensions" for the respective years ( <a href="http://www.noi.bg/aboutbg/st/statistic/152-pensions">http://www.noi.bg/aboutbg/st/statistic/152-pensions</a> ); Data for 2019 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]; Data for 2020 is based on the mid-term fiscal framework [Средносрочна бюджетна прогноза] ( <a href="https://www.minfin.bg/bg/1322">https://www.minfin.bg/bg/1322</a> )	psuor, poamt, poa00, pdinc, pdi00
A factor of 1	\$f_one	1	1	1	1		yds, tad, tis, tin, tscee, tscse, tscer, yag01, yag02, yag, poa, psu, pdi, ydses_o
Average salary - one	\$f_yemLead	1135	1257	1350.02	1443.17	National Statistical Institute - 2001-2018 ( <a href="https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&amp;lang=en">https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&amp;lang=en</a> ); The	ymwdt

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Index	Constant name	Value of the indices				Source	Income components updated by the index
		2017	2018	2019	2020		
year lead (national level, BGN per month)						2020 figure is a projection (the figure for 2019 is multiplied by the forecasted growth in "compensation per employee" (=1.069)	

## **Annex 2: Validation Tables**

**Table 4.2-Number of employed and unemployed**

	EUROMOD (1)		External (2)			Ratio (1/2)			
	2017	2017	2018	2019	2020	2017	2018	2019	2020
Number of employed	3,017,780	3,150,300	3,152,700	3,233,100	n/a	0.96	0.96	0.93	N/A
Number of unemployed	541,844	206,900	173,300	142,800	n/a	2.62	3.13	3.79	N/A

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

*Source:* EU-SILC: collection period 2018 and income reference period 2017; EUROMOD micro-data based on EU-SILC  
External: NSI, Labour Force Survey, Annual Data, <http://www.nsi.bg/en/content/6486/annual-data>

**Table 4.3-Market incomes - Number of recipients (in thousands)**

Income source	EUROMOD var name	EU-SILC (1)					External (2)				
		2017	2017	2018	2019	2020	2017	2018	2019	2020	
Employment income	yem	3,435	2,584	2,606	2,646	n/a	1.329	1.318	1.298	n/a	
Self-employed income	yse	659	941	916	887	n/a	0.700	0.719	0.742	n/a	
Investment income	yi	114	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Other income	yot	43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Private pensions	ypp	0.395	1.233	1.200	1.138	n/a	0.320	0.329	0.347	n/a	
Private transfers received from other households	ypt	325	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Income from rent	ypr	589	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Private transfers paid to other households	xmp	94	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

*Notes:* In EUROMOD, the number of recipients equals the number of individuals (earnings, self-employment income, private pensions) or households (investment income, other income, private transfers received/paid, income from rent) who reported incomes in EU-SILC for at least one month throughout the income reference period.

*Sources:* EU-SILC: collection period 2018 and income reference period 2017; External:

yem/yse - NSI, Employment and hours worked, ESA-2010, <http://www.nsi.bg/en/content/12595/annual-data>

ypp - Financial Supervision Commission, <http://www.fsc.bg/en/markets/social-insurance-market/statistics/statistics-and-analysis/>

**Table 4.4-Market incomes - Annual amounts (in millions)**

Income source	EUROMOD var name	EU-SILC (1)				External (2)				Ratio (1/2)				
		2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020	
Employment income	yem	33,015	35,870	39,725	42,665	37,220	41,115	44,578	n/a	0.887	0.872	0.891	n/a	
Self-employed income	yse	5,076	5,515	6,108	6,559	7,006	n/a	n/a	n/a	0.725	n/a	n/a	n/a	
Investment income	yyi	982	1,075	1,182	1,262	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Other income	yot	68	74	82	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Private pensions	ypp	0.763	0.785	0.799	0.822	4.4	5.3	5.7	n/a	0.174	0.149	0.141	n/a	
Private transfers received from other households	ypt	931	1,011	1,120	1,203	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Income from rent	ypr	619	357	362	369	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Private transfers paid to other households	xmp	156	170	188	202	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Average employment income		9,610	10,441	11,564	12,419	14,402	15,778	16,846	n/a	0.667	0.662	0.686	n/a	

Sources: EU-SILC- collection period 2017 and income reference period 2016; External:

yem - Eurostat, Main GDP Aggregates, Wages and Salaries, [nama\_10\_gdp]

yse - NSI (National Accounts, S14 Household sector, B2n)

ypp - Financial Supervision Commission, <http://www.fsc.bg/en/markets/social-insurance-market/statistics/statistics-and-analysis/>

**Table 4.5-Benefits (not simulated in EUROMOD) - Number of recipients (in thousands)**

Benefit	EUROMOD var name	EU-SILC (1)		External (2)			Ratio (1/2)			
		2017	2017	2018	2019	2020	2017	2018	2019	2020
Education benefits	bed	11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sickness benefits	bhl	998	1,045	1,080	n/a	n/a	0.955	0.925	n/a	n/a
Family benefits	bfa	624	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social assistance	bsa	291	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Housing benefits	bho	0.29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Unemployment benefits	bun	280	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Old-age pensions	poa	1,780	1,616	1,606	n/a	n/a	1.101	1.108	n/a	n/a
Disability pensions	pdi	813	444	444	n/a	n/a	1.833	1.834	n/a	n/a
Survivor pensions	psu	98	110	108	107	n/a	0.896	0.909	0.917	n/a
All pensions (counting individuals receiving any pension)		2,662	2,169	2,158	2,136	n/a	1.227	1.234	1.246	n/a
All pensions (counting pensions)		2,692	2,558	2,512	2,152	n/a	1.052	1.071	1.251	n/a

Sources: EU-SILC: collection period 2018 and income reference period 2017; External: bhl - NSI (Statistics and analyses, General sickness and maternity, <http://www.noi.bg/aboutbg/st/statistic/155-ozm>); bho - Ministry of labour and social policy (Budget by social programmes, <http://www.mlsp.government.bg/index.php?section=CONTENT&l=385&lang=>); pdi, poa, psu, ils\_pen, ils\_pen\_p - NSI (Statistics and analyses, Pensions, <http://www.noi.bg/aboutbg/st/statistic/152-pensions>)

**Table 4.6-Benefits (not simulated in EUROMOD) - Annual amounts (in mil.)**

Benefit	EUROMOD variable label	EU-SILC (1)				External (2)				Ratio (1/2)			
		2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Education benefits	bed	9	10	10	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sickness benefits	bhl	522	543	536	636	509	557	571	n/a	1.027	0.975	0.939	n/a
Family benefits	bfa	1,171	1,206	1,232	1,291	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social assistance	bsa	145	149	152	156	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Housing benefits	bho	0.1	0.1	0.2	0.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Unemployment benefits	bun	519	591	664	718	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Old-age pensions	poa	7,919	8,173	8,553	9,104	6,399	6,723	7,159	n/a	1.238	1.22	1.19	n/a
Disability pensions	pdi	1,181	1,228	1,294	1,386	1,451	1,570	1,622	n/a	0.814	0.78	0.80	n/a
Survivor pensions	psu	220	229	242	260	288	301	306	n/a	0.764	0.76	0.79	n/a
All pensions		9,319	9,629	10,089	10,750	9,007	9,456	9,988	n/a	1.035	1.018	1.010	n/a

Sources: EU-SILC: collection period 2018 and income reference period 2017

External: bhl - NSI (Statistics and analyses, General sickness and maternity, <http://www.noi.bg/aboutbg/st/statistic/155-ozm>)

bho - Ministry of labour and social policy (Budget by social programmes, <http://www.mlsp.government.bg/index.php?section=CONTENT&l=385&lang=>)

pdi, poa, psu, ils\_pen, ils\_pen\_p - own estimates based on data from NSI (Statistics and analyses, Pensions, <http://www.noi.bg/aboutbg/st/statistic/152-pensions>)



**Table 4.7- Benefits, taxes and social insurance contributions simulated in EUROMOD - Number of recipients / payers (in thousands)**

Benefits / Taxes / Social Insurance Contributions	EUROMOD var name	EUROMOD																			
		EUROMOD (1)				EU-SILC (2)				Ratio (1/2)				External (3)				Ratio (1/3)			
		2017	2018	2019	2020	2017	2017	2017	2018	2019	2020	2017	2018	2019	2020						
<b>Benefits</b>																					
Contributory unemployment benefit	bunct_s	181	181	181	181	183	0.99	79	73	76	n/a	2.29	2.49	2.38	n/a						
Contributory maternity benefit for pregnancy and childbirth	bmaprct_s	55	55	55	55	58	0.96	110	110	n/a	n/a	0.50	0.50	n/a	n/a						
Non-contributory benefit for raising a child under the age of 1	bmaprnc_s	17	18	17	16	15	1.16	15	14	14	n/a	1.13	1.30	1.20	n/a						
Contributory maternity benefit for bringing up a child up to the age of 2	bmaycct_s	59	59	59	59	58	1.01	84	85	n/a	n/a	0.70	0.69	n/a	n/a						
Means-tested child benefit	bchmt00_s	452	514	479	445	344	1.31	402	392	n/a	n/a	1.12	1.31	n/a	n/a						
Child benefit for education	bchedyc_s	44	45	42	39	39	1.14	38	36	44	n/a	1.15	1.27	0.95	n/a						
Birth grant	bchbals_s	46.0	46	46	46	32	1.46	66	65	64	n/a	0.70	0.71	0.72	n/a						
Non means-tested child benefit for mothers in tertiary education	bchnm01_s	1	1	1	1	n/a	n/a	1	1	1	n/a	0.72	1.02	1.34	n/a						
Non means-tested child benefit for twins	bchnm02_s	2	2	2	2	n/a	n/a	2	2	2	n/a	0.92	0.92	0.91	n/a						
Monthly social assistance allowance (guaranteed minimum income)	bsa00_s	102	106	103	101	33	3.10	33	27	32	n/a	3.06	3.89	3.25	n/a						
Targeted allowance for heating	bsaht_s	319	391	385	454	223	1.43	205	210	220	n/a	1.56	1.86	1.75	n/a						
Social old age pension	poamt_s	4	4	4	4	6	0.65	3	4	n/a	n/a	1.22	1.19	n/a	n/a						
<b>Taxes and Social Insurance Contributions</b>																					
Income tax	tin_s	3,926	3,925	3,927	3,928	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employer SIC - accident	tscerac_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employer SIC - health	tscerhl_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employer SIC - old-age	tscerpi_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employer SIC - sickness and maternity	tscersi_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employer SIC - unemployment	tscerui_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Credited SIC - health	tsccthl_s	344	344	344	344	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Credited SIC - old-age	tscctpi_s	344	344	344	344	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Credited SIC - sickness and maternity	tscctsi_s	344	344	344	344	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Credited SIC - unemployment	tscctui_s	344	344	344	344	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Credited SIC - accident	tscctac_s	344	344	344	344	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employee SIC - health	tsceehi_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employee SIC - old age	tsceepi_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employee SIC - sickness and maternity	tsceesi_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Employee SIC - unemployment	tsceei_s	2,942	2,942	2,942	2,942	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Self-employed SIC - health	tscsehl_s	659	659	659	659	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Self-employed SIC - old-age	tscsepi_s	659	659	659	659	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Total employer SICs	ils_sicer	2,942	2,942	2,942	2,942	n/a	n/a	2,400	2,357	2,371	n/a	1.23	1.25	1.24	n/a						
Total credited SICs	ils_sicct	344	344	344	344	n/a	n/a	129	129	119	n/a	2.68	2.67	2.88	n/a						
	ils_sicer +																				
Total employer and credited SICs	ils_sicct	3,286	3,286	3,286	3,286	3,209	1.02	2,529	2,485	2,491	n/a	1.30	1.32	1.32	n/a						
Total employee SICs	ils_sicee	2,942	2,942	2,942	2,942	n/a	n/a	2,400	2,357	2,371	n/a	1.23	1.25	1.24	n/a						
Total self-employed SICs	ils_sicse	659	659	659	659	n/a	n/a	251	252	246	n/a	2.62	2.61	2.67	n/a						

*Notes:* In EUROMOD, the number of recipients equals the number of individuals (contributory benefits, income tax, SICs), families (means-tested child benefit), families (birth grant, means-tested child allowance for children up to age 1, non-means tested child benefits for mothers in tertiary education and twins, targeted allowance for pupils 1st grade) or households (guaranteed minimum income and means-tested benefit for heating) with simulated benefit entitlements/liabilities. In SILC, the number of recipients equals the number of households. In the external sources, the number of recipients equals the monthly-average number of benefits (guaranteed minimum income, means-tested allowance for children up to age of 1, means-tested child benefit, unemployment benefit), number of benefits per month (heating benefit, birth grant, contributory maternity benefit for pregnancy and childbirth (number is divided by 12 months), contributory maternity benefit for children up to age 2 (number is divided by 12 months)), number of children (non-means tested child benefit for twins) and number of recipient parents (non-means tested child benefit for mothers in tertiary education).

*Sources:* EUROMOD simulations; EU-SILC: collection period 2018 and income reference period 2017; External: bsa00, bsaht, bchbals, bmaprnc, bchmt00, bchnm01, bchnm02, bchdied, bchedyc - Ministry of labour and social policy (Budget by social programmes, <http://www.mlsp.government.bg/index.php?section=CONTENT&I=385&lang=>); bunct - NSI (Unemployment statistics, <http://www.noi.bg/aboutbg/st/statistic/157-unemployment>); bmaprct, bmaycct - NSI (General sickness and maternity, <http://www.noi.bg/aboutbg/st/statistic/155-ozm>); poamt - NSI (Statistics and analyses, Pensions, <http://www.noi.bg/aboutbg/st/statistic/152-pensions>); ils\_sicer, ils\_sicee, ils\_sicse, ils\_sicct - NSSI (State Soc.Ins.Reports 2014,2015)

**Table 4.8-Benefits, taxes and social insurance contributions simulated in EUROMOD - Annual amounts (Million BGN)**

Benefits / Taxes / Social Insurance Contributions	EUROMOD																
	var name	EUROMOD (1)				EU-SILC (2)		Ratio (1/2)			External (3)			Ratio (1/3)			
		2017	2018	2019	2020	2017	2017	2017	2017	2018	2019	2020	2017	2018	2019	2020	
<b>Benefits</b>																	
Contributory unemployment benefit	bunct_s	391	397	426	467	395	0.99	394	431	450	n/a	0.99	0.92	0.95	n/a		
Contributory maternity benefit for pregnancy and childbirth	bmaprct_s	214	234	255	280	148	1.45	386	416	419	n/a	0.56	0.56	0.61	n/a		
Non-contributory benefit for raising a child under the age of 1	bmaprnc_s	11	12	11	10	7	1.44	18	16	17	n/a	0.60	0.71	0.63	n/a		
Contributory maternity benefit for bringing up a child up to the age of 2	bmaycct_s	144	161	161	161	121	1.20	156	177	167	n/a	0.92	0.91	0.97	n/a		
Means-tested child benefit	bchmt00_s	359	414	387	360	243	1.48	311	314	314	n/a	1.16	1.32	1.23	n/a		
Child benefit for education	bchedyc_s	11	11	10	10	10	1.14	10	9	11	n/a	1.15	1.28	0.95	n/a		
Birth grant	bchbals_s	21	21	21	21	14	1.45	26	25	23	n/a	0.81	0.82	0.90	n/a		
Non means-tested child benefit for mothers in tertiary education	bchnm01_s	2	2	2	2	n/a	n/a	1	1	1	n/a	1.34	2.02	1.34	n/a		
Non means-tested child benefit for twins	bchnm02_s	5	5	5	5	n/a	n/a	2	2	3	n/a	1.86	1.90	1.82	n/a		
Monthly social assistance allowance (guaranteed minimum income)	bsa00_s	105	130	127	127	34	3.11	33	32	36	n/a	3.16	4.00	3.52	n/a		
Targeted allowance for heating	bsaht_s	116	143	144	211	98	1.18	75	99	121	n/a	1.54	1.44	1.19	n/a		
Social old age pension	poamt_s	6	6	6	7	10	0.61	5	6	6	n/a	1.12	1.10	1.00	n/a		
<b>Taxes and Social Insurance Contributions</b>																	
Income tax	tin_s	3,225	3,466	3,834	4,124	n/a	n/a	2,989	3,328	3,683	n/a	1.08	1.04	1.04	n/a		
Employer SIC - accident	tscerac_s	181	195	217	231	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employer SIC - health	tscerhl_s	1,242	1,335	1,486	1,581	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employer SIC - old-age	tscerpi_s	2,706	3,064	3,412	3,630	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employer SIC - sickness and maternity	tscersi_s	543	584	650	692	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employer SIC - unemployment	tscerui_s	155	167	186	198	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Credited SIC - health	tscthl_s	281	303	337	360	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Credited SIC - old-age	tsctpi_s	660	751	834	891	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Credited SIC - sickness and maternity	tsctsi_s	123	133	147	157	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Credited SIC - unemployment	tsctui_s	35	38	42	45	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Credited SIC - accident	tsctac_s	25	27	29	31	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employee SIC - health	tscehl_s	828	890	991	1,054	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employee SIC - old age	tscepi_s	2,158	2,442	2,719	2,892	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employee SIC - sickness and maternity	tsceesi_s	362	389	433	461	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Employee SIC - unemployment	tsceui_s	103	111	124	132	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Self-employed SIC - health	tscesehl_s	340	365	406	432	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Self-employed SIC - old-age	tscesepl_s	798	903	1,006	1,069	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Total employer SICs	ils_sicer	4,827	5,345	5,951	6,331	n/a	n/a	5,124	5,765	6,413	n/a	0.94	0.93	0.93	n/a		
Total credited SICs	ils_sicct	1,123	1,251	1,389	1,485	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Total employer and credited SICs	ils_sicer + ils_sicct	5,950	6,596	7,340	7,816	4,511	1.32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Total employee SICs	ils_sicee	3,451	3,832	4,267	4,539	n/a	n/a	2,833	3,184	3,587	n/a	1.22	1.20	1.19	n/a		
Total self-employed SICs	ils_sicse	1,138	1,267	1,412	1,501	n/a	n/a	500	566	614	n/a	2.28	2.24	2.30	n/a		

Sources : EUROMOD simulations; EU-SILC: collection period 2018 and income reference period 2017; External: bsa00, bsaht, bchbals, bmaprnc, bchmt00, bchnm01, bchnm02, bchdied, bchedyc - Ministry of labour and social policy (Budget by social programmes, <http://www.mlsp.government.bg/index.php?section=CONTENT&I=385&lang=>); bunct - NSI (Unemployment statistics, <http://www.noi.bg/aboutbg/st/statistic/157-unemployment>); bmaprct, bmaycct - NSI (General sickness and maternity, <http://www.noi.bg/aboutbg/st/statistic/155-ozm>); poamt - NSI (Statistics and analyses, Pensions, <http://www.noi.bg/aboutbg/st/statistic/152-pensions>); tin - NSI (GFS 1.3); tsceesi, tsceui, tscerac, tscerpi, tscersi, tscerui, tscesepl, ils\_sicer, ils\_sicee, ils\_sicse, ils\_sicct - NSSI (State Soc.Ins.Reports 2014,2015); tsceehl, tsceepi, tscerhl, tscesepl - National Health Care - <http://www.nhif.bg/web/guest/74>

**Table 4.9-Distribution of equivalised household disposable income**

	EUROMOD (1)				External (2)				Ratio (1/2)			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
D1	2.37	2.39	2.34	2.36	2.1	2.1	n/a	n/a	1.128	1.138	n/a	n/a
D2	3.85	3.84	3.75	3.75	3.8	3.7	n/a	n/a	1.013	1.039	n/a	n/a
D3	4.98	4.86	4.80	4.79	5.0	4.8	n/a	n/a	0.996	1.012	n/a	n/a
D4	5.98	5.99	5.90	5.86	6.0	5.8	n/a	n/a	0.996	1.033	n/a	n/a
D5	7.18	7.10	7.06	7.04	7.2	6.9	n/a	n/a	0.997	1.028	n/a	n/a
D5	8.40	8.39	8.36	8.38	8.3	8.3	n/a	n/a	1.012	1.011	n/a	n/a
D7	9.90	9.87	9.89	9.81	9.9	9.7	n/a	n/a	1.000	1.018	n/a	n/a
D8	11.85	11.80	11.87	11.78	11.8	11.6	n/a	n/a	1.004	1.017	n/a	n/a
D9	14.56	14.56	14.54	14.69	14.6	15.1	n/a	n/a	0.997	0.964	n/a	n/a
D10	30.94	31.20	31.49	31.54	31.2	32.0	n/a	n/a	0.992	0.975	n/a	n/a
Median	7,253	7,732	8,375	8,951	7,022	8,261	n/a	n/a	1.033	0.936	n/a	n/a
Mean	9,323	9,970	10,860	11,653	9,082	10,857	n/a	n/a	1.027	0.918	n/a	n/a
Gini	39.17	39.43	39.92	40.01	39.6	40.8	n/a	n/a	0.989	0.967	n/a	n/a
S80/S20	7.32	7.34	7.56	7.56	7.7	8.1	n/a	n/a	0.956	0.906	n/a	n/a

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

*Sources:* EUROMOD simulations; External: Eurostat

Distribution of income by quantiles - EU-SILC survey [ilc\_di01]

Mean and median income by household type - EU-SILC survey [ilc\_di04]

Gini coefficient of equivalised disposable income - EU-SILC survey [ilc\_di12]

S80/S20 income quintile share ratio by sex and selected age group - EU-SILC survey [ilc\_di11]

**Table 4.10-Poverty rates by gender and age**

	EUROMOD (1)				External (2)				Ratio (1/2)			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
<b>40% median HDI</b>												
Total	8.81	8.58	8.85	8.65	9.2	9.6	n/a	n/a	0.96	0.89	n/a	n/a
Males	8.96	8.77	9.00	8.86	9.3	9.8	n/a	n/a	0.96	0.90	n/a	n/a
Females	8.68	8.39	8.70	8.46	9.1	9.3	n/a	n/a	0.95	0.90	n/a	n/a
<b>50% median HDI</b>												
Total	15.31	15.30	16.02	15.06	15.4	16.3	n/a	n/a	0.99	0.94	n/a	n/a
Males	14.40	14.38	14.79	14.31	14.7	15.2	n/a	n/a	0.98	0.95	n/a	n/a
Females	16.17	16.17	17.17	15.77	16.1	17.2	n/a	n/a	1.00	0.94	n/a	n/a
<b>60% median HDI</b>												
Total	22.86	22.95	23.25	23.17	22.0	22.3	n/a	n/a	1.04	1.03	n/a	n/a
Males	21.09	20.99	21.28	21.24	20.4	20.9	n/a	n/a	1.03	1.00	n/a	n/a
Females	24.53	24.79	25.10	24.99	23.4	24.3	n/a	n/a	1.05	1.02	n/a	n/a
<b>70% median HDI</b>												
Total	29.65	30.15	30.79	30.60	29.2	30.1	n/a	n/a	1.02	1.00	n/a	n/a
Males	27.66	28.08	28.50	28.27	27.2	27.7	n/a	n/a	1.02	1.01	n/a	n/a
Females	31.52	32.11	32.95	32.80	31.0	32.4	n/a	n/a	1.02	0.99	n/a	n/a
<b>60% median HDI</b>												
0-15 years	26.81	25.58	25.92	26.07	26.8	27.2	n/a	n/a	1.00	0.94	n/a	n/a
16-24 years	24.40	24.30	23.63	23.27	24.2	23.9	n/a	n/a	1.01	1.02	n/a	n/a
25-49 years	18.44	17.94	17.82	17.70	18.0	16.6	n/a	n/a	1.02	1.08	n/a	n/a
50-64 years	17.49	17.76	17.48	17.29	16.7	17.0	n/a	n/a	1.05	1.04	n/a	n/a
65+ years	32.02	33.95	35.87	35.91	29.2	34.6	n/a	n/a	1.10	0.98	n/a	n/a

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

*Sources:* EUROMOD simulations; External: Eurostat

At-risk-of-poverty rate by poverty threshold, age and sex - EU-SILC survey [ilc\_li02]

**Table 4.11-Minimum wage validation**

	Baseline (1)				Min Wage Incl. (2)				Ratio (2/1)			
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Equivalised household disposable income	44,549	47,580	51,793	55,592	45,245	48,383	52,659	56,560	1.016	1.017	1.017	1.017
Declared employment income	32,662	35,487	39,301	42,209	33,567	36,532	40,429	43,473	1.028	1.029	1.029	1.030
Income tax	3,225	3,466	3,834	4,124	3,304	3,557	3,933	4,234	1.025	1.026	1.026	1.027
Total employee SICs	3,451	3,832	4,267	4,539	3,562	3,964	4,409	4,699	1.032	1.035	1.033	1.035
Total employer SICs	4,827	5,345	5,951	6,331	4,982	5,529	6,150	6,555	1.032	1.035	1.033	1.035
Total self-employed SICs	1,138	1,267	1,412	1,501	1,138	1,267	1,412	1,501	1.000	1.000	1.000	1.000
Gini coefficient	39.2	39.4	39.9	40.0	38.3	38.5	39.0	39.1	0.978	0.977	0.977	0.977
Poverty rate	22.9	22.9	23.2	23.2	21.6	22.1	22.4	22.2	0.946	0.964	0.964	0.960

Sources: EUROMOD calculations with and without minimum wage

## Annex 3: Policy effects in 2019-2020

In this section we analyse the direct tax-benefit policy effect on household disposable income in Bulgaria between 2019 and 2020. We try to understand how changes (or non-changes) to tax-benefit policies have affected household incomes in the period, abstracting from changes in the population characteristics and the distribution of market/original gross incomes. It should be noted that tax-benefit policies in a given year are taken as of 30th of June. Noteworthy, we do not account for labour market changes due to Covid-19, the 60/40 wage compensation scheme or Covid-related benefit changes (e.g. the pension supplements and the increase to the unemployment benefit).

Table A3.1 depicts the policy effect measured in real terms by income component and income decile group. The effect is estimated as the difference between simulated household net income under 2020 tax-benefit policies (deflating the tax-benefit monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP = 1.0109) and net incomes simulated under 2019 policies, as a percentage of mean equivalised household disposable income in 2019. The total policy effect on household income is decomposed into different components representing the main elements of the national tax-benefit system.

Table A3.1 shows that in 2019-20 household net incomes increased on average by 1.28% in real terms. Net incomes increased across all deciles, with the biggest income gain of 3.67% and 4.87% concentrated in the 1st and 2nd deciles, respectively. Households in the richest decile, saw their disposable incomes increasing in real terms by 0.45% on average.

The income gains across the distribution were mainly due to changes to public pensions (+0.93% on average), while changes to means-tested benefits led to a minor increase (+0.09% on average). Changes to non-means-tested benefits had a small positive effect on household incomes (+0.24%). The income gains across most of the distribution were mainly the result of generous pension indexation (5.7% as of 1st of July 2019) and lump-sum pension supplements paid in December 2019 and April 2020 (of BGN 40 each paid to pensioners whose pensions are below the national poverty line of BGN). Furthermore, the non-contributory social old-age pension increased in nominal terms by 6.2% (from BGN 129.16 in 2019 to BGN 137.19 in 2020), well ahead of the price growth of 1.1%. While these policy changes affected all income groups, their effect is considerably higher for households placed at the bottom of the income distribution.

This can be explained by the fact that pensioners are concentrated in lower-income households and middle- and higher-income households are represented mainly by people actively participating in the labour market and receiving employment incomes. Thus, the first four decile groups benefited the most from the pension changes. Their disposable income measured in real terms rose by 2.16% (1st decile), 3.35% (2nd decile), 2.42% (3rd decile) and 1.81% (4th decile). The effect for other deciles tends to decrease gradually as household disposable income rises.

In 2019-20 there were tiny income gains due to changes to non-means-tested benefits (of 0.24% on average), in particular to the contributory benefit for pregnancy and childbirth (`bmaprct_s`). The minimum amount of the benefit increased in line with the minimum wage by 8.9% in nominal terms (from BGN 560 in 2019 to BGN 610 per month in 2020), contributing to income gains. Furthermore, we have assumed, to the best of our knowledge, that the average amount of non-contributory unemployment benefits (`bunot`) grew faster than prices<sup>1</sup>. Other than that, the statutory amounts for the i) contributory maternity benefit for bringing up a child up to the age of 2 (`bmaycct_s`), ii) the birth grant (`bchbals_s`), iii) the nonmeans-tested child benefit

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<sup>1</sup> These benefits are not simulated in EUROMOD and are based on reported receipt in the SILC microdata. To capture the growth in the benefit amounts between the income reference period of the SILC data (i.e. 2017) to the policy year (2019/2020), an uprating factor equal to the growth in the average benefit amount is applied on the benefits. Thus, our estimation of these benefit changes is very crude.

for mothers in tertiary education (bchm01\_s), as well as iv) the minimum and maximum amounts of the unemployment benefit (bunct\_s) were nominally frozen, so their value actually fell in real terms, offsetting part of the aforementioned income gains. There were no changes to the policy rules shaping entitlement to these benefits.

Changes to means-tested benefits contributed to small income gains for the bottom two deciles. The rise in the heating allowance (bsaht\_s) of 24.5% in nominal terms (from BGN 74.83 per month in 2019 to BGN 93.18 per month in 2020) led to the increase in the real value of the benefit. The coverage of the guaranteed minimum income (bsa00\_s) was also extended as the Differentiated Minimum Income was extended to cover parents with children. These remaining benefits –the means-tested child benefit (bchmt00\_s) and the non-contributory benefit for raising a child under the age of 1 (bmaprnc\_s) – were frozen nominally and so they fell in real terms.

There were no policy changes in direct taxes and social contributions. Therefore, they did not caused corresponding changes in the household disposable income.

\* \* \*

To conclude, the overall effect of policy developments in 2019-20 was pro-poor, benefitting most households from the bottom of the income distribution. The main driver of these effects is the generous pension indexation which influenced positively household incomes at all parts of the distribution. Increases to the heating allowance contributed to further income gains for the poorest two deciles.

**Table A3.1. Policy effects in 2019-2020, using CPI-indexation, %**

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	2.16	1.34	0.18	0.00	0.00	0.00	0.00	3.67
2	0.00	3.35	1.36	0.16	0.00	0.00	0.00	0.00	4.87
3	0.00	2.42	0.10	0.22	0.00	0.00	0.00	0.00	2.74
4	0.00	1.81	0.01	0.31	0.00	0.00	0.00	0.00	2.13
5	0.00	1.43	-0.01	0.37	0.00	0.00	0.00	0.00	1.79
6	0.00	1.07	-0.02	0.30	0.00	0.00	0.00	0.00	1.35
7	0.00	1.02	0.01	0.28	0.00	0.00	0.00	0.00	1.30
8	0.00	0.69	0.01	0.26	0.00	0.00	0.00	0.00	0.96
9	0.00	0.59	0.00	0.27	0.01	0.00	0.00	0.00	0.87
10	0.00	0.23	0.00	0.18	0.03	0.01	0.00	-0.01	0.45
<b>Total</b>	<b>0.00</b>	<b>0.93</b>	<b>0.09</b>	<b>0.24</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.28</b>

**Figure A3.1. Policy effects in 2019-2020, using CPI-indexation, %**

