

EUROMOD

COUNTRY REPORT



BULGARIA (BG)

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

EUROMOD has been enlarged to cover 27 Member States and is updated to recent policy systems using data from the European Union Statistics on Income and Living Conditions (EU-SILC) as the input database, supported by DG-EMPL of the European Commission.

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

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The results presented in this report are derived using EUROMOD version G2.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

For more information, see: <http://www.iser.essex.ac.uk/research/euromod>

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The seven-year Programme targets all stakeholders who can help shape the development of appropriate and effective employment and social legislation and policies, across the EU-27, EFTA-EEA and EU candidate and pre-candidate countries.

PROGRESS mission is to strengthen the EU contribution in support of Member States' commitment. PROGRESS is instrumental in providing analysis and policy advice on PROGRESS policy areas; monitoring and reporting on the implementation of EU legislation and policies in PROGRESS policy areas; promoting policy transfer, learning and support among Member States on EU objectives and priorities; and relaying the views of the stakeholders and society at large

For more information see: <http://ec.europa.eu/progress>

The information contained in this publication does not necessarily reflect the position or opinion of the European Commission.

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1. BASIC INFORMATION

1.1 Basic 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 the Code on Social Insurance (Кодекс за социално осигуряване) the standard retirement age in 2009-2011 was 60 years of age for women and 63 years for men. Since 2012 the retirement age has increased with 4 months pro year. In 2012 the retirement age is 60 years and 4 months for women and 63 years and 4 months for men. In 2013 it is respectively 60 years and 8 months and 63 and 8 months. 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. The minimum contributory service in 2013 is 34 years and 8 months for women and 37 years and 8 months for men.

- If the condition on the minimum period of contributory service is not fulfilled, both women and men can retire at the age of 65 years and 8 months if they can prove that they have completed at least 15 years of contributory service.

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

Family: In principle, for the purposes of the family and social assistance allowance policies, “family” includes spouses and children who have not come of age, as well as children of legal age, who continue their studies until graduation from high school, but not after the age of 20, (born, fathered, adopted, stepchildren, except those who have marriage). However, for the purposes of determining the right to allowances granted under the Integration of People with Disabilities Act, the following definition of “family” is applied: “family” includes the spouses and children who have not come of age (born, fathered, adopted, stepchildren, except those who have marriage).

Child: The Child Protection Law 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 and Social Assistance

Act 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 Public Education Act, schooling up to the age of 16 is compulsory.

Twins: Family Allowances Act 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, “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 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: According to the Regulation on the Implementation of the Family Allowance Act, “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 (two definitions concerning persons with disability at different ages are used because persons below 16 years of age are not a part of the workforce, i.e. it is not necessary to assess their working capacity but the specific type and degree of their disability). The same definition is used in the Regulation on the Implementation of the Integration of People with Disabilities Act.

Orphan child: According to the Regulation on the Implementation of the Social Assistance Act, “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 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.

- 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 for 2009-2013 was 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 Personal Income Tax Act (Закон за данъка върху дохода 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.

- 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. There is only one exception and it concerns the indexation of pensions. According to the Social Insurance Code pensions granted until the 31st day of December of the preceding year shall be indexed on an annual basis as from the 1st day of

July by a percentage equal to the consumer price index for the last preceding calendar year. The rule should have been enforced as of 01.01.2012 but in fact it has never been applied due to budget restrictions and political decisions. For example, in 2013 (as of 01.04.) all pensions were indexed by a percentage between 2.2% and 9.8%:

- pensions granted before 31.12.2009 – 9.8%;
- pensions granted in 2010 – 8.8%;
- pensions granted in 2011 – 5.7%;
- pensions granted in 2012 – 2.2%.

That was a political decision which had to compensate the accrued inflation since the moment of the last pension indexation (01.07.2009) because in the course of that period pensions were not indexed due to budget restrictions. However, according to the former pension indexation rule, pensions granted before December 31st of the preceding year should be indexed as of 1st July each year with a percentage obtained as a sum of 50% of the CPI and 50% of the increase of the mean contributory income for the previous year. This rule was not applied in the period from 01.07.2009 to 31.03.2013.

- The absolute amounts of the family benefits are determined annually in the Law on the State Budget of the Republic of Bulgaria (Закон за държавния бюджет на Република България) so that they should not be lower than the levels in the previous year. Regarding the social assistance benefits, the benefit size is determined on the basis of the amount of the Guaranteed Minimum Income (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:

- The means-test includes all gross incomes of the family, taxable under the Income Taxes on Natural Persons Act, 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 this act and under the Child Protection Act.
- The supplement for care by assistant is not included in the means-test.
- 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 change in their material status.

Allowances under the Social Assistance Act:

- 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; 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 assessment is done annually. However, the recipients are obliged to inform public authorities and to declare any change in their material status.

Allowances under the Child Protection Act:

- 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; 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 change in their material status.

Allowances under the Integration of People with Disabilities Act:

- 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; 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; 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 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 9 months during*

the last 15 months before the termination of the employment. 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 (6 months for the period 2009-2010; 12 months in 2011; 18 months – since 01.01.2012).

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 (6 months for the period 2009-2010; 12 months in 2011; 18 months – since 01.01.2012).

1.2.3. Maternity benefits and family allowances

Cash benefit for pregnancy and childbirth (*Парично обезщетение при бременност и раждане*): it is a contributory 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. 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.

Cash benefit for bringing up a child up to age of 2 (*Парично обезщетение за отглеждане на малко дете*): it is a contributory 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 (if he uses the paid-leave for bringing up a child up to age 2 according to the regulations of Bulgarian Labour Code (*Кодекс на труда*)). The father has the same rights as the mother. The amount of the benefit is determined by the Public Social Insurance Budget Act.

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 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 or for bringing up a child up to age 2. 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 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.

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 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.

Lump sum pregnancy grant (*Еднократна парична помощ при бременност*): it is a non-contributory 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.

One-off allowance upon childbirth (*Еднократна парична помощ при раждане на дете*): it is a non-contributory 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 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 allowance introduced in 2009. It is a non-means tested allowance. 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 allowance introduced in 2009. It is a non-means tested allowance. Its amount is determined by the State Budget Act.

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 2009-2011 it was 60 years of age for women and 63 years for men. Since 2012 the retirement age has increased with 4 months pro year. In 2012 the retirement age is 60 years and 4 months for women and 63 years and 4 months for men. In 2013 it is respectively 60 years and 8 months and 63 and 8 months) and who can prove the minimum period of a contributory service (in 2009 - minimum 37 years for men and 34 years for women Since 2012 the period has increased with 4 months pro year. In 2012 the retirement period is 34 years and 4 months for women and 37 years and 4 months for men. In 2013 it is respectively 34 years and 8 months and 37 and 8 months). Persons having insufficient period of insurance can retire at age 65 years (2009-2011) if they have at least 15 years of insurance (the minimum age in this case is 65 years and 4 months in 2012 and 65 years and 8 months in 2013). 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). The reference (or assessment) period for calculating the pension includes only three consecutive years from the period before 1997, and all periods of insurance afterwards. The minimum amount of the 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.

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).

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).

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 Guaranteed Minimum Income 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).

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 01.09.2011 the amount of the allowance has been fixed at 26.5% of the pension (or the sum of pensions) of the deceased spouse (20% until 31.08.2011). 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. There are two types of such funds – Universal Pension Funds (the insurance is mandatory only for people born after 31.12.1959) and Professional Pension Funds (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 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 70.99 %; (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 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 70.99 %; (3) lump-sum payment or payment by installments of amounts to the survivors of a deceased insured person or of a pensioner.

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. Social insurance 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” (GMI). The amount of the GMI is determined by the Council of Ministers. It is BGN 65 per month since 2009.

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 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.

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.

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 450 per month. 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 (SIS) is compulsory for all individuals having earnings from at least one source of taxable income. The Social insurance contributions (SIC) are to be split between employer and employee. There are three different classes (Labour categories) of contribution according to the level of professional risk. The vast majority of hired employment in Bulgaria is utilized under the so called “III Category” Labour Contract. For this category the proportion of SIC is 57.5% for the employer and 42.5% for the employee. In the same time, for the public employee (civil servants, military, judicial system) the total amount of compulsory SIC is covered by the state.

1.3.1. Pension insurance (Фонд „Пенсионно осигуряване“). Bulgarian pension insurance is built on the so called “three pillar” system. The first pillar – called “State Pension Insurance” – is the public PAYG pension insurance. The second pillar is the so called “Supplementary Mandatory Pension Insurance” /SMPI/. It is a fund-based compulsory pension insurance managed by private pension funds. In the second pillar there are two types of pension funds – “Universal” (for all born after 31.12.1959) and “Professional” (only for a narrow set of professions). 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 from the IRA at her retirement. The third pillar is the “Voluntary Pension Insurance” which is managed also by private funds and the respective SIC are also allocated to IRAs at these private funds.

1.3.2. Common diseases and maternity insurance (Фонд „Общо заболяване и майчинство“) This SIC is used to provide eligibility of the employee to benefits in cases of general illness or maternity. An exclusion of this duty is applied if the person has been hired for a period shorter than 5 workdays (or 40 hours) during a particular month.

1.3.3. Unemployment insurance (Фонд „Безработица“) This contribution is used to provide eligibility of the employee to benefits in cases of unemployment spells. Exclusions of this duty are applied if the person has been actually hired for a period shorter than 5 workdays. Also, the self-employed are not obliged to contribute to this fund.

1.3.4. 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. If a pensioner continues to work after retirement under a labour contract (or other contractual hired work) or as self-employed, **only the health insurance element** and no other SIC is still due. 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. The interests on deposits in commercial banks were exempted in the period 2009-2012. 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 2009-2013 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 2009-2013 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 2009-2013 simulated by EUROMOD covers only those instruments that have been identified as feasible for simulation in

the framework of EU-SILC 2010 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 5).

Table 2.1 Simulation of benefits in EUROMOD

Benefit	Variable name(s)	Treatment in EUROMOD					Why not fully simulated?
		2009	2010	2011	2012	2013	
Unemployment benefit	<i>bunct_s</i>	PS	PS	PS	PS	PS	No data on contribution history; eligibility partially simulated based on observed receipt of the benefit
Benefit for long-term unemployment		E					
Cash benefit for sickness due to general disease		IA	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	IA	No data on contribution history and events occurrence
Cash benefit for the quarantine		E	E	E	E	E	
Cash benefit for sanatorium treatment		E	E	E	E	E	
Cash benefit for caring for a sick family member		E	E	E	E	E	
Cash benefit for reassignment		E	E	E	E	E	
Cash benefit for pregnancy and childbirth	<i>bchba_s</i>	PS	PS	PS	PS	PS	No data on contribution history; eligibility partially simulated based on observed receipt of the benefit
Cash benefit for bringing up child up to age of 2	<i>bmact_s</i>	PS	PS	PS	PS	PS	No data on contribution history; eligibility partially simulated based on observed receipt of the benefit
Monthly allowance for bringing up child up to age of 1	<i>bmanc_s</i>	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	<i>bchmt_s</i>	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	IA	No data on individual disability level
Lump sum pregnancy grant		IA	IA	IA	IA	IA	
Lump sum allowance upon childbirth	<i>bchbals_s</i>	S	S	S	S	S	
Targeted allowance for pupils	<i>bched_s</i>	S	S	S	S	S	
Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	<i>bchnm01_s</i>	S	S	S	S	S	
Lump sum allowance for raising twins until 1 year of age	<i>bchnm02_s</i>	S	S	S	S	S	
Pension for insurance and old age /IOA/		IA	IA	IA	IA	IA	No data on contribution history
Pension for invalidity due to general sickness		IA	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	IA	No data on contribution history and incapacity occurrence

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Social old-age pension	<i>poamt_s</i>	S	S	S	S	S	
Social invalidity pension		IA	IA	IA	IA	IA	No data on individual disability level
Survivor's pension		IA	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	IA	No data on the loss of family members and their contribution history
Pension from voluntary pension insurance		I	I	I	I	I	No data on contribution history
Monthly social assistance allowance	<i>bsa00_s</i>	S	S	S	S	S	
Targeted allowance for heating	<i>bsaht_s</i>	S	S	S	S	S	
Monthly allowance for social integration		IA	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	IA	No information on special purchases or other relevant conditions
Supplement for care by assistant		IA	IA	IA	IA	IA	No data on explicit medical certification of a person in need of such care
Scholarships		IA	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

Benefit	Treatment in EUROMOD					Why not fully simulated?
	2009	2010	2011	2012	2013	
Employers SIC	S	S	S	S	S	Only IIIrd category employees; no data necessary to identify the three different categories
Employees SIC	S	S	S	S	S	Only IIIrd category employees; no data necessary to identify the three different categories
Self-employed SIC	S	S	S	S	S	Note: minimum compulsory insurance assumed
Health insurance contributions	S	S	S	S	S	
Personal income tax	S	S	S	S	S	Note: “patent” tax on small businesses excluded
Motor vehicle tax	E	E	E	E	E	No relevant characteristics of the vehicles owned
Real estate tax	E	E	E	E	E	No relevant characteristics of the real estate assets owned
Value added tax	E	E	E	E	E	Out of scope of the model; no data on consumption
Excise taxes	E	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, 2009-2013

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. Monthly allowance for bringing up child up to age of 1	Yes	LFAC
11. Monthly child allowance for bringing up a child until completion of secondary education but not longer than 20 years of age	Yes	LFAC
12. 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	LFAC
13. Lump sum pregnancy grant	Yes	LFAC
14. Lump sum allowance upon childbirth	No	LFAC
15. Targeted allowance for pupils	Yes	LFAC
16. Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	No	LFAC
17. Lump sum allowance for raising twins until 1 year of age	No	LFAC
18. Pension for insurance and old age	No	CSI
19. Pension for invalidity due to general sickness	No	CSI
20. Pension for invalidity due to employment injury or occupational disease	No	CSI
21. Social old-age pension	Yes	CSI
22. Social invalidity pension	No	CSI
23. Survivor's pension	No	CSI
24. Pension supplement in case of deceased spouse	No	CSI
25. Pension from voluntary pension insurance	No	CSI
26. Monthly social assistance allowance	Yes	LSA
27. Targeted allowance for heating	Yes	LSA
28. Monthly allowance for social integration	No	LIPD
29. Targeted financial support for buying and repairing of supportive means, devices, equipment and medical products	No	LIPD
30. Supplement for care by assistant	No	CSI
31. Scholarships	No	Reg.№ 90 & 207*

Abbreviations:

- CSI – Code on Social Insurance (Кодекс за социално осигуряване)
- LFAC – Law on Family Allowances for Children (Закон за семейни помощи за деца)
- LSA – Law on Social Assistance (Закон за социално подпомагане)
- LIPD – Law on Integration of Persons with Disabilities (Закон за интеграция на хората с увреждания)
- * 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 Law on Family Allowances for Children /LFAC/. 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 Law on Social Assistance /LSA/. The benefits provided under LSA are subjected to the same rule as those under LFAC, i.e. the scope of the income tests excludes any benefit received under LSA.

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.

2.2 Order of simulation and interdependencies

Table 2.4 EUROMOD Spine: order of simulation, 2009-2013

Policy	Description	Main output
Uprate_bg	Uprating factors	
ConstDef_bg	Definition of constants used in the simulation	
Ildef_bg	Definition of income lists	
Tundef_bg	Definition of tax and benefit units	
yem_bg	Minimum wage (<i>switched off in the baseline</i>)	yem_s
neg_bg	Recoding negative values of self-employment income to 0	
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	
tscer_bg	Employers social insurance contributions	ils_sicer
tscee_bg	Employees social insurance contributions	ils_sicee
tscese_bg	Self-employed social insurance contributions	ils_sicse
tin_bg	Personal income tax	tin_s
bunct_bg	Unemployment benefit	bunct_s
bmact_bg	Contributory maternity benefit: cash benefit for bringing up child up to age 2	bmact_s
bchba_bg	Contributory maternity benefit: cash benefit for pregnancy and childbirth	bchba_s
bsa00_bg	Social assistance - guaranteed minimum income (<i>1st run</i>)	bsa00_s
bsaht_bg	Means tested benefit for heating (<i>1st run</i>)	bsaht_s
bchmt_bg	Child benefit means-tested (Monthly child allowance for bringing up a child until completion of secondary education but not longer than 20 years of age)	bchmt_s
bched_bg	Targeted allowance for pupils	bched_s
bchbals_bg	Birth grant (also for adoption)	bchbals_s
bmanc_bg	Benefit for raising a child under the age of 1, non-contributory	bmanc_s
bchnm01_bg	Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students	bchnm01_s
bchnm02_bg	Lump sum allowance for raising twins until 1 year of age	bchnm02_s
poamt_bg	Social old-age pension	poamt_s
bsa00_bg	Social assistance - guaranteed minimum income (<i>2nd run</i>)	bsa00_s
bsaht_bg	Means tested benefit for heating (<i>2nd run</i>)	bsaht_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).

Several structural changes can be outlined for the period 2009-2013

- The mechanism for calculating the unemployment benefit has been altered since 01.01.2009: the minimum and maximum amount of the benefit is calculated per day and not per month. This regime was abolished since 01.07.2010.

- Since the beginning of 2013 incomes from interest on deposits have been included in the annual tax base. These incomes are taxed automatically and paid directly from the bank account (there is no information about incomes from interest on deposits in the tax declaration) and the incomes and the taxes cannot be simulated

- The monthly payment for uninsured people only for health insurance is 10.40 BGN in 2009 and 16.80 BGN in 2010-2013

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 fact, no social transfer is subjected to SIC and PIT so income taxation could be positioned at the start of the policy spine. Employee’s SIC are simulated before PIT since they are deductible from the taxable income assessed for PIT.

2.3 Policy switches

The policy TCA_bg corrects the policy simulations for tax evasion. TCA_bg is a switch policy, i.e. the model can be run both with and without the correction taking place or using EUROMOD language, with both the correction being switched on and off. In the baseline, the policy is switched on in all policy years; hence, the results are corrected for tax evasion. For detailed explanation on how the correction is carried out, see section 3.3.4.

2.4 Social benefits

2.4.1 Unemployment benefit (*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 9 months* amid the last 15 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 (9 months until 31.12.2010; 18 months in 2011; 24 months – since 01.01.2012) . The amount of the benefit shall not be lower than a certain amount (BGN 7.2 per day or approximately 151.20 per month in 2013):

Monthly thresholds for the unemployment benefit:	2009	01.01-30.06.2010	01.07.-31.12.2010	2011	2012	2013
Minimum (BGN)	126	126	126	151.20	151.20	151.20
Maximum (BGN)	252	252	N/A	N/A	N/A	N/A

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:

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

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). For those not observed to receive the unemployment benefit in SILC, previous earnings are assumed to be equal to either current earnings or to estimated income from employment.

2.4.2 Contributory maternity benefit: Cash benefit for pregnancy and childbirth (*bchba_s*)

- **Definition**

The unit of analysis is the family (*tu_family_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	2009	2010	2011	2012	2013
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 (12 months for the period 2009-2010; 18 months in 2011; 24 months – since 01.01.2012). The amount of the benefit should not be lower than the statutory minimum wage and not higher than the person's net wage:

Thresholds	2009	2010	2011	2012	2013
------------	------	------	------	------	------

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	2009	2010	2011	2012	2013
Payment period	410 days (45/365)				

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). For those not observed to receive the benefit in SILC, previous earnings are assumed to be equal to either current earnings or to an estimated income from employment.

2.4.3 Lump sum allowance upon childbirth (*bchbals_s*)

- **Definition**

The unit of analysis is the family (*tu_family_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)	2009	2010	2011	2012	2013
First child	250	250	250	250	250
Second child	600	600	600	600	600
Third child	200	200	200	200	200
Fourth and each subsequent child	200	200	200	200	200

2.4.4 Cash benefit for bringing up child up to age 2 (*bmact_s*)

- **Definition**

The unit of analysis is the family (*tu_family_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	2009	2010	2011	2012	2013
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**

The amount of the benefit is equal to the minimum monthly wage:

Year	2009	2010	2011	2012	2013
Benefit amount (BGN)	240	240	240	240	240

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

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).

2.4.5 Lump sum allowance for raising a child until 1 year of age for mothers who are regular tertiary students (*bchnm01_s*)

- **Definition**

The unit of analysis is the family (*tu_family_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.

- **Income test**

Not applicable

- **Benefit amount**

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

Year	2009	2010	2011	2012	2013
Benefit amount (BGN)	2 880	2 880	2 880	2 880	2 880

2.4.6 Lump sum allowance for raising twins until 1 year of age (*bchnm02_s*)

- **Definition**

The unit of analysis is the family (*tu_family_bg*).

- **Eligibility conditions**

This is a non-contributory lump sum benefit for a mother of twins up to age 1. The benefit 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	2009	2010	2011	2012	2013
Benefit amount (BGN)	2 400	2 400	2 400	2 400	2 400

2.4.7 Targeted allowance for pupils (*bched_s*)

- **Definition**

The unit of analysis is the family (*tu_family_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	2009	2010	2011	2012	2013
Upper monthly threshold (BGN)	350	350	350	350	350

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 /IOA/;
- 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 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 LFAC:

- 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.

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

(3) Supplement for care by assistant

(4) Monthly child allowance for bringing up a permanently disabled child

- **Benefit amount**

Year	2009	2010	2011	2012	2013
Lump-sum amount (BGN)	150	150	150	150	150

2.4.8 Monthly allowance for bringing up child up to age of 1 (*bmanc_s*)

- **Definition**

The unit of analysis is the family (*tu_family_bg*).

- **Eligibility conditions**

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

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

- **Income test**

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

Year	2009	2010	2011	2012	2013
Upper monthly threshold (BGN)	350	350	350	350	350

The components included in the income test are the same as for benefit 2.3.7.

NB! One change is necessary in the “Exceptions” list: the current benefit (monthly allowance for bringing up child up to age of 1) must be replaced with “targeted allowance for pupils”.

- **Benefit amount**

The monthly amount of the benefit is BGN 100 and is a constant for the period 2007-2013. It is paid each month until the completion of age 1 of the child.

2.4.9 Monthly child allowance for bringing up a child until completion of secondary education (*bchmt_s*)

- **Definition**

The unit of analysis is the family (*tu_family_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 education).

- **Income test**

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

Year	2009	2010	2011	2012	2013
Upper monthly threshold (BGN)	350	350	350	350	350

The components included in the income test are the same as for benefit 2.3.7.

NB! One change is necessary in the “Exceptions” list: the current benefit (monthly child allowance for bringing up a child until completion of secondary education) must be replaced with “targeted allowance for pupils”.

- **Benefit amount**

Year	2009	2010	2011	2012	2013
First child	35	35	35	35	35
Second child	35	35	35	35	35
Third child	35	35	35	35	35
Twins (per child)	52.5	52.5	52.5	52.5	52.5
Permanently disabled child	70	70	70	70	70

Note: Figures are in BGN, per month.

The amount of the allowance for permanently disabled child is twice the standard amount of the benefit. The amount of the allowance for twins is 50% higher than the standard amount of the benefit (per each child).

EUROMOD Note: Special case: the allowance for a child with permanent disability (i.e. with reduced capacity level of 50% or more) is granted without means-testing.

2.4.10 Social old-age pension (*poamt_s*)

- **Definition**

The unit of analysis is the household (*tu_household_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	2009	2010	2011	2012	2013
Monthly GMI (BGN)	65	65	65	65	65
Annual GMI (BGN)	780	780	780	780	780

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 /IOA/;
 - 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.
- (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	2009	2010	2011	2012	2013
Social old-age pension	96.70	100.86	100.86	100.86	107.72

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

2.4.11 Targeted allowance for heating (*bsaht_s*)

- ***Definition***

The unit of analysis is the household (*tu_household_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	2009	2010-2012	2013
person living alone	210.0%	210.0%	233.08%
person with reduced working capacity of 50% or more living alone	249.6%	249.6%	272.68%
orphan child	196.8%	196.8%	219.88%
lone parent with one or more children aged under 18 (under 20 for children attending school)	249.6%	249.6%	272.68%
two spouses living together (per each spouse)	144.0%	144.0%	167.08%
child aged between 0-18 (up to 20 when studying)	157.2%	157.2%	180.28%
child with permanent disabilities	196.8%	196.8%	219.88%
person cohabiting with other persons	201.6%	201.6%	224.68%
pregnant woman 45 days before the term	183.6%	183.6%	206.68%
parent taking care of a child under age of 3	183.6%	183.6%	206.68%
person over the age of 70	183.6%	183.6%	206.68%
person over the age of 75 living alone	288.0%	288.0%	297.88%
person over the age of 65 living alone	274.8%	274.8%	311.08%
person with reduced working capacity of 50% or more	183.6%	183.6%	206.68%
person with reduced working capacity of 70% or more	223.2%	223.2%	246.28%
person with reduced working capacity of 90% or more	274.8%	274.8%	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 2.3.10.

Exceptions:

- (1) All benefits granted under LSA: monthly social assistance allowance.
- (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**

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 November to March). It is paid for each month of the heating season. The amount of the allowance is the same for all heating types.

	2009/2010 heating season	2010/2011 heating season	2011/2012 heating season	2012/2013 heating season	2013/2014 heating season
Benefit amount	55.23	56.86	57.92	65.72	65.72

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

2.4.12 Monthly social assistance allowance (*bsa00_s*)

- **Definition**

The unit of analysis is the household (*tu_household_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:

- adults up to 30 years of age, living with their parents, whose income exceeds 3 times the amount of GMI, unless these adults and/or their parents are not disabled persons;
- 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 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.

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	2009	2010	2011	2012	2013
person over the age of 75 living alone	165.0%	165.0%	165.0%	165.0%	165.0%
person over the age of 65 living alone	140.0%	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%	100.0%
person under the age of 65 living alone	73.0%	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%	66.0%
two spouses living together (per each spouse)	66.0%	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%	100.0%
person with reduced working capacity of 70% or more	125.0%	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%	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%	30.0%	30.0%	30.0%	30.0%
child aged between 7 and 16 and not attending school	20.0%	20.0%	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	N/A	N/A	30.0%	30.0%	30.0%
orphan or child accommodated in a host family	100.0%	100.0%	100.0%	100.0%	100.0%

child with permanent disability	100.0%	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%	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%	100.0%
pregnant woman 45 days before the term	100.0%	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%	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 2.3.10.

Exceptions:

- (1) All benefits granted under LSA: 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***

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

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

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

$$\text{Benefit} = \text{DMI} - \text{incomes} = 187.85 - 0 = 187.85$$

2.5 Social contributions

Depending on the occupation and the risk undertaken at work individuals may refer to I-st, II-nd or III-rd 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 III-rd labour category. This assumption is based on the fact that the vast majority of employees (over 95%) are hired under III-rd category labour regime. 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 II-nd and especially on I-st category are rarely met in the population of employed.

The social insurance and personal income taxation systems have not undergone substantial structural changes for the period after 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

• *Liability to contributions*

- The employee social contributions for Pension funds are compulsory paid by all employees hired on a Labour Contract and on Civil Contract.
- The employee social contributions for General Sickness and Maternity Fund and Unemployment Fund are compulsory paid by all employees hired on a Labour Contract and voluntary paid by on Civil Contract.
- For the public employee (civil servants, military, judicial system) the total amounts of compulsory SIC is covered by the state.
- If the employee is simultaneously in receipt of IOA pension then she has a duty only for health insurance

• *Income base used to calculate contributions*

- CI includes all gross incomes from hired employment on Labour Contract and Civil Contract received during the month.
- There is a minimum threshold for the monthly contributory base. The threshold varies by profession of the employee and economical activity of the company where the employee is hired.
- There is a maximum threshold (table 2.5.1) for the monthly contributory base when the compulsory SIC are assessed – they are not due on the fraction of income beyond the threshold.

Table 2.5.1 Social insurance contribution rates for employees at Labour Contract

	2009	2010	2011	2012	2013
1. Pension Fund					
1.a. PF rate for persons born before 1960	8.0	7.1	7.9	7.9	7.9
1.b. PF rate for persons born after 1959	5.8	4.9	5.7	5.7	5.7
2. Supplementary Mandatory Pension Insurance Fund					
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	2.2
3. General Sickness and Maternity Fund	1.4	1.4	1.4	1.4	1.4
4. Unemployment Fund	0.4	0.4	0.4	0.4	0.4
5. Work Injury and Occupational Disease Fund	–	–	–	–	–
Total	9.8	8.9	9.7	9.7	9.7
Upper threshold for the contributory income (BGN)	2000	2000	2000	2000	2200
Minimum wage (BGN)	220	240	240/270*	270/290*	310
				*	
Average contributory income (BGN)	555	570	594	618	638***

Notes: * from 1.01.2011 to 31.08.2011 – 240lv, from 1.09.2011 to 31.12.2011 – 270lv
 ** from 1.01.2012 to 30.04.2012 – 270lv, from 1.05.2012 to 31.12.2012 – 290lv
 ***projected amount in the budget of NSSI

(http://www.kik-info.com/useful_info/mrz.php)<http://balans.bg/2093-promeni-v-osigurjavaneto-prez-2012-godina/>)

- **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. So, we assume that the minimum level of the contributory **income is the national minimum wage**. However, employers and employees with earnings below the minimum wage do not pay any SIC.
- 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 employers' SIC revenue from this source is about 1% of total revenues from Labour and Civil Contracts (NSSI Yearbooks 2009-2012).

2.5.2 Employer social contributions

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

Table 2.5.2a

Labour Category III	2009	2010	2011	2012	2013
1. Pension Fund					
1.a. PF rate for persons born before 1960	10.0	8.9	9.9	9.9	9.9
1.b. PF rate for persons born after 1959	7.2	6.1	7.1	7.1	7.1
2. Supplementary Mandatory Pension Insurance 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	2.8
3. General Sickness and Maternity Fund	2.1	2.1	2.1	2.1	2.1
4. Unemployment Fund	0.6	0.6	0.6	0.6	0.6
5. Work Injury and Occupational Disease Fund	0.7*	0.7*	0.7*	0.7*	0.7*
Total	13.4	12.3	13.3	13.3	13.3

• *EUROMOD notes*

- The exact WIOD 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 III-rd labour category. That is why for the simulation of the policy “SIC paid by employers” only the III-rd category contributory rates are considered. Table 2.5.2.1b shows the SIC for I-st and II-nd labour categories.
- Contributions for hired employment on Civil Contract are not simulated in 2009-2013 policy systems (see EUROMOD Note in 2.5.1).

Table 2.5.2b SIC rates for employers-insurers on Labour Contract – Ist and II-nd category

Labour Category II	2009	2010	2011	2012	2013
1. Pension Fund					
1.a. PF rate for persons born before 1960	13.0	11.9	12.9	12.9	12.9
1.b. PF rate for persons born after 1959	10.2	9.1	10.1	10.1	10.1
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	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	7.0
UPF (Universal Pension Fund)	2.8	2.8	2.8	2.8	2.8
3. General Sickness and Maternity Fund	2.1	2.1	2.1	2.1	2.1
4. Unemployment Fund	0.6	0.6	0.6	0.6	0.6
5. Work Injury and Occupational Disease Fund	0.7*	0.7*	0.7*	0.7*	0.7*
Total	23.4	22.3	23.3	23.3	23.3
Labour Category I	2009	2010	2011	2012	2013
1. Pension Fund					
1.a. PF rate for persons born before 1960	13.0	11.9	12.9	12.9	12.9
1.b. PF rate for persons born after 1959	10.2	9.1	10.1	10.1	10.1
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	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	12.0
UPF (Universal Pension Fund)	2.8	2.8	2.8	2.8	2.8
3. General Sickness and Maternity Fund	2.1	2.1	2.1	2.1	2.1
4. Unemployment Fund	0.6	0.6	0.6	0.6	0.6
5. Work Injury and Occupational Disease Fund	0.7*	0.7*	0.7*	0.7*	0.7*
Total	28.4	27.3	28.3	28.3	28.3

2.5.3 Self-employed social contributions

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 2.4.3.

- 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. However, it is assumed that the contributory income for each self-employed is equal to her income from self-employment.
- 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).

Table 2.5.3 Social insurance contribution rates for self-employed

	2009	2010	2011	2012	2013
1. Pension Fund	18%	16%	17.8%	17.8%	17.8%
Thresholds for the contributory base for self-employed:					
Lower threshold	220	240	260	420	420
Upper threshold	1400	2000	2000	2000	2200
Lower threshold for the contributory base for registered agricultural or tobacco producers:					
If this is their only source of income (25%)	65				
If there are also other sources (50%)	130	240	240	240	240

Note: * The minimum threshold depends on the taxable income for the previous year: 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 420lv.

EUROMOD Note: Simulation of SIC on income from self-employment is performed using a contributory base recorded by the national SILC survey. 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

- 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 budget contributes to the health fund for the pensioners, registered unemployed, individuals under 18 years, students in the tertiary education and public employees
- The unregistered unemployed, economically inactive and other uninsured people have the duty to pay health insurance contributions
- If a pensioner continues to work after retirement **only the health insurance element** (and no other SIC) is still due.
- The health insurance total rate is **8%** for the period 2009-2013
- By labour contract or other contractual hired work the rate is split into 4.8% due to the employers and 3.2% due to the employees
- The minimum and maximum thresholds for the contributory income for the health insurances are the same as those for other social insurances (table 2.5.1 for employee and 2.5.3 for self-employed)
- The monthly payment for uninsured people only for health insurance is 10.40 BGN in 2009 and 16.80 BGN in 2010-2013

2.5.5 Credited insurance contributions

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 Public Servants

	2009	2010	2011	2012	2013
1. Pension Fund					
1.a. PF rate for persons born before 1960	18	16	17.8	17.8	17.8
1.b. PF rate for persons born after 1959	13	11	12.8	12.8	12.8
2. Supplementary Mandatory Pension Insurance Fund					
2.a. SMPIF rate for persons born before 1960	–	–			
2.b. SMPIF rate for persons born after 1959	5	5	5	5	5
3. General Sickness and Maternity Fund	3.5	3.5	3.5	3.5	3.5
4. Unemployment Fund	1	1	1	1	1
5. Work Injury and Occupational Disease Fund	0.7	0.7	0.7	0.7	0.7
6. Health insurance	8	8	8	8	8
Total	31.2	29.2	31.0	31.0	31.0
Upper threshold for the contributory income	2000	2000	2000	2000	2200

EUROMOD Note: Identification of such employees is informed by the national SILC survey concerning the type of hired employment contracts on the main job as declared by the individuals for the respective income year.

2.6 Personal income tax (*tin_bg*)

2.6.1 Tax unit

- PIT system in Bulgaria in 2009-2013 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 Public 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) income from interest on deposits in local commercial banks were exempted in the period 2009-2012. Since the beginning of 2013 incomes from interest 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;

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

	2009	2010	2011	2012	2013
1. Earnings from Labour Contract					
Gross earnings					
SIC	9.8%	8.9%	9.70%	9.70%	9.70%
HIC	3.2%	3.2%	3.20%	3.20%	3.20%
Tax base = Gross earnings – SIC – HIC					
2. Earnings from Civil Contract					2013*
Gross earnings					
Normatively recognised expenditures (NRE)	25%	25%	25%	25%	25%
Taxable income = Gross earnings – NRE					
SIC	8.0%	7.1%	7.90%	7.90%	7.90%
HIC	3.2%	3.2%	3.20%	3.20%	3.20%
Tax base = Taxable income – SIC – HIC					
3. Income from self-employment as sole entrepreneur					2013*
Gross self-employment earnings					
SIC	18%	16%	17.80%	17.80%	17.80%
HIC	8%	8%	8%	8%	8%
Tax base = Gross earnings – SIC – HIC					
4. Other sources of self-employment income					2013*
Gross self-employment earnings from each source					
NRE (separate by income source)					
• Freelance professions	25%	25%	25%	25%	25%
• Agricultural activity (processed products)	*	60%	40-60%	40-60%	40-60%
• Forestry and fishery activity	40%	40%	40%	40%	40%
• Income from crafts, trade with decorative plants	40%	40%	40%	40%	40%
• Artistic/performance activities	40%	40%	40%	40%	40%
• Income from authorship rights (scientific/art products)	40%	40%	40%	40%	40%
Taxable income = Gross Earnings – NRE					
SIC	18%	16%	17.8%	17.8%	17.8%
HIC	8%	8%	8%	8%	8%
Tax base = Taxable income – SIC – HIC					
5. Incomes from renting (real estate, non-financial assets)					2013*
Gross income					
NRE	10%	10%	10%	10%	10%
Taxable income = Gross income – NRE					
SIC	–	–	–	–	–
HIC	8%	8%	8%	8%	8%
Tax base = Taxable income – SIC – HIC					

*preliminary unpublished information

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)	2009	2010	2011	2012	2013*
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	up to 7920
2. Deduction for voluntary social, unemployment, health and life insurance (max.% from the consolidated tax base)	10%	10%	10%	10%	10%
3. Standard child deduction					
For 1 child (BGN)	–	–	–	–	–
For 2 children (BGN)	–	–	–	–	–
For 3 and more children (BGN)	–	–	–	–	–
4. Deduction of bequests (max.% from the consolidated tax base)					
• For social and health institutions, Red Cross, NGOs	5%	5%	5%	5%	5%
• For sponsoring cultural events or products	15%	15%	15%	15%	15%
• For the National Fund “Children’s Health”	50%	50%	50%	50%	50%

*preliminary unpublished information

2.6.4 Tax base

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).

2.6.5 Tax schedule

The tax rate for 2009-2013 is flat: **10% of the final consolidated tax base**

3. DATA

3.1 General description

The Bulgarian dataset for EUROMOD 2009-2013 simulation is derived from the EU-SILC standard UDB 2010 (income reference year 2009). It contains the data from wave 2010 of the Bulgarian SILC survey which is implemented as a 4-year rotating household panel survey. The field work for the observation usually takes place in the period May-July each year.

The 2010 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_2010_a1
Original name	Статистика на доходите и условията на живот, 2010 (EU-SILC, version UDB_c10D_ver 2010-1 from 01-03-12)
Provider	National Statistical Institute of Bulgaria
Year of collection	2010
Period of collection	May-July 2010
Income reference period	Year 2009
Unit of assessment	Household ¹
Sample size	6,162 HH 16,291 IND
Response rate	86.1%

Notes:

¹ “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.

A database compiled during the 2001 Population and Dwellings Census in Bulgaria was used as a sampling frame. 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.). Different response rates within the strata are obtained in 2006 and 2007, therefore, a decision was taken to oversample those strata in which lower response rates are expected. Data from 2007 national SILC survey was used for oversampling.

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.

For an overview of sampling methods, response rate and other quality indicators of the data and imputations carried out by National Statistical Institute in Bulgaria see the EU-SILC 2010 quality report by the National Statistical Institute (2011)¹.

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

¹ National Statistical Institute (2011) “Intermediate Quality Report, EU-SILC 2010 Operation, Bulgaria” (retrieved from: www.nsi.bg/sites/default/files/files/pages/SILC_IQR_2010_EN.doc)

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.

The number of households for which an interview is finally accepted for the database amounts to 86.1% of the total sample of households in EU-SILC 2010. The dropouts of units are due to the following main reasons:

- addresses non-contacted (3.4%), e.g. address cannot be accessed, address currently does not exist, etc.
- addresses contacted, but households do not complete the interview (10.5%) due to refusal to cooperate, absence of almost entire household, objective inability to respond, etc.;
- finally, 6171 completed questionnaires are accepted in the database.

No substitution of units was applied in 2010 EU-SILC survey. Unit non-response has been addressed by re-weighting the responding cases.

Furthermore, during the preparations of 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), 26 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. In addition, 9 households (or 39 individuals) with missing non-response inflation factor have been dropped.

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). The general procedure of the derivation of weights can be described as follows.

- For the 2010 fraction of the panel the design weights are equal to the inverses of the corresponding household inclusion probabilities. These weights are household design weights DB080. For the rotational groups from years 2007-2009 corrections for attrition are performed to obtain base weights for 2010. Prior to any corrections, persons that became out-of-scope in 2010 – dead, institutionalized, or left the country for a longer period – are not considered as non-response.
- Correction for non-response was done to the design weights computed at the previous step. The procedure consists in modifying the design weights by a factor inversely proportional to the response rate within each "homogeneous group". Coefficients of these corrections were computed separately for each settlement as ratios: sum of design weights of selected units to the sum of design weights of responding units.
- The weights calculated at the previous step are adjusted to external sources (calibration). Calibration is done at the individual level imposing equality of the weight adjustment factors (g-weights) for the individuals in the same household.

After the calibration the final household cross-sectional weights are obtained (DB090). These are then used in the EUROMOD input data set (dwt). Personal cross-sectional weight (RB050) is equal to the cross-sectional weight DB090 of its household. Personal cross-sectional weights for all household members aged 16+ (PB040) are obtained by correction of RB050 for within household non-response. After that the same calibration method as described above is used in order to adjust the weights to external sources.

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 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.

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 (PL210A-L);
- current employment variables: at the date of the interview;
- income data: calendar year 2009 (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 2010 survey provided the respondents with the option of reporting their income net or gross at component level. 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 was 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. for old-age, disability, sickness, unemployment, family. A typical case is the target variable HY050 “Family / Children related allowances” (bfa) which is an aggregate variable that includes the items of the following two main categories of benefits: Maternity benefits and Family allowances (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. The imputations have been done using information in EU-SILC on individual/household characteristics and receipt of the aggregated variables.

Table 3.3.3.1 contains the main variables that are derived for the Bulgarian part of EUROMOD dataset by imputations. Table 3.3.3.2 contains data on the imputed variables which are compared with their counterparts to be found in the National SILC data. Columns (1) and (2) show the spending and number of recipients of the imputed variables, while columns (3) and (4) show the aggregated figures based on National SILC. The table also includes the ratios between the imputed quantities and National SILC.

The imputed benefit bchba (Cash benefit for pregnancy and childbirth) is underestimated compared to its national SILC (the ratio for spending is 0.49, for recipients it is 0.27), whereas the benefit bmanc (Monthly benefit for bringing up child up to age 1) is overestimated (the ratio for spending is 2.23, for recipients it is 1.51). For bchba and bmanc are complementary benefits targeted both at mothers with children up to age of 1 (bchba is contributory while bmanc is non-contributory) the results suggest that some of the bchba entitlements might have been imputed as bmanc entitlements or that they have been captured in the “leftover” benefits bfaot.

Bmact (Cash benefit for bringing up child up to age of 2) and bchbals (Lump sum benefit for childbirth) seem to be well captured by the imputations.

Bched (Child benefit for education) is overestimated during the benefit splitting procedure (the ratio for spending is 2.31, for recipients it is 2.36) but the benefit coverage and budget are the smallest ones compared to the rest of the benefits and as a result, we do not expect any big distortions in the simulation results of other benefits.

Bchmt (Monthly child allowance) is the largest family benefit. However, the results from the imputations suggest that entitlements have been significantly underestimated (the ratios for spending and recipients are 0.77 and 0.78, respectively). This has major consequences for bfaot.

The “leftovers” of the benefit splitting of the variable bfa are included in the benefit bfaot, which contains information about several benefits. These are the "Lump sum benefit for pregnancy (еднократна помощ при бременност)", "Monthly child benefit for raising a child with permanent disability (месечна добавка за отглеждане на дете с трайни увреждания до завършване на средно образование)", "Monthly benefit for bringing up small child with permanent disability (месечна помощ за отглеждане на дете с трайни увреждания до 2 г.)" and "Social benefits for children accommodated at relatives, foster family, etc. (помощи за

отглеждане на дете, настанено в приемно семейство или близки)". Due to data limitations these benefits could not be disaggregated. Whilst each of the other benefit components is simulated in EUROMOD and the imputed entitlement is not used in the calculation of disposable income, bfaot is taken from the data and enters household disposable income. As the total spending is hugely overestimated (the ratio is 105.12), that would bias to some extent the results for disposable income.

Unemployment benefits bun are disaggregated into bunct (Contributory unemployment benefit) and bunot (Assistance for dismissal). The benefit imputations are in fact only performed for bunct, while bunot equals the difference between bun and bunct. The results show that bunct has been underestimated by the imputations (the ratios for spending and recipients are 0.87 and 0.82, respectively). However, as with bfaot, only bunot enters household disposable income, while the contributory unemployment benefit is taken from EUROMOD simulations instead of from SILC data.

Finally, the social assistance transfer bsa has been disaggregated into three benefits. Bsa00 (Social assistance - guaranteed minimum income) and bsaht (Benefit for heating) target the bottom of the income distribution and as the results suggest some of bsa00 benefit entitlements have been imputed as bsaht. Nevertheless, the benefits which are included in the "leftover" part, bsaot, seem to be captured well when compared to National SILC. In the calculations of household disposable income, only bsaot is taken into account while the simulated counterparts of bsa00 and bsaht are considered.

Table 3.3.3.1 Imputed variables from EU-SILC 2010

Variable name in EUROMOD input data	Variable description	Component of the aggregated variable in EUROMOD input data/ EU-SILC
bchba	Cash benefit for pregnancy and childbirth (обезщетение за бременност и раждане на дете)	bfa/HY050
bmact	Cash benefit for bringing up child up to age 2 (обезщетение за отглеждане на дете до 2 г.)	bfa/HY050
bchbals	Lump sum benefit for childbirth (еднократна помощ при раждане)	bfa/HY050
bched	Child benefit for education (целева помощ за ученици)	bfa/HY050
bmanc	Monthly benefit for bringing up child up to age 1 (месечна помощ за отглеждане на дете до 1 г. възраст)	bfa/HY050
bchmt	Monthly child allowance (месечна помощ за отглеждане на дете)	bfa/HY050
bunct	Unemployment benefit (обезщетение за безработица)	bun/PY090
bsa00	Monthly monetary SA benefit (месечна парична помощ поради ниски доходи)	bsa/HY060
bsaht	Targeted benefit for heating (целева помощ за отопление)	bsa/HY060

Table 3.3.3.2. Results for the benefit imputations

Variable	Imputed aggregated amount (million) (1)	Imputed number of recipients (thousand) (2)	National SILC 2010 aggregated amount (million) (3)	National SILC 2010 Number of recipients (thousand) (4)	Ratio (1)/(3)	Ratio (2)/(4)
bchba	97.21	20.19	200.18	74.91	0.49	0.27
bmact	108.46	59.22	108.08	54.52	1.00	1.09
bchbals	17.30	46.15	15.10	41.20	1.15	1.12
bched	3.76	25.09	1.63	10.63	2.31	2.36
bmanc	49.29	48.22	22.07	31.99	2.23	1.51
bchmt	253.80	408.25	328.38	520.99	0.77	0.78
bfaot*	180.54	177.60	1.72	N/A	105.12	N/A
bunct	226.57	225.75	261.28	274.50	0.87	0.82
bunot**	74.05	133.16	37.47	21.99	1.98	6.06
bsa00	11.67	21.24	15.07	19.34	0.77	1.10
bsaht	18.18	137.32	14.06	142.23	1.29	0.97
bsaot***	5.10	20.59	5.36	N/A	0.95	N/A

Note: * bfaot contains the remaining family benefits after benefit imputations. These include "Lump sum benefit for pregnancy (еднократна помощ при бременност)", "Monthly child benefit for raising a child with permanent disability (месечна добавка за отглеждане на дете с трайни увреждания до завършване на средно образование)", "Monthly benefit for bringing up small child with permanent disability (месечна помощ за отглеждане на дете с трайни увреждания до 2 г.)" and "Social benefits for children accommodated at relatives, foster family, etc. (помощи за отглеждане на дете, настанено в приемно семейство или близки)".

** bunot consists of the remaining unemployment benefits after benefit imputations. These include "Assistance for dismissal (обезщетение при съкращение)".

*** bsaot contains the remaining social assistance benefits after benefit imputations. These include "Occasional lump-sum social aid (еднократна помощ за инцидентно възникнали потребности)" and "Targeted benefits for free travelling (целева помощ за безплатно пътуване)".

Source: Own imputations based on EU-SILC 2010 for Bulgaria. The figures for total spending and number of recipients based on National SILC have been kindly provided by the National Statistical Institute in Bulgaria.

3.3.4 Correction for tax evasion

In the simulation of social insurance contributions, income tax and means-tested child and social assistance benefits, a correction for tax evasion has been taken into account. The approach can be summarized as follows:

The baseline is based on the UDB dataset in which the benefit disaggregation has been informed by imputations (BG_2010_a1). The user can apply tax evasion correction through the policy TCA_bg which is based on a comparison between net and gross employment incomes. Under this approach, it is assumed that an individual is involved in the shadow economy if her (positive) net and gross employment incomes are equal. Such an individual is assumed to be a full tax evader and hence, no income tax and social insurance contributions are simulated for her. Furthermore, for the simulation of the income test for child and social assistance benefits, the earnings of a tax evader are not taken into account because it is assumed that they will not be reported and thus, will not be part of the income test. No correction for individuals with self-employment income has been done.

3.4 Updating factors

To account for any time inconsistencies between the input dataset and the policy year, updating factors are used. Each monetary variable (i.e. each income component) is updated so as to account for changes in the non-simulated variables that have taken place between the year of the data and the year of the simulated tax-benefit system. Updating factors are generally based on changes in the average value of an income component between the year of the data and the policy year. In case no data were available, official forecasts of prices is used. For detailed information about the construction of each updating factor as well as the sources that have been used, see Annex 1.

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

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external benchmarks. Detailed comparisons of the number of people receiving a given income component and total yearly amounts are shown in Annex 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. The main discrepancies between EUROMOD results and external benchmarks are discussed in the following subsections. Factors that may explain the observed differences are also discussed.

4.1.1 Components of disposable income

EU-SILC gross income is 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 (HY120G), income tax and SIC (HY140G), and any regular transfers paid to other households (HY130G).

Table 4.1 Components of disposable income

	EUROMOD [2009-2013]	Bulgarian EU-SILC 2010 [income year 2009]
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	+	n/a
Company car	n/a	+
Contributions to individual private pension plans	n/a	n/a
Cash benefits or losses from self-employment		+
Pension from individual private plans	+	n/a
<i>Unemployment benefits</i>		+
<i>Old-age benefits</i>	+	+
<i>Survivor' benefits</i>	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
<i>Family/children related allowances</i>	+	+
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	n/a	–
<i>Regular inter-household cash transfer paid</i>	–	–
<i>Tax on income and social contributions</i>	–	–
<i>Repayments/receipts for tax adjustment</i>	n/a	n/a

4.1.2 Validation of incomes inputted into the simulation

Table 4.2 in Annex 2 presents the annual average level of employment and unemployment in Bulgaria for the period 2009-2013. 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 /SMEs/. For this reason LFS is preferred since it 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:

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

The number of employed in SILC is very close to the one in LFS. A higher divergence is observed at the second half of the period as a result of the employment shrinkage due to economic stagnation (7 to 12% overestimation by SILC 2010). There is a much larger discrepancy in the number of unemployed between LFS data and SILC survey estimates, e.g. the 2009 number of unemployed is estimated to be 2.7 times higher than LFS figures. This could be explained by a possible misreporting of the 2009 unemployment status in SILC 2010 (a tendency of overstating the unemployment status by some individuals during the survey). Also, the number of self-defined unemployed in SILC survey is adjusted for the number of months they reported (and most likely, over-reported) to be unemployed.

Due to the stagnation in years 2010-2013 the number of unemployed has increased almost twice for the whole period, and as a result the overestimation of unemployed in 2009 has been partially compensated at the end of the period.

However, the opposite result is observed for the number of employed which, according to the official estimates, has decreased by about 320 thousand in 2013 as compared to 2009.

It should be kept in mind that there are several sources providing data about the number of employed and self-employed (NSI: LFS, National Accounts; NSSI: Statistics on insured persons). The results about employment and self-employment income amounts (see Table 4.4 in Annex 2) are validated upon the National Accounts figures and, in order to maintain consistency, the same source is used also for the number of recipients (see Table 4.3 in Annex 2). When compiling these numbers NSI utilizes data on labour inputs from the Annual Census of Enterprises. It is based on exhaustive and compulsory reporting of enterprises about their economic indicators, including annual average hired employment and the summary amount of the compensation of employees. Additionally, the self-employed population is evaluated by upgrading the official numbers of registered self-employed (including the employers) by the sample estimates produced by LFS and HBS, including the informally employed workers.

There is a substantial number of employed estimated in the National Accounts for Sector A: “Agriculture, forestry and fishing” – about 600 thousand annual average for 2009-2013 – all of them considered as earners of income from agricultural self-employment (in family farms, semi-formal or informal production units). This number does not include those agricultural employees who have official Labour Contracts (they are categorized as “hired employees”) but only those who do not have such contracts and thus are classified by NSI as “self-employed”. For this reason, the disparity between SILC survey estimate and external (National Accounts) figure appears substantial. It can be explained by the “expansion” effect of incorporating the informally employed in the National Accounts figure. In the same time, such respondents have rarely assessed themselves as self-employed during the BG-SILC 2010 survey.

Notwithstanding the recording mismatch during the survey, a higher total number of individuals with employment income is estimated by SILC survey as compared to National Accounts data. This could be explained mainly by unofficial employment providing “grey economy” wages that are not reported to NSSI/NRA. Other possible cases (apart from the working-age grey-economy employees) are: (i) pensioners working part-time that report some wages; (ii) employed in family farms that self-declare as employees. No information about the number of recipients of income from investment and private transfers has been found.

Table 4.4 in Annex 2 contains a summary of the aggregate estimates of income variables used for simulation purposes in the Bulgarian component of EUROMOD. The macro-validation results can be considered as acceptable in respect to the total amounts of the employment and self-employment income which are the two main sources of market income for the Bulgarian households. The total income from hired employment in 2009 overestimates the National Accounts figure for “Compensation of Employees” by a small share (the ratio equals 1.06). However, the ratio of mean incomes provides the opposite result which is induced by the disparity between the total numbers of recipients of employment income (see Table 4.3 in Annex 2). This provides some support for the supposition that employment income (on average), although recorded by more individuals than expected, has been underreported in the annual figures recorded by BG-SILC 2010 survey. The underestimation of the mean income along with the overestimation of the number of recipients acted as a “compensating mechanism” providing an explanation of this result.

The self-employment income is slightly underestimated by BG-SILC survey (except for year 2011) which could be due to underrepresentation of large-scale entrepreneurs in the sample. The results are validated upon the “Operating surplus / Mixed income” National Accounts indicator for Sector S.14 Households. The income from rent has been fairly estimated by BG-SILC as compared to the National Accounts figures. The data for year 2012 are preliminary.

Investment income was found not to be feasible for validation, as the recording of such sources by a sample survey is not reliable. For instance, the respondents are not aware of their income accrued from the interest on the deposit accounts (which, according to the central bank statistics, amounts to about 603 mio. BGN in 2009). Similar situation is found regarding the income from shares and other securities, e.g. the dividend income is not recorded consistently neither in the national accounts nor in any sample survey based on a voluntary participation of respondents.

Table 4.5 and Table 4.6 in Annex 2 contain the validation results in respect to the non-simulated benefit instruments. It is based on data from the standard EU-SILC UDB variables provided by the NSI to the Eurostat database.

The SILC survey provides relatively good estimates regarding the total pension spending and the number of recipients of all pension benefits. However, if we first examine Table 4.5 in Annex 2 we will see that survivor pension receivers are highly underestimated in SILC (the ratio varies between 0.37 and 0.38). The adverse effect can be assigned to different reasons. One possible explanation could be that respondents do not know with absolute certainty whether their pension is survivor pension or personal old-age pension, i.e. survivor pensions would be in that case reported as personal old-age pensions. The second possible explanation is that EU-SILC survey might have not captured well the income received by children below 16 years of age. According to Bulgarian legislation children can be entitled to survivor pensions; however, the EU-SILC questionnaire classifies their incomes in a different variable than under survivor pensions.

On the other hand, Table 4.5 and Table 4.6 in Annex 2 show that both old-age pensions and disability pensions are overestimated in EU-SILC used as EUROMOD input data. The number of recipients ratio in 2009 is 1.13 and 1.19, respectively; the spending ratio is 1.26 and 1.11, respectively. The estimates confirm the previously made suggestion that some survivor pensions might have been classified in SILC as old-age pensions. Nevertheless, for the simulation of other benefits in EUROMOD pensions are often considered together and therefore, we expect that data misclassification would not impose much bias in the simulation results.

The educational allowances include student scholarships as a major item; however, validation data about the number of primary, basic and secondary students that receive scholarships are available only for 2009-2010. It should be kept in mind that the number of beneficiaries represents the number of households receiving such income (*bed* variable) and hence, it does not match the available official number of educational benefit recipients reported in Table 4.5 in Annex 2. The aggregate amount of education benefits deviates by around 20% from the official figure for years 2009-2010 (see Table 4.6 in Annex 2).

The aggregate amount of contributory sickness benefits has been slightly underestimated in SILC for all years in the period except year 2010 (the ratio is 1.02 in 2010 and varies between 0.79 and 0.94 in the other years, see Table 4.6 in Annex 2). It can be plausibly assumed that the insignificant amount of estimated sickness benefits is linked to frequent cases of non-reporting of such benefit by respondents who have actually received such compensation at some time in 2009 or that have been misreported as disability pensions. The former can be due to the fact that sickness benefit is top-upped to the monthly wage bill of the employee and many respondents were not aware of the necessity for accurately splitting these amounts from the employment income record.

The total spending for family benefits is fairly underestimated in SILC relatively to external sources for the whole period 2009-2013 (the ratio ranges from 0.79 in 2009 to 0.95 and 0.94 in 2012 and 2013, respectively).

The amount of unemployment benefits has been overestimated in SILC 2010 – the ratio between SILC and external statistics is 1.26 in 2009 and reaches 1.40 in 2013.

As an overall result, the SILC survey provides a relatively good representation of the non-simulated benefits paid in cash to the Bulgarian household members. In many cases, the positive mismatches at particular items offset the negative ones at other items leading to an acceptable overall result.

4.1.3 Validation of outputted (simulated) incomes

Validation of simulated social benefits is performed on the utilization of the standard UDB variables provided by EU SILC database. The data adjustments done in the data set are targeted mainly to the splitting of the family and social assistance benefits variables since particular items are selected for simulation in the system. The simulation of eligibility rules is performed at different levels of success in respect of the various items included in the simulated system.

- Problems were not expected in respect to the birth grant; even though, the eligible mothers have been underestimated (the ratio varies between 0.59 and 0.68, see Table 4.7 in Annex 2) The main reason for this

could be some extent of underrepresentation of families with newborn children in SILC 2010 operation sample. This way, the amount of the benefit has been also underestimated for the period of interest.

- Mismatches have emerged also regarding the other child benefits. The general reason for the overestimation of the transfers on “monthly allowance for bringing up a child up to age 1” and the underestimation of “cash benefit for pregnancy and childbirth” could be due to misidentification of entitled families. The two benefits are complementary and entitled families could have been mismatched. Similar bias could have occurred between the “means-tested child benefit” and the “cash benefit for bringing up a child up to age 2”.
- Additionally, the income test regarding the means-tested child benefit is likely to be restricted by the income levels recorded in SILC survey. The number of identified receivers (children) is about 66% of the actual number on average for the period (see Table 4.7 in Annex 2). The underestimation of eligible receivers can be also explained by the obstruction of the income test at each case where grey economy wages are (even partially) recorded during the survey. However, the “real life” test is conducted only on the officially reported incomes, thus many “official earners of minimum wage” are provided by the standard child supplement.
- The two main social assistance benefits show quite large discrepancies with the external data (see Table 4.7 and Table 4.8 in Annex 2). The standard monthly social assistance benefit has been substantially overestimated by the model which could be due not only to discrepancies in income data but also to possible non-take up of the benefit. In practice, it is provided by a scheme for monthly social evaluation (trying to monitor the switches to/out of eligibility during the year) which cannot be precisely simulated on the basis of annualized income recording.
- The volatility of the heating benefit estimates was also expected as there are some complications in the approach for its simulation. Heating benefit is parameterized and provided for the heating season (which includes roughly the third quarter of year “t” and first quarter of year “t+1”). In practice, the transfers are not distributed as evenly as expected because of the shift between two successive budgetary years. A particular unfavorable case has emerged in 2009 (the spending ratio is 1.75, see Table 4.8 in Annex 2) when the official statistics reflect some deviations from the regular schedule of the provision of the benefit and its distribution between the two budgetary years.

The simulation of the personal income tax and social insurance contributions is conducted on the basis of UDB income variables. Additionally, tax evasion adjustments have been introduced due to the initial results of over-simulation of SIC and PIT.

Validation of the number of social insurance and income tax payers is hindered by a variety of circumstances, some of which were commented in section 4.1.2 regarding the number of employed individuals in the Bulgarian economy. The divergence between official data on employment and survey data sources can be attributed to two main causes:

- (i) methodological mismatch of the approaches for estimation;
- (ii) spread of the shadow economy.

Nonchev et al. (2011) provide evidence for the dynamics of the shadow economy index derived from the monitoring surveys of the Center for the Study of Democracy, where a variety of circumstances that facilitate the shadow economy spread have been considered and illustrated. As a particular example, in 2010 the number of economically inactive Bulgarians of working age (15–64) was over 1.6 million (over 20% of the total population) where the number of students and disabled individuals are about a half of this group. Out of the remaining 834 thousand, about 225 thousand are evaluated as “discouraged to participate in the formal labor market”, 250 thousand do not work due to personal or family reasons, and 78 thousand do not provide a reason for their economic inactivity (Nonchev et al., 2011: 36).

In the same time, arguments are provided in support of the statement that part of the hidden economic activity, which depends on the official economy, is shrinking faster than the overall rate of economic decrease at the end of the decade. This is explained by the lower “costs of downsizing” of unrecorded transactions during the crisis, e.g. it is fairly easier to terminate informal contracts with employees and suppliers as compared to the formal contracts

(Nonchev et al., 2011: 39). Additionally, the targeted measures applied by the state have contributed to the alleviation of grey economy effects, e.g. the implementation of minimum floors for a detailed range of professions as well as for the social insurance of self-employed and employed in the agriculture (Pashev, 2006; Nontchev et al., 2011).

Having in mind all the potential distortions invoked by the involvement of a large share of employed in grey economy activities, the validation results should be read with caution. It is not surprising that the number of insured employees under the mandatory social insurance have been overestimated by BG-SILC 2010 survey by about 20% on average for the period 2009-2012 (see Table 4.7 in Annex 2). This is naturally expected to contribute to some upward deviation of the simulated SIC revenues.

As expected, using the UDB variables for taxable earnings leads to a substantial overestimation of the SIC revenues which originated predominantly from the social insurance of the self-employed (see Table 4.8 in Annex 2). The SIC paid by the self-employed are oversimulated between 1.9 and 2.6 times in comparison to the external figures. The SIC paid by the employees and their employers are more accurately simulated. And yet, the difference is large: in 2009 the revenues ratio for employee SICs is 1.33 and for employer SICs it is 1.26. Employee SICs are over-simulated most in 2010-2011 (the ratios equals 1.67 and 1.71, respectively) which can be due to the stagnation since the start of crisis.

PIT is also biased upwards but not in such an extent, so the revenues are overestimated in the baseline (the revenue ration in 2009 is 1.1). The revenue ratio between EUROMOD and the external statistics increases up to about 1.2 in the period 2010-2012.

4.2 Income distribution

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

Income distribution results from the Bulgarian component of EUROMOD are derived by simulations using UDB variables. Eurostat data about the income distribution based on the standard EU-SILC variables is used as a benchmark source.

Furthermore, tax evasion adjustments outlined above are also enacted. It is assumed that tax evasion compels distributional imbalances, although it can be presumed that these additional distortions are not so severe regarding the available poverty estimates (as high income households are underrepresented in BG SILC and other sample surveys). Anyway, allowing for tax evasion adjustments provides a more adequate estimate of the actual levels of inequality and poverty.

4.2.1 Income inequality

Table 4.9 in Annex 2 contains selected income distribution indicators estimated on the basis of EUROMOD micro output and contrasted to the original EU-SILC statistics provided by Eurostat database. The shares of equalized disposable income distributed by decile groups are fairly estimated by EUROMOD output variables for all groups except the first one. The income share of first decile group is overestimated by the model – the ratio between EUROMOD and Eurostat figure is between 1.16 and 1.34 in the period 2009-2011. This is related to the overestimation of means-tested social assistance (guaranteed minimum income and heating benefits) as well as some means-tested family benefits (see Table 4.7 in Annex 2).

Mean and median equivalised household disposable incomes based on the simulations in EUROMOD look very similar to the figures provided by Eurostat. They are slightly undersimulated in 2009, the ratios are 0.95 and 0.93, respectively and oversimulated in 2010 and 2011. Although the difference remains fairly small in 2010 (both ratios equal 1.04), it increases significantly in 2011 – the ratio for the mean is 1.15, while for the median by 1.11%.

The results obtained regarding the Gini coefficient are quite satisfactory – EUROMOD down-estimates the coefficient by a relatively small degree (the ratio varies between 0.91 and 0.98). The quintile ratio is slightly lower than the SILC estimate for 2009 (it equals 0.89) – an effect that could be explained by the reasons mentioned above (i.e. overestimation of income at the lowest part of the income distribution).

4.2.2 Poverty rates

EUROMOD estimates of poverty rates show some expected divergence from the SILC estimates which depend on the chosen poverty line alternative (see Table 4.10 in Annex 2). A notable underestimation of the poverty rate is observed in the baseline result which is most severe (the ratio between EUROMOD and Eurostat is 0.71 in 2009) at the lowest applied level of the poverty line (i.e. 40% of the median equalized HDI). This effect is stable practically for all years in the period 2009-2011.

Also, a tendency of compensating for the underestimation effect is observed when moving to a higher level of the poverty line. The model estimates most precisely the poverty rates when a threshold of 60-70% of the median HDI is applied.

4.3 Validation of minimum wage

The minimum wage in Bulgaria is 240 BGN in 2009-2011, 290 BGN in 2012 and 310 BGN in 2013. In this section we give a brief overview what is the impact of minimum wage policy, if switched on. In our baseline scenario the minimum wage policy is switched off.

As we can see in Table 4.11 in Annex 2, the minimum wage adjustment increases disposable income and employee gross earnings by less than 1%. Personal income tax and employees SIC are not altered noticeably. Similar results are obtained also for the total disposable income, income tax, and employee SICs.

4.4 Summary of “health warnings”

This summary provides an overview of the main issues that should be taken into account when the Bulgarian component of EUROMOD are to be used for analyzing inequality, poverty, and tax-benefit policy for the period 2009-2013.

- The sample utilized in 2010 BG-SILC contains a variety of distortions. As there were no additional drawings to replace the households refused to participate, and a respective weighting scheme has been applied to compensate for this (based on demographic-territorial distributions of the population only), it can be assumed that subgroups with specific social and/or economic status are substantially underrepresented. At this point, no adjustments have been made to offset the changes in socio-demographic structures between the baseline and consecutive years.
- The results obtained for specific social benefits that are targeted to relatively small subgroups are quite unstable. Such individuals are either under or over-identified in the sample, so the simulation of such instruments should be treated with caution.
- In the framework of a voluntary participation in the survey, distortions in income recording are highly probable at both individual and household level variables. Apart from any intentional underreporting, the major sources of measurement errors are: recall errors, aggregation problems (in respect of annual values as well as for household level variables), and merging of items into just one recorded variable. The respondent needs to recall many details about the annual 2009 income at the middle of year 2010 which induces high likelihood of income recording mismatches. As a general issue, merging one or more specific items to the main benefit obstructs the precise splitting of benefits and validation of results.

- It should be noted that self-employment income has been recorded by a number of individuals which is much larger than the officially registered self-employed. Even with underreporting of the actual earnings, this income source provides a tax base which is actually not accessible by the tax authorities, and simulation results in this respect should be considered with high caution.
- Information deficiency is found regarding the sources of investment income which undermines in some extent the validation based on national accounts data. This situation is typical for sample questionnaire surveys and SILC data is not an exclusion.
- The model assumes a full take up of all social benefits. However, non-take up of particular benefits is likely to induce additional distortions (especially the monthly benefit for low income based on GMI). This issue needs further clarification and research.
- As a general issue, validation is performed on the basis of official statistics that is produced by different governmental institutions. External sources for validation of many results for 2012-2013 are still unavailable. In some cases, simulation results seem to diverge substantially from the external statistics, but as a rule, the official figures are generated under a different methodology and scope, often based on compulsory observation, administrative processes, etc. This way many of the observed discrepancies of the sample estimates based on survey data should not be considered as simulation errors.

This edition of the Bulgarian EUROMOD component is the last updated version of the first completed tax-benefit microsimulation model for the country (year 2010). The pursuit of the first simulation model was naturally related to a variety of human and information errors, many of which have been identified and corrected so far. It certainly needs additional revisions in order to achieve a higher degree of functionality and improved reflection of the real economic situation. Improvements are conceived in most of its elements, e.g. better updating of monetary variables, enhanced performance of eligibility rules, and improved baseline EU-SILC datasets.

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- *Sources for tax-benefit descriptions/rules*

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www.nap.bg

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

www.asp.government.bg

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www.mlsp.government.bg

National Social Security Institute:

www.nssi.bg

National Statistical Institute:

www.nsi.bg

ANNEX 1 UPDATING FACTORS USED FOR BULGARIAN EU-SILC 2010

	2009	2010/2009	2011/2009	2012/2009	2013/2009	Source
CPI	1	1.0244	1.0677	1.0992	1.109	CPI, National Statistical Institute (NSI)
Income component						
yds	1	1	1	1	1	
yem	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
yemtx	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
yemnr	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
yot	1	0.5188	0.3299	0.2387	0.2387	growth in average household income, NSI; no growth applied on last year
ypp	1	1.1354	1.1003	1.1317	1.1317	growth in average household income, NSI; no growth applied on last year
ypr	1	1.1701	1.0348	0.7242	0.7242	growth in average household income, NSI; no growth applied on last year
ypt	1	1.2895	1.3287	0.8927	0.8927	growth in average household income, NSI; no growth applied on last year
yse	1	0.9882	1.36	1.1568	1.1568	growth in average household income, NSI; no growth applied on last year
ysetx	1	0.9882	1.36	1.1568	1.1568	growth in average household income, NSI; no growth applied on last year
ysenr	1	0.9882	1.36	1.1568	1.1568	growth in average household income, NSI; no growth applied on last year
bfa	1	1.039	1.0796	1.1216	1.1316	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bchprls	1	0.9088	1.0623	1.084	1.0936	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bchbals	1	0.9422	1.0195	1.0403	1.0496	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bmanc	1	1.0687	1.1498	1.1734	1.1838	growth in average monthly benefit, NSI statistical report; CPI applied on the last year

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bchmt	1	1	1	0.9544	0.9629	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bchba	1	1.0463	0.9961	0.8951	0.9031	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bmact	1	0.9857	1.0191	1.0399	1.0491	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bhl	1	0.883	0.7234	0.737	0.7435	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bho	1	1.5739	1.0694	1.2147	1.2255	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bsa	1	1.0632	1.0688	1.1814	1.1919	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bsa00	1	1.2275	1.589	1.6214	1.6358	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bsaht	1	0.7959	0.9638	0.9834	0.9922	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bun	1	1.3354	1.7906	1.8434	1.8598	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
pdi	1	1.0629	1.0595	1.0908	1.1005	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
poa	1	1.0802	1.0959	1.175	1.1855	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
psu	1	1.0713	1.0016	1.1311	1.1412	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
tpr	1	0.8895	0.9929	0.9397	0.9397	growth in total tax revenues, NSI statistical report; no growth applied on the last year
tad	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
tis	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
tin	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
tscee	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
tscse	1	0.9882	1.36	1.1568	1.1568	growth in average household income, NSI; no growth applied on last year
tscer	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
afc	1	0.769	0.9552	0.8656	1.4756	
xhc	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
xhcmomi	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
xhcot	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report

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xhcrt	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
xmp	1	1.0051	1.0153	1.0358	1.0358	NSI; no growth applied on last year
xpp	1	1.1354	1.1003	1.1317	1.1317	NSI; no growth applied on last year
pdi00	1	1.0629	1.0595	1.0908	1.1005	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
pdinc	1	1.0629	1.0595	1.0908	1.1005	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
poa00	1	1.0802	1.0959	1.175	1.1855	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
poamt	1	1.043	1.043	1.1864	1.197	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
yempv	1	1.1174	1.1871	1.2587	1.4055	lagegd growth in average monthly earnings, NSI statistical report
yivwg	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
yprld	1	1.1701	1.0348	0.7242	0.7242	growth in average household income, NSI; no growth applied on last year
aoc	1	1	1	1	1	
yag01	1	1	1	1	1	
yag02	1	1	1	1	1	
bunct	1	1.3354	1.7906	1.8434	1.8598	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
psuor	1	1.0713	1.0016	1.1311	1.1412	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
yag	1	1	1	1	1	
yem01	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
yem02	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
ysebs	1	0.9882	1.36	1.1568	1.1568	growth in average household income, NSI; no growth applied on last year
tsctber	1	1.0624	1.1264	1.2578	1.2948	growth in average monthly earnings, NSI statistical report
tsctbse	1	0.9882	1.36	1.1568	1.1568	growth in average household income, NSI; no growth applied on last year
bched	1	1.039	1.0796	1.1216	1.1316	growth in average monthly benefit, NSI statistical report; CPI applied on the last year
bsaot	1	1.0632	1.0688	1.1814	1.1919	growth in average monthly benefit, NSI statistical report; CPI applied on the last year

yy	1	1.002	1.004	1.0051	1.0053	Bulgarian National Bank - growth in interest rate
bed	1	CPI	CPI	CPI	CPI	
kfb	1	CPI	CPI	CPI	CPI	
kfbcc	1	CPI	CPI	CPI	CPI	
kivho	1	CPI	CPI	CPI	CPI	

ANNEX 2 VALIDATION

Table 4.2-Number of employed and unemployed

	EUROMOD (1)		External (2)		Ratio (1/2)						
	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Number of employed	3,280,010	3,253,600	3,052,800	2,965,200	2,934,000	2,934,925	1.01	1.07	1.11	1.12	1.12
Number of unemployed	640,703	238,000	348,000	372,300	410,300	436,275	2.69	1.84	1.72	1.56	1.47

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

Source: EUROMOD; External: Labour Force Survey, employed and unemployed aged 15+

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

	EUROMOD (1)		External (2)				Ratio (1/2)				
	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Employment income	3,642	2,748	2,628	2,587	2,540	2,511	1.33	0.00	0.00	0.00	0.00
Self-employed income	401	1,002	976	938	896	911	0.40	0.00	0.00	0.00	0.00
Investment income	21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other income	39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private pensions	14	2	1	1	1	1	8.71	0.00	0.00	0.00	0.00
Private transfers received	304	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Income from rent	563	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private transfers paid	328	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: N/A - not available. In EUROMOD, the number of recipients equals the number of individuals (earnings, self-employment income, private pensions) or households (investment income, other income, private transfers received/paid, income from rent) who reported incomes in EU-SILC for at least one month throughout the income reference period.

Sources: EUROMOD; External: National Statistical Institute, National Accounts, "Employed persons – total of economy" (www.nsi.bg)

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

	EUROMOD (1)					External (2)					Ratio (1/2)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Employment income	24,079	25,582	27,123	30,287	31,178	22,636	23,955	24,947	26,884	N/A	1.06	1.07	1.09	1.13	N/A
Self-employed income	3,503	3,462	4,764	4,052	4,052	3,922	3,916	3,784	5,071	N/A	0.89	0.88	1.26	0.80	N/A
Investment income	54	54	54	54	54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other income	21	11	7	5	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private pensions	5	5	5	5	5	35.7	37.4	34.1	29.6	27.3	0.14	0.15	0.16	0.19	0.20
Private transfers received	628	809	834	560	560	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Income from rent	375	439	389	272	272	329	457	273	611	N/A	1.14	0.96	1.42	0.45	N/A
Private transfers paid	232	233	236	240	240	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average employment income	6,611	7,023	7,446	8,315	8,560	8,238	9,117	9,643	10,585	N/A	0.80	0.77	0.77	0.79	N/A

Notes: N/A - not available.

Sources: EUROMOD; External: National Statistical Institute, National Accounts:

employment income: D.1 "Compensation of employees" reduced by D.6111 "Employers' actual social contributions".

self-employment income: Sector accounts: S.14 Households, B.2n "Operating surplus, net".

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

	EUROMOD (1)		External (2)					Ratio (1/2)				
	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	
Benefits												
Education benefits	40	37	37	N/A	N/A	N/A	1.09	1.10	N/A	N/A	N/A	
Sickness benefits	714	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Family benefits	567	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Social assistance	179	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Housing benefits	0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Unemployment benefits	312	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Old-age pensions	1,798	1,588	1,591	1,613	1,592	1,533	1.13	1.13	1.11	1.13	1.17	
Disability pensions	537	452	456	460	464	446	1.19	1.18	1.17	1.16	1.20	
Survivor pensions	46	125	126	125	125	122	0.37	0.37	0.37	0.37	0.38	

Notes: N/A - not available. In EUROMOD, the number of recipients equals the number of individuals (education, sickness and unemployment benefits, and old-age, disability and survivor pensions) or households (family and housing benefits) who reported incomes in EU-SILC for at least one month throughout the income reference period.

Sources: EUROMOD; External: Annual Reports of National Social Security Institute

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

	EUROMOD (1)					External (2)					Ratio (1/2)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Benefits															
Education benefits	18	18	19	19	20	21	22.1	N/A	N/A	N/A	0.83	0.82	N/A	N/A	N/A
Sickness benefits	333	294	241	246	248	355	289	257	266	314	0.94	1.02	0.94	0.92	0.79
Family benefits	710	738	767	797	804	899	938	890	842	858	0.79	0.79	0.86	0.95	0.94
Social assistance	35	37	37	41	42	115	N/A	N/A	N/A	N/A	0.30	N/A	N/A	N/A	N/A
Housing benefits	0.2	0.3	0.2	0.2	0.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unemployment benefits	301	401	538	554	559	238	313	330	363	399	1.26	1.28	1.63	1.52	1.40
Old-age pensions	5,772	6,235	6,326	6,782	6,843	4,584	4,931	5,041	5,159	5,489	1.26	1.26	1.25	1.31	1.25
Disability pensions	1,167	1,241	1,237	1,273	1,285	1,052	1,135	1,149	1,205	1,253	1.11	1.09	1.08	1.06	1.02
Survivor pensions	78	84	78	88	89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes: N/A - not available.

Sources: EUROMOD; External: Annual Reports of National Social Security Institute; National Statistical Institute, ESSPROS data

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

	EUROMOD (1)					SILC (2)	Ratio (1/2)	External (3)					Ratio (1/3)				
	2009	2010	2011	2012	2013			2009	2009	2009	2010	2011	2012	2013	2009	2010	2011
Benefits																	
Guaranteed minimum income	109	120	116	114	114	21	5.12	36	44	48	50	50	3.01	2.70	2.42	2.30	2.28
Means-tested benefit for heating	238	291	271	248	292	137	1.73	259	206	220	211	252	0.92	1.41	1.23	1.18	1.16
Birth grant	46	46	46	46	46	46	1.00	78	72	70	69	68	0.59	0.64	0.66	0.67	0.68
Means-tested allowance for children up to age 1	67	65	61	58	55	48	1.40	22	23	23	22	21	3.05	2.78	2.69	2.67	2.58
Means-tested child benefit	559	541	510	472	463	408	1.37	842	840	821	809	798	0.66	0.64	0.62	0.58	0.58
Contributory unemployment benefit	293	293	293	293	293	226	1.30	121	137	107	118	117	2.42	2.14	2.75	2.49	2.51
Contributory maternity benefit for pregnancy and childbirth	20	20	20	20	20	20	1.00	72	68	63	56	54	0.28	0.30	0.32	0.36	0.37
Contributory maternity benefit for children up to age 2	68	68	68	68	68	59	1.15	46	50	49	44	42	1.47	1.37	1.41	1.56	1.64
Non-means tested child benefit for mothers in tertiary education	6	6	6	6	6	N/A	N/A	1	2	2	3	5	3.94	2.92	2.41	1.83	1.25
Non-means tested child benefit for twins	2	2	2	2	2	N/A	N/A	5	2	2	2	2	0.37	0.83	0.85	0.89	0.86
Targeted allowance for pupils 1st grade	35	35	32	30	30	25	1.40	40	42	N/A	N/A	N/A	0.87	0.83	N/A	N/A	N/A
Social old age pension	6	7	7	7	7	N/A	N/A	4	4	3	3	3	1.72	2.02	2.11	2.09	2.15
Taxes and Social Insurance Contributions																	
Income tax	3,894	3,894	3,894	3,894	3,894	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employee SIC - health	2,909	2,909	2,909	2,909	2,909	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employee SIC - old age	2,661	2,661	2,661	2,661	2,661	N/A	N/A	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	2,661	2,661	2,661	2,661	2,661	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employee SIC - unemployment	2,661	2,661	2,661	2,661	2,661	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - accident	2,895	2,895	2,895	2,895	2,895	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - health	3,162	3,162	3,162	3,162	3,162	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - old-age	2,895	2,895	2,895	2,895	2,895	N/A	N/A	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	2,895	2,895	2,895	2,895	2,895	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - unemployment	2,895	2,895	2,895	2,895	2,895	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self-employed SIC - health	401	401	401	401	401	N/A	N/A	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	401	401	401	401	401	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total employee SICs	2,909	2,909	2,909	2,909	2,909	N/A	N/A	2,495	2,652	2,537	2,416	N/A	1.17	1.10	1.15	1.20	N/A
Total employer SICs	3,162	3,162	3,162	3,162	3,162	N/A	N/A	2,633	2,786	2,670	2,533	N/A	1.20	1.13	1.18	1.25	N/A
Total self-employed SICs	401	401	401	401	401	N/A	N/A	263	222	213	237	N/A	1.52	1.81	1.88	1.69	N/A

(continues on next page)

Notes: N/A - not available. In EUROMOD, the number of recipients equals the number of individuals (contributory benefits, income tax, SICs), children (means-tested child benefit), families (birth grant, means-tested child allowance for children up to age 1, non-means tested child benefits for mothers in tertiary education and twins, targeted allowance for pupils 1st grade) or households (guaranteed minimum income and means-tested benefit for heating) with simulated benefit entitlements/liabilities. In SILC, the number of recipients equals the number of households. In the external sources, the number of recipients equals the monthly-average number of benefits (guaranteed minimum income, means-tested allowance for children up to age of 1, means-tested child benefit, unemployment benefit), number of benefits per month (heating benefit, birth grant, contributory maternity benefit for pregnancy and childbirth (number is divided by 12 months), contributory maternity benefit for children up to age 2 (number is divided by 12 months)), number of children (non-means tested child benefit for twins) and number of recipient parents (non-means tested child benefit for mothers in tertiary education).

Sources : EUROMOD simulations; SILC: EU-SILC 2010 for Bulgaria; External: Annual Reports of National Social Security Institute; Agency for Social Assistance

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

	EUROMOD (1)					SILC (2)	Ratio (1/2)	External (3)					Ratio (1/3)				
	2009	2010	2011	2012	2013	2009	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Benefits																	
Guaranteed minimum income	107	145	143	141	140	12	9.15	35	48	51	54	54	3.08	3.03	2.79	2.62	2.60
Means-tested benefit for heating	66	83	79	81	96	18	3.62	38	66	61	66	75	1.75	1.25	1.30	1.24	1.28
Birth grant	12	12	12	12	12	17	0.69	29	28	27	26	26	0.41	0.43	0.45	0.46	0.47
Means-tested allowance for children up to age 1	81	77	73	70	66	49	1.64	27	29	26	27	26	2.98	2.67	2.78	2.61	2.54
Means-tested child benefit	231	224	210	194	191	254	0.91	358	385	358	353	352	0.65	0.58	0.59	0.55	0.54
Contributory unemployment benefit	274	292	363	380	416	227	1.21	238	313	330	363	399	1.15	0.93	1.10	1.05	1.04
Contributory maternity benefit for pregnancy and childbirth	118	132	140	148	166	97	1.21	301	315	294	259	264	0.39	0.42	0.48	0.57	0.63
Contributory maternity benefit for children up to age 2	197	197	197	238	254	108	1.81	128	126	120	108	117	1.54	1.56	1.65	2.20	2.17
Non-means tested child benefit for mothers in tertiary education	16	16	16	16	16	N/A	N/A	4	5	6	9	13	4.62	3.28	2.54	1.86	1.25
Non-means tested child benefit for twins	4	4	4	4	4	N/A	N/A	4	2	2	2	2	1.13	1.74	1.70	1.94	1.74
Targeted allowance for pupils 1st grade	5	5	5	5	5	4	1.40	6	6	7	7	12	0.86	0.82	0.72	0.67	0.37
Social old age pension	7	9	9	8	9	N/A	N/A	5	5	5	5	5	1.44	1.71	1.78	1.73	1.81
Taxes and Social Insurance contributions																	
Income tax	2,236	2,382	2,589	2,775	2,843	N/A	N/A	2,026	2,030	2,159	2,291	N/A	1.10	1.17	1.20	1.21	N/A
Employee SIC - health	610	646	683	758	783	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employee SIC - old age	1,440	1,354	1,593	1,765	1,826	N/A	N/A	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	252	267	282	313	324	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employee SIC - unemployment	72	76	81	89	92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - accident	141	149	157	174	180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - health	1,090	1,155	1,220	1,353	1,399	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - old-age	2,176	2,051	2,411	2,672	2,763	N/A	N/A	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	451	478	505	560	579	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Employer SIC - unemployment	129	137	144	160	165	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Self-employed SIC - health	249	246	314	279	285	N/A	N/A	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	560	493	699	620	634	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total employee SICs	2,374	2,344	2,639	2,925	3,025	N/A	N/A	1,790	1,404	1,540	1,906	N/A	1.33	1.67	1.71	1.53	N/A
Total employer SICs	3,987	3,969	4,438	4,919	5,087	N/A	N/A	3,175	3,174	3,577	3,292	N/A	1.26	1.25	1.24	1.49	N/A
Total self-employed SICs	809	739	1,013	898	919	N/A	N/A	308	391	393	398	N/A	2.63	1.89	2.58	2.26	N/A

Notes: N/A - not available.

Sources : EUROMOD simulations; SILC: EU-SILC 2010 for Bulgaria; External: External: Annual Reports of National Social Security Institute; Agency for Social Assistance

Table 4.9-Distribution of equivalised disposable income

	EUROMOD (1)				External (2)				Ratio (1/2)						
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
D1	3.03	3.08	2.99	2.92	2.91	2.6	2.3	2.3	N/A	N/A	1.16	1.34	1.30	N/A	N/A
D2	4.58	4.61	4.52	4.43	4.40	4.3	4.1	4.3	N/A	N/A	1.07	1.12	1.05	N/A	N/A
D3	5.76	5.81	5.72	5.66	5.66	5.7	5.4	5.7	N/A	N/A	1.01	1.08	1.00	N/A	N/A
D4	6.89	6.91	6.79	6.84	6.81	6.9	6.6	6.9	N/A	N/A	1.00	1.05	0.98	N/A	N/A
D5	7.97	7.96	7.87	7.90	7.94	8.0	7.8	8.2	N/A	N/A	1.00	1.02	0.96	N/A	N/A
D5	9.13	9.15	9.05	9.12	9.14	9.2	9.1	9.3	N/A	N/A	0.99	1.01	0.97	N/A	N/A
D7	10.49	10.48	10.36	10.52	10.48	10.6	10.6	10.7	N/A	N/A	0.99	0.99	0.97	N/A	N/A
D8	12.24	12.23	12.16	12.34	12.33	12.4	12.4	12.3	N/A	N/A	0.99	0.99	0.99	N/A	N/A
D9	14.99	15.03	14.95	15.15	15.23	15.3	15.3	14.9	N/A	N/A	0.98	0.98	1.00	N/A	N/A
D10	24.92	24.75	25.58	25.11	25.10	25.0	26.2	25.4	N/A	N/A	1.00	0.94	1.01	N/A	N/A
Median	5,503	5,903	6,235	6,644	6,818	5,901	5,699	5,594	N/A	N/A	0.93	1.04	1.11	N/A	N/A
Mean	6,484	6,945	7,395	7,867	8,046	6,841	6,706	6,407	N/A	N/A	0.95	1.04	1.15	N/A	N/A
Gini	32.2	31.9	32.8	32.8	32.9	33	35	34	N/A	N/A	0.97	0.91	0.98	N/A	N/A
S80/S20	5.2	5.2	5.4	5.5	5.5	6	7	6	N/A	N/A	0.89	0.80	0.88	N/A	N/A

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

Sources: EUROMOD simulations; External: Eurostat

Table 4.10-Poverty rates by gender and age

	EUROMOD (1)					External (2)					Ratio (1/2)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
40% median HDI															
Total	6.52	5.93	6.62	7.15	7.23	9.20	9.80	10.10	N/A	N/A	0.71	0.61	0.66	N/A	N/A
Males	6.16	5.82	6.07	6.49	6.56	8.40	9.60	9.60	N/A	N/A	0.73	0.61	0.63	N/A	N/A
Females	6.85	6.04	7.13	7.77	7.85	10.00	10.00	10.50	N/A	N/A	0.68	0.60	0.68	N/A	N/A
50% median HDI															
Total	12.50	12.13	12.68	13.55	13.91	15.20	16.20	15.10	N/A	N/A	0.82	0.75	0.84	N/A	N/A
Males	11.33	11.03	11.46	12.13	12.45	13.80	14.80	13.80	N/A	N/A	0.82	0.75	0.83	N/A	N/A
Females	13.59	13.16	13.83	14.89	15.27	16.40	17.40	16.30	N/A	N/A	0.83	0.76	0.85	N/A	N/A
60% median HDI															
Total	18.98	18.87	19.24	19.79	20.23	20.70	22.20	21.20	N/A	N/A	0.92	0.85	0.91	N/A	N/A
Males	17.25	17.21	17.47	17.99	18.37	19.00	20.80	19.50	N/A	N/A	0.91	0.83	0.90	N/A	N/A
Females	20.60	20.42	20.91	21.47	21.98	22.30	23.60	22.80	N/A	N/A	0.92	0.87	0.92	N/A	N/A
70% median HDI															
Total	26.22	26.30	26.74	26.97	27.44	28.20	29.40	28.30	N/A	N/A	0.93	0.89	0.94	N/A	N/A
Males	24.32	24.48	24.93	24.97	25.53	26.40	27.50	26.20	N/A	N/A	0.92	0.89	0.95	N/A	N/A
Females	28.01	28.00	28.44	28.84	29.24	30.00	31.10	30.30	N/A	N/A	0.93	0.90	0.94	N/A	N/A
60% median HDI															
0-15 years	24.55	24.78	24.76	25.54	26.17	26.40	28.30	28.50	N/A	N/A	0.93	0.88	0.87	N/A	N/A
16-24 years	18.30	18.15	18.39	19.13	19.21	20.30	23.70	21.20	N/A	N/A	0.90	0.77	0.87	N/A	N/A
25-49 years	14.85	14.90	14.84	15.17	15.48	15.80	17.70	17.20	N/A	N/A	0.94	0.84	0.86	N/A	N/A
50-64 years	14.24	14.20	14.30	15.05	15.25	15.50	17.20	16.50	N/A	N/A	0.92	0.83	0.87	N/A	N/A
65+ years	28.82	28.05	30.06	30.46	31.55	32.20	31.20	28.20	N/A	N/A	0.90	0.90	1.07	N/A	N/A

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

Sources: EUROMOD simulations; External: Eurostat

Table 4.11-Minimum wage validation

	Baseline (1)					Min Wage Incl. (2)					Ratio (1/2)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Equivalised disposable income	31,613	33,891	36,036	38,310	39,168	31,653	33,927	36,068	38,354	39,218	0.999	0.999	0.999	0.999	0.999
Employment income	24,079	25,582	27,123	30,287	31,178	24,125	25,623	27,160	30,339	31,237	0.998	0.998	0.999	0.998	0.998
Income tax	2,236	2,382	2,589	2,775	2,843	2,238	2,384	2,591	2,778	2,846	0.999	0.999	0.999	0.999	0.999
Total employee SICs	2,374	2,344	2,639	2,925	3,025	2,377	2,346	2,641	2,928	3,028	0.999	0.999	0.999	0.999	0.999
Total employer SICs	3,987	3,969	4,438	4,919	5,087	3,991	3,972	4,441	4,923	5,092	0.999	0.999	0.999	0.999	0.999
Total self-employed SICs	809	739	1,013	898	919	809	739	1,013	898	919	1.000	1.000	1.000	1.000	1.000

Sources: EUROMOD calculations with and without minimum wage