

EUROMOD

COUNTRY REPORT



BULGARIA (BG)

2011-2015

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

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

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 G3.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD. For more information, see:

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

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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 Social Insurance Code (Кодекс за социално осигуряване) the standard retirement age in 2011 was 60 years of age for women and 63 years for men. However, the right to an old-age pension arises if the following cumulative conditions are fulfilled: (1) the person has reached the statutory retirement age and (2) the person can prove the existence of a minimum period of a contributory service.

Table 1.1 Conditions for acquiring a right to an old-age pension (2011-2015)

Year	Women		Men	
	Standard retirement age	Minimum period of contributory service	Standard retirement age	Minimum period of contributory service
2011	60 y. 0 m.	34 y. 0 m.	63 y. 0 m.	37 y. 0 m.
2012	60 y. 4 m.	34 y. 4 m.	63 y. 4 m.	37 y. 4 m.
2013	60 y. 8 m.	34 y. 8 m.	63 y. 8 m.	37 y. 8 m.
2014	60 y. 8 m.	34 y. 8 m.	63 y. 8 m.	37 y. 8 m.
2015	60 y. 8 m.	35 y. 0 m.	63 y. 8 m.	38 y. 0 m.

- 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 (65 years in 2011, 65 years and 4 months in 2012 and 65 years and 8 months in 2013-2015) 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 2011-2015 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. However, in order to address the need of stronger fiscal consolidation, modest or no pension indexation was applied since 2011. The following table gives an overview:

Table 1.2 Pension indexation rules (2011-2015)

Year	Indexation rules	Ad-hoc increases and lump-sum supplements
2011	No indexation	No ad-hoc increases
2012	No indexation	No ad-hoc increases
2013	As of 01.4.2013: - pensions granted before 31.12.2009 - increased by 9.8% - pensions granted between 01.1.2010 to 31.12.2010 - increased by 8.8% - pensions granted from 01.1.2011 to 31.12.2011 - increased by 5.7% - pensions granted from 01.1.2012 to 31.12.2012 - increased by 2.2%	In December all pensioners whose pensions are below BGN 251, received a lump sum supplement of BGN 50. The supplement was paid in 2014.
2014	As of 01.7.2014 all pensions granted before 31.12.2013 were increased by 2.7%.	In April 2014, all pensioners received a lump-sum supplement. It was differentiated according to the amount of the pension: - pensions up to BGN 150 - BGN 40 - pensions between 150.01-251.00 - BGN 30 - pensions above BGN 251.00 - BGN 20 In December all pensioners whose pensions are below BGN 286 per month, received a lump sum supplement of BGN 40. The supplement was paid in 2014.
2015	It is envisaged that as of 01.7.2015 all pensions granted before 31.12.2014 will be increased by 1.9%.	In April 2015, all pensioners the amount of whose pension is below BGN 286 per month, received a lump-sum supplement of BGN 40.

- The absolute amounts of the minimum old-age pension is determined annually in the Law on the Budget of the Public Social Insurance (Закон за бюджета на държавното обществено осигуряване). The same is for the minimum amount of the unemployment benefit and the amount of the cash benefit for bringing up a child up to age of 2.

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

- The absolute amounts of the family allowances are determined annually in the 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. It is equal to 60% of the contributory income for the last 24 months (since 01.01.2012). 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 (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 (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 (2011-2013) and for the last 18 months (2014) and for the last 24 months (2015). . The daily cash benefit may not be more than the average daily net remuneration for the period based on which the benefit has been calculated, or less than the minimum daily wage.

Cash benefit for bringing up a child up to age of 2 (*Парично обезщетение за оглеждане 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.

Cash benefit in case of adoption of child between 2 and 5 years (*Парично обезщетение при осиновяване на дете от 2- до 5 годишна възраст*). The benefit has been introduced since 1st of January 2014. In is given to people who have been insured against the sickness and maternity risks for at least 12 months and who are in paid leave in case of adoption of child between 2 and 5 years, according to the Labour Code (*Кодекс на труда*). The duration of the benefit is 365 days, but cannot be received after the 5th year of the child. The benefit amount is equal to 90% of the contributory income for the last 24 months. The daily cash benefit may not be higher that the average daily net remuneration for the period used as a basis for determining the amount of the benefit, or lower than the minimum daily wage.

Monthly allowance for bringing up a child up to age of 1 (*Месечна помощ за отглеждане на дете до навършване на 1 година*): it is a non-contributory 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 2015 – 60 years and 8 months for women and 63 years and 8 months for men) and whose length of contributory service is minimum 35 years (women) and 38 years (men). Persons having insufficient period of insurance can retire at age of 65 years and 8 months if they have at least 15 years of insurance. The amount of the pension depends on: (1) the amount of the average contributory income for the country for the last 12 months preceding the date of retirement; (2) the monthly ratios between the past earnings of the claimant and the average contributory income for the country for the assessment period; (3) the duration of the pension insurance (number of years). 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 2011.

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) are compulsory for all individuals having earnings from at least one source of taxable income. The Social insurance contributions (SIC) are to be split between the employer and employee. There are three different classes of insured (Labour categories) according to the level of professional risk. The vast majority of hired employment in Bulgaria work under the so-called “III Category of Labour”. For this category the proportion of SIC is 56.5% for the employer and 43.5% for the employee (pension insurance) and 60% to 40% (other risks). In addition, the state pays a contribution in amount of 12% for each person insured in Pensions Fund. The insurance against employment injury and occupational disease is for the sake of the employer. In the same time, for the public employee (civil servants, military, judicial system) the total amount of compulsory SIC is covered by the state.

1.3.1. Pensions Fund (Фонд „Пенсии“). 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. General Diseases and Maternity Fund (Фонд „Общо заболяване и майчинство“) This SIC is used to provide eligibility of the employee to benefits in cases of general 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 Fund (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.

1.3.5. Employment Injury and Occupational Disease Fund (Фонд „Трудова злополука и професионална болест“). The contribution to this fund is between 0.4 and 1.1% and is paid solely by the employer. The contribution rate is determined by economic sector in the Law on the Budget of the Public Social Insurance.

1.3.6. 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 2011-2012. 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 2011-2015 the tax rate is 10% and is levied on the corporate profit value specifically assessed by a financial accounting procedure under the regulations of the Accounting Law and the Law on Corporate Taxation.

1.4.6. Value added tax (данък върху добавената стойност) Value added tax has a rate for the period 2011-2015 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 2011-2015 simulated by EUROMOD covers only those instruments that have been identified as feasible for simulation in the framework of EU-SILC 2012 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?
		2011	2012	2013	2014	2015	
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							
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>bmaprct_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>bmaycct_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>bmaprnc_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>bchmt00_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>bchedyc_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	

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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
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?
	2011	2012	2013	2014	2015	
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, 2011-2015

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, 2011-2015

Policy	Description	Main output
SetDefault_bg	Set default values	
UAA_bg	Uprating by Average Adjustment (switch policy, off in the baseline)	
Uprate_bg	Uprating factors	
ConstDef_bg	Definition of constants used in the simulation	
Ildf_bg	Definition of income lists	
Tudf_bg	Definition of tax and benefit units	
TCA_bg	correction for tax evasion: 1) UDB SILC - comparing gross and net income from employment; 2) UDB SILC+ national SILC variables - using information on base for calculating SIC (switch policy, on in the baseline)	
yem_bg		
neg_bg	Recoding negative values of self-employment income to 0	
tscer_bg	Employers social insurance contributions	ils_sicer
tscee_bg	Employees social insurance contributions	ils_sicee
tsese_bg	Self-employed social insurance contributions	ils_sicse
tin_bg	Personal income tax	tin_s
bunct_bg	Unemployment benefit	bunct_s
bmaycct_bg	Contributory maternity benefit: cash benefit for bringing up child up to age 2	bmaycct_s
bmaprct_bg	Contributory maternity benefit: cash benefit for pregnancy and childbirth	bmaprct_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
Bchmt00_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)	bchmt00_s
bchedyc_bg	Targeted allowance for pupils	bchedyc_s
bchbals_bg	Birth grant (also for adoption)	bchbals_s
bmaprnc_bg	Benefit for raising a child under the age of 1, non-contributory	bmaprnc_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 2011-2015:

- 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 minimum monthly payment for uninsured people only for health insurance 16.80 BGN (2011-2015).

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 calibrates the results from the policy simulations by taking into account potential tax evasion. TCA_bg is a switch policy, i.e. the model can be run both with and without the correction taking place (i.e. the policy can be switched on or off). In the baseline, the policy is switched on in all policy years; hence, the results are calibrated for tax evasion. For detailed explanation on how the correction is carried out, see section 3.3.4.

UAA_bg is another switch policy in the Bulgarian model which adjusts the uprating of public pensions. In the baseline simulations, the switch policy UAA_bg is off and public pensions are uprated over time by taking into account the indexation rules (see section 3.4 for more details on uprating). However, for certain research purposes e.g. nowcasting poverty figures it might be more useful to adjust pensions by the growth in their average amounts. By doing so, pensions will be adjusted not only according to the indexation rules but also by taking into account compositional changes e.g. in the pensioners population. This adjustment can be enabled by switching on the policy UAA_bg.

2.4 Social benefits

2.4.1 Unemployment benefit (обезщетение за безработица) (*bunct_s*)

- **Definition**

The unit of analysis is the individual (*tu_individual_bg*).

- **Eligibility conditions**

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

- is currently not entitled to an old-age pension;

- is not undertaking an economic activity requiring compulsory social insurance (i.e. employed or self-employed; registered agricultural producer) became unemployed involuntarily;
 - has been insured for *at least 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 (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 since 2013):

Monthly thresholds for the unemployment benefit:	2011	2012	2013	2014	2015
Minimum (BGN)	151.20	151.20	151.20	151.20	151.20
Maximum (BGN)	N/A	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 for pregnancy and childbirth (обезщетение за бременност и майчинство) (*bmaprct_s*)

- **Definition**

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

- **Eligibility conditions**

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

Years	2011	2012	2013	2014	2015
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 (18 months in 2011; 24 months – in 2012 and 2013; 18 months in 2014; 24 months – since 01.01.2015). The amount of the benefit should not be lower than the statutory minimum wage and not higher than the person's net wage:

Thresholds	2011	2012	2013	2014	2015
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	2011	2012	2013	2014	2015
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 Birth grant (еднократна помощ при раждане) (*bchbals_s*)

- **Definition**

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

- **Eligibility conditions**

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

- **Income test**

Not applicable

- **Benefit amount**

The amount of the benefit depends on the child rank:

Birth grant amount (BGN)	2011	2012	2013	2014	2015
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 Contributory maternity benefit for bringing up a child up to the age of 2 (обезщетение за отглеждане на дете до 2г.) (*bmaycct_s*)

- **Definition**

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

- **Eligibility conditions**

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

Years	2011	2012	2013	2014	2015
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:

Years	2011	2012	01.01-30.06.2013	01.07-31.12.2013	2014	2015
Benefit amount (BGN)	240	240	240	310	340	340

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 Non means-tested child benefit for mothers in tertiary education (*bchnm01_s*)

- **Definition**

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

- **Eligibility conditions**

This is a non-contributory lump sum benefit for a mother of a child up to age 1 under the condition that she is a regular tertiary student. The benefit can be received if the child is not placed in a specialized child-care institution.

- **Income test**

Not applicable

- **Benefit amount**

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

Year	2011	2012	2013	2014	2015
Benefit amount (BGN)	2 880	2 880	2 880	2 880	2 880

2.4.6 Non means-tested child benefit for twins (*bchnm02_s*)

- **Definition**

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

- **Eligibility conditions**

This is a non-contributory lump sum benefit for a mother of twins up to age 1. The benefit 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	2011	2012	2013	2014	2015
Benefit amount (BGN)	2 400	2 400	2 400	2 400	2 400

2.4.7 Child benefit for education (целева помощ за ученици) (*bchedyc_s*)

- **Definition**

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

- **Eligibility conditions**

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

- **Income test**

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

Year	2011	2012	2013	2014	2015
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**

School year	2010/11	2011/12	2012/13	2013/14	2014/15
Lump-sum amount (BGN)	150	150	150	250	250

EUROMOD Note: It is a lump-sum benefit paid in the beginning of the school year (September of the respective year). The amount of the benefit is determined for a school year (September – May of the respective calendar year). Thus, the school year differs from the calendar year.

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

- **Definition**

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

- **Eligibility conditions**

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

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	2011	2012	2013	2014	2015
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 2007-2015. It is paid each month until the completion of age 1 of the child.

2.4.9 Means-tested child benefit (месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст) (*bchmt00_s*)

- **Definition**

The unit of analysis is the family (*tu_bchmt00_bg*).

- **Eligibility conditions**

This is a non-contributory allowance paid to families with children up to 18 years of age (or 20 years of age if the child is enrolled in 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	2011	2012	2013	2014	2015
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	2011	2012	2013	2014	2015
First child (per child)	35	35	35	35	35
Second child (per child)	35	35	35	50	50
Third child and each consequent child (per child)	35	35	35	35	35
Twins (per child)	52.5	52.5	52.5	75	75
Permanently disabled child (per child)	70	70	70	100	100

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_individual_bg*).

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

- **Eligibility conditions**

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

- **Income test**

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

Year	2011	2012	2013	2014	2015
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	2011	2012	2013	2014	2015
Social old-age pension	100.86	100.86	107.72	111.50	123.20

Note: Figures are in BGN, annual averages, per month. The 2015 data is based on the legislation currently in force.

2.4.11 Targeted allowance for heating (*bsaht_s*)

- **Definition**

The unit of analysis is the household (*tu_hh_bg*).

- **Eligibility conditions**

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

- **Income test**

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

Category of person	2011-2012	2013	2014-2015
person living alone	210.0%	233.08%	233.08%
person with reduced working capacity of 50% or more living alone	249.6%	272.68%	272.68%
orphan child	196.8%	219.88%	219.88%
lone parent with one or more children aged under 18 (under 20 for children attending school)	249.6%	272.68%	272.68%
two spouses living together (per each spouse)	144.0%	167.08%	167.08%
child aged between 0-18 (up to 20 when studying)	157.2%	180.28%	180.28%
child with permanent disabilities	196.8%	219.88%	219.88%
child accommodated in relatives' family or in foster family (as a result of a child protection measure)	N/A	N/A	224.68%
person cohabiting with other persons	201.6%	224.68%	224.68%
pregnant woman 45 days before the term	183.6%	206.68%	206.68%
parent taking care of a child under age of 3	183.6%	206.68%	206.68%
person over the age of 70	183.6%	206.68%	206.68%
person over the age of 75 living alone	288.0%	297.88%	297.88%
person over the age of 65 living alone	274.8%	311.08%	311.08%
person with reduced working capacity of 50% or more	183.6%	206.68%	206.68%
person with reduced working capacity of 70% or more	223.2%	246.28%	246.28%
person with reduced working capacity of 90% or more	274.8%	297.88%	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.

EUROMOD note: While determining the right to a benefit, the income from pensions, determined after 01.07.2008, shall be reduced by a coefficient equal to 1.245.

- **Benefit amount**

The amount of the benefit is determined by the Minister of Labour and Social Policy for each “heating season” (a period of 5 months: from 1st of November to 30th of March). The allowance for electricity, solid fuel and natural gas is paid to the beneficiary in accordance with the following schedule: 1) for November and December – not later than the month in which the allowance is granted; 2) for January, February and March – not later than 31 January. The allowance for central heating is paid by the Social Assistance Agency to the given heating companies, i.e. in that case this is in-kind (not cash) benefit. It is paid for each month of the heating season. The amount of the allowance is the same for all heating types.

	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
	heating season				
Benefit amount	56.86	57.92	65.72	65.72	72.20

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

2.4.12 Monthly social assistance allowance (guaranteed minimum income) (*bsa00_s*)

- **Definition**

The unit of analysis is the household (*tu_hh_bg*). See also the definition in 2.3.14.

- **Eligibility conditions**

This is a non-contributory allowance granted to households with low incomes. However, there are particular categories of persons who are non-eligible for this benefit. If such persons are part of the household, then they should be removed from the assessment unit. These categories are:

- 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	2011	2012	2013	2014	2015
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	30.0%	30.0%	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

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

Step 2: Calculating incomes

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

Step 3: Calculating benefit amount

Benefit = DMI – incomes = 187.85 – 0 = 187.85

2.5 Social contributions

Depending on the occupation and the risk undertaken at work individuals may refer to 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 (*ils_sicee*)

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

	2011	2012	2013	2014	2015
1. Pension Fund					
1.a. PF rate for persons born before 1960	7.9	7.9	7.9	7.9	7.9
1.b. PF rate for persons born after 1959	5.7	5.7	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	9.7	9.7	9.7	9.7	9.7
Upper threshold for the contributory income (BGN)	2000	2000	2200	2400	2600
Minimum wage (BGN)	240/270*	270/290**	310	340	360***380/
Average contributory income (BGN)	594	618	649	683	

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
 *** from 01.01.2015 to 30.06.2015 – 360 lv, from 01.07.2015 – 380 lv

(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. Furthermore, in EU-SILC there are about 5 percent (weighted) of people who report employment income lower than the minimum wage level – they may belong to a labour category with lower minimum threshold than the minimum wage or they may be involved in the informal economy. Because of lack of data, in the simulations we have not taken into account for the minimum thresholds.
- Labour remuneration for each month of the year is not available in EU SILC survey. Hence, the average monthly amount of the earnings is assessed on the basis of the annual gross employment income (PY010G) and the number of months in hired employment as declared by the individual during the survey.
- Due to lack of reliable data about remunerations received on Civil Contracts in the EU SILC survey the gross earnings from Civil Contracts are merged with the major source, i.e. the earnings from Labour Contracts. For this reason, an overestimation bias could be expected regarding the compulsory SIC. However, this bias is of minor significance due to the following reasons:
 - 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.
 - 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 2011-2013).

2.5.2 Employer social contributions (ils_sicer)

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 the 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	2011	2012	2013	2014	2015
1. Pension Fund					
1.a. PF rate for persons born before 1960	9.9	9.9	9.9	9.9	9.9
1.b. PF rate for persons born after 1959	7.1	7.1	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	13.3	13.3	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 2011/2015 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	2011	2012	2013	2014	2015
1. Pension Fund					
1.a. PF rate for persons born before 1960	12.9	12.9	12.9	12.9	12.9
1.b. PF rate for persons born after 1959	10.1	10.1	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	23.3	23.3	23.3	23.3	23.3
Labour Category I	2011	2012	2013	2014	2015
1. Pension Fund					
1.a. PF rate for persons born before 1960	12.9	12.9	12.9	12.9	12.9
1.b. PF rate for persons born after 1959	10.1	10.1	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	28.3	28.3	28.3	28.3	28.3

2.5.3 Self-employed social contributions (ils_sicse)

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.
- 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

	2011	2012	2013	2014	2015
1. Pension Fund	17.8%	17.8%	17.8%	17.8%	17.8%
Lower threshold	260	420	420	420	420
Upper threshold	2000	2000	2200	2400	2600
Lower threshold for the contributory base for registered agricultural or tobacco producers:					
If this is their only source of income (25%)					
If there are also other sources (50%)	240	240	240	240	300

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 from previous year the threshold is 420lv.

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

2.5.4 Health insurance contributions

- 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 2011-2013
- 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 16.80 BGN in 2011--2015

2.5.5 Credited insurance contributions (ils_sicct)

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

	2011	2012	2013	2014	2015
1. Pension Fund					
1.a. PF rate for persons born before 1960	17.8	17.8	17.8	17.8	17.8
1.b. PF rate for persons born after 1959	12.8	12.8	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	31.0	31.0	31.0	31.0	31.0
Upper threshold for the contributory income	2000	2000	2200	2400	2600

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

2.6 Personal income tax (tin_bg)

2.6.1 Tax unit

- PIT system in Bulgaria in 2011-2015 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 2011-2012. 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

1. Earnings from Labour Contract	2011	2012	2013	2014	2015
Gross earnings					
SIC	9.70%	9.70%	9.70%	9.70%	9.70%
HIC	3.20%	3.20%	3.20%	3.20%	3.20%
Tax base = Gross earnings – SIC – HIC					
2. Earnings from Civil Contract	2011	2012	2013	2014	2014
Gross earnings					
Normatively recognised expenditures (NRE)	25%	25%	25%	25%	25%
Taxable income = Gross earnings – NRE					
SIC	7.90%	7.90%	7.90%	7.90%	7.90%
HIC	3.20%	3.20%	3.20%	3.20%	3.20%
Tax base = Taxable income – SIC – HIC					
3. Income from self-employment as sole entrepreneur	2011	2012	2013	2014	2015
Gross self-employment earnings					
SIC	17.80%	17.80%	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	2011	2012	2013	2014	2015*
Gross self-employment earnings from each source					
NRE (separate by income source)					
• Freelance professions	25%	25%	25%	25%	25%
• Agricultural activity (processed products)	40-60%	40-60%	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	17.8%	17.8%	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)	2011	2012	2013	2014	2015*
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)	2011	2012	2013	2014	2015
1. Standard deduction for permanently disabled persons, BGN (i.e. with 50% or higher level of disability)	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)	–	–	–	–	200
For 2 children (BGN)	–	–	–	–	400
For 3 and more children (BGN)	–	–	–	–	600
For permanently disabled child (BGN)	–	–	–	–	2000
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

In the period 2011 – 2015 there is a specific tax allowance for young families with mortgage. The amount of the mortgage interest paid during the year is subtracted from the annual consolidated tax base. The tax allowance for mortgage interest can be applied, if the family fulfill the following conditions simultaneously:

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

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

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

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 2011-2015 is flat: **10% of the final consolidated tax base.**

Only in 2014 for earnings from labour contract up to 4080 (on annual bases) PIT is not due. PIT is currently withdrawn monthly during the year and is refunded after the submission of the tax declaration in 2015. To use this tax credit the individual has to fulfill simultaneously the following conditions:

1. The incomes during the year are only from labour contracts;

2. The annual incomes from labour contracts do not exceed the amount of 4080 BGN, excluding the additional seniority bonus (i.e. additional top-up monthly percentage for each year of labour service).

Since the beginning of 2013 incomes from interest on deposits have been included in the annual tax base. The tax rate is 10% for 2013 and 8% for 2014-2015.

3. Data

3.1 General description

The Bulgarian dataset for EUROMOD 2011-2015 simulation is derived from the EU-SILC standard UDB 2012 (income reference year 2011). It contains the data from wave 2012 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 April-July each year.

The 2012 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_2012_b2
Original name	Статистика на доходите и условията на живот, 2010 (EU-SILC, version UDB_c12D_ver 2012-1 from 01-03-14)
Provider	National Statistical Institute of Bulgaria
Year of collection	2012
Period of collection	2012
Income reference period	2011
Unit of assessment	Household
Sample size	5,679 HH 14,487 IND
Response rate	84%

Notes: “Household” is defined as a person living alone or a group of people who live together in the same dwelling and share expenditures, including the joint provision of the essentials of living. Family members living together but not sharing their income and expenditure with other family members make up separate households.

The sample for EU-SILC 2012 is selected from the sampling frame based on the Population Census 2011. The database includes all private households and their current members residing

in the respective territory. Persons living in collective households and in institutions are excluded from the target population. Students' and workers' hostels are excluded at the first stage of selection of PSUs because these individuals rarely stay on the same addresses and are difficult for tracing.

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

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 [SILC ESQRS A BG 2012 0000 - Version 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 population is the National Civil Registration System. ISD were used for verifying correctness of identifiers and for checking against previously collected information (e.g. household composition, birth dates, gender, etc.) for those individuals who are not observed for the first time.

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

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

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

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

personal income from agriculture, property or land were found to be recorded in both household and individual questionnaires.

During the preparations of the EUROMOD input database, in order to guarantee consistency between demographic variables and income variables which refer to the previous year (and on which EUROMOD simulation are based), 22 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, 28 households (or 92 individuals) with missing non-response inflation factor have been dropped. The resulting sample includes 5,679 households or 14,487 individuals.

3.3 Imputations and assumptions

3.3.1 Time period

The reference period for the various attributes is:

- demographic variables (age, marital status, education): at the date of the interview;
- economic activity status: recorded both at the date of interview (RB210) and for each month during the income reference year (PL211A-L);
- current employment variables: at the date of the interview;
- income data: calendar year 2011 (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 2012 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 were missing these amounts were imputed by “backward calculation” applying the PIT-SIC rules on the net income. This net-to-gross conversion was performed internally by NSI without making special adjustments for tax evasion, i.e. assuming full tax compliance. The procedure was informed by all the relevant information available in the national SILC database. Moreover, administrative records from NSSI were used to assist this procedure. The gross income was obtained by summing up the assessed PIT duty and compulsory SIC to the recorded net income.

3.3.3 Disaggregation of benefit variables

A range of UDB EU-SILC benefit variables have been obtained after aggregation of several country-specific benefits that are recorded by the National SILC survey. The aggregation is done by benefit function, e.g. old-age, disability, sickness, unemployment, family. A typical case is the target variable HY050 “Family / Children related allowances” (bfa) which is an aggregate variable that includes the items of the following two main categories of benefits: maternity and family benefits (see 1.3.3). However, to simulate certain policies in EUROMOD information about the entitlement of single benefits is required. Thus, efforts were made to disaggregate the broader benefit categories by imputing the separate components. 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 lists the benefits imputed into the EUROMOD input data set based on information from the aggregated EU-SILC variables for family (bfa/HY050), unemployment (bun/PY090) and social assistance (bsa/HY060) benefits. These variables were disaggregated into as much detail as possible. After the disaggregation, the remaining benefit amounts which could not be split further were included in the benefits bfaot (Other family benefits), bunot (Other unemployment benefits) and bsaot (Other social assistance benefits).

All benefits listed in Table 3.3.3.1 are also simulated in EUROMOD apart from the three benefits – bfaot, bunot and bsaot. Thus, among all imputed benefits only these three are used in the baseline simulations and the calculation of household disposable income. The rest of the imputed benefits are not used as their simulated in EUROMOD counterparts are taken into account instead.

Table 3.3.3.1 Imputed variables from EU-SILC 2012

Variable name in EUROMOD input data	Variable description	Component of the aggregated variable in EUROMOD input data/ EU-SILC
bmaprct	Cash benefit for pregnancy and childbirth (обезщетение за бременност и раждане на дете)	bfa/HY050
bmaycct	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
bchedyc	Child benefit for education (целева помощ за ученици)	bfa/HY050
bmaprnc	Monthly benefit for bringing up child up to age 1 (месечна помощ за отглеждане на дете до 1 г. възраст)	bfa/HY050
bchmt00	Monthly child allowance (месечна помощ за отглеждане на дете)	bfa/HY050
bfaot	Other family benefits	bfa/HY050
bunct	Unemployment benefit (обезщетение за безработица)	bun/PY090
bunot	Other unemployment benefits	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
bsaot	Other social assistance benefits	bsa/HY060

3.3.4 Correction for tax evasion

In the simulation of social insurance contributions, income tax and means-tested family 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_2012_b2). 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 evading taxes if her (positive) net and gross employment incomes are equal. The individual is assumed to be a full tax evader and hence, no income tax and social insurance contributions are simulated.

Furthermore, for the simulation of the income-test for family and social assistance benefits, individual earnings are not taken into account if the individual is assumed to be a full tax evader.

There is no correction for tax evasion of self-employment income.

3.4. *Uprating factors*

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

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

4. Validation

4.1. Aggregate Validation

EUROMOD results are validated against external figures. 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 the external data 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 [2011-2015]	Bulgarian EU-SILC 2012 [income year 2011]
	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
Unemployment benefits	+	+
Old-age benefits	+	+
Survivor' benefits	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
Family/children related allowances	+	+
Social exclusion not elsewhere classified	+	+
Housing allowances	+	+
Regular inter-household cash transfer received	+	+
Interests, dividends, etc.	+	+
Income received by people aged under 16	+	+
Regular taxes on wealth	-	-
Regular inter-household cash transfer paid	-	-
Tax on income and social contributions	-	-
Repayments/receipts for tax adjustment	n/a	n/a

4.1.2. Validation of incomes (not simulated in EUROMOD)

Table 4.2 presents the annual average level of employment and unemployment in Bulgaria for the period 2011-2014. 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 data from the Labour Force Survey (LFS) are preferred since the LFS estimates the quarterly number of employed and unemployed taking into account the *actual* employment status of the sampled individuals at the critical moment of observation. This way the LFS statistics are suggested here as a better source of external statistics due to two main reasons:

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

Table 4.2 shows that the number of employed in EU-SILC is very close to the one in LFS. However, this is not the case with the number of unemployed – in 2011 there are twice as many unemployed in EU-SILC than in LFS. This could be explained by respondents misreporting their employment status, i.e. a tendency of overstating the unemployment status by some individuals, especially self-employed, during the survey.

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

Table 4.3 shows that the number of individuals with employment income (labeled in EUROMOD as *yem*) in the EU-SILC survey is higher than the number from the National Accounts data (by 31 percentage points (pp)). This could be explained mainly by unofficial employment providing “grey economy” wages that are not reported to NSSI and the National Revenue Agency (NRA). (For analysis on the grey economy in Bulgaria, see Nonchev et al. (2011).) Another possible explanation is that EU-SILC captures individuals who work in family farms and declare themselves in the survey as employees. In contrast, Table 4.4 shows that the total income from employment in EU-SILC is about 7pp-8pp lower in 2011-2014 than the National Accounts figure for “Wages and Salaries”. It should be noted though that the National Accounts data captures in addition to gross wages/salaries also in-kind payments (e.g. company car) which are reported separately from employment income in EU-SILC. Thus, the EU-SILC and National Accounts figures are not strictly comparable. The average employment income in EU-SILC is around 30pp lower in 2011 (31pp in 2012, 32pp in 2013 and 28pp in 2014) than the average in the National Accounts data. One of the reasons is the different concept of employment income in EU-SILC and National Accounts. Another reason could be that individuals involved in the grey economy who may be captured in the survey but not in the National Accounts have lower wages which push down the average employment income in EU-SILC. Finally, it is also possible that employment income (on average) has been underreported in EU-SILC.

In terms of self-employment income (*yse*), the total number of self-employed in EU-SILC is much lower (approximately 40pp in 2011) than the number from the NSSI figures. Furthermore, the aggregate amount of self-employment income is also lower in EU-SILC compared to data from the National Accounts (by about 17pp in 2011 and 34pp in 2012). This could be due to underrepresentation of large-scale entrepreneurs in the survey sample. The results are validated upon the “Operating surplus / Mixed income” National Accounts indicator for Sector S.14 Households.¹

¹The National Accounts include data from the Annual Census of Enterprises which is based on exhaustive and compulsory reporting of enterprises about their economic performance (e.g. number of employees and spending on wages). Additionally, the population of self-employed is estimated using information on the official number of registered self-employed (including employers) and information from LFS and the Household Budget Survey (HBS).

Investment income (yiy) was found not to be feasible for validation, as the recording of such sources in surveys is usually not reliable. Similarly, the income from shares and other securities, e.g. the dividend income is not recorded consistently in the National Accounts or in the survey data.

We could not find information from external sources on the number of recipients/payers and total amount of private transfers (paid to and received from other households).

Finally, in EU-SILC the total amount of income from rent is about 30pp higher in 2011 than in the National Accounts figure. This could be explained by potential underreporting of the income source to tax authorities in order to avoid the payment of taxes. To account for the growth in the income source over time, income from rent has been uprated by the growth in the average household income from property (see section 3.4 and Annex 1 for details). In 2012, the uprated income from rent in EU-SILC is 10 percentage points lower than the figure from the National Accounts.

Table 4.5 and Table 4.6 contain the validation results for the benefits and pensions in EU-SILC which are not simulated in EUROMOD. As an overall result, EU-SILC provides a relatively good representation of the cash benefits paid to individuals and households in 2011 in Bulgaria.

In terms of all pensions (the sum of old-age, disability and survivor pensions), both the number of recipients and aggregate amounts in EU-SILC seem to be in line with external figures. However, looking at the different types of pensions separately we can see that old-age pensions are overreported in EU-SILC compared to the NSSI figures: in 2011 the number of old-age pension receipts in EU-SILC is 20pp higher than in the NSSI data; the aggregate amount of old-age pensions reported in EU-SILC is 33pp higher in 2011 (31pp in 2012, 39pp in 2013 and 17pp in 2014) than in the NSSI data.

In contrast, survivor pensions are hugely underreported in EU-SILC. Similarly, disability pensions also seem to be not well captured in EU-SILC compared to NSSI figures. The most likely explanation is that EU-SILC respondents may have misclassified survivor and disability pensions as personal old-age pensions. It is also possible that young respondents entitled to survivor pensions may have reported them in EU-SILC under the variable for income received by children below 16 years of age.

According to the legislation rules entitlement to family or social assistance benefits which are simulated in EUROMOD is defined based on the sum of all pensions. Therefore, we do not expect any bias in the simulation results due to pension misreporting.

The number of recipients of sickness benefits is lower in EU-SILC compared to external data (in EU-SILC the number of benefit receipts is only about 0.5 times the number from the external data). However, in EU-SILC the aggregated amount of sickness benefits is higher than the external figure by about 18pp in 2011 (16pp in 2012, 3pp in 2013, 4 pp in 2014; in 2015 EU-SILC figure is lower by about 1pp than the external figure).

4.1.3. Validation of simulated incomes

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

First, both the number of recipients and the aggregate amount of the contributory unemployment benefit (labeled in EUROMOD as `bunct_s`) have been oversimulated in EUROMOD, i.e. they are much higher than the figures from external official sources. The

number of recipients in EUROMOD is 2.5 times in 2011 (between 2.5 and 2.9 times in 2012-2015) the external figure. The aggregate amount of `bunct_s` simulated in EUROMOD is somewhat lower but still 35pp higher in 2011 (between 24pp and 33pp in 2012-2015) than the external figure. The benefit is partially simulated, i.e. it is conditioned on having received *any* unemployment benefit reported in the aggregate EU-SILC variable PY090 (labeled in EUROMOD as `bun`). Thus, the simulation of `bunct_s` depends to a large extent on how well the benefit is captured in the EU-SILC data. Furthermore, it depends on the content of the aggregate variable `bun` – whether it includes mostly receipt of `bunct_s` or also of many other unemployment benefits. Table 4.4 shows that there are 321 thousand (weighted) receipts of `bun` reported in EU-SILC – a number much higher than the external figure of 107 thousand recipients of `bunct_s`. This explains why `bunct_s` is oversimulated in EUROMOD. (One could also simulate `bunct_s` conditional on the imputed variable `bunct` (for details on the imputations see section 3.3.3) but the number of imputed benefit receipts is much lower than the number according to external sources. In this case, `bunct_s` would have been undersimulated compared to external data.)

Second, there is a mismatch between EUROMOD simulation results and external figures in terms of the contributory benefit for pregnancy and childbirth (`bmaprct_s`). Similar to `bunct_s`, the simulation of `bmaprct_s` is partial, i.e. it is conditioned on reporting to have received the benefit in EU-SILC. As the aggregate variable for family benefits in EU-SILC (HY050 or labeled in EUROMOD as `bfa`) contains receipts of various family transfers, it was more sensible to condition the simulation of `bmaprct_s` on the imputed variable `bmaprct` (for details on the imputations see section 3.3.3). However, as Table 4.7 shows the imputed variable included only 15 thousand (weighted) benefit receipts in 2011 and as a result, so did the simulated variable. This number is much lower than the external figure of 63 thousand benefit receipts in 2011. The aggregate amount of the simulated in EUROMOD benefit `bmaprct_s` is also much lower than the benefit spending shown by external sources – BGN 94 million based on EUROMOD simulations versus BGN 294 million according to external figures in 2011. The difference remains at about the same magnitude in the period 2012-2015.

Perhaps the main reason for the undersimulation of `bmaprct_s` in EUROMOD (as well as the low number of imputed receipts in `bmaprct`) is the underrepresentation of children aged 0 in the EU-SILC data. The weighted sample is 33.6 thousand equal to half the size of that population group in 2011.²

Furthermore, as a result of this data issue all other benefits targeted at children aged 0 are also undersimulated in EUROMOD. The benefits include the non-contributory benefit for raising a child under the age of 1 (`bmaprnc_s`), the birth grant (`bchbals_s`), the non means-tested child benefit for mothers in tertiary education (`bchnm01_s`) and the non means-tested child benefit for twins (`bchnm02_s`).

Third, the contributory maternity benefit for bringing up a child up the age of 2 (`bmaycct_s`) is also undersimulated in EUROMOD in terms of the number of benefit receipts and total benefit amount. This is probably driven by the underrepresentation of children aged 1 to 4 in EU-SILC: the size of that population group in the survey is about 88% of the size according to official data on the population structure in Bulgaria.³ The benefit is partially simulated, i.e. it is conditioned on reporting to have received the imputed benefit `bmaycct` (see section 3.3.3). Table 4.7 shows that in 2011 the number of receipts of the imputed benefit in EU-SILC (32 thousand (weighted)) is lower than the number of benefit receipts according to

² The number of children aged 0 in 2011 is 66.2 thousand. See the population statistics produced by the National Statistical Institute in Bulgaria, available online here:

www.nsi.bg/sites/default/files/files/data/timeseries/Pop_6.1.3_Pop_DR.xls

³ The (weighted) number of children aged 1 to 4 in EU-SILC 2012 is 247.7 thousand compared to 280.5 thousand according to NSI data (see here:

www.nsi.bg/sites/default/files/files/data/timeseries/Pop_6.1.3_Pop_DR.xls)

external data (49 thousand). As a result of the partial simulation, EUROMOD undersimulates the number of entitlements to `bmaycct_s` (33 thousand (weighted)) as well as the aggregate benefit amount (BGN 94 million compared to BGN 120 million according to external sources in 2011).

Fourth, the means-tested child benefit as well as the child benefit for education (targeted at 1st year students) are well simulated in EUROMOD. Both in terms of the number of simulated benefit entitlements and aggregate amounts of the benefits, EUROMOD simulation results are well in line with the external data.

Fifth, the simulation results for the two main social assistance benefits – the guaranteed minimum income and the heating allowance – show quite different results from the external data. In terms of both the number of benefit receipts and aggregate benefit amounts, the two benefits have been substantially oversimulated in EUROMOD which could be due to various reasons. In the presence of benefit non take-up (see Tasseva, 2012), the number of benefit entitlements and the total benefit amounts will be oversimulated in EUROMOD as the model assumes full compliance and full take-up. Oversimulation could also occur if incomes, based on which benefit entitlements are determined, are underreported in EU-SILC. Furthermore, because of lack of data on assets we could not simulate the asset-test which is part of defining entitlement to the two benefits. Benefits will be oversimulated if in reality some of the households did not fulfill the asset-test. In EUROMOD we have also assumed the maximum length of benefit receipt: 12 months for the guaranteed minimum income and 5 months for the heating allowance. However, benefits may have been received for shorter periods of time. For example, the heating allowance is provided for the heating season which includes only the third quarter of year “t” and first quarter of year “t+1”. For more details on issues related to the targeting efficiency of the benefits (i.e. benefit non take-up and leakage) and data issues, see Tasseva, 2012.

Finally, the simulation results of income tax and social insurance contributions (SICs) are of rather poor quality:

Table 4.7 shows that EUROMOD oversimulates the number of employer and credited SICs by about 18pp in 2011 (25pp in 2012 and 27pp in 2013) than the figure from the external source (NSSI). The number of employee SICs simulated in EUROMOD is also higher than the external figure on employer and credited SICs although we know that it should be somewhat lower because civil servants do not pay employee SIC (only the state pays on their behalf).

The oversimulations in EUROMOD could be due to the following issues: i) the higher number of individuals with employment income in EU-SILC than in National Accounts (see section 4.1.2); and ii) the potential presence of informal economy. In terms of ii) although EUROMOD results are calibrated to account for potential tax evasion, the adjustment is very crude due to lack of data and perhaps underestimates the extent of income underreporting to the National Social Security Institute and the National Revenue Agency (see section 3.3.4).

Table 4.8 shows that EUROMOD also oversimulates the total amount of employer, credited and employee SIC. The total amount of both employer and credited SICs simulated in EUROMOD is 11pp higher in 2011 (28pp in 2012 and 22pp in 2013) than the external figure. The total amount of employees SICs simulated in EUROMOD is 44pp higher in 2011 (24pp in 2012 and 25pp in 2013) than the figure from external sources.

Although self-employment income is underreported in EU-SILC (see Table 4.3 and Table 4.4) the number of self-employed liable to pay SICs is significantly oversimulated in EUROMOD: EUROMOD figure is 2.5 times higher in 2011 (2.2 times in 2012 and 2.3 times in 2013) than the external figure. This could be due to underreporting of self-employment income to the tax authorities – a behaviour we do not model in EUROMOD. The total amount

of self-employed SICs is also hugely oversimulated in EUROMOD: it is 87pp higher in 2011 (95pp in 2012 and 113pp in 2013) than the external sources figure.

According to the legislation, income tax is calculated after employees and self-employed SICs are subtracted from gross income. Thus, the quality of income tax simulation depends to a large extent on the accuracy of the SICs simulations. We could not find any official data on the number of taxpayers in the period 2011-2015. However, the aggregate amount of income tax simulated in EUROMOD is about the same as the total tax revenue reported by external sources. Nevertheless, given the issues with employment and self-employment incomes reported in EU-SILC and the simulations of SICs, the results on the income tax simulation should be treated with great caution.

4.2. Income distribution

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

4.2.1. Income inequality

Table 4.9 shows results on several income distribution indicators estimated on the basis of HDI calculated by EUROMOD. The EUROMOD results are then compared with estimates calculated based on the reported incomes in EU-SILC data (in this case the external source). Apart from the first decile group, the shares of equivalised HDI of all other decile groups are fairly estimated in EUROMOD compared to data from the external source. The income share of the first decile group is notably overestimated in EUROMOD: in 2011 it equals 2.95 percent compared to 2.3 percent according to the external data. This is mainly driven by the oversimulation of social assistance in EUROMOD (the guaranteed minimum income and heating allowance) (see Table 4.7 and Table 4.8). This also explains why the S80/S20 ratio based on EUROMOD HDI is much lower than the ratio from the external source.

The median and mean equivalised HDI based on the simulations in EUROMOD appear to be very close to the external figures.

The results on the Gini coefficient are also satisfactory – the Gini based on EUROMOD is about 6pp lower in 2011 (9pp in 2012) than the Gini according to the external figure.

4.2.2. Poverty rates

Table 4.10 shows the poverty rates based on different poverty thresholds. It includes results based on HDI calculated by EUROMOD and from external sources. Because social assistance benefits are oversimulated in EUROMOD, HDI at the bottom of the distribution is higher according to EUROMOD than external data. As a result, the poverty rates calculated by EUROMOD are much lower than the poverty rates from the external source.

4.3. Validation of minimum wage

The minimum wage in Bulgaria (at 30th of June) is 240 BGN in 2011, 290 BGN in 2012 and 310 BGN in 2013. In 2014 its amount was raised to 340 BGN per month. In 2015 the amount

of the minimum wage was 360 BGN for the period from the 1st of January to 30th of June, and it is 380 BGN since then.

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 adjustments are minor and have almost no effect on the aggregate household disposable income, income tax and social insurance contributions.

4.4. Summary of “health warnings”

This summary provides an overview of some of the main issues that should be taken into account when the Bulgarian component of EUROMOD is used for analysing the distributional effect of tax-benefit policies in the period 2011-2015:

- Information on investment income in EU-SILC is found to be unreliable.
- Children aged 0 are underrepresented in EU-SILC. We suspect that this is the main reason why benefits targeted at children aged 0 (the contributory benefit for pregnancy and childbirth, the non-contributory benefit for raising a child under the age of 1, the birth grant, the non means-tested child benefit for mothers in tertiary education and the non means-tested child benefit for twins) are undersimulated in EUROMOD.
- Although to a lesser extent, children aged 1-4 are also underrepresented in EU-SILC. We think that this is the main reason for the undersimulation of the contributory maternity benefit for bringing up a child up the age of 2.
- Social assistance benefits – the guaranteed minimum income and heating allowance – are oversimulated in EUROMOD. A potential explanation is benefit non take-up. Currently, EUROMOD assumes full benefit take-up.
- EUROMOD applies an adjustment for tax evasion. It should be noted that the aim of the adjustment is simply to calibrate the results. Due to lack of data the adjustment cannot reproduce the actual tax evasion behavior of individuals and households.
- Social insurance contributions by employers, employees and self-employed are significantly oversimulated in EUROMOD due to issues with employment and self-employment incomes reported in EU-SILC and the potential presence of informal economy. The results on the income tax simulation should be also treated with caution.

5. References

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NSSI (2008; 2009; 2010; 2011, 2012), Yearbooks on Social Insurance in Bulgaria 2007, 2008, 2009, 2010. 2011. Sofia: National Social Security Institute (in Bulgarian).

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Tasseva, I. (2012): Evaluating the performance of means-tested benefits in Bulgaria, EUROMOD Working Paper EM8/12, available at:

<https://www.iser.essex.ac.uk/research/publications/working-papers/euromod/em8-12.pdf>

Sources for tax-benefit descriptions/rules:

National Revenue Agency (Ministry of Finance):

www.nap.bg

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

www.asp.government.bg

Ministry of Labour and Social Policy:

www.mlsp.government.bg

National Social Security Institute:

www.nssi.bg

National Statistical Institute:

www.nsi.bg

Annex 1: Uprating factors

Table 3.4 Raw indices for deriving EUROMOD uprating factors

Index	Constant name	Values of the raw indices									Source	Income components uprated by the index
		2007	2008	2009	2010	2011	2012	2013	2014	2015		
Harmonized consumer price index, annual average (2007=100)	\$HICP	100.00	112.00	114.80	118.20	122.30	125.20	125.70	123.70	125.91	National Statistical Institute (http://www.nsi.bg/sites/default/files/files/data/timeseries/HICP_2.1.xls); For 2015 the HCPI is based on the forecasts to be used for the purposes of 2016 Budget procedure (Info - Ministry of Finance: http://www.minfin.bg/document/16172:3)	
Consumer price index (2007=100)	\$f_cpi	100.00	112.35	115.44	118.26	123.25	126.89	128.02	126.20	126.65	National Statistical Institute (http://www.nsi.bg/sites/default/files/files/data/timeseries/CPI_1.1.xls); For 2015 the HCPI is based on the forecasts to be used for the purposes of 2016 Budget procedure (Info - Ministry of Finance: http://www.minfin.bg/document/16172:3)	ypp, bchprls, bchbals, bmaprnc, bchmt00, bho, bsa00, bsaht, afc, xhc, xhcmomi, xhcot, xhcr, xpp, aoc, bchedyc, kfbcc, kfb, bed, kivho, bfaot, bsaot
Average salary (national level, BGN per month)	\$f_yem	430.60	544.80	609.10	648.10	685.80	731.10	775.10	827.67	842.56	National Statistical Institute - 2007-13 (http://www.nsi.bg/sites/default/files/files/data/timeseries/Labour_2.2.1.xls); National Statistical Institute - 2014 (http://www.nsi.bg/en/content/6439/total-economic-activity-groupings-kind-ownership-gender); For 2015 the average salary is based on the forecasts to be used for the purposes of 2016 Budget procedure (Info - Ministry of Finance: http://www.minfin.bg/document/16172:3)	yemtx, yemn, yot, ypt, ysetx, ysenr, xmp, yivwg, yem01, yem02, ysebs, yem_a
Average pension per a retiree (BGN, per month)	\$f_pen_av	171.62	208.97	244.46	263.44	266.63	271.21	293.96	310.00	319.99	National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazатели/Yearbook_demogr_2013.pdf); National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pensii/pensii_2014.pdf). Data for 2015 is based	pdi, poa, psu, pdi00, pdinc, poa00, poamt, psuor

											on the Law on the Budget of the State Social Insurance [Закон за бюджета на държавното обществено осигуряване]	
Average pregnancy and childbirth benefit (BGN, per day)	\$f_bmaprct	12.74	16.07	20.25	21.64	24.10	21.53	22.00	23.94	22.74	National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazатели/Yearbook_demogr_2013.pdf); National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/obz/SPRAVKA_bolnichni_2014_kam%2031_12_2014.pdf); Data for 2015 is based on the Law on the Budget of the State Social Insurance [Закон за бюджета на държавното обществено осигуряване]	bmaprct
Average benefit for bringing-up a small child (BGN, per day)	\$f_bmaycct	8.08	9.63	10.69	10.80	10.61	10.48	12.08	15.29	16.19	National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazатели/Yearbook_demogr_2013.pdf); National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/obz/SPRAVKA_bolnichni_2014_kam%2031_12_2014.pdf); Data for 2015 is based on the Law on the Budget of the State Social Insurance [Закон за бюджета на държавното обществено осигуряване]	bmaycct
GDP (BGN, mln. Current prices)	\$f_gdp	62 358.28	71 289.36	70 562.05	71 903.67	78 433.55	80 044.37	80 281.54	82 164.06	82 406.00	National Statistical Institute - 2007-14 (http://www.nsi.bg/sites/default/files/files/data/timeseries/GDP_1.1.1_ESA_2010.xls); Ministry of Finance - 2015 (http://www.minfin.bg/document/15646:4)	yy
Average unemployment benefit (BGN, per month)	\$f_bun	121.27	141.38	143.97	192.26	257.80	257.35	266.72	267.25	270.14	National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazатели/Yearbook_demogr_2013.pdf); National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/bezrobotica/unempl_2014f.pdf); Data for 2015 is based on the Law on the Budget of the State Social Insurance [Закон за бюджета на държавното обществено осигуряване]	bunct, bunot
Average contributory	\$f_yempv	354.50	398.17	500.56	554.78	570.34	594.15	618.06	648.73	683.34	National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/)	yempv, yempv_a

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income from previous year (national level, BGN per month)												statistics/pokazатели/2014_Dinam_pokazатели_2_trim.pdf) ; National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/ statistics/pokazатели/ECON2014_12.pdf)	
Average annual per hh income from property (BGN) (for 2015 we updated the 2014 amount by CPI)	\$f_ypr	76.00	77.00	59.00	69.00	61.00	96.00	124.00	93.00	93.15		National Statistical Institute - 2007-14 (http://www.nsi.bg/sites/default/files/files/data/timeseries/ HH_1.1.3.xls); 2015 growth projected by CPI	ypr, tpr, yprld, yprtr
Average contributory income all (national level, BGN per month)	\$f_sicse_basse	398.17	500.56	554.78	570.34	594.15	618.06	648.73	683.34	695.64		National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/ statistics/pokazатели/2014_Dinam_pokazатели_2_trim.pdf) ; National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/ statistics/pokazатели/ECON2014_12.pdf); For 2015 the average contributory income is based on the forecasts to be used for the purposes of 2016 Budget procedure (Info Ministry of Finance: http://www.minfin.bg/document/16172:3)	tsctber
Average contributory income for self-employed	\$f_sicse_bas e	239.51	264.73	285.61	429.89	446.14	446.36	465.33	480.00	487.68		National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/ statistics/pokazатели/Yearbook_demogr_2013.pdf); for 2015, 2014 figure is multiplied by the growth in "compensation per employee" (=1.016) published by Ministry of Finance (http://www.minfin.bg/document/15646:4)	tsctbse
General sickness benefit	\$f_bhl	11.32	13.62	18.31	20.13	20.34	20.77	21.68	24.30	22.79		National Social Security Institute - 2007-13 (http://www.noi.bg/images/bg/about/statisticsandanalysis/ statistics/pokazатели/Yearbook_demogr_2013.pdf); National Social Security Institute - 2014 (http://www.noi.bg/images/bg/about/statisticsandanalysis/ statistics/bezrobotica/unempl_2014f.pdf); Data for 2015 is based on the Law on the Budget of the State Social Insurance [Закон за бюджета на държавното обществено осигуряване]	bhl

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Pension indexation	\$f_pen_ind	1.00	1.21	1.5936	1.737	1.737	1.737	1.8985	1.8985	1.9498	National Social Security Institute, Annex I of Statistical Yearbook "Pensions" for the respective years (http://www.noi.bg/aboutbg/st/statistic/152-pensions)	poa, psuor, poamt, poa00, pdinc, pdi00, psu, pdi
A factor of 1	\$f_one	1	1	1	1	1	1	1	1	1	N/A	yds, tad, tis, tin, tscee, tscse, tscer, yag01, yag02, yag, ydses_o

Annex 2: Validation statistics

Table 4.2-Number of employed and unemployed

	EUROMOD (1)		External (2)				Ratio (1/2)				
	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Number of employed	2,959,914	2,965,200	2,934,000	2,934,925	2,981,400	N/A	1.00	1.01	1.01	0.99	N/A
Number of unemployed	738,723	372,300	410,300	436,275	384,500	N/A	1.98	1.80	1.69	1.92	N/A

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

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

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

Income source	EUROMOD variable label	EU-SILC (1)						External (2)					Ratio (1/2)				
		2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Employment income	yem	3,387	2,587	2,540	2,511	2,506	N/A	1.31	1.33	1.35	1.35	N/A					
Self-employed income	yse	531	938	896	911	928	N/A	0.57	0.59	0.58	0.57	N/A					
Investment income	yiy	26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Other income	yot	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Private pensions	ypp	6	1	1	1	1	N/A	4.61	4.87	5.05	5.36	N/A					
Private transfers received from other households	ypt	341	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Income from rent	ypr	466	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
Private transfers paid to other households	xmp	130	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: EU-SILC 2012; External: Eurostat, National Accounts (table nama_10_pe), "Employees national concept" and "Self-employed national concept"

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

Income source	EUROMOD variable label	EU-SILC (1)					External (2)					Ratio (1/2)				
		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Employment income	yem	22,489	23,974	25,417	27,141	27,629	24,407	25,870	27,705	27,972	N/A	0.92	0.93	0.92	0.97	N/A
Self-employed income	yse	3,154	3,363	3,565	3,807	3,875	3,784	5,071	N/A	N/A	N/A	0.83	0.66	N/A	N/A	N/A
Investment income	yyi	116	119	119	122	122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other income	yot	38	40	43	46	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private pensions	ypp	13	14	14	13	14	34.1	29.6	27.3	32.5	N/A	0.39	0.46	0.50	0.41	N/A
Private transfers received from other households	ypt	780	831	881	941	958	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Income from rent	ypr	354	558	720	540	541	273	611	N/A	N/A	N/A	1.30	0.91	N/A	N/A	N/A
Private transfers paid to other households	xmp	165	176	187	199	203	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average employment income		6,640	7,078	7,504	8,013	8,157	9,434	10,185	11,033	11,162	N/A	0.70	0.69	0.68	0.72	N/A

Notes: N/A - not available.

Sources: EU-SILC 2012; External: Eurostat, National Accounts (table nama_10_gdp):

employment income: "Wages and salaries"; National Statistical Institute:

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

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

Benefit	EUROMOD variable label	Ratio (1/2)										
		EU-SILC (1)					External (2)					
		2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Education benefits	bed	34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sickness benefits	bhl	734	1,461	1,448	1,628	1,728	N/A	0.50	0.51	0.45	0.42	N/A
Family benefits	bfa	595	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Social assistance	bsa	161	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Housing benefits	bho	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unemployment benefits	bun	321	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Old-age pensions	poa	1,941	1,613	1,592	1,533	1,526	N/A	1.20	1.22	1.27	1.27	N/A
Disability pensions	pdi	266	460	464	446	432	N/A	0.58	0.57	0.60	0.62	N/A
Survivor pensions	psu	11	140	140	135	120	N/A	0.08	0.08	0.08	0.09	N/A

Notes: N/A - not available.

Sources: EU-SILC 2012; External: Annual Reports of National Social Security Institute.

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

Benefit	EUROMOD variable label	EU-SILC (1)					External (2)					Ratio (1/2)				
		2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Education benefits	bed	24	24	25	24	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sickness benefits	bhl	310	317	331	371	348	263	272	320	358	351	1.18	1.16	1.03	1.04	0.99
Family benefits	bfa	600	609	624	640	645	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Social assistance	bsa	52	53	54	53	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Housing benefits	bho	1.4	1.5	1.5	1.5	1.5	0.1	0.1	0.1	0.1	0.1	18.76	17.61	16.01	15.36	14.85
Unemployment benefits	bun	336	335	348	348	352	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Old-age pensions	poa	6,229	6,229	6,808	6,808	6,992	4,677	4,746	4,904	5,833	N/A	1.33	1.31	1.39	1.17	N/A
Disability pensions	pdi	554	554	606	606	622	810	830	905	957	N/A	0.68	0.67	0.67	0.63	N/A
Survivor pensions	psu	5	5	5	5	5	263.3	267.1	414.3	277.5	N/A	0.02	0.02	0.01	0.02	N/A

Notes: N/A - not available.

Sources: EU-SILC 2012; External: Annual Reports of National Social Security Institute; National Statistical Institute, ESSPROS data.

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

Benefits / Taxes / Social Insurance Contributions	EUROMOD variable label	EUROMOD																			
		EUROMOD (1)					EU-SILC (2)		Ratio (1/2)			External (3)					Ratio (1/3)				
		2011	2012	2013	2014	2015	2011	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015			
Benefits																					
Contributory unemployment benefit	bunct_s	290	290	290	290	290	82	3.56	107	118	117	101	109	2.72	2.47	2.49	2.88	2.68			
Contributory maternity benefit for pregnancy and childbirth	bmaprct_s	16	16	16	16	16	16	1.00	63	56	56	58	60	0.26	0.29	0.29	0.28	0.27			
Non-contributory benefit for raising a child under the age of 3	bmaprnc_s	14	12	12	12	12	9	1.54	22	22	21	21	26	0.64	0.55	0.56	0.57	0.46			
Contributory maternity benefit for bringing up a child up to age 3	bmaycct_s	33	33	33	33	33	32	1.03	49	44	41	41	44	0.67	0.75	0.80	0.80	0.74			
Means-tested child benefit	bchmt00_s	561	534	505	474	463	413	1.36	555	545	537	524	591	1.01	0.98	0.94	0.90	0.78			
Child benefit for education	bchedyc_s	44	41	39	36	36	36	1.22	45	46	49	47	45	0.97	0.90	0.81	0.76	0.79			
Birth grant	bchbals_s	34	34	34	34	34	32	1.05	70	69	68	69	80	0.48	0.49	0.49	0.49	0.42			
Non means-tested child benefit for mothers in tertiary education	bchnm01_s	1	1	1	1	1	N/A	N/A	2	3	5	7	4	0.64	0.48	0.33	0.21	0.37			
Non means-tested child benefit for twins	bchnm02_s	0	0	0	0	0	N/A	N/A	2	2	2	2	5	0.00	0.00	0.00	0.00	0.00			
Monthly social assistance allowance (guaranteed minimum income)	bsa00_s	132	130	126	121	121	9	14.08	48	50	50	52	57	2.76	2.61	2.52	2.31	2.10			
Targeted allowance for heating	bsaht_s	448	434	449	437	416	135	3.32	220	211	252	254	270	2.04	2.06	1.78	1.72	1.54			
Social old age pension	poamt_s	8	8	7	7	7	N/A	N/A	3	3	3	3	N/A	2.53	2.61	2.15	2.18	N/A			
Taxes and Social Insurance Contributions																					
Income tax	tin_s	3,922	3,922	3,922	3,922	3,922	N/A	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	tscerac_s	2,522	2,522	2,522	2,522	2,522	N/A	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	tscerhl_s	2,776	2,776	2,776	2,776	2,776	N/A	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	tscerpi_s	2,522	2,522	2,522	2,522	2,522	N/A	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	tscersi_s	2,522	2,522	2,522	2,522	2,522	N/A	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	tscerui_s	2,522	2,522	2,522	2,522	2,522	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Credited SIC - health	tscthl_s	386	386	386	386	386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Credited SIC - old-age	tsctpi_s	321	321	321	321	321	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Credited SIC - sickness and maternity	tsctsi_s	321	321	321	321	321	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Credited SIC - unemployment	tsctui_s	321	321	321	321	321	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Credited SIC - accident	tsctac_s	321	321	321	321	321	N/A	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	tseehl_s	2,776	2,776	2,776	2,776	2,776	N/A	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	tseepl_s	2,522	2,522	2,522	2,522	2,522	N/A	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	tseees_s	2,522	2,522	2,522	2,522	2,522	N/A	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	tseeui_s	2,521	2,521	2,522	2,522	2,522	N/A	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	tscsehl_s	531	531	531	531	531	N/A	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	tscsepi_s	531	531	531	531	531	N/A	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 employer SICs	ils_sicer	2,776	2,776	2,776	2,776	2,776	N/A	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 credited SICs	ils_sicct	386	386	386	386	386	N/A	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 employer and credited SICs	ils_sicct + ils_sicer	3,162	3,162	3,162	3,162	3,162	N/A	N/A	2,670	2,533	2,498	N/A	N/A	1.18	1.25	1.27	N/A	N/A			
Total employee SICs	ils_sicee	2,776	2,776	2,776	2,776	2,776	N/A	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 self-employed SICs	ils_sicse	531	531	531	531	531	N/A	N/A	213	237	232	N/A	N/A	2.49	2.24	2.29	N/A	N/A			

Notes: N/A - not available. In EUROMOD, the number of recipients equals the number of individuals (contributory benefits, income tax, SICs), families (means-tested child benefit, 2015 figure preliminary), families (birth grant, means-tested child allowance for children up to age 1, non-means tested child benefits for mothers in tertiary education and twins, targeted allowance for pupils 1st grade) or households (guaranteed minimum income and means-tested benefit for heating) with simulated benefit entitlements/liabilities. In SILC, the number of recipients equals the number of households. In the external sources, the number of recipients equals the monthly-average number of benefits (guaranteed minimum income, means-tested allowance for children up to age of 1, means-tested child benefit, unemployment benefit), number of benefits per month (heating benefit, birth grant, contributory maternity benefit for pregnancy and childbirth (number is divided by 12 months), contributory maternity benefit for children up to age 2 (number is divided by 12 months)), number of children (non-means tested child benefit for twins) and number of recipient parents (non-means tested child benefit for mothers in tertiary education).

Sources : EUROMOD simulations; EU-SILC 2012; External: Annual Reports of National Social Security Institute; Agency for Social Assistance.

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

Benefits / Taxes / Social Insurance Contributions	EUROMOD variable label	EUROMOD																						
		EUROMOD (1)					EU-SILC (2)					Ratio (1/2)			External (3)					Ratio (1/3)				
		2011	2012	2013	2014	2015	2011	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015						
Benefits																								
Contributory unemployment benefit	bunct_s	431	438	445	454	465	175	2.47	320	354	351	340	352	1.35	1.24	1.27	1.33	1.32						
Contributory maternity benefit for pregnancy and childbirth	bmaprct_s	98	103	107	113	119	44	2.22	294	259	264	293	285	0.33	0.40	0.41	0.39	0.42						
Non-contributory benefit for raising a child under the age of 1	bmaprnc_s	17	14	14	14	14	7	2.21	26	27	26	25	31	0.63	0.54	0.55	0.57	0.46						
Contributory maternity benefit for bringing up a child up to the age of 2	bmaycct_s	94	94	94	134	134	64	1.47	120	108	116	144	151	0.79	0.87	0.82	0.92	0.89						
Means-tested child benefit	bchmt00_s	376	362	345	370	362	268	1.40	358	353	352	396	400	1.05	1.03	0.98	0.93	0.91						
Child benefit for education	bchedyc_s	7	6	10	9	9	5	1.22	7	7	12	12	11	0.97	0.90	0.81	0.76	0.79						
Birth grant	bchbals_s	8	8	8	8	8	12	0.68	27	26	26	26	31	0.32	0.33	0.33	0.32	0.27						
Non means-tested child benefit for mothers in tertiary education	bchnm01_s	4	4	4	4	4	N/A	N/A	6	9	13	21	12	0.67	0.49	0.33	0.21	0.36						
Non means-tested child benefit for twins	bchnm02_s	0	0	0	0	0	N/A	N/A	2	2	2	3	6	0.00	0.00	0.00	0.00	0.00						
Monthly social assistance allowance (guaranteed minimum income)	bsa00_s	160	157	150	140	138	8	20.59	51	54	54	55	53	3.11	2.93	2.78	2.55	2.63						
Targeted allowance for heating	bsaht_s	130	143	148	158	150	40	3.27	61	66	75	94	91	2.14	2.17	1.97	1.67	1.64						
Social old age pension	poamt_s	10	10	9	9	10	N/A	N/A	4	4	4	4	N/A	2.48	2.57	2.12	2.14	N/A						
Taxes and Social Insurance Contributions																								
Income tax	tin_s	2,212	2,376	2,529	2,669	2,726	N/A	N/A	2,181	2,335	2,355	N/A	N/A	1.01	1.02	1.07	N/A	N/A						
Employer SIC - accident	tscerac_s	118	126	134	143	146	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	tscerhl_s	867	921	978	1,046	1,068	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	tscerpi_s	1,675	1,779	1,890	2,021	2,064	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	tscersi_s	355	377	401	429	438	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	tscerui_s	102	108	115	122	125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Credited SIC - health	tsccthl_s	237	253	268	287	292	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Credited SIC - old-age	tscctpi_s	468	498	529	565	576	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Credited SIC - sickness and maternity	tscctsi_s	92	98	104	111	113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Credited SIC - unemployment	tscctui_s	26	28	30	32	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Credited SIC - accident	tscctac_s	18	20	21	22	23	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	tsceeh_s	578	614	652	697	712	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	tsceepi_s	1,337	1,420	1,508	1,612	1,647	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	tsceesi_s	237	252	267	286	292	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	tsceeu_s	68	72	76	82	83	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	tscsehl_s	228	241	257	275	281	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	tscsepi_s	507	536	571	611	626	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 employer SICs	ils_sicer	3,117	3,311	3,518	3,761	3,841	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 credited SICs	ils_sicct	842	896	951	1,016	1,036	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
	ils_sicer +																							
Total employer and credited SICs	ils_sicct	3,959	4,208	4,469	4,777	4,877	N/A	N/A	3,577	3,292	3,674	N/A	N/A	1.11	1.28	1.22	N/A	N/A						
Total employee SICs	ils_sicee	2,219	2,357	2,504	2,677	2,734	N/A	N/A	1,540	1,906	1,997	N/A	N/A	1.44	1.24	1.25	N/A	N/A						
Total self-employed SICs	ils_sicse	735	777	828	886	908	N/A	N/A	393	398	390	N/A	N/A	1.87	1.95	2.13	N/A	N/A						

Notes: N/A - not available.

Sources : EUROMOD simulations; EU-SILC 2012; External: Annual Reports of National Social Security Institute; Agency for Social Assistance, National Statistical Institute (NSI table GFS_1.3: www.nsi.bg/sites/default/files/files/data/timeseries/GFS_1.3.xls)

Table 4.9-Distribution of equivalised household disposable income

	EUROMOD (1)					External (2)					Ratio (1/2)				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
D1	2.94	2.88	2.83	2.81	2.78	2.3	2.2	N/A	N/A	N/A	1.28	1.31	N/A	N/A	N/A
D2	4.60	4.50	4.54	4.44	4.46	4.3	4.2	N/A	N/A	N/A	1.07	1.07	N/A	N/A	N/A
D3	5.86	5.76	5.76	5.71	5.72	5.7	5.5	N/A	N/A	N/A	1.03	1.05	N/A	N/A	N/A
D4	7.04	6.96	6.98	6.92	6.92	6.9	6.6	N/A	N/A	N/A	1.02	1.05	N/A	N/A	N/A
D5	8.19	8.17	8.19	8.16	8.15	8.2	7.8	N/A	N/A	N/A	1.00	1.05	N/A	N/A	N/A
D5	9.34	9.31	9.23	9.29	9.29	9.3	9.0	N/A	N/A	N/A	1.00	1.03	N/A	N/A	N/A
D7	10.72	10.60	10.60	10.67	10.67	10.7	10.4	N/A	N/A	N/A	1.00	1.02	N/A	N/A	N/A
D8	12.21	12.35	12.28	12.34	12.35	12.3	12.1	N/A	N/A	N/A	0.99	1.02	N/A	N/A	N/A
D9	14.83	14.82	14.86	14.96	14.96	14.9	15.2	N/A	N/A	N/A	1.00	0.97	N/A	N/A	N/A
D10	24.27	24.66	24.73	24.69	24.69	25.4	27.0	N/A	N/A	N/A	0.96	0.91	N/A	N/A	N/A
Median	5,526	5,765	6,138	6,444	6,557	5,592	5,719	N/A	N/A	N/A	0.99	1.01	N/A	N/A	N/A
Mean	6,323	6,647	7,074	7,432	7,558	6,407	6,863	N/A	N/A	N/A	0.99	0.97	N/A	N/A	N/A
Gini	31.5	32.1	32.2	32.4	32.4	33.6	35.4	N/A	N/A	N/A	0.94	0.91	N/A	N/A	N/A
S80/S20	5.2	5.4	5.4	5.5	5.5	6.1	6.6	N/A	N/A	N/A	0.85	0.81	N/A	N/A	N/A

Notes: N/A - not available. 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)				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
40% median HDI															
Total	7.48	7.82	7.84	8.02	8.16	10.10	9.60	N/A	N/A	N/A	0.74	0.82	N/A	N/A	N/A
Males	7.40	7.69	7.71	7.74	7.94	9.60	9.20	N/A	N/A	N/A	0.77	0.84	N/A	N/A	N/A
Females	7.55	7.95	7.96	8.29	8.37	10.50	10.10	N/A	N/A	N/A	0.72	0.79	N/A	N/A	N/A
50% median HDI															
Total	13.43	13.95	14.00	14.43	14.41	15.10	15.10	N/A	N/A	N/A	0.89	0.92	N/A	N/A	N/A
Males	12.47	12.88	13.01	13.20	13.15	13.80	14.00	N/A	N/A	N/A	0.90	0.92	N/A	N/A	N/A
Females	14.34	14.97	14.94	15.59	15.61	16.30	16.10	N/A	N/A	N/A	0.88	0.93	N/A	N/A	N/A
60% median HDI															
Total	19.88	20.59	20.49	20.99	20.88	21.20	21.00	N/A	N/A	N/A	0.94	0.98	N/A	N/A	N/A
Males	18.12	18.71	18.66	19.00	18.90	19.50	19.70	N/A	N/A	N/A	0.93	0.95	N/A	N/A	N/A
Sources: EUROM	21.56	22.38	22.23	22.87	22.76	22.80	22.20	N/A	N/A	N/A	0.95	1.01	N/A	N/A	N/A
70% median HDI															
Total	26.93	27.40	27.37	28.14	28.01	28.30	27.60	N/A	N/A	N/A	0.95	0.99	N/A	N/A	N/A
Males	24.82	25.23	25.28	26.00	25.85	26.20	26.10	N/A	N/A	N/A	0.95	0.97	N/A	N/A	N/A
Females	28.94	29.46	29.35	30.18	30.06	30.30	28.90	N/A	N/A	N/A	0.96	1.02	N/A	N/A	N/A
60% median HDI															
0-15 years	25.27	25.31	26.08	25.47	25.47	28.20	28.40	N/A	N/A	N/A	0.90	0.89	N/A	N/A	N/A
16-24 years	19.43	19.62	20.17	19.50	19.65	20.10	19.30	N/A	N/A	N/A	0.97	1.02	N/A	N/A	N/A
25-49 years	16.40	16.38	16.65	16.36	16.35	17.20	16.90	N/A	N/A	N/A	0.95	0.97	N/A	N/A	N/A
50-64 years	15.96	16.30	16.08	16.47	16.44	16.50	16.50	N/A	N/A	N/A	0.97	0.99	N/A	N/A	N/A
65+ years	26.90	30.21	28.50	32.08	31.49	28.20	27.90	N/A	N/A	N/A	0.95	1.08	N/A	N/A	N/A

Notes: N/A - not available. 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 (2/1)				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Equivalised household disposable income	30,281	31,815	33,897	35,552	36,169	30,281	31,815	33,897	35,550	36,169	1.000	1.000	1.000	1.000	1.000
Employment income	22,489	23,974	25,417	27,141	27,629	22,533	24,046	25,495	27,233	27,739	1.002	1.003	1.003	1.003	1.004
Income tax	2,212	2,376	2,529	2,669	2,726	2,212	2,376	2,529	2,671	2,726	1.000	1.000	1.000	1.001	1.000
Total employee SICs	2,219	2,357	2,504	2,677	2,734	2,219	2,357	2,504	2,677	2,734	1.000	1.000	1.000	1.000	1.000
Total employer SICs	3,117	3,311	3,518	3,761	3,841	3,117	3,311	3,518	3,761	3,841	1.000	1.000	1.000	1.000	1.000
Total self-employed SICs	735	777	828	886	908	735	777	828	886	908	1.000	1.000	1.000	1.000	1.000

Sources: EUROMOD calculations with and without minimum wage

Annex 3: Policy effects in 2013-14 and 2014-15

In this section we analyse the direct tax-benefit policy effect on household disposable income in Bulgaria between 2013 and 2014 as well as between 2014 and 2015. We try to understand how changes (or non-changes) to tax-benefit policies have affected household incomes in the two periods, abstracting from changes in the population characteristics (e.g. increased unemployment) and the distribution of market/original gross incomes (e.g. reduction in wages). It should be noted that tax-benefit policies in a given year are taken as of 30th of June.

Table A3.1 and Figure A3.1 show the policy effect measured in real terms by income component and income decile group. The effect is estimated as the difference between simulated household net income under the 2014 tax-benefit policies (deflating the tax-benefit monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2013 policies, as a percentage of mean equivalised household disposable income in 2013. Households are ranked based on their equivalised household disposable income. The total policy effect on household incomes is decomposed into the different components: public pensions, means-tested benefits, non-means-tested benefits, employee and self-employed social insurance contributions (SIC) and direct taxes. We isolate the policy effect from changes in market/original income, i.e. changes to market/original incomes are not considered as part of the policy effect and so, they have no effect on disposable income.

In 2013-14, household disposable income increased on average by about 1%. The increase was mostly focused at the bottom of the distribution – households in the bottom 1st and 2nd decile groups saw their incomes increasing by around 3.4% and 2.3%, respectively.

The pro-poor policy effect was mostly driven by increase in means-tested benefits. In real terms the change was more than +2% for the 1st and +0.7 for the 2nd decile group. The increase in household disposable income was mostly a result of the increase in the mean-tested monthly child benefit (from BGN 35 in 2013 to BGN 50 in 2014 for the 2nd child) and the heating allowance (from BGN 65.72 (per month) in 2013 to BGN 72.2 in 2014). However, it should be noted that between 2013 and 2014 there was deflation – prices dropped by about 2percentage points – and so, the real increase in means-tested benefits was larger than the nominal increase.

Similarly, although public pensions remained nominally the same over the period, they increased in real terms which led to small gains in disposable income (0.5% in the 1st income decile and 0.8% in the 2nd decile).

Changes in non means-tested benefits also had positive but minor effect on household disposable income. This was mainly due to an increase in the cash benefit for bringing up a child up to age of 2 – in the period 1st of January 2013 to 30th of June 2013 the benefit amount was BGN 240, from 1st of July to 31st of December 2013 – BGN 310, and in 2014 – BGN 340 per month.

There is a maximum threshold applied on earnings based on which employee and self-employed SICs are calculated and SICs are not due on the fraction of income beyond that threshold. The threshold was increased from BGN 2,200 in 2013 to BGN 2,400 in 2014, the result of which was a slight income drop in the 9th and 10th decile groups.

Finally, in the beginning of 2014, a tax deduction on incomes from wages and earnings below the minimum wage was introduced and this had a positive and pro-poor income effect – households at the bottom of the distribution saw their incomes rising by about 0.3-0.4%.

Table A3.2 and Figure A3.2 show the effect of 2015 policies on mean equivalised household disposable income by income component and income decile group. The effect is estimated as the difference between simulated household net income under the 2015 tax-benefit policies

(deflating the tax-benefit monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2014 policies, as a percentage of mean equivalised household disposable income in 2014.

In 2014-15, households experienced on average a minor real income loss of 0.1%. In contrast to 2013-14, the policy effect in the period 2014-15 was regressive, i.e. the income drop was larger at the bottom of the distribution (0.7% in the 1st decile group) than at the top (0.2% in the 10th decile group).

Public pensions were indexed between 2014 and 2015 and their nominal value increased by about 3 percentage points. However, due to inflation the real increase was somewhat smaller and contributed on average to income gains of 0.2%.

Means-tested and non means-tested benefits fell in the period mostly because of inflation. Their nominal values remained unchanged but their real value deteriorated because of the growth in prices. In addition, as a result of the increase in public pensions the increase in gross household incomes based on which means-tested benefit entitlements are assessed led to reduced access to these benefits.

The maximum threshold on earnings applied in the calculation of employee and self-employed SICs increased further from BGN 2,400 in 2014 to BGN 2,600 in 2015. As a result, households at the top 10th decile group saw their incomes falling by marginal 0.05%.

The tax deduction on incomes from wages and earnings below the minimum wage introduced in 2014 was abolished in 2015 which resulted in small but regressive income losses across almost the entire income distribution.

To sum up, between 2013 and 2015 households saw their incomes increasing due to tax-benefit policies with the positive effect being concentrated at the bottom of the distribution. The income gains were driven by policy changes in 2013-14 whereas policies in 2014-15 resulted in small income losses. Although there are no statutory indexation rules for public pensions, ad-hoc increases usually tend to result in real income gains which as in 2014-15 partially or fully offset income drops due to other tax-benefit instruments. On the other hand, the irregular indexation of means-tested benefits and the regressive nature of the flat income tax suggest that the income gains in 2013-14 due to the policy effect were perhaps rather exceptional.

Table A3.1: The policy effect in 2013-14, measured in real terms (HICP=0.98), in %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.47	2.07	0.46	0.00	0.00	0.43	3.44
2	0.00	0.76	0.72	0.43	0.00	0.00	0.41	2.31
3	0.00	0.68	0.45	0.29	0.00	0.00	0.34	1.77
4	0.00	0.51	0.43	0.32	0.00	0.00	0.33	1.59
5	0.00	0.37	0.33	0.35	0.00	0.00	0.28	1.34
6	0.00	0.33	0.17	0.34	0.00	0.00	0.26	1.11
7	0.00	0.29	0.14	0.31	0.00	0.00	0.23	0.97
8	0.00	0.28	0.04	0.32	0.00	0.00	0.22	0.85
9	0.00	0.24	0.03	0.38	-0.01	-0.02	0.18	0.80
10	0.00	0.13	0.01	0.22	-0.16	-0.09	0.17	0.28
Total	0.00	0.32	0.22	0.32	-0.04	-0.03	0.24	1.02

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2013, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating tax-benefit monetary parameters of 2014 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure A3.1: The policy effect in 2013-14, measured in real terms (HICP=0.98), in %

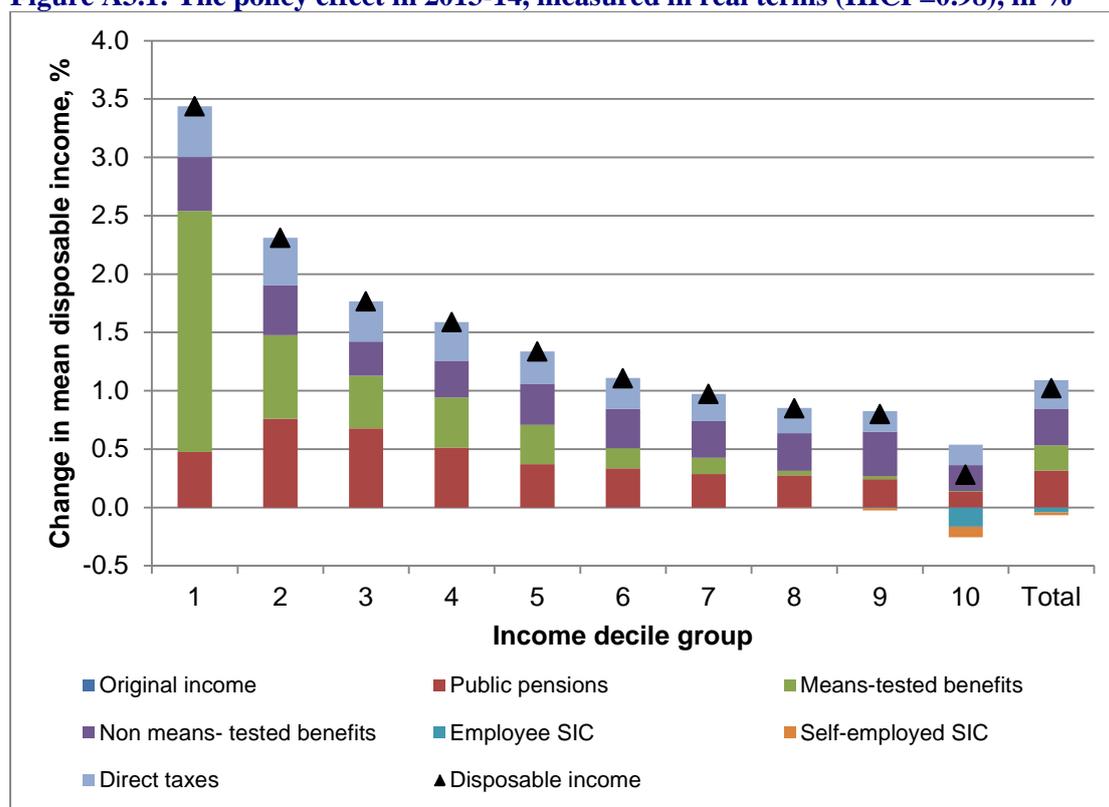


Table A3.2: The policy effect in 2014-15, measured in real terms (HICP=1.02), in %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.28	-0.74	-0.11	0.00	0.00	-0.11	-0.68
2	0.00	0.45	-0.36	-0.07	0.00	0.00	-0.06	-0.03
3	0.00	0.37	-0.14	-0.09	0.00	0.00	-0.05	0.08
4	0.00	0.29	-0.10	-0.13	0.00	0.00	-0.04	0.02
5	0.00	0.19	-0.13	-0.08	0.00	0.00	-0.03	-0.04
6	0.00	0.17	-0.13	-0.14	0.00	0.00	-0.03	-0.13
7	0.00	0.15	-0.08	-0.14	0.00	0.00	-0.02	-0.08
8	0.00	0.14	-0.01	-0.13	0.00	0.00	-0.02	-0.02
9	0.00	0.12	0.00	-0.15	0.00	-0.01	0.00	-0.05
10	0.00	0.07	0.00	-0.11	-0.10	-0.06	0.01	-0.19
Total	0.00	0.17	-0.09	-0.12	-0.03	-0.02	-0.02	-0.10

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2014, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating tax-benefit monetary parameters of 2015 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure A3.2: The policy effect in 2014-15, measured in real terms (HICP=1.02), in %

