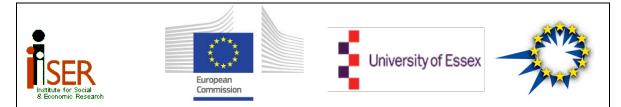# EUROMOD

COUNTRY REPORT

BULGARIA (BG)

2016-2019

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EUROMOD version I2.0

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

EUROMOD has been enlarged to cover 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 I2.0. 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 1st of January to 31st 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 2015 was 60 years and 8 months for women and 63 years and 8 months for men. However, 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 (2016-2019)

Year	Women		Men	
	Standard retirement age	Minimum period of contributory service	Standard retirement age	Minimum period of contributory service
2016	60 y. 10 m.	35 y. 2 m.	63 y. 10 m.	38 y. 2 m.
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.

- 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 after the beginning of 2030 until reaching 65 years of age. 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 be 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 общественo 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 (2016-2019)

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 to be 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 to be 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 to be 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.

- 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 1st 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.

- 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 6th month until the 1st 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 за 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 benefit is paid after the expiration of the period of payment of the cash benefit for pregnancy and childbirth, i.e. since the 1st to the 2nd year of the child. 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 under 5 years *(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 under 5 years (since July 2018; between 2 and 5 years – for the period 01.01.2014 – 30.06.2018), according to the Labour Code *(Кодекс на труда)*. The duration of the benefit is 365 days, but cannot be received after the 5th 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.

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 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 45th 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 1st 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.

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 1st 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 2019 – 61 years and 4 months for women and 64 years and 2 month for men) and whose length of contributory service is minimum 35 years and 8 months (women) and 38 years and 8 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 31st of December 1959) and (2) Professional Pension Funds (*Професионални пенсионни фондове*) – the insurance is mandatory for persons working under the 1st and 2nd 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 31st 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 Minimum Income for Heating" (DMIH) and who also fulfill other eligibility criteria. DMIH is calculated following the same procedure as the DMI for the monthly social assistance allowance, but the percentages for the different categories of beneficiaries are higher. It varies from 167.08% of GMI for an adult living in the same lodging with her/his spouse to 311.08% of GMI 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. However, depending on the type of the heating, the actual level of the support is different.

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 2019 its amount is BGN 348). 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 1st to June 30th (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 "3rd 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 1st and 2nd 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 4.2% 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 1st 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 Inferior, 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 2011-2015 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 2015-2018 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.

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.).

2. Simulation of taxes and benefits in EUROMOD
2.1 Scope of simulation

The scope of taxes and benefits in Bulgarian tax-benefit system 2015-2018 simulated by EUROMOD covers only those instruments that have been identified as feasible for simulation in the framework of EU-SILC 2016 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?
		2016	2017	2018	2019	
Unemployment benefit	*bunct_s*	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	*bmaprct_s*	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	*bmaycct_s*	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 between 2 and 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	*bmaprnc_s*	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	*bchmt00_s*	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

Lump sum pregnancy grant		IA	IA	IA	IA	
Lump sum allowance upon childbirth	*bchbals_s*	S	S	S	S	
Targeted allowance for pupils	*bchedyc_s*	S	S	S	S	
Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	*bchnm01_s*	S	S	S	S	
Lump sum allowance for raising twins until 1 year of age	*bchnm02_s*	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	*poamt_s*	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	*bsa00_s*	S	S	S	S	
Targeted allowance for heating	*bsaht_s*	S	S	S	S	
Monthly allowance for social integration		IA	IA	IA	IA	No information on special purchases or other relevant conditions
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

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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

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?
	2016	2017	2018	2019	
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, 2016-2019

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 between 2 and 5 years	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. Lump sum pregnancy grant	Yes	FACA
15. Lump sum allowance upon childbirth	No	FACA
16. Targeted allowance for pupils	Yes	FACA
17. Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	No	FACA
18. Lump sum allowance for raising twins until 1 year of age	No	FACA
19. Lump sum allowance in case of adoption	No	FACA
20. Pension for insurance and old age	No	CSI
21. Pension for invalidity due to general sickness	No	CSI
22. Pension for invalidity due to employment injury or occupational disease	No	CSI
23. Social old-age pension	Yes	CSI
24. Social invalidity pension	No	CSI
25. Survivor's pension	No	CSI
26. Pension supplement in case of deceased spouse	No	CSI
27. Pension from voluntary pension insurance	No	CSI
28. Monthly social assistance allowance	Yes	SAA
29. Targeted allowance for heating	Yes	SAA
30. Monthly allowance for social integration (by 31.12.2018)	No	IPDA
31. Monthly financial assistance (from 01.01.2019)	No	PDA
32. Targeted financial support for buying and repairing of supportive means, devices, equipment and medical products	No	IPDA/ PDA
33. Supplement for care by assistant	No	CSI
34. 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 (*tintadi_s*) 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, 2016-2019

Policy	Description	Main output
SetDefault_bg	Set default values	
UAA_bg	Uprating by Average Adjustment (switch policy, off in the baseline)	
Uprate_bg	Uprating factors	
Uprate_bands_bg	Uprating pensions in bands	
ConstDef_bg	Definition of constants used in the simulation	
FYA_bg	Full year adjustment (model policies over the year instead of 30th of June)	
IlsDef_bg	Standard income concepts	
IlsUDBDef_bg	Standard UDB income concepts	
IlDef_bg	Non-standard income concepts	
Tudef_bg	Definition of tax and benefit units	
TCA_bg	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 (switch policy, on in the baseline)	
yem_bg	minimum wage (минимална заплата)	
neg_bg	Recoding negative values of self-employment income to 0	
InitVars_bg	Initialise variables (for multiple births)	
tscer_bg	Employers social insurance contributions (вноски за социално осигуряване платени от работодателите)	tscerpi_s, tscersi_s, tscerui_s, tscerac_s, tscerhl_s, tscctpi_s, tscctsi_s, tscctui_s, tscctac_s, tsccthl_s
tscee_bg	Employees social insurance contributions (вноски за социално осигуряване на работниците и служителите)	tsceepi_s, tsceesi_s, tsceeui_s, tsceehl_s
tscse_bg	Self-employed social insurance contributions (вноски за социално осигуряване на самостоятелно заети)	tscsepi_s, tscsehl_s
bunct_bg	Unemployment benefit (обезщетение за безработица)	bunct_s
bmaycct_bg	Contributory maternity benefit for bringing up child up to age 2 (обезщетение за отглеждане на дете до 2 годишна възраст)	bmaycct_s
bmaprct_bg	Contributory maternity benefit for pregnancy and childbirth (обезщетение за бременност и майчинство)	bmaprct_s
bsa00_bg	Guaranteed minimum income (помощ за социално подпомагане - гарантиран минимален доход) *(1st run)*	bsa00_s
bsaht_bg	Heating benefit (целева помощ за отопление) *(1st run)*	bsaht_s
bchmt00_bg	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
bchedyc_bg	Targeted allowance for pupils (целева помощ за ученици)	bchedyc_s
bchbals_bg	Birth grant (also for adoption) (еднократна помощ при раждане)	bchbals_s
bmaprnc_bg	Benefit for raising a child under the age of 1, non-contributory (месечна помощ за отглеждане на дете до 1 годишна възраст)	bmaprnc_s

bchnm01_bg	Non means-tested child benefit for mothers in tertiary education (from 2009 on)	bchnm01_s
bchnm02_bg	Non means-tested child benefit for twins (from 2009 on)	bchnm02_s
poamt_bg	Social old-age pension (Социална пенсия за старост)	poamt_s
bsa00_bg	Guaranteed minimum income (помощ за социално подпомагане - гарантиран минимален доход) *(2nd run)*	bsa00_s
bsaht_bg	Heating benefit (целева помощ за отопление) *(2nd run)*	bsaht_s
tin_bg	Personal 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 2016 and 2017*

None.

- *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, 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 <u>these new forms of support cannot be simulated in EUROMOD</u>.

2.3 Policy switches

The policy TCA_bg adjusts the results from the policy simulations for tax compliance. TCA_bg is a switch policy, i.e. the model can be run with or without the adjustment (i.e. the policy can be switched *on* or *off*). In the baseline, the policy 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.

UAA_bg is another switch policy in the Bulgarian model which adjusts the uprating of public pensions. In the baseline simulations, the switch policy UAA_bg is off and public pensions are uprated over time by taking into account the indexation rules, coded in the policy Uprate_bands_bg (see section 3.4 for more details on uprating). 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 policy UAA_bg, which in turn disables the uprating by indexation rules (policy Uprate_bands_bg).

Baseline simulations in EUROMOD refer to the policy rules on 30th of June of the respective year. The policy FYA_bg – 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 2016 the income-test threshold used to calculate entitlements to some means-tested family/child benefits (*bchedyc_s, bmaprnc_s, bchmt00_s*) was raised in July from BGN350 to BGN400 per month. The policy FYA_bg takes into account that families with average annual income between BGN350 and BGN400 could have received the benefit for 6 months (from July to December).

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 1st 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 unemployment benefit:	2016	2017	2018	2019
Minimum (BGN)	151.20	151.20	189.00	189.00
Maximum (BGN)	N/A	N/A	1 560.00	1 560.00

The benefit is provided for a duration that depends on the length of the contribution history at the moment of benefit assessment. The following table contains the duration of the payment (until 31.12.2016):

Contribution period (years)	0 to 3	3 to 5	5 to 10	10 to 15	15 to 20	20 to 25	Over 25
Payment period (months)	4	6	8	9	10	11	12

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

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):

		2016-2019
Eligibility	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
Payment	Contribution base	Gross earnings
	Basic amount	60% of previous gross earnings

	Additional amount	n/a
	Floor	BGN 151.20 per month
	Ceiling	BGN 1 560,00 per month
Duration	Standard (in months)	Between 4 and 12 months
	Special cases (in month)	n/a
Subject to	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	2016-2019
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	2016-2019
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	2016-2019
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). In 2018, approximately 86 thousand women received the contributory pregnancy and childbirth benefit compared to less than 22 thousand men. Among these male benefit recipients, more than 21.4 thousand people

received the 15-day benefit granted immediately after the girth of the child and only 380 men (less than 2% of men beneficiaries) received a pregnancy and childbirth benefit instead of the mother/ adoptive mother of the child (NSSI, 2019: pp. 5-10). Therefore, it can be assumed that the take-up of these benefits by men is rather low.

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.

Due to the low benefit take-up by men, we do not simulate entitlements for men in EUROMOD.

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)	2016	2017	2018	2019
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	2016	2017	2018	2019
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	2016	2017	2018	2019
Benefit amount (BGN)	340	340	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). Similar to the pregnancy and childbirth benefit, the proportion of male beneficiaries is rather low. In 2018, there were only 939 male recipients compared to approximately 64 thousand women (NSSI, 2019: pp. 5-10).

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.

Due to the low benefit take-up by men, we do not simulate entitlements for men in EUROMOD.

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	2016	2017	2018	2019
Annual benefit amount (BGN)	2,880	2,880	2,880	2,880

EUROMOD Note: Since 1st 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	2016	2017	2018	2019
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 1st 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	1st of January -30th of June 2016	1st of July - 31th of December 2016	2017	2018	2019
Upper monthly threshold (BGN)	350	400	400	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.

(4) All social assistance benefits and allowances:

- monthly social assistance allowance;

- targeted allowance for heating;

- monthly allowances for social integration.

(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;

- 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	2015/16	2016/17	2017/18	2018/19
Lump-sum amount (BGN)	250	250	250	250

EUROMOD Note: It is a lump-sum benefit paid in the beginning of the school year (September of the respective year). 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". Fathers are not entitled to the benefit.

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	1st of January -30th of June 2016	1st of July - 31th of December 2016	2017	2018	2019
Upper monthly threshold (BGN)	350	400	400	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 2007-2019. 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	1st of January - 30th of June 2016	1st of July - 31th of December 2016	2017	2018	2019
Income group 1 – recipients receive 100% of the benefit	0,00 – 350,00	0,00 – 400,00	0,00 – 400,00	0,00 – 400,00	0,00 – 400,00
Income group 2 – recipients receive 80% of the benefit	N/A	N/A	N/A	400,01 – 500,00	400,01 – 500,00

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

The benefit component for disabled children (until 2016) is provided without an income-test.

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

- *Benefit amount*

Since 1st 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	2016	2017	2018	2019
Family with one child	37	37	40	40
Family with two children	85	85	90	90
Family with three children	130	130	135	135
Family with four children	140	140	145	145
Each child after the fourth	+ 20	+20	+20	+20
Twins (per child)	75	75	75	75
Permanently disabled child (per child)	100	N/A	N/A	N/A

Note: Figures are in BGN, per month.

EUROMOD Note:

Special case: (1) Until 1st 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 1st 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 1st 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 1st child. From 1st 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	2016	2017	2018	2019
Monthly GMI (BGN)	65	65	75	75
Annual GMI (BGN)	780	780	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	2016	2017	2018	2019
Social old-age pension	116.65	119.56	123.28	139.37

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

EUROMOD Note: The social old-age pension is simulated only with EUROMOD input data based on SILC 2016 or later waves. 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 SILC 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*

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%

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

(3) Lump sum pregnancy grant

(4) Lump sum grant upon childbirth.

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. Since we do not have information on when person's pensions were granted for the first time, we apply the coefficient of 1.384 on all pensions in the simulations in 2019.

- *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 1ˢᵗ of November to 30ᵗʰ 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.

	2015/2016 heating season	2016/2017 heating season	2017/2018 heating season	2018/2019
Benefit amount	72.20	72.46	73.02	74.83

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	2016	2017	2018	2019
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%
child aged between 7 and 16 (up to 20 if attending school), if having 5 or more unexcused absences from school	30.0%	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	N/A	30.0%	30.0%	30.0%
child aged between 7 and 16 and not attending school	20.0%	N/A	N/A	N/A
child aged between 5 and 16 and not attending school	N/A	20.0%	20.0%	20.0%

child aged 0-18 (up to 20 when studying) – if a certificate asserting that all statutory immunisations and medical examinations are passed is not presented	30.0%	30.0%	30.0%	30.0%
child aged 16-18, not attending school and is registered at a local public employment office	N/A	66.0%	66.0%	66.0%
children (up to 20 when studying) if it is not proved that all mandatory immunisations and preventive medical checkups and done	N/A	30.0%	30.0%	30.0%
orphan or child accommodated in a host family	100.0%	100.0%	100.0%	100.0%
child with permanent disability	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%
lone parent with one or more children aged under 16 (under 20 if attending school)	100.0%	100.0%	100.0%	100.0%
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

(3) Lump sum pregnancy grant

(4) Lump sum grant upon childbirth.

- *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 1st, 2nd and 3rd 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 3rd labour category. This assumption is based on the fact that the vast majority of employees (over 95%) perform work under 3rd 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 2nd and especially on 1st 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, tsceeui_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

	2016	2017	2018	2019
1. Pension Fund				
1.a. PF rate for persons born before 1960	7.9%	8.34%	8.78%	8.78%
1.b. PF rate for persons born after 1959*	5.7%	6.14%	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				
Total	**9.70%**	**10.14%**	**10.58%**	**10.58%**
Upper threshold for the contributory income (BGN)	**2 600**	**2 600**	**2 600**	**3 000**
Minimum wage (BGN)	**420**	**460**	**510**	**560**
Average contributory income (BGN)	**770**	**821.51**	**N/A**	**N/A**

Notes: * Since 1st 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.

** from 1.01.2015 to 30.06.2015 – **BGN 360**, from 1.07.2015 – **BGN 380.**

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 1st or 2nd 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 3rd category of labour) to 7% (2nd category of labour) and 12% (1st category of labour). The rate applied for the 3rd category (allocated to a Universal Pension Fund) is held constant for all three categories

Table 2.5.2a

3rd category of labour	2016	2017	2018	2019
1. Pension Fund				
1.a. PF rate for persons born before 1960	9.9%	10.46%	11.02%	11.02%
1.b. PF rate for persons born after 1959*	7.1%	7.66%	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%
Total	**13.30%**	**13.86%**	**14.42%**	**14.42%**

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 3rd category of labour. That is why for the simulation of the policy "SIC paid by employers" only the 3rd category of labour contributory rates are considered. Table 2.5.2.1b shows the SIC rates for the 1st and 2nd labour categories.

- Contributions for employees on a Civil Contract are not simulated in 2015 - 2019 policy systems (see EUROMOD Note in 2.5.1).

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

2nd category of labour	2016	2017	2018	2019
1. Pension Fund				
1.a. PF rate for persons born before 1960	12.9%	13.46%	14.02%	14.02%
1.b. PF rate for persons born after 1959*	10.1%	10.66%	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%
Total	**23.30%**	**23.86%**	**24.42%**	**24.42%**
1st category of labour	2016	2017	2018	2019
1. Pension Fund				
1.a. PF rate for persons born before 1960	12.9%	13.46%	14.02%	14.02%
1.b. PF rate for persons born after 1959*	10.1%	10.66%	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%
Total	**28.30%**	**28.86%**	**29.42%**	**29.42%**

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% (2nd category of labour) or 12% (1st 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

	2016	**2017**	**2018**	**2019**
1. Pension Fund				
1.a. PF rate for persons born before 1960	17.8%	18.8%	19.8%	19.8%
1.b. PF rate for persons born after 1959*	12.8%	13.8%	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	3.5%	3.5%	3.5%	3.5%
(insurance on a voluntary basis)				
Contributory income for self-employed				
Lower threshold (BGN per month)	420	460	510	510
Upper threshold (BGN per month)	2 600	2 600	2 600	2 600
Contributory income for registered farmers and tobacco producers				
Lower threshold (BGN per month)	300	300	350	400
Upper threshold (BGN per month)	2 600	2 600	2 600	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:

2014-2016: up to 5400 BGN – 420 BGN; from 5401.01 to 6500 BGN – 450 BGN; from 6501.01 to 7500 BGN – 500 BGN; for 7500.01 BGN and more– 550 BGN. For new self-employed and for self-employed without incomes form previous year the threshold is BGN 420;

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.

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, tsceehl_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 2014-2019. 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 and BGN 22.40 in 2019.

2.5.5   Credited insurance contributions (вноски за социално осигуряване платени от работодателите) (tscctpi_s, tscctsi_s, tscctui_s, tscctac_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

	2016	2017	2018	2019
1. Pension Fund				
1.a. PF rate for persons born before 1960	17.8%	18.8%	19.80%	19.80%
1.b. PF rate for persons born after 1959*	12.8%	13.8%	14.80%	14.80%
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*	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%
Total	**31.0%**	**32.0%**	**33.0%**	**33.0%**
Upper threshold for the contributory income	**2 600**	**2 600**	**2 600**	**3 000**

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 do 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 1st and 2nd category of labour, civil servants within the system of Ministry of Inferior, Ministry of Defense and Ministry of Justice, additional rates apply.

2.6 Personal income tax (данък общ доход) (tin_bg)

2.6.1 Tax unit

- PIT system in Bulgaria in 2014-2018 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

1. Earnings from Labour Contract	2016	2017	2018	2019
Gross earnings				
SIC	7.90%	8.34%	8.78%	8.78%
HIC	3.20%	3.20%	6.58%	6.58%
Tax base = Gross earnings – SIC – HIC				
2. Earnings from Civil Contract	2016	2017	2018	2019
Gross earnings				
Normatively recognised expenditures (NRE)	25%	25%	25%	25%
Taxable income = Gross earnings – NRE				
SIC	7.90%	8.34%	8.78%	8.78%
HIC	3.20%	3.20%	3.20%	3.20%
Tax base = Taxable income –SIC – HIC				
3. Income from self-employment as sole entrepreneur	2016	2017	2018	2019
Gross self-employment earnings				
SIC	17.80%	18.8%	19.8%	19.8%
HIC	8%	8%	8%	8%
Tax base = Gross earnings – SIC – HIC				
4. Other sources of self-employment income	2016	2017	2018	2019
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	17.8%	18.8%	19.8%	19.8%
HIC	8%	8%	8%	8%
Tax base = Taxable income –SIC – HIC				
5. Incomes from renting (real estate, non-financial assets)	2016	2017	2018	2019
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)	2016	2017	2018	2019
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 – 2019 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 2016-2019 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 2016-2019. However, we do not simulate this tax due to limited information in the SILC data.

EUROMOD note: The due final tax on deposit interest income from a source in Bulgaria is withheld and paid by commercial banks and branches of foreign banks in the country until the end of the month following the month of acquiring the income. Within the same period, banks are obliged to file a tax return under. Deposit account holders are not involved in declaring interest income on bank accounts, i.e. they do not fill this information into their annual tax declaration.

In addition, it is not possible to disaggregate national SILC income data to identify the income from interest on deposits. In addition, tax incomes from this source are insignificant compared to the other tax revenue sources. According to the Ministry of Finance, in 2018 the revenues from tax on deposit interest income were only BGN 10,9 mln. Total revenues from individuals' income taxation was BGN 3 647.7 mln. (Ministry of Finance, 2019: p. 5).

Therefore, it is not possible to simulate taxation on income from deposit interest.

2.7 Minimum Wage (yem_bg)

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

- *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.

3. Data

3.1 General description

The Bulgarian dataset for EUROMOD 2016-2019 simulation is derived from the EU-SILC standard UDB 2017 (income reference year 2016). It contains the data from wave 2017 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 2017 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_2017_b1
Original name	Статистика на доходите и условията на живот, 2017 (EU-SILC, version UDB_ver 2017-1)
Provider	National Statistical Institute of Bulgaria
Year of collection	2017
Period of collection	2017
Income reference period	2016
Unit of assessment	Household
Sample size	7,350 Households
	17,649 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 (61) and children born after the income reference period (32) were dropped from the initial sample.

The sample for EU-SILC 2017 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 17,773 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 2017 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) the sum of HY052 and HY054 and ii) the sum of the imputed benefits (bmaycct, bmaprct, bchbals) is saved into the imputed 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 imputed benefits is saved into the imputed 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 imputed 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 imputed 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 imputed into 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 *imputed* 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 Imputed variables from EU-SILC 2017

Variable name in EUROMOD input data	Variable description	Component of the aggregated variable in EU-SILC
bmaprct	Cash benefits in case of pregnancy and childbirth (Парично обезщетение при бременност и раждане на дете)	HY052
bmaycct	Paid parental leave for bringing up a small child (Платен отпуск за отглеждане на малко дете)	HY052
bchbals	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
bfamtot	**Other means-tested family benefits**	**The residual benefit from HY053**
bfanmot	**Other non-means-tested family benefits**	**The residual benefits from HY052 and HY054**
bunct	Unemployment benefit (обезщетение за безработица)	bun/PY090
bunot	**Other unemployment benefit - Redundancy/ retirement benefits (обезщетение при съкращение/пенсиониране)**	**The residual benefit from bun/PY090**
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
bsaot	**Other social assistance benefits**	**The residual benefit from HY063**
bsacm	**Complementary social assistance benefits**	**HY064**

Table 3.3.3.2 compares the total amount of benefits reported in the national SILC (column 1) and the total amount of imputed 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 imputed 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 imputed 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 imputations 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 imputed 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 imputed benefits in EUROMOD input data for 2017

EUROMOD variable	Name of benefit	National SILC 2017: Total amount (thousand) (1)	National SILC 2017: Number of recipients (2)	Total **imputed** amount in EUROMOD input data (thousand) (3)	Number of **imputed** recipients in EUROMOD input data (4)	Ratio (3)/(1)	Ratio (4)/(2)
bfa (HY050 in SILC)	**Family benefits (total)**	**890,780**	**601,443**	**893,977**	**603,602**	**1.00**	**1.00**
bmaprct	Contributory maternity benefit for pregnancy and childbirth (обезщетение за бременност и майчинство)	147,872	62,726	102,217	48,626	0.69	0.78
bmaycct	Contributory maternity benefit for bringing up a child up to the age of 2 (обезщетение за отглеждане на дете до 2г.)	161,318	84,821	100,155	56,154	0.62	0.66
bchbals	Birth grant (еднократна помощ при раждане)	19,508	50,200	9,247	24,565	0.47	0.49
bchedyc	Child benefit for education (целева помощ за ученици)	13,125	52,498	8,583	34,334	0.65	0.65
bmaprnc	Non-contributory benefit for raising a child under the age of 1 (месечна помощ за отглеждане на дете до 1 г. възраст)	21,113	41,080	9,215	17,312	0.44	0.42
bchmt00	Means-tested child benefit (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст)	388,760	530,272	209,128	326,410	0.54	0.62
bfamtot	Other means-tested family benefits	5,881		203,475	320,288	34.60	
bfanmot	Other non-means-tested family benefits	133,400		251,957	164,030	1.89	
bun (PY090 in SILC)	**Unemployment benefits (total)**	**429,783**	**274,832**	**433,848**	**276,100**	**1.01**	**1.00**
bunct	Unemployment benefit (обезщетение за безработица)	380,581	263,054	339,711	172,664	0.89	0.66

bunot	Redundancy/retirement benefit (Обезщетения при съкращения/ пенсиониране)	49,202	12,841	94,138	103,436	1.91	8.05
bsa (HY060 in SILC)	**Social assistance (total)**	**152,115**	**292,480**	**152,660**	**293,529**	**1.00**	**1.00**
bsa00	Monthly social assistance allowance (guaranteed minimum income) (месечна парична помощ поради ниски доходи)	49,399	64,665	40,563	36,671	0.82	0.57
bsaht	Targeted allowance for heating (целева помощ за отопление)	99,104	259,768	94,015	213,272	0.95	0.82
bsaot	Other social assistance benefits	1,504		16,352	31,726	10.87	
bsacm	Complementary social assistance benefits	1,723		1,730	18,596	1.00	

Notes: EUROMOD input data are based on UDB SILC 2017. 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 (2016-2019) in EUROMOD

	2016-2017	2017-2018	2018-2019
Indexation rate	1.026	1.024	1.038

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 (2016-2019) in EUROMOD

	2016-2017	2017-2018	2018-2019
December (from start-year) supplement	- 40BGN if pensions<=300BGN	- 40#m BGN if pensions <=321BGN	- 40#m BNG if pensions<=348 BGN
Easter (April from end-year) supplement	- 40BGN if pensions<=314BGN	- 40#m BGN if pensions <=321BGN	- 40#m BNG if pensions<=348 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.

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 2017 – and for some up to year 2018 – 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 2016-2018 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[1] for 2016 is whereas the sample estimate from LFS is 3.017 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).

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 1% less than the LFS figure in the baseline year 2016). However, this is not the case with the number of unemployed – in 2016 this number is over twice as large in EU-SILC than in 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.

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[1] 2.277 million; source: NSI, Annual Statistics on Employment and Labour Cost, "Employees under labour contract by economic activity groupings and sectors" in 2016 (http://www.nsi.bg/en/content/6433/total, retrieved on August 30th, 2019).

Table 4.1 Components of disposable income

	EUROMOD [2016-2019]	Bulgarian EU-SILC 2017 [income year 2016]
	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 2016 is 32.7 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).[2] In contrast, Table 4.4 shows that in 2016 the total income from employment in EU-SILC is 6.5pp lower than the National Accounts figure for "Wages and Salaries"; the discrepancy shifts to 7.8pp in 2017 and 5.4pp in 2018. It should be noted though that, in addition to gross wages/salaries, the National Accounts data 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 30pp lower than the average in the National Accounts data for 2016-2018. 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-

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[2] Latest analysis of the grey economy issues in Bulgaria can be found in BICA (2018). Up-to-date estimates of the spread of shadow economy for various countries, including Bulgaria, see ACCA (2017) and Schneider & Medina (2018).

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 80% of the National Accounts figures. This could be as a result of under-representation of entrepreneurs in the EU-SILC, particularly those in "A- Agriculture, Forestry and Fishing" sector. In the same time, the aggregate self-employment income for 2016 in EU-SILC overvalues the National Accounts figure for 2016 by 24pp; unlike this, it closely resembles the official estimate of the income of self-employed individuals for 2017. This can be explained by improved methodology for the estimation of this income component in the National Accounts after 2016.

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; still, SILC survey covers about 66% of the number and 64% of the amounts distributed by this item of income in 2016.

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 paid to individuals and households in 2016 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 matches the external statistics well: In 2016 the number of individuals receiving any pension in EU-SILC is 8.6pp higher than the external figure, while the number of pensions in EU-SILC is 8.8pp lower than the external figure. Looking at the different types of pension, in 2016 EU-SILC overestimates the number of old-age pension recipients by 16pp compared to the external data. The number of recipients of disability pensions is quite satisfactory estimated by the SILC survey (down by 3.5pp on average for 2016-2018); however, the survivor pension receivers are substantially underestimated in EU-SILC (almost twice less for the period) 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 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 7.5pp in 2016 compared to the external figure. Regarding the expenditure by pension type, old-age pensions are overestimated compared to the official NSSI data by 20pp, and disability and survivors pensions are underestimated by 40pp and 50pp respectively in 2016. 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 frequently misclassify pensions in EU-SILC. This is why we see larger discrepancies between EU-SILC and external statistics for the separate pension components than for all pensions combined.

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.

The number of **recipients of sickness benefits** in EU-SILC is lower compared to external data (in EU-SILC the number of benefit receipts is about ¾ of the number from the official

NSSI data). However, compared to the external figure, the aggregate amount of sickness benefits in EU-SILC is slightly higher in 2016 (by 5pp) and lower in 2017-2019 (by 5pp on average in 2017-2019). The discrepancy between EU-SILC and the external figure could be linked to possible information mismatch: According to social insurance legislation, the first three days of the general sickness should be paid by the employer, and NSSI pays the benefit from the fourth day onwards. Therefore, SILC respondents might report the whole benefit amount while the external figure only contains the amount paid by the NSSI.

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 imputed 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 2016 the number of benefit recipients is oversimulated in EUROMOD by 90pp (and over 100pp in 2017-2019; Table 4.7). On the other hand, the total benefit amount simulated in EUROMOD is somewhat lower than the external figure by 10-15pp in 2016-2019 (Table 4.8). The discrepancy between EUROMOD and the external figures is therefore mainly due to imprecise identification of eligible receivers of unemployment benefit bunct among the individuals in the SILC sample (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 imputed benefit receipt in EU-SILC survey (EUROMOD variable bmaprct). However, as Table 4.7 shows the imputed variable includes only 49 thousand (weighted) benefit recipients in 2016 and as a result, so does the simulated variable. This number is much lower than the external figure of 108 thousand benefit recipients in 2016. This way, the aggregate amount of this benefit simulated in EUROMOD is also substantially (over twice) lower compared to official NSSI source – BGN 157 million based on EUROMOD simulations versus BGN 349 million according to external figure for 2016. The divergence remains almost the same for 2017 and 2018. These discrepancies can be at least partly explained by the already underlined difference in the imputed and actual number of benefit recipients. Other possible reasons include: (i) assumed number of months different from the actual; (ii) monthly amount estimated on under-assessed contributory income base.

The **birth grant** (bchbals_s) is undersimulated by about 45pp in 2016-2018, both for the number of benefit recipients and the total benefit amount. This is at least partly due to underrepresentation of newborns in EU-SILC 2017.[3]

The **non-contributory benefit for raising a child under the age of 1** (bmaprnc_s) is oversimulated by one third in 2016 for the number of benefit recipients; however, the total benefit amount for the same year is undersimulated by 29pp. The benefit is provided to

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[3] The weighted number of children aged 0 in EU-SILC 2017 is 36.3 compared to 64.7 thousand according to NSI data at 31.12.2016 (0.91% 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

women with young children who are not entitled to the 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 benefit duration as we lack information on the exact birth date of the child. The downward discrepancy in the simulation of total spending is reduced to 20pp in 2017 and 11pp in 2018.

Recipients of **non-means-tested child benefit for mothers in tertiary education** are occasionally found in the sample, so the simulation of this benefit (bchnm01_s) is not reliable. Same result can be derived about the **non-means-tested child benefit for twins** (bchnm02_s), as far as cases of families with newborn twins are almost absent in the sample.

The **contributory maternity benefit for bringing up a child up to age of 2** (bmaycct_s) is also 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.[4] The benefit is also partially simulated, i.e. it is conditioned on the imputed benefit bmaycct (see section 3.3.3). Table 4.7 shows that in 2016 the number of receipts of the imputed benefit in EU-SILC (57 thousand, weighted) is lower than the number of benefit receipts according to external data (83 thousand). As a result of the partial simulation, EUROMOD undersimulates the number of entitlements to bmaycct_s in 2016 by 32pp as well as the aggregate benefit amount by 21pp (BGN 123 million, compared to external sources for 2016: BGN 156 million).

The **child benefit for education** (bchedyc_s) is undersimulated by about 15-16pp in 2016 and 2019 for both the number of benefit recipients and the total benefit amount. However, the discrepancy almost disappears in 2017, and shifts to overestimation by 8pp in 2018 for both the recipients and amount of the benefit.

The EUROMOD simulation results for the main **means-tested child benefit** (bchmt00_s) in Bulgaria vary around the external figures for 2016-2018. The number of benefit entitlements simulated with EUROMOD is 13pp less than the official number in 2016; the discrepancy is eliminated in 2017 (up by 2pp), however, overestimation appears in 2018 by 22pp. Similar results are obtained regarding the total benefit amount – the amount based on EUROMOD simulations is 9pp less than the official amount for 2016. Compared to the external source, EUROMOD figures are 10pp and 25pp larger in 2017 and 2018. Insofar as the number of children in the EU-SILC is lower than the official figures, this can bring up general expectation for slight overestimation of both the number of recipients and incurred expenditures on this major benefit of the family support in the simulated period.

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 2016, the number of recipients and total benefit amount are oversimulated by about 2.7 times the external figure for bsa00_s and 1.8 and 1.3 times the external figure, respectively, for bsaht_s. This could be due to various reasons:

- 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.

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[4] The weighted number of children aged 1 to 4 in EU-SILC 2017 is 234.8 thousand compared to 265.6 thousand (3.74% of the total population) according to NSI data at 31.12.2016 (available online: www.nsi.bg/sites/default/files/files/data/timeseries/Pop_6.1.2_Pop_DR_EN.xls).

- 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 oversimulated in EUROMOD almost twice in terms of the number of benefit recipients – and 70pp regarding the total benefit amount – compared to the external figures for the baseline year (2016). The simulation results improve slightly for 2017 where the number of recipients has been oversimulated by 49pp and the total benefit amount by 36pp. 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 in 2016-2017 is about 30pp higher based on EUROMOD simulations than the figure from the external source (NSSI). The number of **employee SICs** simulated in EUROMOD is 23pp higher than the external figure on employee SICs. 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 about 30pp higher than the external figures for 2016-2017. However, the total amount of **employer SIC** simulated in EUROMOD matches quite well the external figure. For credited SIC, the lack of external data does not allow direct validation.

Although self-employment income is generally well estimated 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 – are significantly oversimulated: the EUROMOD figures are about 3 times the external figures in 2016-2017. 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 2016-2018. The aggregate amount of income tax simulated in EUROMOD overestimates (by 19pp for 2016 and 16pp for 2017) the total tax revenue reported by external sources (NSI, Government Finance Statistics). 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 HDI calculated with EUROMOD which are compared with estimates calculated based on the reported incomes in EU-SILC data (referred to as the external source). The results show that the shares of equivalised HDI of all decile groups except the first decile group (D1) are fairly well estimated by EUROMOD compared to the 2016 data from the external source, and the same is valid for 2017. The income share of the first decile group is overestimated in EUROMOD: in 2016 it equals 2.23% compared to 1.9% according to the external source. The discrepancy is mainly driven by the oversimulation of social assistance in EUROMOD (the 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.

The inequality measures match quite well to the external sources. The S80/S20 ratio based on EUROMOD-estimated HDI is just 10pp lower than the ratio provided by the external source. Furthermore, the Gini coefficient based on EUROMOD simulations is 4pp lower than the external figure for 2016 – and 1.4pp lower for year 2017.

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 social assistance 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 higher percentages (50%, 60% or 70%) of the median HDI, the poverty rates derived with EUROMOD become more in line with those from the external source. By age group, the poverty rates for those aged below 50 years are lower based on EUROMOD simulations compared to Eurostat estimates; while the poverty rate for those aged 50+ is somewhat higher based on EUROMOD simulations relative to Eurostat estimates.

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 would increase by 0.9% and 1.6%, respectively, in 2016. The total amount collected from income tax and social insurance contributions would rise by about 1.4%. In terms of income redistribution, the Gini coefficient would be reduced by 1.3 percentage points, and the poverty rate would fall by 1.7pp.

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 2016-2019:

- 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 imputations 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 imputations 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 imputed benefit values – is worsened: this is the case with bmaprct_s, bmaycct_s and bunct_s which are simulated based on the imputed 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.

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www.nap.bg

Agency for Social Assistance (Ministry of Labour and Social Policy):

www.asp.government.bg

Ministry of Labour and Social Policy:

www.mlsp.government.bg

National Social Security Institute:

www.nssi.bg

National Statistical Institute:

www.nsi.bg

Financial Supervision Commission:

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
		2016	2017	2018	2019		
Harmonised Index of Consumer Prices (2007=100)	$HICP	98.68	99.85	102.48	104.49	EUROSTAT; AMECO forecasts for 2019 values	
Consumer price index (2007=100)	$f_cpi	125.06	127.64	131.24	133.6	National Statistical Institute - 2001-2018 (https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&lang=en) Ministry of Finance - 2019 (https://www.minfin.bg/bg/866)	ypp, bchprls, bchbals, bmaprnc, bchmt00, bho, bsa00, bsaht, afc, xhc, xhcmomi, xhcot, xhcrt, xpp, aoc, bchedyc, kfbcc, kfb, bed, kivho, bfanmot, bsaot, bfamtot, bsacm, bfaot
Average salary (national level, BGN per month)	$f_yem	961.58	1044.67	1135	1233.55	National Statistical Institute - 2001-2018 (https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&lang=en); For 2019, the figure for 2018 is multiplied by the forecasted growth in "compensation per employee" (=1.078) published by Ministry of Finance (https://www.minfin.bg/bg/866)	yemtx, yemnr, yot, ypt, ysetx, ysenr, xmp, yivwg, yem01, yem02, ysebs, yem_a
Average pension per a retiree (BGN, per month)	$f_pen_av	332.68	345.46	364.32	386.27	National Social Security Institute - 2007-17 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2017.pdf); National Social Security Institute - 2018 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pensii/STATB42018.pdf); Data for 2019 is based on the Budget of the Public Social	pdi, poa, psu, pdi00, pdinc, poa00, poamt, psuor

Index	Constant name	Value of the indices				Source	Income components uprated by the index
		2016	2017	2018	2019		
						Insurance Act [Закон за бюджета на държавното обществено осигуряване]	
Average pregnancy and childbirth benefit (BGN, per day)	$f_bmaprct	25.08	26.42	25.86	29.93	National Social Security Institute - 2007-17 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2017.pdf); National Social Security Institute - 2018 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/Bugjetni_pokazateli/Statisticheski%20otchet_2018.pdf); Data for 2019 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	bmaprct
Average benefit for bringing-up a small child (BGN, per day)	$f_bmaycct	15.28	15.51	17.14	18.1	National Social Security Institute - 2007-17 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2017.pdf); National Social Security Institute - 2018 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/Bugjetni_pokazateli/Statisticheski%20otchet_2018.pdf); Data for 2019 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	bmaycct
GDP (BGN, mln., Current prices)	$f_gdp	92635	98631	107925	115437	National Statistical Institute - 2001-18 (https://infostat.nsi.bg/infostat/pages/module.jsf?x_2=3&lang=en); Ministry of Finance - 2019 (https://www.minfin.bg/bg/866)	yiy
Average unemployment benefit (BGN, per month)	$f_bun	340.38	395.7	450.6	492.16	National Social Security Institute - 2007-17 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2017.pdf); National Social Security Institute - 2018 (https://www.parliament.bg/pub/cW/201906140308	bunct, bunot

Index	Constant name	Value of the indices				Source	Income components uprated by the index
		2016	2017	2018	2019		
Average contributory income from previous year (national level, BGN per month)	$f_yempv	726.4	770.07	821.51	889.9	32910-00-8_Otchet_za_izpalnenieto_na_byudzheta_na_DOO_2018.pdf); Data for 2019 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване] National Social Security Institute - 2007-19 (http://www.noi.bg/images/bg/users/infomaterials/aboutpensions/SPR-SOD97-2019_IV.pdf)	yempv, yempv_a
Average per hh income from property (BGN, per month)	$f_ypr	84	118	68	69	National Statistical Institute - 2007-18 (http://www.nsi.bg/en/content/5687/annual-data); 2019 amount projected by uprating with the HCPI	ypr, tpr, yprld, yprrt
Average contributory income all (national level, BGN per month)	$f_sicee_base	770.07	821.51	889.9	985	National Social Security Institute - 2007-18 (http://www.noi.bg/images/bg/users/infomaterials/aboutpensions/SPR-SOD97-2019_IV.pdf); Data for 2019 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	tsctber
Average contributory income for self-employed	$f_sicse_base	462.33	513.03	566.06	610	National Social Security Institute - 2007-17 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2017.pdf); Natonal Social Security Institute - 2018 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/Bugjetni_pokazateli/Statisticheski%20otchet_2018.pdf); for 2019, the figure for 2018 is set at the minimum threshold fixed by the Budget of the Public Social Insurance Act (Закон за бюджета на държавното обществено осигуряване)	tsctbse
General sickness benefit	$f_bhl	26.86	28.5	29.62	29.93	National Social Security Institute - 2007-17 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/Demografia_2017.pdf); National Social Security Institute - 2018	bhl

Index	Constant name	Value of the indices				Source	Income components uprated by the index
		2016	2017	2018	2019		
						([https://www.parliament.bg/pub/cW/201906140308 32910-00-8_Otchet_za_izpalnenieto_na_byudzheta_na_DOO _2018.pdf](https://www.parliament.bg/pub/cW/20190614030832910-00-8_Otchet_za_izpalnenieto_na_byudzheta_na_DOO_2018.pdf)); Data for 2019 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]	
Pension indexation (2007=100)	$f_pen_ind	2	2.07	2.19	2.31	National Social Security Institute, Annex I of Statistical Yearbook "Pensions" for the respective years (http://www.noi.bg/aboutbg/st/statistic/152-pensions); Data for 2018 is based on the Budget of the Public Social Insurance Act [Закон за бюджета на държавното обществено осигуряване]; Data for 2019 is based on the mid-term fiscal framework [Средносрочна бюджетна прогноза] (https://www.minfin.bg/bg/1322)	psuor, poamt, poa00, pdinc, pdi00
A factor of 1	$f_one	1	1	1	1	N/A	yds, tad, tis, tin, tscee, tscse, tscer, yag01, yag02, yag, poa, psu, pdi, ydses_o

Annex 2: Validation Tables

Table 4.2-Number of employed and unemployed

	EUROMOD (1)	External (2)				Ratio (1/2)			
	2016	2016	2017	2018	2019	2016	2017	2018	2019
Number of employed	2,973,858	3,016,800	3,150,300	3,152,700	n/a	0.99	0.94	0.94	N/A
Number of unemployed	551,940	247,200	206,900	173,300	n/a	2.23	2.67	3.18	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 2017 and income reference period 2016; EUROMOD micro-data based on EU-SILC

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

Income source	EUROMOD var name	EU-SILC (1)	External (2)				Ratio (1/2)			
		2016	2016	2017	2018	2019	2016	2017	2018	2019
Employment income	yem	3,418	2,576	2,584	2,606	n/a	1.327	1.323	1.312	n/a
Self-employed income	yse	713	887	941	916	n/a	0.803	0.758	0.778	n/a
Investment income	yiy	46	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other income	yot	46	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Private pensions	ypp	1	1	1	1	n/a	0.687	0.724	0.744	n/a
Private transfers received from other households	ypt	304	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Income from rent	ypr	580	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Private transfers paid to other households	xmp	92	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.

Table 4.4-Market incomes - Annual amounts (in mil.)

Income source	EUROMOD var name	EU-SILC (1)				External (2)				Ratio (1/2)			
		2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
Employment income	yem	31,620	34,352	37,322	40,563	33,803	37,265	39,471	n/a	0.935	0.922	0.946	N/A
Self-employed income	yse	6,519	7,083	7,695	8,363	5,240	7,006	n/a	n/a	1.244	1.011	N/A	N/A
Investment income	yiy	270	287	315	336	n/a	n/a	n/a	n/a	N/A	N/A	N/A	N/A
Other income	yot	55	60	65	71	n/a	n/a	n/a	n/a	N/A	N/A	N/A	N/A
Private pensions	ypp	3	3	3	3	4.4	4.4	5.3	n/a	0.635	0.654	0.557	N/A
Private transfers received from other households	ypt	731	794	862	937	n/a	n/a	n/a	n/a	N/A	N/A	N/A	N/A
Income from rent	ypr	545	765	441	447	n/a	n/a	n/a	n/a	N/A	N/A	N/A	N/A
Private transfers paid to other households	xmp	159	173	188	204	n/a	n/a	n/a	n/a	N/A	N/A	N/A	N/A
Average employment income		9,251	10,050	10,919	11,867	13,122	14,419	15,146	n/a	0.705	0.697	0.721	N/A

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

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)			
		2016	2016	2017	2018	2019	2016	2017	2018	2019
Education benefits	bed	6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sickness benefits	bhl	783	1,027	1,045	1,080	n/a	0.763	0.749	0.726	n/a
Family benefits	bfa	604	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social assistance	bsa	294	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Housing benefits	bho	0.33	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Unemployment benefits	bun	276	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Old-age pensions	poa	1,891	1,627	1,616	1,606	n/a	1.162	1.170	1.177	n/a
Disability pensions	pdi	428	443	444	444	n/a	0.966	0.964	0.964	n/a
Survivor pensions	psu	61	112	110	108	n/a	0.545	0.556	0.564	n/a
All pensions (counting individuals receiving any pension)		2,369	2,181	2,169	2,158	n/a	1.086	1.092	1.098	n/a
All pensions (counting pensions)		2,379	2,608	2,558	2,512	n/a	0.912	0.930	0.947	n/a

Sources: EU-SILC: collection period 2017 and income reference period 2016; 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&I=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)			
		2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
Education benefits	bed	4	4	4	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sickness benefits	bhl	477	506	526	532	454	509	557	571	1.051	0.995	0.945	0.932
Family benefits	bfa	894	915	944	979	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social assistance	bsa	153	156	160	163	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Housing benefits	bho	0.2	0.2	0.2	0.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Unemployment benefits	bun	434	504	574	627	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Old-age pensions	poa	8,229	8,506	8,773	9,179	6,864	n/a	n/a	n/a	1.199	n/a	n/a	n/a
Disability pensions	pdi	993	1,038	1,086	1,149	1,648	n/a	n/a	n/a	0.603	n/a	n/a	n/a
Survivor pensions	psu	140	147	154	163	278	n/a	n/a	n/a	0.503	n/a	n/a	n/a
All pensions		9,363	9,691	10,013	10,491	8,706	9,007	9,456	9,988	1.075	1.076	1.059	1.050

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

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&I=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 (1)				EU-SILC (2)	Ratio (1/2)	External (3)				Ratio (1/3)			
		2016	2017	2018	2019	2016	2016	2016	2017	2018	2019	2016	2017	2018	2019
Benefits															
Contributory unemployment benefit	bunct_s	167	170	170	170	173	0.97	88	79	73	76	1.90	2.15	2.34	2.24
Contributory maternity benefit for pregnancy and childbirth	bmaprct_s	49	49	49	49	49	1.00	108	110	110	n/a	0.45	0.44	0.44	n/a
Non-contributory benefit for raising a child under the age of 1	bmaprnc_s	22	22	22	22	17	1.26	16	15	14	14	1.33	1.47	1.62	1.53
Contributory maternity benefit for bringing up a child up to the age of 2	bmaycct_s	57	57	57	57	56	1.01	83	84	85	n/a	0.68	0.68	0.67	n/a
Means-tested child benefit	bchmt00_s	383	410	476	450	301	1.27	440	402	392	n/a	0.87	1.02	1.22	n/a
Child benefit for education	bchedyc_s	38	38	38	38	34	1.10	45	38	36	44	0.84	1.00	1.08	0.86
Birth grant	bchbals_s	36	36	36	36	25	1.48	68	66	65	64	0.54	0.55	0.56	0.57
Non means-tested child benefit for mothers in tertiary education	bchnm01_s	2	2	2	2	n/a	n/a	1	1	1	1	2.44	2.58	3.64	4.79
Non means-tested child benefit for twins	bchnm02_s	0	0	0	0	n/a	n/a	2	2	2	2	0.00	0.00	0.00	0.00
Monthly social assistance allowance (guaranteed minimum income)	bsa00_s	117	115	119	117	37	3.20	42	33	27	32	2.78	3.44	4.36	3.71
Targeted allowance for heating	bsaht_s	402	365	433	427	213	1.89	218	205	210	220	1.85	1.78	2.07	1.94
Social old age pension	poamt_s	6	5	6	6	6	1.05	3	3	4	n/a	1.92	1.49	1.72	n/a
Taxes and Social Insurance Contributions															
Income tax	tin_s	3,943	3,945	3,945	3,945	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	2,920	2,920	2,920	2,920	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	2,920	2,920	2,920	2,920	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	2,920	2,920	2,920	2,920	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	2,920	2,920	2,920	2,920	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	2,920	2,920	2,920	2,920	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	363	363	363	363	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	363	363	363	363	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	363	363	363	363	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	363	363	363	363	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	363	363	363	363	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employee SIC - health	tsceehl_s	2,920	2,920	2,920	2,920	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	2,920	2,920	2,920	2,920	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	2,920	2,920	2,920	2,920	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employee SIC - unemployment	tsceeui_s	2,920	2,920	2,920	2,920	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	713	713	713	713	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	713	713	713	713	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	2,920	2,920	2,920	2,920	n/a	n/a	2,379	2,400	n/a	n/a	1.23	1.22	n/a	n/a
Total credited SICs	ils_sicct	363	363	363	363	n/a	n/a	136	129	n/a	n/a	2.67	2.82	n/a	n/a
Total employer and credited SICs	ils_sicer + ils_sicct	3,283	3,283	3,283	3,283	3,090	1.06	2,515	2,529	n/a	n/a	1.31	1.30	n/a	n/a
Total employee SICs	ils_sicee	2,920	2,920	2,920	2,920	n/a	n/a	2,379	2,400	n/a	n/a	1.23	1.22	n/a	n/a
Total self-employed SICs	ils_sicse	713	713	713	713	n/a	n/a	250	251	n/a	n/a	2.85	2.84	n/a	n/a

Notes: In EUROMOD, the number of recipients equals the number of individuals (contributory benefits, income tax, SICs), families (means-tested child benefit, 2016 figure preliminary), 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 2017 and income reference period 2016; 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)			
		2016	2017	2018	2019	2016	2016	2016	2017	2018	2019	2016	2017	2018	2019
Benefits															
Contributory unemployment benefit	bunct_s	330	356	367	392	340	0.97	389	394	431	450	0.85	0.90	0.85	0.87
Contributory maternity benefit for pregnancy and childbirth	bmaprct_s	157	171	189	207	102	1.54	349	386	416	419	0.45	0.44	0.45	0.49
Non-contributory benefit for raising a child under the age of 1	bmaprnc_s	14	15	15	14	9	1.55	20	18	16	17	0.71	0.80	0.89	0.84
Contributory maternity benefit for bringing up a child up to the age of 2	bmaycct_s	123	123	138	138	100	1.23	156	156	177	167	0.79	0.79	0.78	0.83
Means-tested child benefit	bchmt00_s	323	342	391	373	209	1.54	354	311	314	314	0.91	1.10	1.25	1.19
Child benefit for education	bchedyc_s	9	10	10	9	9	1.10	11	10	9	11	0.85	1.00	1.08	0.86
Birth grant	bchbals_s	14	14	14	14	9	1.52	26	26	25	23	0.53	0.55	0.55	0.60
Non means-tested child benefit for mothers in tertiary education	bchnm01_s	7	7	7	7	n/a	n/a	2	1	1	1	4.53	4.79	7.26	4.79
Non means-tested child benefit for twins	bchnm02_s	0	0	0	0	n/a	n/a	3	2	2	3	0.00	0.00	0.00	0.00
Monthly social assistance allowance (guaranteed minimum income)	bsa00_s	117	117	145	143	41	2.88	43	33	32	36	2.71	3.51	4.48	3.95
Targeted allowance for heating	bsaht_s	145	132	158	160	94	1.55	115	75	99	121	1.26	1.76	1.60	1.32
Social old age pension	poamt_s	9	7	9	10	11	0.79	5	5	6	n/a	1.70	1.36	1.60	n/a
Taxes and Social Insurance Contributions															
Income tax	tin_s	3,176	3,456	3,710	4,025	n/a	n/a	2,661	2,989	n/a	n/a	1.19	1.16	n/a	n/a
Employer SIC - accident	tscerac_s	178	191	205	225	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	1,218	1,310	1,408	1,543	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	2,512	2,856	3,233	3,542	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	533	573	616	675	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	152	164	176	193	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	282	304	328	358	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	626	715	813	887	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	123	133	144	157	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	35	38	41	45	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	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	tsceehl_s	812	874	939	1,029	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	2,004	2,277	2,576	2,822	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	355	382	411	450	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Employee SIC - unemployment	tsceeui_s	101	109	117	129	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	422	450	480	529	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	938	1,058	1,189	1,309	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	4,592	5,094	5,639	6,178	n/a	n/a	4,437	5,124	n/a	n/a	1.04	0.99	n/a	n/a
Total credited SICs	ils_sicct	1,091	1,217	1,354	1,479	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	5,683	6,311	6,993	7,656	4,289	1.33	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total employee SICs	ils_sicee	3,273	3,642	4,043	4,429	n/a	n/a	2,489	2,833	n/a	n/a	1.31	1.29	n/a	n/a
Total self-employed SICs	ils_sicse	1,359	1,508	1,669	1,838	n/a	n/a	444	500	n/a	n/a	3.06	3.02	n/a	n/a

Sources : EUROMOD simulations; EU-SILC: collection period 2017 and income reference period 2016; 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, tsceeui, tscerac, tscerpi, tscersi, tscerui, tscsepi, ils_sicer, ils_sicee, ils_sicse, ils_sicct - NSSI (State Soc.Ins.Reports 2014,2015); tsceehl, tsceepi, tscerhl, tscsehl - 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)			
	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
D1	2.23	2.17	2.19	2.14	1.9	2.1			1.174	1.033		
D2	3.81	3.73	3.72	3.67	3.7	3.8			1.031	0.981		
D3	4.96	4.89	4.83	4.77	4.9	5.0			1.012	0.977		
D4	6.13	6.07	6.00	5.96	6.0	6.0			1.021	1.012		
D5	7.28	7.35	7.24	7.17	7.2	7.2			1.011	1.021		
D5	8.71	8.57	8.60	8.60	8.5	8.3			1.025	1.032		
D7	10.16	10.18	10.17	10.16	10.0	9.9			1.016	1.028		
D8	12.04	12.02	11.99	12.04	11.9	11.8			1.011	1.019		
D9	14.96	14.99	14.96	15.03	14.8	14.6			1.011	1.027		
D10	29.73	30.04	30.30	30.45	31.2	31.2			0.953	0.963		
Median	7,151	7,684	8,201	8,801	7,022	7,022			1.018	1.094		
Mean	9,041	9,707	10,380	11,151	8,993	9,082			1.005	1.069		
Gini	38.57	39.04	39.29	39.62	40.2	39.6			0.960	0.986		
S80/S20	7.39	7.64	7.66	7.82	8.2	7.7			0.902	0.997		

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)			
	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
40% median HDI												
Total	9.74	10.37	10.05	10.39	10.60	9.20			0.92	1.13		
Males	9.98	10.45	10.07	10.35	10.60	9.30			0.94	1.12		
Females	9.51	10.30	10.03	10.43	10.70	9.10			0.89	1.13		
50% median HDI												
Total	16.16	16.81	17.11	17.63	16.00	15.40			1.01	1.09		
Males	15.13	15.64	15.72	16.16	15.10	14.70			1.00	1.06		
Females	17.12	17.91	18.41	19.01	16.90	16.10			1.01	1.11		
60% median HDI												
Total	23.03	23.71	24.40	24.83	23.40	22.00			0.98	1.08		
Males	21.42	22.03	22.68	22.98	21.80	20.40			0.98	1.08		
Females	24.55	25.30	26.03	26.58	24.90	23.40			0.99	1.08		
70% median HDI												
Total	30.02	30.50	31.10	31.49	30.10	29.20			1.00	1.04		
Males	28.12	28.54	29.00	29.28	28.20	27.20			1.00	1.05		
Females	31.81	32.35	33.07	33.58	31.80	31.00			1.00	1.04		
60% median HDI												
0-15 years	27.34	28.00	27.84	28.00	29.10	26.80			0.94	1.04		
16-24 years	25.50	25.76	25.66	25.70	26.00	24.20			0.98	1.06		
25-49 years	18.10	18.43	18.29	18.27	19.10	18.00			0.95	1.02		
50-64 years	17.11	17.05	17.55	17.76	16.90	16.70			1.01	1.02		
65+ years	33.13	35.35	38.55	40.34	32.00	29.20			1.04	1.21		

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)			
	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
Equivalised household disposable income	43,260	46,409	49,555	53,212	43,639	46,829	50,037	53,752	1.009	1.009	1.010	1.010
Declared employment income	31,212	33,909	36,841	40,040	31,704	34,456	37,471	40,745	1.016	1.016	1.017	1.018
Income tax	3,176	3,456	3,710	4,025	3,219	3,504	3,765	4,087	1.014	1.014	1.015	1.015
Total employee SICs	3,273	3,642	4,043	4,429	3,330	3,707	4,121	4,516	1.017	1.018	1.019	1.020
Total employer SICs	4,592	5,094	5,639	6,178	4,672	5,186	5,748	6,299	1.017	1.018	1.019	1.020
Total self-employed SICs	1,359	1,508	1,669	1,838	1,359	1,508	1,669	1,838	1.000	1.000	1.000	1.000
Gini coefficient	38.6	39.0	39.3	39.6	38.1	38.5	38.8	39.1	0.987	0.987	0.986	0.986
Poverty rate	23.0	23.7	24.4	24.8	22.6	23.4	23.7	24.2	0.983	0.985	0.973	0.975

Sources: EUROMOD calculations with and without minimum wage

Annex 3: Policy effects in 2018-2019

In this section we analyse the direct tax-benefit policy effect on household disposable income in Bulgaria between 2018 and 2019. 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.

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 2019 tax-benefit policies (deflating the tax-benefit monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP = 1.0196) and net incomes simulated under 2018 policies, as a percentage of mean equivalised household disposable income in 2018. The total policy effect on household income is decomposed into different components representing main elements of the national tax-benefit system.

Table A3.1 shows that in 2018-19 household net incomes increased on average by 0.28% in real terms. Net incomes increased across the bottom nine deciles, with the biggest income gain of 2.1% and 1.2% concentrated in the 2nd and 3rd deciles, respectively. Households in the richest decile, on the other hand, saw their incomes falling in real terms by 0.5% on average. The income gains across the distribution were mainly due to changes to public pensions (+0.49% on average), while changes to the employee and self-employed Social Insurance Contributions (SIC) and to means-tested benefits led to income losses (of 0.13%, 0.09% and 0.04% on average, respectively). Changes to non-means-tested benefits and to direct taxes had a small positive effect on household incomes (+0.03% and +0.02%, respectively).

The income gains across most of the distribution were mainly the result of generous pension indexation (3.8% as of 1st of July 2018) and lump-sum pension supplements paid in December 2018 and April 2019 (BGN 40 paid to pensioners whose pensions are below the national poverty line of BGN 348 per month). Furthermore, the social old-age pension increased in nominal terms by 13.1% (from BGN 123.28 in 2018 to BGN 139.37 per month in 2019), well ahead of the price growth of 2%. 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 1.27% (1st decile), 2.15% (2nd decile), 1.31% (3rd decile) and 1.00% (4th decile). The effect for other deciles tends to decrease gradually as household disposable income rises.

In 2018-19 there were tiny income gains due to changes to non-means-tested benefits (of 0.03% 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 9.8% in nominal terms (from BGN 510 in 2018 to BGN 560 per month in 2019), 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.[1] 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 non-means-tested child benefit for mothers in tertiary education (bchnm01_s), as well as iv) the

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[1] These benefits are not simulated in EUROMOD and are based on reported receipt in the SILC micro-data. To capture the growth in the benefit amounts between the income reference period of the SILC data (i.e. 2016) to the policy year (2018/2019), 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.

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 losses for the bottom seven deciles. The rise in the heating allowance (bsaht_s) of 2.5% in nominal terms (from BGN 73.02 in 2018 to BGN 74.83 per month in 2019) could not compensate for the erosion in the real value of the remaining means-tested benefits. These benefits – the guaranteed minimum income (bsa00_s), 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.

Policy changes in social contributions reduced household disposable incomes at the top of the distribution, both in nominal and real terms. The level of the statutory maximum insurable income increased nominally by 15.4%, from BGN 2,400 in 2018 to BGN 3,000 per month in 2019. This led to an increase in SIC paid by higher-income employees and self-employed and so, to net income losses mainly for the richest two deciles. In particular, the top decile lost on average 0.4% of their income due to changes to employee SIC and 0.3% due to changes in self-employed SIC.

The increase in the maximum insurable income lowered the tax base, which is based on market incomes *after* deducting SIC, for the higher-income households. Hence, policy changes in direct taxes had low, yet positive, effect on the disposable incomes of the 9th and 10th decile (+0.01% and +0.07%, respectively). Noteworthy, this was despite the increase in tax liabilities as a result of the real drop in the level of tax deductions, which for the fifth consecutive year remained nominally frozen.

<div align="center">* * *</div>

To conclude, the overall effect of policy developments in 2018-19 was pro-poor, benefitting most households from the bottom of the income distribution; while lowering the income of the richest decile. The main driver of these effects is the generous pension indexation which influenced positively household incomes. However, due to the lack of statutory indexation, the income gains due to pension changes were lowered by the erosion in the real value of means-tested benefits. In addition, the large increase to the maximum insurable income led to a small decline in the disposable income of households at the top of income distribution.

Table A3.1. Policy effects in 2018-2019, using CPI-indexation, %

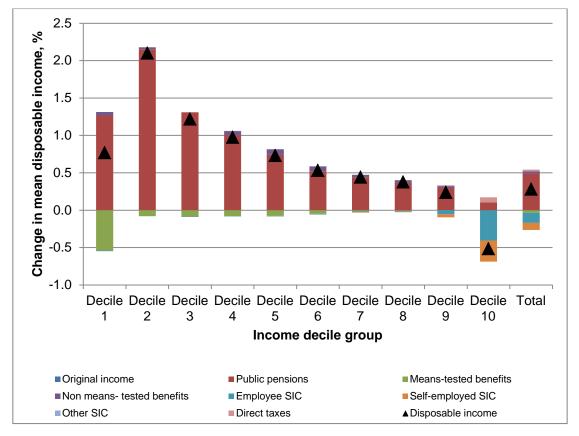| Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	1.27	-0.54	0.05	-0.01	0.00	0.00	0.00	0.77
2	0.00	2.15	-0.08	0.03	0.00	0.00	0.00	0.00	2.10
3	0.00	1.31	-0.08	0.00	0.00	0.00	0.00	0.00	1.22
4	0.00	1.00	-0.08	0.05	0.00	0.00	0.00	0.00	0.97
5	0.00	0.74	-0.08	0.07	-0.01	0.00	0.00	0.00	0.73
6	0.00	0.52	-0.05	0.06	-0.01	0.00	0.00	0.00	0.53
7	0.00	0.44	-0.02	0.03	-0.01	-0.01	0.00	0.00	0.44
8	0.00	0.36	0.00	0.04	-0.01	-0.01	0.00	0.00	0.38
9	0.00	0.30	0.00	0.03	-0.05	-0.04	0.00	0.01	0.24
10	0.00	0.10	0.00	0.00	-0.40	-0.28	0.00	0.07	-0.51
Total	0.00	0.49	-0.04	0.03	-0.13	-0.09	0.00	0.02	0.28

Figure A3.1. Policy effects in 2018-2019, using CPI-indexation, %