

EUROMOD

COUNTRY REPORT



CYPRUS (CY)

2013-2016

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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 Cyprus. 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 G4.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

For more information, see: <https://www.euromod.ac.uk>

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1. BASIC INFORMATION

1.1 Basic information about the tax-benefit system

- The Cypriot tax-benefit system is a unified, national system; its rules do not vary across regions or municipalities.
- The “tax year” starts on the 1st of January of each year and ends on the 31st of December.
- The statutory retirement age is 65 for both males and females, but retirement at the age of 63 is possible under certain conditions. In 2013 certain financial disincentives (actuarial reductions in pensions) were imposed to discourage retirement before the age of 65. However, for certain occupations such as police officers or military officers, the statutory retirement age is lower.
- Definitions of benefit units may differ slightly across policies and periodically there are changes. The most important definition in terms of social policy is that of dependent children. In most cases children are considered to be dependent if they are under the age of 18 years or aged 18-23 years if in military service or in full-time education. Individuals deprived of their subsistence capabilities are considered dependent regardless of age.
- The income tax is calculated on an individual basis (spouses are assessed independently).
- Taxable income is taxed progressively, while corporate profits, dividends and interests are taxed at a flat rate.
- The levels of benefits, pensions as well as wages in the public sector were periodically revised through statutory indexing regimes that took into account inflation and/or cost of living. Yet, after 2012, in the context of fiscal consolidation programmes, these indexing arrangements have been temporarily suspended.
- Income for the purpose of means-testing is assessed in annual or monthly basis depending on the context of each policy. Means-testing is based on past income. The definition of income is not uniform but varies across policies and has been subject to several changes during 2012-2015.

1.2 Minimum Wage

Cyprus lacks a national comprehensive minimum wage; rather, the Minimum Wage Order covers certain occupations. The minimum monthly wage upon recruitment is €870, while the minimum monthly wage for employees who have completed a six month period of employment with the same employer is €924. However, the Minimum Wage Order of 2012, which took effect in April 2012, does not cover the entire occupation range. More specifically the aforementioned minimum wage applies only to shop assistants, clerks, child-care workers (assistant baby and child minders) and personal care workers (nursing assistants). Furthermore, the relevant law provides for a minimum hourly rate of pay for security guards and cleaners. The minimum wage for security guards is set at an hourly rate of €4.90 and is increased to €5.20 upon completion of a six month period of employment with the same employer. The corresponding figures for cleaners are €4.55 and €4.84.

1.3 Social Benefits

The section describes a number of basic (simulated and non-simulated) social benefits, excluding benefits which were abolished or can be considered as minor (i.e. affecting small population groups). The description focuses on the essential features of the benefit (i.e. the structure of the benefit), while relevant parametric information can be found in other sections of the country report.

1.3.1 Contributory insurance-based benefits

Short-term benefits

Unemployment benefit (ανεργιακό επίδομα): Unemployment benefit is payable to persons between the ages of 16 and 63 for involuntary unemployment. Period of payment extends to 156 days for each spell of unemployment. The benefit rate is calculated as a proportion of insurable earnings and it is increased for dependent spouses and children. Eligibility is defined on certain contribution conditions, namely the person should (i) have been insured for at least 26 weeks and has paid up to the date of unemployment contributions not lower than 26 times the weekly amount of the basic insurable earnings; and (ii) has paid contributions in the previous contribution year on insurable earnings no less than 20 times the weekly amount of basic insurable earnings. These contribution conditions apply to other insurance-based benefits, too.

Maternity benefit (επίδομα μητρότητας): Maternity benefit is payable to mothers of newborns. It is calculated as a proportion of the insurable earnings of the previous contribution year. Eligibility is defined on the basis of the same contribution conditions as for the unemployment benefit and must be satisfied either for the applicant or her husband.

Birth Grant (βοήθημα τοκετού): Birth grant is payable to mothers of newborns. The amount of the benefit is flat. It is also annually adjusted. Eligibility is defined on the basis of the same contribution conditions as for the unemployment benefit and must be satisfied either from the applicant or her husband.

Sickness Benefit (επίδομα ασθενείας): The sickness benefit is payable to persons not capable for work. The payment period cannot exceed 156 days. Eligibility is defined on the basis of the standard contribution conditions (see above). The rate of the benefit is calculated as a proportion of insurable earnings, increased in the presence of dependents.

Orphan Benefit (επίδομα ορφάνιας): Orphan benefit is payable to underage¹ children whose parents died or separated and the one under whose care s/he was died or one parent died from employment accident and the other is not entitled to widow pension. Eligibility requires that at least one of the parents is insured. The rate of the benefit is calculated as a proportion of insurable earning but certain ceilings exists. The benefit is paid until the child satisfies age requirements unless the beneficiary is permanently incapable of working.

Employment injury benefit (Επίδομα σωματικής βλάβης): This benefit is payable to any employed person who is incapable of work as a result of an employment accident or occupational disease. The benefit is payable for up to 12 months from the date of accident/disease. The recipient should be employed on the day he/she had the accident/disease; and, as a result of the injury cannot work and does not receive a full wage for this period. The rate of injury benefit is the same as for the sickness benefit.

Disability benefit (Βοήθημα αναπηρίας): The disability benefit is payable to employed persons who, as a result of an employment injury, suffered a loss of physical or mental capacity which results to a degree of disability between 10% and 19%., The benefit takes the form of a lump sum transfer.

Pensions

Old age pension (σύνταξη γήρατος): Old age pension is payable to insured persons having completed the pensionable age (65 year of age for employees of the private sector and satisfying all the required contribution conditions. The contribution conditions are complex and have been subject to several law amendments during the last decade). Old age pension has two components: the basic and the supplementary. The basic is calculated as 60% of the average of insurable earnings in the lower band earning increased by 1/3, 1/2 and 2/3 for one, two or three dependants respectively. The supplementary is 1/52 of 1.5% of the total insurable earnings (of the beneficiary in the upper band).

Incapacity pension (σύνταξη ανικανότητας): Invalidity pension is payable to persons who have been incapable for work for at least 156 days and are expected to remain permanently incapable for work. Besides the typical contribution conditions (see other benefits) the claimant should have been insured for at least 156 weeks up to the date of invalidity and the number of insurance points collected the period

¹ Underage child is a child under 15 years old; unmarried son age between 15 and 25 who is under full time education or on military service; unmarried daughter age 15 to 23 who is under full time education and unmarried person independently of age who is permanently incapable for self-supporting.

between 5 October 1964 (or, if he/she reached the age of 16 after 5 October 1964, on the first day of the year in which he/she reached that age) and the week before he/she becomes incapable, is equal to at least 25% of the years included in that period. The level of invalidity pension is calculated similar to old age pension.

Widow/widower pension (σύνταξη χηρείας): Widows' pension is payable to the widow, and under certain conditions to the widower, of a person who until the date of his/her death satisfied the relevant contribution conditions. Widows' pension comprises of a basic and supplementary part. The basic is calculated as a proportion of insurable earnings increased by one third, one half and two thirds for one, two or three dependants respectively.

Disability pension (σύνταξη αναπηρίας): Entitled to disability pension are all employed persons who as a result of a work-related injury suffered a loss of physical or mental capacity resulting to a degree of disability of 20% or more. There are not any insurance conditions that need to be satisfied for granting eligibility. The recipients of the disability pension can receive the disability pension even if they keep working.

1.3.2 Non-contributory social benefits:

Public assistance benefit (δημόσιο βοήθημα): Public assistance is a means-tested benefit targeted to families with income that is not enough to cover their basic and special needs. Basic needs refer to nutrition, clothing and footwear, water supply, electricity and sanitary living. Special needs refer to rent allowances, medically prescribed diet allowances, home-care, day-care, house equipment, house repairs, allowances for mortgage interest, transportation for work and other specific needs. Social Welfare Services calculate the amount needed for covering the needs of the recipient family as well as its current income. The difference is paid to the family in the form of a cash benefit. The public assistance was substituted by the Guaranteed Minimum Income (GMI) scheme in 2014.

GMI (Ελάχιστο Εγγυημένο Εισόδημα): The GMI scheme (similarly to the scheme it substituted) is a means-tested benefit targeting individuals or families with income not enough to cover their basic needs. The benefit is defined as the difference between the basic income and the (actual) family income. This amount is supplemented with a housing allowance. The recipient unit is the family, which is defined as couples (or single persons) living with unmarried children up to the age of 28 or children in full time education or in military service. In defining eligibility criteria, movable and immovable property is taken into account.

Child Benefit (Επίδομα Τέκνου): Child benefit is a non-contributory benefit paid to all families with children that reside permanently in Cyprus. It consists of a universal basic part and a supplementary means-tested part. The basic part is paid for each child that lives under the same household, while the supplementary part is payable only to families with annual gross income below a certain threshold which is set by the Law. The benefit rules were reformed in 2011 when the government introduced stricter income criteria and narrowed the definition of dependent child.

Students Grant (Φοιτητική Χορηγία): Student grant is a non-contributory universal benefit payable to all students of public and private higher education alike. It consists of a basic and a supplementary part. The basic part is a flat amount and the supplementary part depends on criteria that are discussed in the relevant section of the country report. In 2011, the state introduced income criteria.

Social pension (Κοινωνική Σύνταξη): Social pension is designed to provide a minimum income for elderly persons residing in Cyprus who have reached the age of 65 and are not entitled to a pension or other retirement income. Successful applicants should satisfy the following residence conditions; have resided legally in Cyprus for at least 20 years from the date on which the applicant reached the age of 40; or have resided legally in Cyprus for at least 35 years from the date the applicant reached the age of 18. Social pension is paid at a flat rate to all beneficiaries.

Single parent benefit (Επίδομα μονογονιού): The benefit is paid to single parent benefits who are Cypriots or EU citizens, have been residing in Cyprus the last three years and are eligible for the child benefit. The single parent family is defined as a family with one parent who is either unmarried, divorced or widowed and who lives with her dependant children without a spouse or partner.

1.4 Social contributions

Employee social contributions (*ασφαλιστικές εισφορές εργαζομένων*): After the 1st January 2014, the contribution rate for employees, changed to 20.2%, of which 7.8% is paid by the employee, 7.8% by the employer and 4.6% from the Consolidated Fund of the Republic (*Πάγιο Ταμείο της Δημοκρατίας*). In cases of trainees, the employer has to pay both the contribution of the employer and the employee, that is, a total of 12.6%.

Self-employed social contributions (*ασφαλιστικές εισφορές αυτοεργοδοτούμενων*): As of January of 2014; the total contribution is equal to 19.2%, of which 14.6% is paid by the self employed and 4.6% from the state. The insured earnings of self-employed, that is, the earnings for which their contributions are calculated, are based on their profession. For every professional category there is an obligatory minimum amount of insured earnings. The self-employed is allowed to pay contributions on a higher amount of insured earnings up to the maximum limit of social earnings. If the real income of a self-employed person is lower than the minimum amount of the corresponding professional category y then he/she can ask to pay contributions based on his/her real income.

Optionally insured person social contributions (*προαιρετικές ασφαλιστικές εισφορές*): The contribution rate of optionally insured persons is 19.2% from which 14.6 p.p. are paid by the optionally insured person and 4.6 p.p. by the state. The amount of insured earnings for which the optionally insured person is paying social contributions is chosen by him/her but it cannot be higher than the weekly amount of insured earnings that he/she had during the previous year or the mean insured earnings he/she had during the three previous years.

Employer social contributions (*ασφαλιστικές εισφορές εργοδοτών*): Every employer has to pay contributions to the Funds (Social Insurance, Annual Holidays Fund, Redundancy Fund, Human Resource Development and Social Cohesion Fund) for each of his/her employees whose earnings are at least €1.71 per week or €6.83 per month. For trainees/apprentices the employer has to pay contributions to the Social Insurance Fund even if the employee has no earnings. The liability of the employer for paying contributions to the Social Insurance Fund ceases on the day the employee reaches the pensionable age, i.e. the age of 65. In case that the employee reaches the pensionable age and does not satisfy the contribution conditions for old-age pension, the employer is obliged to continue to pay contributions until the employee is entitled to old-age pension.

Credited social contributions (*πιστωμένες ασφαλιστικές εισφορές*): Contributions can be credited to insured persons in the following cases: 1) for any period after the age of 16 for which he/she studies full time or attends training courses; 2) for any period he/she receives sickness benefit, unemployment benefit, maternity benefit, physical injury benefit or incapacity pension from the Social Insurance Fund; 3) for any period of declared unemployment or sickness for which the person is not allowed to receive a benefit. In such case the credit period cannot exceed six months.

Provident fund contributions (*ασφαλιστικές εισφορές ταμείων πρόνοιας*): The provident funds a) provide for cash benefits to employed persons in case of termination of employment, permanent incapacity for work, retirement or death, and b) are financed by periodical contributions of the employed persons and/or their employers. The Provident Fund Law does not specify the rate of contribution that should be paid to a provident fund and on what basis it shall be calculated, as these specificities are subject to agreements between employees and employers.

1.5 Taxes

Personal Income Tax (*φόρος εισοδήματος*): The personal income tax applies to all Cyprus tax residents for their income accrued or derived from all sources in Cyprus and abroad and to individuals who are not tax residents of Cyprus but have income accrued or derived from sources in Cyprus. Subject to personal taxation is income derived from employment, business activities, rents and all pension income except of widow's pensions. The social benefits provided in the form of a lump sum or for a short period of time (i.e. sickness benefit) are not included in the tax base. This is valid since 2003 and onwards due to the fact

that the tax credits which were used to be in force have been replaced by the social benefits excluded from the tax base.

Special Contributions for defence (ειδική εισφορά για την άμυνα): Special contribution for defence is imposed on the interest, dividend and rental income of tax residents (individuals and legal entities). Dividends are taxed at 15% (17% after 01/09/2011), income from interest (at a rate of 10% which increased at 15% after 01/09/2011). But if total annual income (including income from interest) does not exceed the amount of €1,960 have the right of refunding the amount of the withhold contributions for defence on interest that exceeds the amount that corresponds to the 3%, interest paid or credited from Cypriot savings certificates, Cypriot development bonds and interest from provident fund on a rate of 3% and income from rents at a 3% of the gross rental income (but only 75% of the rental income is subject to the contribution).

Real Property Tax (φόρος ακίνητης περιουσίας): Under the Cypriot Law all property owners, regardless of whether they reside in Cyprus or not, are liable to pay an annual tax based on the total value of all their immovable property. The property tax annual and calculated on the market value of the property as it stood at 1st January 1980.

Value Added Tax (φόρος προστιθέμενης αξίας): Value added tax is imposed on the provision of goods and services in Cyprus, on the acquisition of goods from the European Union and on the importation of goods into Cyprus. In most cases, the VAT is 15%, but there are also reduced rates of VAT of 5% and 8% for several basic goods. VAT increased at 17% in 2011.

Capital Gains Tax (φόρος κεφαλαιακών κερδών): The capital gain, according to the Capital Gains Tax Law, is taxed at a rate of 20%. Individuals may claim several deductions from the applicable taxable gain (for example if the disposal relates to a private residence, if the disposal is made by a farmer or if it relates to agricultural land).

Special contribution (Ειδική εισφορά): The special contribution is part of the fiscal consolidation measures that were undertaken after 2011. It is imposed on the monthly emoluments of the private and public employees, self-employed and pensioners. The contribution rate is zero below a certain threshold and thereafter increases with the level of emoluments. It is expected that the special contribution will be abolished in 2017.

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

EUROMOD model simulates a collection of policy instruments (taxes, social benefits and social insurance contributions). The line between simulated and non-simulated instruments is drawn on the basis of informational concerns. Eligibility rules are not always possible to simulate given the enormous demand of informational input some policies require. Characteristic example of this problem is pensions whose meaningful simulation would require knowing the contribution record of each individual in pensionable age. In such cases, the respective income (income from pensions) is included in the database and chosen as components of output variables, but the rules governing its level and eligibility cannot be changed by the user of the model. Other benefits are built upon very complex rules which simulation cannot but be partial. This is the case of social assistance in Cyprus which comprises of a basic part and a supplementary party. The basic part acts as a top-up benefit and consequently can be fully simulated while the supplementary part of the scheme is contingent to a large number of idiosyncratic factors (e.g. medical or psychological condition of the recipient) and cannot be modelled.

Table 1: Simulation of benefits in EUROMOD

| | | 2013 | 2014 | 2015 | 2016 | Why not fully simulated? |
|------------------------------------|---------|------|------|------|------|---|
| Public assistance benefit | bsa_s | PS | - | - | - | Lack of information regarding recipients' special needs. |
| GMI | bsamm_s | - | S | S | S | - |
| Unemployment benefit: From SIF | bunct_s | PS | PS | PS | PS | Not possible to define contribution record and past earnings. |
| Unemployment: other | bunot | I | I | I | I | No information to define eligibility |
| Maternity benefit | bfamh | I | I | I | I | Paid SICs cannot be defined perfectly, no available inform. |
| Child benefit | bch_s | S | S | S | S | Relevant income may not be defined exactly |
| Mother allowance | bfamh | I | I | I | I | Eligibility cannot be defined. |
| Missing person allowance | bsa | I | I | I | I | Eligibility cannot be defined. |
| Military service grant | bml | I | I | I | I | Not enough information to define the exact amount of the grant. |
| Students grant | bedet_s | S | S | S | S | - |
| Special grant to blind persons | pdi | I | I | I | I | Eligibility cannot be defined. |
| Sickness benefit | bhl | I | I | I | I | Eligibility cannot be defined. |
| Physical injury benefit | bhl | I | I | I | I | Eligibility cannot be defined. |
| Disability pension | pdi | I | I | I | I | Eligibility cannot be defined. |
| Disability benefit | pdi | I | I | I | I | Eligibility cannot be defined. |
| Widow/widower pension | psuwd | I | I | I | I | Depends on the SICs of the deceased. |
| Orphan benefit | psuor | I | I | I | I | Eligibility cannot be defined. |
| Parent pension | psuot | I | I | I | I | Eligibility cannot be defined. |
| Birth grant | bchba_s | S | S | S | S | - |
| Wedding grant | bfamh | I | I | I | I | Eligibility cannot be defined. |
| Funeral grant | bfamh | I | I | I | I | Eligibility cannot be defined. |
| Widow pension for public empl. | psuwd | I | I | I | I | Eligibility cannot be defined. |
| Child pension for public employees | psuor | I | I | I | I | Eligibility cannot be defined. |
| Old age pension | poa | I | I | I | I | Pension's level depends on the SICs which are not known. |
| Social pension | poasp | I | I | I | I | Eligibility cannot be simulated |
| Incapacity pension | pdi | I | I | I | I | Eligibility cannot be defined. |
| Single parent benefit | bsalp_s | S | S | S | S | - |

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

Table 2: Simulation of taxes and social contributions in EUROMOD

| Social Insurance Contributions (SICs) | | 2013 | 2014 | 2015 | 2016 | Why not fully simulated? |
|---------------------------------------|-----------|------|------|------|------|--|
| Employee SICs | tscee_s | S | S | S | S | |
| Employer SICs | tscer_s | S | S | S | S | |
| Employer SICs: Annual Holidays Fund | tscer00_s | S | S | S | S | Contributors randomly chosen |
| Employer SICs: Redundancy Fund | tscer01_s | S | S | S | S | |
| Employer SICs: Human Resources Fund | tscer02_s | S | S | S | S | |
| Employer SICs: Social Insurance Fund | tscer03_s | S | S | S | S | |
| Employer SICs: Social Cohesion | tscer03_s | S | S | S | S | |
| Self-employed SICs | tsese_s | S | S | S | S | |
| Optionally insured person SICs | - | E | E | E | E | Non-sufficient information available from data |
| Credited SICs | - | E | E | E | E | Non-sufficient information available from data |
| Provident-fund contributions | - | E | E | E | E | Non-sufficient information available from data |
| Special contr. (public employees) | txcpb_s | S | S | S | S | |
| Special contr. (priv. employees) | txceeps_s | S | S | S | S | |
| Special contr. (priv. employers) | txcerps_s | S | S | S | S | |
| Special contr. (self-employed) | txcseps_s | S | S | S | S | |
| Contribution for public pensions | tpipb_s | S | S | S | S | |
| Personal Income Tax | tin_s | S | S | S | S | |
| Corporate income tax | | E | E | E | E | Out of scope of the model |
| Property tax | - | E | E | E | E | No information about the value of property |
| Special contribution for defence | txc_s | PS | PS | PS | PS | No information on legal entities |
| Value Added Tax | - | E | E | E | E | Out of scope of the model |
| Excise duties | - | E | E | E | E | Out of scope of the model |
| Other indirect taxes | - | E | E | E | E | Out of scope of the model |
| Indirect taxes | - | E | E | E | E | out of scope of the model |

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

2.2 Order of simulation and interdependencies

The following table shows the order in which the main instruments of the Cypriot tax-benefit system are simulated. After 2012, a number of policy instruments were reformed in the context of fiscal consolidation. In most cases, these reforms took the form of parametric changes in the rules of the instruments (e.g. reduction in benefit rates). In other cases, the changes were structural as, in 2014 when the Public Assistance scheme was substituted by the Guaranteed Minimum Income scheme.

Table 3: EUROMOD Spine: order of simulation

| Policy | 2013 | 2014 | 2015 | 2016 | Description of the instrument and main output |
|------------------|------|------|------|------|---|
| <i>paycut_cy</i> | On | On | On | On | Cuts in public wages and pensions of public employees |
| <i>tscee_cy</i> | On | On | On | On | Employee social insurance contributions |
| <i>tscer_cy</i> | On | On | On | On | Employer social insurance contributions |
| <i>tsese_cy</i> | On | On | On | On | Self-employed social insurance contributions |
| <i>tscgv_cy</i> | On | On | On | On | SICs paid by the government |
| <i>txcbp_cy</i> | On | On | On | On | Special contribution of public employees |
| <i>txcps_cy</i> | On | On | On | On | Special contribution of private sector |
| <i>txcpe_cy</i> | On | On | On | On | Special contribution on pensions |
| <i>tpipb_cy</i> | On | On | On | On | Contribution to government employees plan |
| <i>tin_cy</i> | On | On | On | On | Income Tax |
| <i>txc_cy</i> | On | On | On | On | Special contribution for defence |
| <i>bchba_cy</i> | On | On | On | On | Birth grant |
| <i>bunct_cy</i> | Off | Off | Off | Off | Unemployment benefit |
| <i>bedet_cy</i> | On | On | On | On | Student grant |
| <i>bch_cy</i> | On | On | On | On | Child benefit |
| <i>bsa_cy</i> | On | Off | Off | Off | Public assistance |
| <i>bsalp_cy</i> | On | On | On | On | Single parent benefit |
| <i>bsamm_cy</i> | Off | On | On | On | Guaranteed Minimum Income |

Notes: A number of policies, which are included into the model but not used in the EUROMOD baseline output, are marked as “switched off”.

The spine structure has undergone relatively few changes between 2013 and 2016. Initially, we simulate Employees’ SICs, followed by Employers’ SICs. Employees’ SICs finance the Social Insurance Fund, while employers’ SICs finance, alongside the Social Insurance Fund, the Annual Holidays Fund, the Human Resources Fund and the Social Cohesion Fund. Thereafter, income taxes and the special contribution to defence are deducted from income. Next come, in the following order, the birth grant, the student grant, the child benefit and the public assistance. In 2012 several policy changes occurred. The government introduced a number of special contributions which were imposed on wages and pensions. These are simulated after social insurance contributions and before income tax. At the same time, a new policy was introduced targeting single parents. Single parent benefit takes the last place in the spine order for years 2012-2013. In 2014, the GMI scheme substituted the Public Assistance scheme. The Public Assistance Scheme is switched off for 2014, while the GMI benefit takes the last rank in the spine order. Finally, we note that the unemployment benefit is switched off (in the baseline scenario) across all years.

2.3 Policy switches

A switch is used in the model for choosing between uprating (non-simulated) public pensions (*UAA_cy*) according to changes in average amounts (switch set to on) or statutory indexation (switch set to off, the default).

2.4 Social benefits

2.4.1 Public assistance benefit (*bsa_s*)

- *Definitions*

Public assistance is a non-contributory minimum income benefit designed to protect family units whose income is not enough to cover their basic or special needs. The eligible recipients should satisfy the conditions set by the Public Assistance Law. Public assistance was substituted in 2014 by the Guaranteed Minimum Income (GMI) scheme.

The Public Assistance Law defines dependents as follows:

- 1) The husband is responsible for the care of his wife and their unmarried children or children in military service or children enrolled in higher education (for the normal duration of studies) cohabiting with him. Disabled children or children who cannot maintain themselves due to health reasons are not considered dependents which means that they are treated as independent units of assessment.
- 2) The female spouse is responsible for the care of her spouse and her children at the extent that her husband is not capable of doing so. But she is not responsible for the care of disabled children who, in that case, are treated as independent units of assessment.
- 3) Children above 18 are responsible for the care of their parents in case that they (their parents) are not capable of maintaining themselves.

- *Eligibility conditions*

Eligible recipients should be legal residents of Cyprus or belong to one of the following special categories of third country nationals: asylum seekers, recognized refugees, immigrants granted protection for humanitarian reasons and victims of sexual harassment or human trafficking. The recipient should satisfy the following requirements:

- 1) He or she should be either unemployed or economically inactive. In case of a couple, both spouses should be unemployed or economically inactive. Yet this condition does not apply on the following categories of recipients:
 - a. Single parents until 01/06/2012. Thereafter single parents lost this exception and are treated as anybody else.
 - b. Disabled persons
 - c. Parents of four children under 18 age old.
 - d. Every person the director of SWS judges that should be allowed to work due to special circumstances is eligible for the benefit.
- 2) The family income should be below the minimum threshold set annually by Social Welfare Services.

Under some conditions related with their health/disability conditions or the schooling needs of the children, recipients do not lose their benefit entitlement even if they do not fully satisfy the eligibility conditions. Finally, it should be noted that the benefit is not paid to voluntary unemployed persons, underemployed persons or to those who refuse either to attend training programs or to take gainful employment.

Notes on Euromod Implementation: The complex eligibility conditions of the public assistance scheme cannot be fully simulated by the model. Instead the benefit is attributed to persons or couples if they are non-employed. In order to define when a person is non-employed the model uses EU-SILC information on individuals' current economic status. On that basis, a person is not employed if he/she is not farmer, employer, self-employed or employee. Single parents are considered eligible even if they are employed, but only until 2012. Thereafter, they are treated in the model as anybody else. Furthermore, students from third countries are considered as non-eligible. Finally, the model cannot fully simulate the conditions determining whether a child forms an independent unit of assessment (children who are not capable of

work due to health problems or disability are not considered dependent children and therefore can claim separately the benefit).

- **Income test**

In order to compute the family income for the purposes of the means-testing, the Social Welfare Services do not take into account the following income components:

- 1) Net monthly income up to 85 euro when it comes from employment of the recipient or up to 513 euro when it comes from employment and the recipient or his/her spouse is a disable person or up to 170 euro when it comes from employment and the recipient is above the age of 63 or mentally ill;
- 2) Income of dependent children (this exception does not apply after the 2012 reform i.e. after 01/06/2012);
- 3) The wedding benefit;
- 4) Benefits received according to the Suffering Persons' Relief Law²;
- 5) Any contribution of the children of the recipient that stay abroad or contribution of a charity institution;
- 6) 50% of the net income from employment of the recipient or up to 256 euro, whichever is the larger, if the recipient is a single parent and has dependent children (this exception does not apply after the 2012 reform i.e. after 01/06/2012);
- 7) The severe mobility disability benefit;
- 8) The transport benefit offered to disable persons;
- 9) The special honorary grant paid to incapable persons of the spirit and arts;
- 10) The special grant paid to blind persons;
- 11) Any compensation paid due to harm or damage from an accident, excluding the interests from these compensations; and
- 12) The child benefit (this exception does not apply after the 2012 amendment of the Law i.e. after 01/06/2012);

Notes on Euromod implementation: The income list for the means-testing of the public assistance benefit includes primary income net of taxes and social insurance contributions, alimonies, military grant, unemployment benefit, widows, orphans and other survivor benefits, student grant, education related benefits, mother allowance (plus other family-related benefits) and old-age pensions.

Note also that the model includes child benefit (until 2012) and student grant in the income list despite that social assistance, in principle, is included in the means-testing of these benefits, too. Since social assistance is designed as an instrument of the last resort (after all other components of the social protection system have contributed to family income), this treatment appears to be realistic.

- **Benefit amount**

The amount of the benefit is equal to the positive difference between the minimum threshold set by the law and the family income.

Table 4: Monthly minimum threshold

| Year | Head | Dependent >14 | Dependent <14 |
|--|------|---------------|---------------|
| July 1 st 2011 - June 30 th 2012 | €452 | €26 | €35.6 |
| July 1 st 2012 - June 30 th 2013 | €452 | €26 | €35.6 |

The amount of public assistance benefit cannot be less than €8.54 euro per month. If it is estimated less than €8.54 then €8.54 is paid to the recipient. If the recipients (or his/her partner) finds a job (after a period of at least six months in unemployment), then he will continue to receive the benefit for a year

² Eligible for these benefits are persons considered as “suffering” by the Suffering Persons' Relief Law and have obtained the relevant certificate issued by the Committee for the Relief of Suffering Persons (spouses or offspring of persons that fall during the anti-Colonial struggle or the 1974 Turkish invasion, soldiers that were severely injured during their military service and other special cases).

further at the following rates: full amount for the first 4 months, 2/3 of the amount for the next 4 months and 1/3 for the last 4 months.

Notes on Euromod implementation: The phase out of the benefit is not simulated.

2.4.2 Unemployment benefit (*bunct_s*)

• *Definitions*

The unemployment benefit is payable to insured employees or voluntary contributors that work abroad in the services of a Cypriot employer. Insured persons should be between 16 and 63 years old in order to be eligible for the benefit. Yet, the age limit of 63 can be expanded to 65 years old, in case that the applicant is not eligible for old-age pension. Any insured person may apply for unemployment benefit for the days he/she is unemployed, able to work and willing to accept employment. But he/she is not considered to be unemployed:

- 1) When he/she is incapable for work due to sickness;
- 2) On Sundays;
- 3) When he/she is on leave
- 4) The days during which he/she works in any occupation that he/she practiced in addition to his/her usual work and from which he/she receives salary at least equal to 1/12 of the amount of basic insurable earnings.
- 5) On any day for which the employer pays for employee's contributions.

Dependents of the insured person are considered: the spouse, the children aged below 15, unmarried daughter aged 15-23 if she is student, unmarried son age 15-25 if he is student or soldier, unmarried child if he/she is permanently incapable of self-support independently of his/her age, the disabled spouse if he/she is supported by the spouse, the father/mother of the insured person if he/she is incapable of employment and financially supported by him or her and the underage younger brother or sister if he/she is financially supported by the insured person.

• *Eligibility conditions*

The requirements needed for the payment of unemployment benefit are:

- 1) At least 26 weeks must have passed between the day when the person became insured and the day on which he or she became unemployed. During that period, the total amount of insured earnings has to be at least equal to 26 times the weekly amount of the basic insured earnings.
- 2) The applicant has paid³ or been credited⁴ with contributions in previous contributions year⁵. During this period insured earnings should not be lower than 20 times the weekly amount of basic insurable earnings.

In the requirements mentioned above the contributions of the self-employed are not taken into consideration while the contributions of optionally insured persons are taken into consideration only if they are for work abroad with a Cypriot employer.

³ The paid insured earnings are the earnings for which contributions had been paid.

⁴ Every insured person is allowed to be credited with insured earnings for every period of full time education after the age of 16, for the period under military service and for the period for which he/she is receiving sickness benefit, unemployment benefit, maternity benefit, physical injury benefit or incapability pension from the Social Insurance Fund and for the period that he/she is absent from his/her employment with parental leave or leave due to force majeure.

⁵ For the first semester of every year, the previous contributions year is the penultimate calendar year and for the second semester is the last calendar year, i.e. for the first semester of 2006 the previous contributions year is 2004 while for the second semester of 2006 is the 2005.

Notes on Euromod implementation: The model controls for the first condition using a variable on working history. As far as the second is concerned, it uses the employment income.

The benefit is payable for 156 working days in each period of interruption of employment.

Unemployed person who has exhaust his right to unemployment benefit can be allowed to it again if he/she works and pay contributions on earnings that on their total are not less than 26 times the weekly amount of basic insured earnings and at least 26 weeks have passed since the last day that the person received the benefit.

In the case where the unemployed person is above 60 years old and is not allowed to pension from any professional plan, he/she gains the right to unemployment benefit if he/she worked and has paid contributions on earnings that on their total are not less than 26 times the weekly amount of basic insured earnings and at least 13 weeks have passed since the last day that the person received the unemployment benefit.

Notes on Euromod implementation: The above described rules are not simulated in the model.

The applicant loses entitlement of the unemployment benefit for up to six weeks if he/she:

- 1) loses his/her employment by his/her own blame or abandons it without excuse;
- 2) refuses or omit to submit application for proper employment or to accept proper employment offer to him/her;
- 3) fails or neglects to be employed in a suitable job;
- 4) refuse or omits, without excuse, to attend professional training lessons.

Notes on Euromod implementation: Euromod model does not control for these conditions.

- *Income test*
- *Benefit amount*

The amount of the unemployment benefit is calculated on the basis of the weekly mean of paid and credited insured earnings of the insured person during the previous contribution year. The unemployment benefit includes a basic and a supplementary amount. The weekly amount of the basic benefit is equal to 60% of the weekly mean of the insurable earnings (up to the basic insurable amount) during the previous contribution year and increases by 20% for the dependent spouse and by 10% for every child or other dependant⁶ (the maximum number of dependent children/other dependants is 2)⁷. In case that both spouses are allowed to receive unemployment benefits, the increase for dependents is paid only to the spouse that is allowed the highest increase. The weekly amount of the complementary amount is equal to 50% of the weekly mean of insurable earnings of the beneficiary that exceeds the basic insured earnings, but the complementary amount should not be higher than the weekly amount of basic insured earnings.

In case that the insured person is entitled not only to unemployment benefit but also to other provisions of the Social Insurance Fund, then only the benefit with the higher rate is paid. This rule does not hold if the beneficiaries are entitled to unemployment benefit and widow pension or missing person allowance. In that particular case, both provisions are paid to the person.

Note on Euromod implementation: Dependants other from children of spouse and children of the recipient were not taken into account in the implementation. However, these cases are very rare in practice [see, footnote (9)].

⁶ Other dependents refer to the cases of a) recipient's younger brothers, b) recipient's parent(s) if he/she or they are incapable of work. In both cases a) and b) the dependents should prove that they are financially supported by the recipient.

⁷ The usual definition of dependent child applies.

2.4.3 Child benefit (*bch_s*)

- **Definitions**

Child benefit is granted in accordance with the provisions of the Child Benefit Law to families which had their usual residence in Cyprus the last three years, at least. The benefit is conditional to the presence of children. The Law, until the 2012 reform, considered as “dependent children” the persons aged:

- 1) up to 18 years old,
- 2) up to 25 years old, provided that they are serving in National Guard.
- 3) up to 23 years old, provided that they are enrolled in higher education.
- 4) up to 25 years old who are still enrolled in higher education for as much as they have served in National Guard.
- 5) regardless of age, if permanently deprived of the ability to maintain themselves.

The 2012 reform changed the definition of dependent children. From 2012 onwards, “dependent children”, for the purposes of the child benefit, are persons aged:

- 1) up to 18 years old,
- 2) up to 19 years old, provided that they attend secondary education,
- 3) up to 21 years old, provided that they are serving in the National Guard.
- 4) regardless of age, if permanently deprived of the ability to maintain themselves.

The amount of the benefit depends on the number of children and the total gross annual family income. It consists of a basic part and a supplementary part. The benefit is paid to the mother or, in absence of the mother, to the father or the person who is in charge of the child(ren) in case that both parents are dead. Finally, the child benefit is not taxable.

- **Eligibility conditions**

Before 2012 every family with children that has its residence in Cyprus was eligible for the child benefit. In 2012 the Child Benefit Law was reformed. A family is entitled to the benefit only if its total gross family income does not exceed:

- €49,000 for families with only one dependent child
- €9,000 for families with two, three or four dependent children
- €9,000 €10,000 euro for each additional dependent child for families with more than four children. For example, for a family with six dependent children the maximum limit of family income is set at €19,000.

The 2012 reform introduced asset criteria, too. A family is not eligible for the benefit if its total property assets including real estate property, shares, bonds, securities and deposits exceed €1,200,000.

- **Income test**

For the purposes of the calculation of the supplementary part of the child benefit the Child Benefit Law considers the total annual gross income acquired three years before the application for the benefit. Primary income, alimonies, military grant, unemployment benefit, widows, orphans and other survivor benefits, student grant, education related benefits, mother allowance (plus other family-related benefits) and old-age pensions are included in the income test. The child benefit is paid annually and it is not taxable. The benefit rates are updated yearly by the Grants and Benefits Services of the Ministry of Finance.

After the 2012 reform the total annual gross income acquired one (instead of three) years before the application for the benefit is used. Eligible families with total gross income above 49,000 euro do not receive the supplementary part of the benefit.

• **Benefit amount**

From 2012 onwards, benefit amounts differ by household composition and income situation of the household.

Table 5: Benefit levels for 2011 (annual amounts in EUR)

| No of dep. children | Basic annual benefit (in euro) | Supplementary annual benefit for families with gross income during 2008: | |
|---------------------|--------------------------------|--|---------------------------|
| | | Up to 19,500 euro | Between 19,501 and 39,000 |
| 1 child | 421.29 | 105.33 | 52.67 |
| 2 children | 842.61 | 421.29 | 315.97 |
| 3 children | 2,527.80 | 947.91 | 789.90 |
| 4+ children | 1,390.29 per child | 463.43 per child | 289.64 per child |

Table 6: Benefit levels for 2012 (annual amounts in EUR)

○ For families with total gross family income up to 49,000 euro

| No of dep. children | Basic annual benefit (in euro) | Supplementary annual benefit for families with gross income during 2011: | |
|---------------------|--------------------------------|--|---------------------------|
| | | Up to 19,500 euro | Between 19,500 and 39,000 |
| 1 child | 420 per child | 105 per child | 50 per child |
| 2 children | 420 per child | 210 per child | 155 per child |
| 3 children | 840 per child | 315 per child | 260 per child |
| 4+ children | 1,390 per child | 460 per child | 290 per child |

○ For families with total gross family income above 49,000 euro

| Family income in 2011 | Number of dependent children | | | |
|-----------------------|------------------------------|---------------|-----------------|-----------------|
| | 2 children | 3 children | 4 children | 5+ children |
| 49,000-59,000 | 380 per child | 760 per child | 1,250 per child | 1,250 per child |
| 49,000-69,000 | 335 per child | 675 per child | 1,110 per child | 1,110 per child |
| 69,000-79,000 | 295 per child | 590 per child | 970 per child | 970 per child |
| 79,000-89,000 | 250 per child | 505 per child | 835 per child | 835 per child |
| 89,000-99,000 | 210 per child | 420 per child | 695 per child | 695 per child |
| above 99,000* | 0 | 0 | 0 | 695 per child |

*for families with more than 4 dependent children the maximum limit for total gross family income is increased by 10,000 euro for each additional child beyond the fourth child and the child benefit is 695 euro per child.

Table 7: Benefit levels for 2013 (annual amounts in EUR)

○ For families with total gross family income up to 49,000 euro

| No of dep. children | Basic annual benefit (in euro) | Supplementary annual benefit for families with gross income during 2012: | |
|---------------------|--------------------------------|--|---------------------------|
| | | Up to 19,500 euro | Between 19,500 and 39,000 |
| 1 child | 380 per child | 95 per child | 45 per child |
| 2 children | 380 per child | 190 per child | 140 per child |
| 3 children | 760 per child | 285 per child | 235 per child |
| 4+ children | 1,260 per child | 415 per child | 265 per child |

○ For families with total gross family income above 49,000 euro

| Family income in 2012 | Number of dependent children | | |
|-----------------------|------------------------------|---------------|-----------------|
| | 2 children | 3 children | 4 children |
| 49,000-59,000 | 345 per child | 690 per child | 1,135 per child |
| 49,000-69,000 | 305 per child | 610 per child | 1,010 per child |
| 69,000-79,000 | 265 per child | 535 per child | 880 per child |

| | | | |
|---------------|---------------|---------------|----------------|
| 79,000-89,000 | 225 per child | 455 per child | 755 per child |
| 89,000-99,000 | 190 per child | 380 per child | 630 per child |
| above 99,000 | 0 | 0 | 630 per child* |

*only for families with more than 4 dependent children, for which the upper limit of total gross family income is increased by 10,000 euro for each additional child (beyond the fourth child).

Table 8: Benefit levels for 2014-2016 (annual amounts in EUR)

| Number of children | Basic benefit (income from 49,000.01 to 59,000) | Basic benefit (income up to 49,000) | Supplementary benefit (income up to 19,500) | Supplementary benefit (income from 19,500.01 to 39,000) |
|---------------------|---|-------------------------------------|---|---|
| Family with 1 child | 0 per child | 379.92 per child | 95.04 per child | 45 per child |
| 2 children | 345 per child | 379.92 per child | 189.96 per child | 140.04 per child |
| 3 children | 690 per child | 759.96 per child | 285 per child | 234.96 per child |
| 4+ children | 1,134.96 per child | 1,260 per child | 414.96 per child | 264.96 per child |

Notes on Euromod implementation: Current values of relevant income are used for the implementation. The benefit is given to the head of the tax unit. Also, student grant is considered for the means-testing of the benefit, while the opposite is not true. Social assistance is not included in the income list.

2.4.4 Single parent benefit (*bsalp_s*)

- Definitions**

In June 2012, a new single-parent benefit was initiated. The benefit is given only to single parent families which already receive the child benefit. Namely, a family eligible for the child benefit is also eligible for the single-parent benefit. Single parent families consist of one parent who cohabits with at least one dependent child. The single parent may be unmarried, widowed or divorced. The definition of dependent child is the same as in the case of child benefit. Finally, the benefit is not taxable.

- Eligibility conditions**

The recipients should be eligible for the child benefit. The definition of single parent family is as described above. The recipients can be either Cypriots or EU citizens who reside in Cyprus at least for the last three years.

- Income test**

The benefit is means-tested. The gross family income (acquired one year before the application for the benefit) is used. The definition of family income is the same as for the child benefit. The value of the benefit depends on the value of the gross family income.

- Benefit amount**

Table 9: Benefit levels for 2012-2016 (monthly amounts)

| Family income | 2012 | 2013 | 2014-2016 |
|---------------|---------------|---------------|---------------|
| 0-39,000 | 200 per child | 180 per child | 180 per child |
| 39,000-49,000 | 180 per child | 160 per child | 160 per child |
| 49,000-59,000 | 160 per child | 140 per child | |
| 49,000-69,000 | 140 per child | 120 per child | |
| 69,000-79,000 | 120 per child | 100 per child | |
| 79,000-89,000 | 100 per child | 90 per child | |
| above 89,000 | 0 | 0 | |

2.4.5 Students grant (*bedet_s*)

- **Definitions**

Student grant is a non-contributory benefit which scope is to provide income support to families with members who study in higher education. Responsible for its administration is the Ministry of Education and Culture. The student grant is means-tested. The description of the policy rules (2013-2016) is based on the 2011 Law (marginally modified in 2012). The 2011 Law was cancelled and substituted by the 2015 Law.

The student grant is given to the parents of the student or in other cases to persons paying student's expenses. Students should either live in the same household with their parents or in case that they live separately, they should be financially supported by their parents.

The law considers the following family units:

- couples with children,
- lone fathers (divorced, widowed or unmarried) and their children,
- lone mothers (divorced, widowed or unmarried) and their children,
- students whose both parents are deceased or missing or he or she (the student) has been abandoned by his/her parents.
- Married student and his/her spouse and his/her child(ren),

The 2015 law added:

- Divorced, widowed student and his/her child(ren).

Furthermore for the purposes of the Law, children are defined as follows:

- children up to 18 years old,
- children up to 19 years old, provided that they attend secondary education,
- children up to 21 years old, provided that they are serving in the National Guard,
- children irrespectively of age who are considered students eligible for receiving the student grant,
- children irrespectively of age who are disable or permanently deprived of the ability to maintain themselves.

- **Eligibility conditions**

Eligible students should be Cypriot citizens or EU citizens who have their permanent residence in Cyprus (permanent residents are considered those persons who had been staying in Cyprus for at least 30 months the past 3 years before the beginning of their studies). In case that the student is a non-EU citizen, then s/he may be eligible for the grant if at least one of his/her parents has Cypriot or EU citizenship. Furthermore, the recipient should have graduated from a secondary school in Cyprus. The student should be enrolled in a recognized higher education institution. The grant is paid only for the normal duration of studies which may vary across faculties, but the period of payment may be extended in special cases (health reasons). Note that the student grant is not paid to students that:

- attend language learning programmes that are prerequisites for entering to a educational institution;
- attend tertiary foundation certificates or similar courses
- attend distance learning courses or open university courses;
- attend courses as external students and not as normal students;
- are enrolled in PhD programs.

Finally the recipients should satisfy certain asset criteria. In particular, the total value of family immovable and movable property should not exceed 1.2 mil EUR.

- **Income test**

The eligibility and level of the student grant is defined on the basis of the total gross family income of the recipient. Total gross family income (acquired in the year before the 1st of January of the relevant academic year) includes the following components: employment income, pensions, rents, income from interest or dividends, alimonies, the GMI benefit, the public assistance (note that it was abolished in 2014), the child benefit⁸, the single parent benefit and other benefits or grants. But it does not include the following: income from the employment of children who are full-time students, scholarships or other student benefits and any disability benefits or grants who are received by any family member. Income thresholds are presented in Tables 12-14.

- **Benefit amount**

The student grant consists of a basic and an additional amount. The additional amount is paid to families which either bear the cost of tuition fees or have more than three dependent children (multi-child families). If the student completes her studies during the first semester of the academic year, then the family is allowed to half of the grant. If the case of part-time studies, the grant is paid when the period of studies corresponds to one year of normal studies. The following Tables show the level of the student grant corresponding to each income bracket for the period 2011-2016.

Table 10: Benefit Rates (2012)

| Year | Annual student grant (EUR) | Additional amount equal to: | |
|------|----------------------------|-----------------------------|--------------------------------------|
| | | If family pays fees | for multi-child family (3+ children) |
| 2011 | 1708 | 854.30 | 854.30 |

The following table shows the income brackets and the amount of student grant (main and supplementary) in 2012 (2013).

Table 11: Benefit Rates (2013)

| Family income | Annual amount of the student grant, per student | Additional amount for tuition payment or/and families with more than 3 dependent children |
|----------------|---|---|
| 0 - 40,000 | 1,710 | 855 |
| 40,000-50,000 | 1,580 | 790 |
| 50,000-60,000 | 1,450 | 725 |
| 60,000-70,000 | 1,320 | 660 |
| 70,000-80,000 | 1,190 | 590 |
| 80,000-90,000 | 1,020 | 510 |
| 90,000-100,000 | 850 | 425 |
| above 100,000* | 850 | 425 |

*for families with more than 2 dependent children the maximum limit for total gross family income is increased by 10,000 euro for each additional child beyond the second child.

Table 12: Benefit Rates (2014-2016)

| Family income in 2013 | Annual amount of the student grant, per student | Additional amount for tuition payment or/and for families with more than 3 dependent children |
|-----------------------|---|---|
| 0 - 39,000 | 1,710 | 855 |
| 39,000.01-49,000 | 1,580 | 790 |
| 49,000.01-59,000 | 1,450 | 725 |

⁸ Note that the child benefit was excluded in the definition of family income according to the 2011 Law. The 2015 Law added the child benefit in the definition of family income.

Note on Euromod implementation: The model cannot fully control for the provisions of the Law. According to the implementation, the grant is attributed to families with dependent children that attend an educational programme that corresponds to the ISCED values 5 or 6. Since it is not possible to control for the payment of fees, the only additional amount simulated is the one for multi-child families. Note also that the child benefit and the social assistance are not taken into account in the calculation of family income.

2.4.6 Birth grant (*bchba_cy*)

- *Definitions*
- *Eligibility conditions*

The birth grant is a contributory benefit paid to the mother of a newborn child (if she or her husband is insured), independently of the category of insurance (employee, self-employed, optionally insured).

The requirements for the payment of the birth grant are:

1. The birth of an alive child or a child born dead after at least 28 weeks of pregnancy;
2. The applicant has to been insured for not less than 26 weeks. The total amount of insured earnings has to be at least equal to 26 times the weekly amount of the basic insured earnings.
3. The applicant has paid or been credited with contributions in the previous contribution year. During this period, the insured earnings should not be lower than 20 times the weekly amount of the basic insurable earnings.

- *Income test*

No income test applies.

- *Benefit amount*

The amount of the birth grant (per child in the case of twins) is reported in the following Table.

Table 13: Benefit Rates

| Year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--------|------|------|------|------|------|------|
| Amount | 521 | 533 | 544 | 544 | 544 | 544 |

Notes on Euromod implementation: this benefit is given to all heads of families with children aged 0 where at least one of the parents has working history at least equal to 6.5 months (26 weeks) and annual earnings equal at least to 20 times the weekly amount of basic insured earnings.

2.4.7 Guaranteed Minimum Income (*bsamm_cy*)

- *Definitions*

The Guaranteed Minimum Income (GMI) scheme is a means-tested benefit targeting individuals or families with income not enough to cover their basic needs that are defined on the basis of a minimum consumption basket. The design of the scheme started in the autumn of 2013, while the scheme itself was launched in mid-2014.

Unit of assessment is the family consisting of:

- The claimant
- His/her spouse
- Children under the age of 18
- Unmarried children up to the age of 27 irrespectively if they reside with their parents or not (excluding children which live abroad).

- **Eligibility conditions**

The following categories of persons can apply for the benefit (provided that they have resided in the republic the five previous years):

- Every citizen of the republic.
- EU citizens provided that they have resided in Cyprus the last five years.
- Third country nationals if they have received the status of long term resident or are refugees (excluding asylum seekers)
- Victims of human trafficking.

Furthermore, the claimant should be either:

- At least 28 years old, or;
- married irrespectively of age, or;
- single parent irrespectively of age, or;
- orphan irrespectively of age, or;
- disabled irrespectively of age, or;
- any adult person who before becoming 18 years old was under the care of Social Welfare Services.

Finally, a number of special categories such as monks, persons serving their military service in the National Guard, students excluding those who are either under the care of Social Welfare Services or are orphans or are disabled or are voluntary unemployed.

- **Income test**

GMI is a top-up benefit. Social welfare services calculate recipients’ basic needs and family income. The difference is given to the eligible recipients as a top-up to their current income. Family income is the sum of the monetary incomes of all the members of the family (recipient) unit. Income from employment is exempted from the definition of family income, according to following schedule:

Table 14: Exempted income

| Working earnings disregard for working poor (other than children aged 18-28) | | Working earnings disregard for children aged 18-28 | |
|--|----------------|--|----------------|
| Monthly earnings | Retention rate | Monthly earnings | Retention rate |
| Up to €50 | 100% | Up to €480 | 50% |
| €51 - €200 | 40% | €481 - €1000 | 90% |
| €201 - €500 | 20% | €1001 - €2000 | 85% |
| €501 and above | 0% | €2001 and above | 80% |

Source: Ministry of Labour and Social Insurance

Example: If claimant’s income from employment is €200, then €110 (€50 plus the 40% of €150) are exempted, meaning that only €90 are taken into account for the calculation of GMI. Another example is if the claimant has a child under the age of 28 (irrespectively if he/she resides with him/her) with monthly earnings of €1000. Then, only €292 (€240+€52) will be accounted as family income.

Furthermore, the following benefits/pensions are not taken into account in the calculation of family income:

- Funeral grant
- Birth grant
- Student grant

- Military grant
- Financial aid to low income pensioners
- Donations to philanthropic institutions
- Alimonies (only in case that the claimant can prove that they are not paid to her)
- Benefits to disabled persons
- The first €12 which come from participation in employment or training schemes.
- Assistance through the Welfare Lottery Fund.
- **Benefit amount**

Basic income is calculated as the minimum monetary income necessary to ensure recipients' access to a complete consumption basket of goods and services that correspond to the minimum standard of living accepted by the society. The current value of the basket is equal to €480 for a single individual and increases with the size of the recipient unit in accordance with the OECD equivalence scales. The OECD scales assign a value of 0.5 to each additional adult and 0.3 to each additional child. Children are defined as persons below 14 years old. For example, for a couple with 13 year old child, the basic amount is equal to $480+0.5*480+0.3*480=864$.

If the basic amount is larger than the family income, then the difference is paid to the eligible recipient. Furthermore, the amount of the benefit is supplemented with a housing allowance (see following Table). Eligible for the housing allowance are renters or homeowners who cannot repay their mortgage loans.

Table 15: Housing Allowance

| Family Unit type | Nicosia/Limassol/Famagusta (€2.80/m2) | Larnaca (€2.45/m2) | Paphos (€1.75/m2) | weighted Average (2.63/m2) |
|---|--|-----------------------|----------------------|----------------------------------|
| Single or couple without children | €154 | €134.75 | €96.25 | €144.6 |
| Couple/single parent with 1 child | €224 | €196 | €140 | €210.3 |
| Couple/single parent with two minor children of the same sex | €224 | €196 | €140 | €210.3 |
| Couple/single parent with 2 adult children | €280 | €245 | €175 | €262.9 |
| Couple/single parent one adult child and one minor child | €280 | €245 | €175 | €262.9 |
| Couple/single parent with one adult child and two minor children of different sex | €280 | €245 | €175 | €262.9 |
| -> for each person with disability | additionally €70 | €61.25 | €43.75 | €65.7 |
| -> larger families (for each additional child or two additional minor children of the same sex) | additionally €56 | €49 | €35 | €52.6 |

Source: Ministry of Labour and Social Insurance, Notes: minor child=child<18, adult child>=18

Notes on Euromod Implementation:

- Due to the lack of information the model does not account for the complex asset criteria of the benefit.
- Some special categories of recipients (e.g. orphans, disabled persons, persons under the Care of Social Welfare Services) cannot be identified by the model.
- Furthermore, according to the premises of the model claimants cannot be students and all unemployed persons are considered involuntarily unemployed.

- For the purposes of the simulation we adopted the following income list: original income (without excluding alimonies paid), old age pensions, survivor pensions, health benefits, unemployment benefits, scholarships, housing benefits, child benefits and family related benefits.
- Finally, all the families with are eligible to the basic benefit and paying mortgage interests are considered eligible to the housing allowance.

2.5 Social contributions

2.5.1 Employee social contributions

Participation in the Social Insurance Scheme is mandatory for all working population. The insured persons are divided into two categories: the employees and the self-employed. Voluntary insurance is allowed to persons that are willing to continue insurance after a prescribed period of compulsory insurance. The social insurance contributions are estimated as a proportion of insurable earnings. Insurable earnings are earnings on which contributions are calculated and include any remuneration from employment as well as contributions paid to the Central Holiday Fund. The insured person, the employer and the state each pay a portion of the overall contribution.

The insurable earnings include a lower limit known as the basic insurable earnings. The basic insurable earnings separate the basic part and the earnings-related part of the scheme. The amount of annual basic insured earnings is set every year;

- €8,886 per year or €167.05 per week in 2011,
- €9,068 per year or €170.88 per week in 2012,
- €9,068 per year or €174.38 per week in 2013,
- €9,068 per year or €174.38 per week in 2014,
- €9,068 per year or €174.38 per week in 2015,
- €9,068 per year or €174.38 per week in 2016,

These amounts are used for determining the eligibility and the level of old age pensions. Basic insurable amounts are also used for calculating the level of various contributory benefits, but in this case the amounts are slightly different:

- €170.88 per week in 2011,
- €174.38 per week in 2012,
- €172.98 per week for the period 2013-2016.

- ***Liability to contributions***

Social insurance contributions to Social Insurance Fund (SIF) are compulsorily paid by all employers and employees of private and public sector and self-employed persons⁹. Moreover, employees in the broad public sector are additionally covered by the Government Employees Pension Scheme (GEPS). However, as of the 1st of September 2011, newcomers in the public sector are not covered by the GEPS and pay contributions only to the SIF.

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

The insurable earnings of the employee include anything paid to the employee for his/her labour, i.e. basic salary, cost of living allowance, overtime, commissions, 13th salary, 53rd/56th week, the contribution of the employer to the Central Holiday Fund and holiday unions' funds. Only ex gratia

⁹ The employer is liable to pay contributions to the Social Insurance, Annual Holidays with Pay, Redundancy, Human Resource Development and Social Cohesion Funds for each of his/her employees, whose remuneration is not less than €2 per week, or not less than €7 per month if s/he is a salaried employee, (Social Insurance in Cyprus, Ministry of Labour and Social Insurance).

payments are not included. Also, the Law sets a maximum amount of earnings for contribution purposes which is revised annually:

- €4,342 per month or €1,002 per week in 2011,
- €4,442 per month or €1,025 per week in 2012,
- €4,533 per month or €1,046 per week in 2013,
- €4,533 per month or €1,046 per week in 2014,
- €4,533 per month or €1,046 per week in 2015,
- €4,533 per month or €1,046 per week in 2016,

In case that employee’s earnings are higher than the maximum amount then contributions are not paid for the extra amount.

- **Contribution rates**

The Social Insurance Scheme is financed by contributions paid by the employees, the employers and the State (through the Consolidated Fund of the Republic, “*Πάγιο Ταμείο της Δημοκρατίας*”). Currently the total contribution rate stands at 17.9% of insurable earnings (6.8 p.p. paid by the employed, 6.8 p.p. by the employee and 4 p.p. by the state). Employees who are additionally covered by an occupational scheme provided by the employer without the payment of contributions on the part of the employee (effectively, public sector employees who were hired before 2011) still contribute 17.9% of insurable earnings but 10.15 p.p. are paid by the employer, 3.45 p.p. by the employee and 4.6 p.p. by the state. It is worth mentioning, despite that it is not simulated in the model, that the government has planned a gradual increase in the contribution rates which will be implemented the coming years aiming at ensuring the long-run fiscal sustainability of the social insurance scheme. The contribution rates are summarized in the next two tables:

Table 16: Social Insurance Contribution rates (Employees)

| | After 1 st April 2009 | After 1 st January 2014 | After 1 st of January 2019 | After 1 st of January 2024 | After 1 st of January 2029 |
|------------|-------------------------------------|---------------------------------------|--|--|--|
| Employee | 6.8% | 7.8% | 8.3% | 8.8% | 9.3% |
| Employer | 6.8% | 7.8% | 8.3% | 8.8% | 9.3% |
| Government | 4.3% | 4.6% | 4.9% | 5.2% | 5.5% |
| Total | 17.9% | 20.2% | 21.5% | 22.8% | 24.1% |

Table 17: Social Insurance Contribution rates (Employees additionally covered by an occupational scheme which does not require the payment of contributions from the employee.)

| | After 1 st April 2009 | After 1 st January 2014 | After 1 st of January 2019 | After 1 st of January 2024 | After 1 st of January 2029 |
|------------|-------------------------------------|---------------------------------------|--|--|--|
| Employee | 3.45% | 3.95% | 4.2% | 4.45% | 4.7% |
| Employer | 10.15% | 11.65% | 12.4% | 13.15% | 13.9% |
| Government | 4.3% | 4.6% | 4.9% | 5.2% | 5.5% |
| Total | 17.9% | 20.2% | 21.5% | 22.8% | 24.1% |

Notes on Euromod Implementation: Data do not allow us to discern whether an employee is covered by a pension plan from the employer. For this reason the reduced contribution of 3.2% is applied only to civil servants.

2.5.2 Employer social contributions

- **Liability to contributions**

Employers are obliged to pay contributions to the Funds (Social Insurance, Annual Holidays with Pay, Redundancy, Human Resource Development and Social Cohesion) for every one of his/her employees whose earnings are at least €1.71 per week¹⁰. The liability of the employer for paying contributions ceases

¹⁰ For trainees and apprentices, the employer has to pay contributions to the Social Insurance Fund even if the employee has no earnings.

the day, employees reach pensionable age. The employer is not obliged to pay contributions to the Central Holiday Fund if he obtains exemption from the Minister of Labour and Social Insurance. Exemption is granted in the cases where the employer provides annual holidays to his employees on more favorable terms than those provided under the Annual Holidays with Pay legislation.

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

Insurable earnings have a maximum that is revised annually (contributions to Social Cohesion Fund are calculated on total earnings without maxima). Earnings include the basic salary, the cost of living allowance, commissions, the 13th and 14th salary or the 53rd/56th week, overtime etc. The gross amount of earnings (i.e. before the deduction of taxes and contributions) is taken into consideration. The amount of contributions paid by the employer to the Central Holiday Fund is considered as part of insurable earnings. Earnings payable to the employee for periods exceeding one week or one month, such as the 13th salary, earnings of the 54th week, commissions etc., are taken into consideration, up to the amount that when added to the earnings of the employee for the period in question, these are not higher than the maximum amount for that period.

- ***Contribution rates***

Contributions payable by the employers to the above mentioned Funds are calculated as a percentage on the earnings of the employee as explained below:

(a) Social Insurance Fund

The rate of 12.6% is divided between the employer and employee; each pay 6.3%. In case an employer implements an occupational pension scheme without payment of contributions by the employees, then the employer pays 9.4% and the employee 3.2%. Since 1st April 2009 the respective percentages are 13.6%, 6.8%, 6.8%, 10.15% and 3.45%. After the 1st January 2014, the contribution rate for employees, changed to 20.2%, of which 7.8% is paid by the employee, 7.8% by the employer and 4.6% from the Consolidated Fund of the Republic.

(b) Central Holiday Fund

The rate of contribution to the Central Holiday Fund varies according to the length of annual leave to which the employed person is entitled, as shown in the following Table:

Table 18: Rate of contribution to the Central Holiday Fund for employees with a 5-day/6-day working week

| Rate of contribution (%) | Duration of annual leave | |
|--------------------------|--------------------------|--------------------|
| | 5 day working week | 6 day working week |
| 8 | 20 | 24 |
| 8.5 | 21 | 25-26 |
| 9 | 22-23 | 27 |
| 9.5 | 24 | 28-29 |
| 10 | 25 | 30 |
| 10.5 | 26 | 31-32 |
| 11 | 27-28 | 33 |
| 11.5 | 29 | 34-35 |
| 12 | 30 | 36 |
| 12.5 | 31 | 37-38 |
| 13 | 32-33 | 39 |
| 13.5 | 34 | 40-41 |
| 14 | 35 | 42 |
| 14.5 | 36 | 43-44 |
| 15 | 37-38 | 45 |
| 15.5 | 39 | 46-47 |
| 16 | 40 | 48 |

The rate of contributions for leave longer than 40 days for 5-days working week and 48 days for 6-days working week are increased accordingly.

The contribution to the Central Holiday Fund is payable wholly by the employer.

(c) Redundancy Fund

The contribution to the Redundancy Fund (rate 1.2%) is payable wholly by the employer.

(d) Human Resource Development Fund

The contribution to the Human Resource Development Fund (rate 0.5%) is payable by the employer.

(e) Social Cohesion Fund

It was introduced on 1.1.2003. The contribution to the Social Cohesion Fund (rate 2%) is payable wholly by the employer.

The contributions under A, B, C, and D are computed on earnings up to the maximum amount specified above. The contributions under E are computed on actual earnings without any upper limit.

The rates under C, D, and E apply to trainees with low earnings and are applied to their actual earnings.

Notes on Euromod implementation:

Central Holiday Fund: The same contribution rate (8%) was used for all the employers.

Data do not provide information on whether an employee is covered by a pension plan from the employer. For this reason the reduced contribution of 9.4% is applied only to civil servants. The eligibility to pay contribution to the Central Holiday Fund is randomly simulated among the non-civil servants (according to external statistics 24% of employees are covered by the Central Holiday Fund). Since trainees cannot be identified in the dataset, the special rules applying to them are not simulated.

2.5.3 Self-employed social contributions

- ***Liability to contributions***

Self-employed are liable to social insurance contributions. Their insured earnings are set on the basis of their profession and workplace.

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

For each professional category a compulsory minimum amount of insured earnings is set and the self-employed is allowed to pay contributions on a higher amount of insured earnings up to a maximum. If the real income of a self-employed is lower than the minimum corresponding to his/her professional category then he/she can ask to pay contributions based on his/her real income.

- ***Contribution rates***

The total contribution of self-employed persons is 15.6% of their insured earnings. From this percentage, 11.6% is paid by the self-employed and 4% by the state. Since 1st April 2009 the total contribution of self-employed increased at 16.9% of their insured earnings; 12.6% is paid by the self-employed person and the rest 4.3% by the state. As of January of 2014; 19.2%, of which 14.6% is paid by the self-employed and 4.6% from the Consolidated Fund.

The contribution rate for self-employed will change as follows:

2. As of January of 2019; 20.5%, of which 15.6% is paid by the same and 4.9% from the Consolidated Fund of the Republic.

3. As of January of 2024; 21.8%, of which 16.6% is paid by the same and 5.2% from the Consolidated Fund of the Republic.

4. As of January of 2029; 23.1%, of which 17.6% is paid by the same and 5.5% from the Consolidated Fund of the Republic.

5. As of January 2034; 24.4%, of which 18.6% is paid by the same and 5.8% from the Consolidated Fund of the Republic.

6. As of January 2039; 25.7%, of which 19.6% is paid by the same and 6.1% from the Consolidated Fund of the Republic.

The minimum amounts of insured earnings for the self-employed differ by professional category (doctors, managers, teachers, farmers etc.) and are used in the simulation as maximum amounts. This means that we assume that if the real income of a self-employed is lower than the minimum corresponding to his/her professional category pays contributions based on his/her real income and if his/her real income is higher than the minimum amount, then the paid contributions are based on the minimum amounts as follows;

- €369 per week in 2011
- €377 per week in 2012
- €403 per week in 2013
- €431 per week in 2014
- €431 per week in 2015
- €431 per week in 2016.

Notes on Euromod implementation: The minimum amounts used in the implementation are calculated as the mean of the professional category specific minima.

2.5.4 Government social contributions

The Social Insurance Scheme is also financed by contributions paid by the State. In both cases of employed and self-employed persons, the contribution paid by the government was 4.3% of insurable earnings and, after 2014 increased at 4.6%. Note also that contributions to the Annual Holidays Fund are part of the earnings that are considered for the estimation of government contributions.

2.6 Personal income tax

2.6.1 Tax unit

Personal Income Tax in Cyprus is based on an individual system. Every citizen of the Republic of Cyprus is subject to income tax for incomes from sources inside and outside the country. Persons permanently settled in the Republic can choose to be treated as citizens of the Republic as concerns income taxation. Note also that contributions paid by the employer to the Annual Holidays Fund are part of the tax base.

2.6.2 Exemptions

The following types of income are exempt from income tax:

- the benefit paid to public employees for service abroad;
- the pensions and benefits paid according to the Suffering Relief Law;
- widow pensions paid from Social Insurance;
- any amount paid as lump sum, pension, compensation due to death or physical injury;
- income from scholarship or any other educational grant;
- payments to persons arising from tax deductions;
- earnings of foreign officers of any institution that operates in the Republic;
- income of any religious, charitable or educational institution with a public character;
- income of a registered cooperative bank arising from transactions with its members;
- income of a company that operates in order to promote art, science or sports;
- earnings of foreign diplomatic representatives; and

- income from interests and 50% of the income of a company from interests.

Notes on Euromod implementation: the tax base is computed as the sum of employment income, income from self-employment, pensions and 80% of rent income.

2.6.3 Tax allowances

The following amounts are deducted from a person's income:

1. Any amount spent for the repair of premises, machines, plants and transport equipment or for the renewal or repair or transformation of any tool, utensil or other objects used in order to raise income;
2. The annual contributions paid by the employee to the various Funds;
3. Bad debts;
4. Expenditures for scientific research;
5. Expenditures for acquiring a patent or copyright;
6. Charity payments or contributions to educational institutions or payments for other charity purposes;
7. Expenditures for the maintenance of a building for which a maintenance order is issued and for the maintenance of an ancient monument;

An amount equal to 20% is deducted from the income acquired from renting buildings before anything else is deducted from this.

Deductions are offered for the decrease of value and damages on assets due to usage from personal income from the operation of a company. An amount equal to the annual amount of the paid premiums and contributions is deducted in order to find the taxable income of any person who has:

1. insured his/her life or the life of the spouse for an amount payable on his/her death;
2. paid contributions to a pension, widow and orphan fund;
3. paid contributions to a pension or provident or any other insurance fund;
4. paid premia or any other contributions to an insurance company for the issuance of a specific insurance contract;
5. paid premia or any other contributions to an insurance company for a pension or the medical plan; and
6. paid contributions to the general health plan;

In the case of a life insurance contract where the insured person will receive a payment of a predetermined amount on his/her death then the amount of the deduction cannot exceed 7% of this amount. The total deduction for contributions and premiums cannot exceed 1/6 of the taxable income. In case of encashment of a life insurance contract within 3 years from the date of the contract then 30% of the premium paid for which a deduction was given is added to the income of the person. This is reduced to 20% if the encashment is made on the 4th or 5th or 6th year of the contract.

Notes on Euromod implementation: due to data limitations, the only deductions taken into account in the implementations are those of the social insurance contributions, as well as the contributions to individual private pension plans up to an amount that cannot exceed 1/6 of the taxable income. As well as the 20% deduction on property income.

2.6.4 Tax base

The tax base is defined as taxable income minus the various deductions. Taxable income is total income minus the various exemptions.

2.6.5 Tax schedule

Income taxation is progressive, with higher marginal tax rates applying to higher income brackets. The tax rates were stable during 2013-2016.

Table 19: Tax rates and income brackets

| Tax rate | 2013-2016 |
|-----------------|-----------|
| 0-19,500 | 0% |
| 19,501 – 28,000 | 20% |
| 28,001 – 36,300 | 25% |
| 36,301 –60,000 | 30% |
| 60,001- above | 35% |

2.6.6 Tax credits

Tax credits exist in case of double taxation and are not considered in the simulations within Euromod.

2.7 Other taxes

2.7.1 Special contribution to defence

Special Contribution to defence is imposed on income earned by individuals and legal entities based on Cyprus. Non-tax residents are generally exempt. It is charged at the following rates:

1. 15% on income from dividends (since August 2011, the rate increased at 17%). From 1.1.2012 to 31.12.2013 the rate had increased at 20% reduced back at 17% from 1.1.2014.
2. 10% on income from interest (paid or credited). Since August 2011, the rate increased at 15%. Interest received by a person from the normal operation of his/her company is not considered as interest. Persons with annual income (including interest) not exceeding 11,960 euro (12,000 euro from 1.1.2008 and onwards) have the right to be refunded amounts withheld as contribution for defence on interest income above 3% of this income. As of 29.04.2013 the rate increased to 30 per cent.
3. 3% on income from Cypriot savings certificates, Cypriot development bonds and interest from provident fund.
4. 3% on gross rents decreased by 25%.

Money paid as special contribution for defence is taxable.

Notes on Euromod implementation: contributions under point 1 and 3 are not simulated. The contributions of legal entities are out of the scope of the model; therefore special contributions for defence are partly simulated.

2.7.2 Special contribution of public employees

Starting from 1st September 2011, public sector employees and pensioners receiving pension from the Government Employees' Pension plan have to pay a special contribution to the Government. This policy is part of the austerity measures that were undertaken in the framework of fiscal consolidation.

The special contribution is applied on gross monthly income from employment in the broad public sector and on the gross monthly amount from pensions paid from the government employees' pension plan. After the 1st of January 2012, pensions paid from the Social Insurance Fund (to pensioners who were employed in the public sector) are also included in the calculation. Gross income is defined as the income before taxes and contributions (including contributions to Annual Holiday Fund).

The special contribution of public employees is progressive, with higher contribution rates applying to higher income brackets. The contribution rates and income contribution brackets are shown in the following table:

Table 20: Contribution rates and income brackets

Time period

| Contribution rate | 1 st September 2011-31 st December 2011 | 1st January 2012-31 st December 2013 | 1 st Jan 2014 – 31 st December 2016 |
|-------------------|---|---|---|
| 0% | 0-1,500 | 0-2,500 | 0-1,500 |
| 1.5% | 1,501-2,500 | - | - |
| 2.5% | 2,501-3,500 | 2,501-3,500 | 1,501-2,500 |
| 3.0% | 3,501-4,500 | 3,501-4,500 | 2,501-3,500 |
| 3.5% | 4,501+ | 4,501+ | 3,500+ |

After 1st January 2012, the special contribution is exempted from income tax. Furthermore, the contribution is applicable during the period starting from 1st January 2011 till the 31st December 2013.

Notes on Euromod implementation: EUROMOD model simulates the system as it stands on 30th June of the given year. For that reason, only the 2012 system simulates the above contribution. The simulated rules are those relative to the period 1st January 2012 - 31st December 2013.

2.7.3 Special contribution of private employees, self-employed and pensioners who were former private employees

Another contribution was put in effect on 1st January 2012 (ending on 31st December 2013, targeting private sector employees, self-employed and pensioners of the private sector. The measure was also part of the fiscal efforts to contain rising public debt. Gross monthly income is the basis for the calculation of the contribution. Gross income includes wages, salaries, overtime compensation, tips and other benefits paid in the case of employees. In the case of self-employed, it cannot be lower than the minimum monthly amount of insured earnings (as defined by Social Insurance Services). As regards pensions, it includes all old-age, private, survivor and disability pensions.

The schedule is progressive, characterized by higher contribution rates as income increases. The contribution rates and respective income brackets are shown in the following table. The contribution is calculated on gross wage before any taxes or contributions (including contributions to Annual Holiday Fund).

Table 21: Contribution rates and income brackets

| Contribution rate | Period 1 st January 2012-31 st December 2013 | 1 st Jan 2014 – 31 st December 2016 |
|-------------------|---|---|
| 0% | 0-2,500 | 0-1,500 |
| 2.5% | 2,501-3,500 | 1,501-2,500 |
| 3.0% | 3,501-4,500 | 2,501-3,500 |
| 3.5% | 4,501+ | 3,501+ |

In the case of private sector employees, the contribution is half paid by the employee and half paid by the employer. There is no upper ceiling on the income upon which the special contribution is applied. Finally, the special contribution is exempted from the income tax.

Notes on Euromod implementation: The special contributions for pensioners from the private sector and former public sector are simulated together in the policy *txcpe_cy*. Since the contribution schedule is the same for both types of pensioners, this choice does not affect the quality of the simulation.

2.7.4 Contribution of public employees to Government Employees Pension Plan

Starting from 1st October 2011, all broad public sector employees who are covered by the Government Employees Pension Plan (here note that employees hired in the public sectors after 30th September 2011 cannot be subscribed in the scheme) pay 3% of their gross employment income to the Government as a support to the Government Employees Pension Plan. Typically, these payments are not considered as contributions to the Government Employees Pension Plan (since the pension benefits from the Government Employees Pension Plan do not depend on the amount of this payment). Finally, if the employee has contributed over 400 monthly social insurance contributions, then s/he is exempted from the contribution.

Notes on Euromod implementation: The distinction between public sector employees who started before or after 1st October 2011 is carried out by the imputed variable *lcs10*. See the Data section for further information on the variable. The exemption of those who contributed above 400 months is simulated by making use of the employment history of the person.

2.7.5 Contributions of public employees to the Widows and Orphans Government Fund

All broad public sector employees pay a contribution to the Widows and Orphans Government Fund. Before 1st October 2011, the contribution was equal to 0.75% of the gross wage. In case that the gross wage exceeded the maximum amount of insurable earnings then a rate of 1.75% was applied to the part of the gross wage which exceeded the maximum amount. A brief example describes how the contribution is calculated: Let the gross wage be 5000€ then the contribution is:

$$C = 0.75\% * 4,442 \text{ (this was the maximum amount of insurable earnings in 2012)} + 1.75\% * (5,000 - 4,442).$$

As of the 1st October 2011, the rules simplified. The contribution increased at 2% of the gross wage without any minima/maxima. Again, if the employee has contributed over 400 monthly social insurance contributions then she is exempted from the contribution.

Note to Euromod Implementation: This instrument is implemented within the policy *tscee_cy* and included in the variable *tscee_s* (employees' social insurance contributions). The exemption of those who contributed for over 400 months is simulated by making use of the employment history of the person.

2.8 Scaled reduction in emoluments of public and broader public sector pensioners and employees

Starting from 1st December 2012, the government implemented a scaled reduction in the emoluments of public sector employees and pensioners. The reduction is applied on gross wages and pensions. The term 'gross' refers to income before all taxes and contributions. On 30th April 2013, the House of Representatives voted for a modification of the law that changed the reduction rates. After the 1st June 2013, the scaled reduction appearing in the last column of the following table substituted the one voted in 2012. From 1st January 2014, emoluments in the public sector (including pensions of the public sector) decreased by another 3 per cent (on top of the reduction which is in effect since 1st June 2013).

Table 22: Scaled reductions

| Income brackets | Rates | | |
|-----------------|------------------------|--------------------------------|-----------------------------------|
| | From 1st December 2012 | From 1 st June 2013 | From 1 st January 2014 |
| 0-1,000 | 0% | 0.8% | 3% |
| 1,001-1,500 | 6.5% | 7.3% | 3% |
| 1,501-2,000 | 8.5% | 9.3% | 3% |
| 2,001- 3,000 | 9.5% | 10.5% | 3% |
| 3,001-4,000 | 11.5% | 13% | 3% |
| 4,001-above | 12.5% | 14.5% | 3% |

3. DATA

3.1 General description

The EUROMOD database is drawn from the UDB version of SILC. The following Table includes information about period of collection, income reference period, sample size and response rate. A link to the corresponding SILC quality report is provided in the notes of the Table.

Table 23: EUROMOD database description

| | |
|-------------------------|----------------------------------|
| EUROMOD database | CY_2014_a1 |
| Original name | UDB_c14_ver 2014-1 from 01-01-16 |
| Provider | Statistical Service of Cyprus |
| Year of collection | 2014 |
| Period of collection | n/a |
| Income reference period | 2013 |
| Sample size | 13,379 IND, 4,638 HH |
| Response rate | n/a |

3.2 Data adjustment

Data adjustments were kept to a minimum. All monetary values in the EU-SILC database are expressed in annual terms, but for the purposes of the EUROMOD database, were converted into monthly basis.

3.3 Imputations and assumptions

A number of variables, shown in next Table, were imputed using other EU-SILC aggregated variables. In EU-SILC data, soldier's allowance (*bml*) is recorded as employee cash or near cash income, (variable *py010g*). We set *bml* equal to *py010g/12* if the individual a) has never worked as employee, b) has spent a positive number of months in compulsory military service and c) declares employee (cash or near cash) income. In these cases, variable *bml* is set equal to the basic monthly soldier's allowance (120 euro) times the months spend in the army divided by 12.

EU-SILC dataset includes all survivor's benefits in (*py110g*) variable. This variable was decomposed into three parts, survivor's benefit to widow (*psuwd*), survivor's benefit to orphan (*psuor*) and other survivor's benefits (*psuot*).

- *psuwd* was set equal to *py110g/12*, if *py110g* was found positive, the marital status (*pb190*) is widow(er) or the individual is married but no partner's id (*rb240*) is recorded in the data.
- *psuor* is set equal to *py110g/12*, if *py110g* is positive, the individual is not a widow(er) and is aged less than 25.
- *psuot* is equal to *py110g/12*, if *py110g* is positive and both *psuwd* and *psuor* are zero.

EU-SILC variable *py140g* includes all education related allowances for tertiary education (student grant and scholarships). Based on this variable we impute two variables, one for the student grant (*bedet*) which is given to parents with children in tertiary education and one for scholarships (*bedsl*) which are received by the students. If an individual with positive value of *py140g* is a student then this is income from scholarships and thus *bedsl* is set equal to *py140g*. On the other hand, if an individual with positive *py140g* is not student (i.e. is the parent of a student) then *bedet* is equal to *py140g*.

All child and family related variables are recorded in variable *hy050g*. We split this variable into child benefit (*bch*), birth grant (*bchba*) and other family related allowances (*bfamh*). We impute the received family birth grant by multiplying the amount of birth grant (420 euro) with the number of children in

family aged less than 1. If the imputed birth grant is lower or equal to *hy050g* then we set *bchba* equal to the imputed birth grant. In case that the imputed birth grant is higher than *hy050g* then we set *bchba* equal to *hy050g*. The imputation of child benefit (*bch*) is based on the child benefit policy defining eligibility and benefit rates. We simulate the amount of the child benefit for each eligible family and we compare it with the *hy050g* excluding the *bchba* amount received by the family. If *hy050g* (subtracting *bchba*) is more than the simulated child benefit then *bch* is set equal to the simulated child benefit. If *hy050g* (subtracting *bchba*) is less than the simulated child benefit then *bch* is set equal to *hy050g-bchba*. We set *bfamh* equal to *hy050g* minus *bch* and *bchba*.

All old-age benefits are included in variable *py100g*. We split this variable into three parts, the social pension (*poasp*), the taxable old aged pension (*poatx*) and the non-taxable old aged pension (*poant*). We set *poasp* equal to *py100g* if the amount of *py100g* is close to the amount of social pension (347.93 euro per month). For imputing *poatx* and *poant* we compare the net and gross amount of *py100* variable. The difference of *py100g* and *py100n* give us the tax paid and by reversing the income tax policy we found the taxable amount. Given that the individual has *poasp=0*, we set *poatx* equal to this taxable amount and the difference of *py100g* and the taxable amount is set equal to *poant* ($poant=py100g-poatx$).

In EU-SILC data the unemployment benefits are recorded in variable *py090g*. We split this variable into two parts; the unemployment benefit paid by the Social Insurance Fund (*bunct*) and from other sources (*bunot*). Taking into account the unemployment benefit policy we find the maximum monthly amount an individual with positive *py090g* can receive as unemployment benefit. We compare this maximum unemployment benefit amount with the monthly unemployment benefits reported in the data, i.e. *py090g*, divided by the reported numbers of months in unemployment but constraining this duration to be up to six months (unemployed can receive unemployment benefits for up to six months). If the maximum monthly unemployment benefit amount is lower than reported monthly unemployment benefit then we set *bunot* equal to the difference of the two amounts (multiplied with the duration of unemployment and divided by 12) and *bunct* equal to the maximum monthly unemployment benefit amount (multiplied with the duration of unemployment and divided by 12). If the maximum monthly unemployment benefit amount is equal or higher than the reported monthly unemployment benefit then we set *bunot* equal to zero and *bunct* equal to the reported monthly unemployment benefit (multiplied with the duration of unemployment and divided by 12). Since now we know the unemployment benefits paid by the Social Insurance Fund (*bunct*) we can reverse the unemployment benefit policy to find the monthly wage before unemployment (*yempv*). Based on the 2012 EUSILC data the average amount of *bun*, *bunct* and *bunot* increased. This is a result of the economic crisis in Cyprus which begun in 2011 and forced a lot of business to shut down. Also the government and a lot of financial institutions gave economic incentives to their employees to quit. The increase of the *bunct* can be explained since in 2011 high paid employees lost their jobs and the increase of the *bunot* is due to the generous economic packages which were given to the employees to quit their jobs.

EU-SILC do not provide information whether someone works in the public sector or in the private sector. We impute if someone is a civil servant (variable *lcs*) using the economic activity variable (*pl110*) and status in employment. If the individual is employee working in public administration and defense, compulsory social security or in education then we assume he/she is a civil servant.

Based on the already available information, we also construct a variable indicating whether a civil servant had been hired in the public sector during the last 12 months (variable *lcs10*). For this imputation we used information whether someone is a civil servant (*lcs=1*) and about his/her work history (number of months [*liwwh*]). Thus, if someone is a civil servant and has work history less than 12 months then we assume that he/she was hired in the public sector in the last 12 months. The indicator variable for military conscripts (young man enlisted in the army) (*l01*) is created based on the information provided by individuals about their current activity status in the labour market (variable *pl030*). When *pl030=7* then the individual is in compulsory military service. Finally, variable *l02* denotes whether someone is pensioner of the public sector or not. Pensioners who are former civil servants usually receive higher pension income than other pensioners because they receive a pension from the SIF (Social Insurance Fund) as well as a pension from the Government Employees Pension Plan. Using this information we define as former civil servants those who (i) are pensioners (*les=4*) and (ii) their monthly old age pension is higher than the sum of the minimum full pension from the SIF plus the minimum full pension from the Government Employees Pension Plan.

Table 24: List of imputed variables

| Variable name | Description |
|---------------|---|
| bml | BENEFIT/PENSION : Soldier allowance |
| psuwd | BENEFIT/PENSION : Survivors : widow |
| psuor | BENEFIT/PENSION : Survivors : orphan |
| psuot | BENEFIT/PENSION : Survivors : other |
| bedet | BENEFIT/PENSION : Education : student grant |
| bedsl | BENEFIT/PENSION : Education : scholarship |
| bch | BENEFIT/PENSION : child benefit |
| bchba | BENEFIT/PENSION : Maternity : birth grant |
| bfamh | BENEFIT/PENSION : Family : Family related allowances |
| poasp | BENEFIT/PENSION : Social Pension - Old Age |
| poatx | BENEFIT/PENSION : Taxable old Age |
| poant | BENEFIT/PENSION : Non taxable old Age |
| bunct | BENEFIT/ SIC: unemployment benefit |
| bunot | BENEFIT: Other unemployment benefit |
| yempv | INCOME: monthly wage from previous work |
| lcs | LABOUR MARKET : Civil Servant |
| lcs10 | LABOUR MARKET : Newly hired (in the last 12 months) Civil servant |
| lc01 | LABOUR MARKET : Military |
| l02 | LABOUR MARKET: Pensioner – former civil servant |

3.3.1 Time period

The EU-SILC information on demographic variables refers to the time of data collection, while the income reference period is year 2011. Accordingly, the same reference period applies for income taxes and social insurance contributions, as well as taxes on wealth.

3.3.2 Gross incomes

The EU-SILC survey contains information on gross and net monetary income. In the very few cases where gross income was impossible to collect, net income was recorded and converted to gross by applying the tax as well as social insurance contributions rules of the system.

3.3.3 Disaggregation of harmonized variables

As discussed earlier, several harmonized EU-SILC variables were disaggregated into their components. These are:

- Survivor's benefits included (*py110g*) was decomposed into three parts, survivor's benefit to widow (*psuwd*), survivor's benefit to orphan (*psuor*) and other survivor's benefits (*psuot*).
- Education-related variable *py140g* was decomposed into student grant (*bedet*) and income from scholarships (*bedsl*).
- Child and family related variables are recorded in variable *hy050g*. We split this variable into child benefit (*bch*), birth grant (*bchba*) and other family related allowances (*bfamh*).
- Old-age benefits are included in variable *py100g*. We split this variable into three parts, the social pension (*poasp*), the taxable old aged pension (*poatx*) and the non-taxable old aged pension (*poant*).

The processes of disaggregation are presented in section 4.3.

3.4 Updating

The income variables in the EU-SILC dataset refer to 2013. This information has been updated in order to take into account changes that have taken place between the year of the data and the year of the simulated tax-benefit system. Updating factors are generally based on changes in the average value of an income component between the year of the data and the policy year. Annex 1 provides detailed information about each updating factor.

4. VALIDATION

4.1 Aggregate Validation

EUROMOD results are validated against external benchmarks. Detailed comparisons of the number of people receiving a given income component and total yearly amounts are shown in Annex 2. Both market incomes and non-simulated taxes and benefits in the input dataset as well as simulated taxes and benefits are validated against external official data. The main discrepancies between EUROMOD results and external benchmarks are discussed in the following subsections. Factors that may explain the observed differences are also discussed.

4.1.1 Components of disposable income

Table 25 shows the components comprising disposable income in SILC based on SILC 2014.

Table 25: Components of disposable income

| | EUROMOD | EU-SILC |
|---|-----------|---------|
| | ils_dispy | HY020 |
| Employee cash or near cash income | + | + |
| Employer's social insurance contribution | 0 | 0 |
| Company car | 0 | + |
| Contributions to individual private pension plans | 0 | 0 |
| Cash benefits or losses from self-employment | + | + |
| Pension from individual private plans | 0 | 0 |
| 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 | + | + |

4.1.2 Validation of incomes inputted into the simulation

Tables 4.2-4.6 in the Annex report the number of recipients/earners and the total amounts of incomes and non-simulated benefits for the years 2013-2016. The Tables also include external statistics collected from various administrative sources (Statistical Service of Cyprus, Ministry of Labour and Social Insurance, Ministry of Finance, Tax Department) which are used in the validation of the database.

Firstly, in Table 4.2 of Annex 3 the number of employed and unemployed people is validated with respect to the external statistics. The number of employed people in 2013-2014 is well captured, while the number of unemployed persons is overestimated by 27%, 26% and 38% in 2013, 2014 and 2015. In

Tables 4.3 and 4.4 market incomes are validated with respect to earners and total amounts. Employment income is underestimated but not very significantly. The number of self-employed persons is overestimated but by a large extent. The number of recipients and corresponding total expenditure of non-simulated benefits are shown in Tables 4.5 and 4.6. However, the validation is meaningful only for a very limited number of non-simulated benefits due to a) lack of official external statistics and b) differences in the statistical definitions of the EM variables and the external data. In regards to point b), a characteristic example is the following: EU-SILC data on pensions include pensions from every source, but in practice we were able to collect administrative data only from the Social Insurance Scheme (first pillar of the pension system) which systematically publishes its annual budget. However, similar information from occupational pension schemes (second pillar of the pension system) is very difficult to obtain and collect in a systematic manner. Similarly, housing allowances and family-related allowances consist of a large number of benefits which are administered by a variety of authorities from which is difficult to extract information on a systematic basis. Thus any relevant comparisons would have been misleading and thus they were avoided. As regards sickness benefits, the input data underestimate the number of recipients but not total spending. Reciprocity of unemployment benefits is accurately depicted but total spending is overestimated by 17% in 2012 and 50% in 2013. Social pension, on the other hand, is very accurately captured by the data both in terms of the number of recipients and total expenditures. Orphan allowance recipients are underestimated at a large extent. Finally, the number of widow pension recipients is underestimated by only 13% and 15% in 2013 and 2014, respectively, and total spending by 18% (2013).

4.1.3 Validation of outputted (simulated) incomes

The comparison between the outcomes of the model and administrative data is challenging for several reasons. Firstly, using a sample for calculating totals requires caution in certain contexts. The use of grossing factors (weights) is necessary to compute a population total using a sample. The basic statistical utility of grossing factors is to alter the proportions of different groups (i.e. to adjust for unequal selection probabilities or non-response). Despite that grossing factors, by default, add up to the total population, it might be the case that several sub-groups are under- or over-represented. To take a characteristic example, the sample may underestimate the total number of persons with disabilities. If this is the case, then the number of recipients of disability benefits will be underestimated, even if the microsimulation procedure is very precise. Thus the mere fact that the population totals are derived from a sample might be the cause of measurement errors, irrespectively of the precision of the microsimulation process.

On the other hand, the administrative data are collected using accounting procedures that serve the needs of public authorities and it is not uncommon that the underlying statistical definitions are not suitable for the purpose of macro-validating the microsimulation model. For example, in Cyprus, all statistics of annual public spending on various benefits refer to the total value of payments for each benefit that took place within a particular year. Yet, many of these payments refer to benefit entitlements of previous years (for example; a family is entitled a birth grant in 2012, but the state credits the amount to family's bank account in 2013). On that basis, the comparison between estimates of EM totals and administrative data is meaningful insofar we compare only the order of magnitude between the two figures. In cases that differences are large, we have an indication that the simulation is not perfect and possibly some adjustments are due (i.e. the benefit in question is characterised by considerable non take-up).

Bearing in mind the above cautions, our contention is that the model provides relatively good estimates of the simulated instruments, despite that several discrepancies do exist. Our long-run purpose is to gradually improve the model, exploiting our better understanding of the functionings of the social protection system as well as incorporating new advances in microsimulation analysis.

Tables 4.7 and 4.8, included in Annex 3, report differences between the number of recipients/payers and aggregate yearly amounts of various types of simulated benefits/taxes/contributions and administrative data. The total number of recipients of the student grant is overestimated at a large extent (63% in 2013) and consequently is also overestimated the total spending on the grant. Birth grant seems to be satisfactorily simulated (with only a slight degree of overestimation). The recipients of the public assistance benefit are in line with the external data, but the total amount is underestimated. However, this is anticipated because the model estimates only the basic part of the benefit while the external statistic

include both the basic and supplementary part¹¹ (the pertinent public authority could not provide separate figures for the total cost of the basic and the supplementary parts of the benefit). Child benefit and single parent benefits are overestimated. One hypothesis for explaining overestimation patterns is that they might be due to increasing incidence of non take-up. Both benefits are means-tested, while in general the government has tightened the means-testing criteria the last years (e.g. introducing more austere income controls). In 2014, the minimum income system was reformed by abolishing the Public Assistance Law and substituting it with the “*The GMI and Social Benefits Act of 2014*”. The current version of the model simulates this reform. However, as of the writing of this report, the Ministry of Labour and Social Insurance had not published official statistics on the number of recipients and the cost of the scheme. Therefore we do not have a benchmark to compare our estimates with actuality. In that sense the current estimates must be considered as prone to future revisions. Income taxes are overestimated. However this result should be interpreted with caution for the data provided by the Tax Department are not strictly comparable with the EM output. In particular, the Tax Department publishes data on total taxes collected per year. These taxes may refer to previous years’ income. Apart from that, we should note that the model does not take into account tax evasion (see section 4.2.2 for further discussion on this issue) and that the dataset does not contain enough information for the simulation of a number of tax allowances and deductions which reduce taxable income in practice. Finally, estimates regarding social insurance contributions appear to be, more or less, in line with reality with the exception of self-employees (whose total paid contributions are overestimated).

4.2 Income distribution

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

4.2.1 Income inequality

EUROMOD estimates on income inequality, as reflected on deciles shares and Gini index, are very close to EUROSTAT estimates. Income share ratios (presented in Table 4.9 in Annex 2) are very close to unity with the exception of the poorest decile whose income share appears to be slightly overestimated (while the share of the rich decile is slightly underestimated).

4.2.2 Poverty rates

Comparisons of poverty estimates (shown in Table 4.10 in Annex 2) reveal that, in general, poverty indicators generated by EUROMOD are close to other sources. However, some differences arise when adopting alternative choices of the poverty line (the normal choice is to set the poverty threshold equal to 60% of the median equivalized disposable income). On the contrary, the model appears to provide accurate estimates of poverty rates when the common poverty line is chosen. Poverty in the old-age is also overestimated.

These differences might be to the fact that the current version of the model does not make any adjustments for tax evasion and non take-up. However, both tax evasion and non take-up have distributional consequences which, maybe, become more pronounced when we adopt extreme poverty lines. In general, the issue of tax evasion in Cyprus also deserves attention. According to Pashardes and Polycarpou (2008) the size of black economy in Cyprus is around 6.7% - 8.1% of GDP, with income from self-employment being under-reported by 44.8% and capital income by 40.3%, [the highest under-reporting rate was estimated for agricultural income (59.9%)].

¹¹ The supplementary part covers the special needs of the recipient unit. The special needs include items such as rent allowance, aid for home-care, day-care, house equipment, house repairs, transportation for work or treatment, etc. Social Welfare Services compute for each recipient; his or her family income, total needs (basic and special) and then the amount of public assistance is calculated as a top-up.

4.3 Summary of “health warnings”

The model simulates a number of policy instruments of the tax-benefit system of Cyprus. It is a valuable tool that enables the user to estimate the first-round distributional and fiscal effects of potential policy reforms. Nevertheless, the following caveats should be taken into consideration in order to interpret the results meaningfully:

- Issues of data comparability

The validation of the model requires to compare the results of microsimulation (e.g. total number of recipients and annual spending per benefit) with external to the model data usually coming from administrative sources. Due to lack of data availability and difficulties in collecting administrative data in a systematic manner, the process of macrovalidation is imperfect.

- Partly simulated instruments

Several instruments were not fully simulated due to data limitations. For example, the public assistance benefit is only partly simulated since it is not possible to gather information about the special needs of the recipients (which are nevertheless covered by the Public Assistance Law). A similar issue pertains with the simulation of the GMI benefit which again can only be imperfectly simulated. Another example regards the eligibility conditions of several contributory benefits which depend on having knowledge on the contributory record of the potential recipient. Of course, such information is not (and could have been) included in the underlying database.

- Imperfect targeting and tax evasion

The model does not take into account imperfect non-take up, income underreporting and tax evasion. This may cause differences between simulated and actual values. In practice, welfare programmes are subject to Type I and Type II errors. Type I errors arise from “false” negatives, meaning that the benefit is not attributed to an eligible recipient. On the other hand, Type II errors arise from “false” positives, that is the benefit is attributed to non-eligible persons. Lastly, the existence of tax evasion may cause biases to distributional statistics.

5. REFERENCES

Pashardes, P. And Polycarpou, A. (2008) “Income Tax Evasion, Inequality and Poverty”, Cyprus Economic Policy Review, University of Cyprus, Economics Research Centre, 2(2): 37-49.

- *Sources for tax-benefit descriptions/rules*

Ministry of Labour and Social Insurance:

<http://www.mof.gov.cy/mlsi>

Ministry of Finance, Grants and Benefits Service:

http://www.mof.gov.cy/mof/mof.nsf/page24_gr/page24_gr?OpenDocument

Legal acts in English:

http://www.mlsi.gov.cy/mlsi/sws/sws.nsf/dmlindex_en/dmlindex_en?OpenDocument

ANNEX 1: UPRATING FACTORS

Table A1.1 Uprating factor values and sources, 2006-2016

| Index | Reference | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Source |
|--|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
| CPI (2005=100) | \$f_CPI | 102.49 | 104.93 | 109.83 | 110.18 | 112.86 | 116.57 | 119.36 | 118.88 | 117.27 | 114.81 | 112.29 | Source: Republic of Cyprus, Statistical Service, Economy & Finance, 2016: Jan-Apr average |
| Harmonised CPI (2015=100) | \$HICP | 86.79 | 88.67 | 92.55 | 92.71 | 95.09 | 98.40 | 101.45 | 101.84 | 101.57 | 100.00 | 98.87 | Source: Eurostat, AMECO for 2016 forecast |
| Unadjusted average quarterly earnings | \$f_EmplInc | 1636.14 | 1699.06 | 1800.28 | 1870.00 | 1914.72 | 1967.81 | 1990.72 | 1947.47 | 1893.05 | 1877.68 | 1836.46 | Source: Republic of Cyprus, Statistical Service, Economy & Finance, 2016: CPI |
| Basic annual child benefit for 1 child | \$f_childben | 363.93 | 382.60 | 391.70 | 409.99 | 411.30 | 421.29 | 420.00 | 380.00 | 380.00 | 380.00 | 380.00 | Source: Ministry of Finance, Grants and Benefits Services ¹² |
| Average annual amount of the student grant | \$f_studgrant | 1708.00 | 1708.00 | 1708.00 | 1708.00 | 1708.00 | 1708.00 | 1710.00 | 1710.00 | 1710.00 | 1710.00 | 1710.00 | Source: Ministry of Finance, Grants and Benefits Services ¹² |
| Monthly public assistacne benefit amount for head | \$f_bsa | 331.47 | 364.17 | 379.31 | 425.00 | 452.00 | 452.00 | 452.00 | 452.00 | 0.00 | 0.00 | 0.00 | Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹³ ; bsa replaced by GMI |
| Basic amount of a number of benefits | \$f_ben | 327.66 | 339.02 | 353.88 | 369.77 | 389.33 | 400.92 | 410.11 | 415.15 | 415.15 | 415.15 | 415.15 | Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹⁴ |
| Basic monthly amount of orphan grant | \$f_psuor | 218.43 | 226.00 | 235.92 | 246.51 | 259.55 | 267.28 | 273.41 | 276.77 | 276.77 | 276.77 | 276.77 | Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹⁴ |
| Basic amount of birht grant | \$f_bchba | 413.48 | 427.15 | 446.00 | 466.00 | 491.00 | 521.22 | 533.16 | 544.08 | 544.08 | 544.08 | 544.08 | Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹⁴ |
| Basic monthly amount of social pension | \$f_poasp | 265.40 | 274.60 | 286.64 | 299.51 | 315.36 | 324.75 | 332.19 | 336.28 | 336.28 | 336.28 | 336.28 | Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹⁴ |
| Average yearly income from employment, previous year | \$f_yempv | 1560.96 | 1636.14 | 1699.06 | 1800.28 | 1870.00 | 1914.72 | 1967.81 | 1990.72 | 1947.47 | 1893.05 | 1877.68 | Source: Republic of Cyprus, Statistical Service, Economy & Finance |
| Basic amount of military grant | \$f_bml | 111.05 | 119.60 | 136.69 | 146.46 | 146.47 | 146.47 | 146.47 | 146.47 | 146.47 | 146.47 | 146.47 | Source: Ministry of Defence, Statistical office |
| Empl Income civil servants | \$f_EmplInc_Publ | 1636.14 | 1699.06 | 1800.28 | 1870.00 | 1914.72 | 1967.81 | 1990.72 | 1990.72 | 1990.72 | 1990.72 | 1990.72 | Source: Republic of Cyprus, Statistical Service, Economy & Finance, as \$f_EmplInc, but no growth in earnings in 2013 and 2014 |
| Taxable public pensions | \$f_poatx_publ | 327.66 | 339.02 | 353.88 | 369.77 | 389.33 | 400.92 | 410.11 | 415.15 | 415.15 | 415.15 | 415.15 | Source: Ministry of Labour and Social |

¹² http://www.mof.gov.cy/mof/mof.nsf/page24_gr/page24_gr?OpenDocument

¹³ http://www.mlsi.gov.cy/mlsi/sid/sidv2.nsf/page21_gr/page21_gr?OpenDocument

¹⁴ <http://www.mlsi.gov.cy/mlsi/sid/sid.nsf/All/F3B961BBD84C6F2FC2257693004372FE?OpenDocument>

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| | | | | | | | | | | | | | |
|--------------------------|------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
| GDP at market values | \$f_GDP | 4003.90 | 4308.00 | 4704.50 | 4635.30 | 4740.00 | 4927.90 | 4896.20 | 4633.10 | 4361.30 | 4366.10 | 4270.27 | Insurance, Department of Social Insurance Services, Statistical data, archived statistical data;http ¹⁴ Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹³ ; Q2 values, adjusted for seasonality and working days; 2016: CPI |
| Average pension from SIF | \$f_avgpen | 6307.15 | 6564.52 | 7055.60 | 7356.96 | 7761.26 | 8225.82 | 8570.59 | 8805.00 | 8867.58 | 8930.60 | 8994.07 | Source: Ministry of Labour and Social Insurance, Department of Social Insurance Services, Statistical data, archived statistical data ¹⁴ , 2015-2016: 2013-2014 increase assumed |

ANNEX 2: POLICY EFFECTS IN 2014-2015 and 2015-2016

Table 1 and Figure 1 show the ceteris paribus 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 the simulated household disposable income under the 2015 tax-benefit policies (monetary parameters have been deflated using the Eurostat's Harmonized Index of Consumer Prices, HICP¹⁵) and the simulated household disposable income under 2014 policies and then this difference is measured as a percentage of the mean equivalised household disposable income in 2014.

The total effect of (deflated) 2015 policies on mean income is marginal (close to 0.6%). This is because the 2015 system remained identical to the 2014 (i.e. without any parametric or structural changes occurring in 2015) and thus the observed changes in disposable income are due to the effect of uprating factors. The uprating factors had a miniscule impact on all income components except of pensions (which again the impact was very small; 0.32%). Specifically, while for employment income the model uses CPI, average pensions were uprated using the increase in average pension from 2013 to 2014 (instead of CPI), as it makes sense to assume that pension income is likely to continue (slightly) increasing due to the maturation of the pension system (new waves of pensioners have richer contribution record than the previous one).

Similarly, Table 2 and Figure 2, which share an identical structure with Table 1 and Figure 2, show the ceteris paribus effect of 2016 policies on mean equivalised household disposable income by income component and income decile group. It should be noted that there were very marginal changes in 2016 policy rules, therefore the observed changes should be mostly attributed to income uprating (and the assumptions underlying it). In comparison to 2015 system, (deflated) 2016 microsimulation outcomes show an increase in mean household income by 0.33%. Again, this increase is driven by the effect of uprating on pensions (0.23% increase in average pension), but also by means-tested benefits which increased on average by 0.09%, (but by 0.54% for the poorest decile). The latter might be due to the fact that several income components, which are taken into account in the means-testing, were deflated (CPI dropped from 2015 to 2016).

Table 1: Policy effects in 2014-2015, using the CPI-indexation, %

| Decile | Original income | Public pensions | Means-tested benefits | Non means-tested benefits | Employee SIC | Self-employed SIC | Direct taxes | Disposable income |
|--------------|-----------------|-----------------|-----------------------|---------------------------|--------------|-------------------|--------------|-------------------|
| 1 | 0.00 | 0.42 | 0.66 | 0.03 | 0.00 | 0.00 | 0.00 | 1.10 |
| 2 | 0.00 | 0.49 | 0.26 | 0.02 | 0.00 | 0.00 | 0.03 | 0.80 |
| 3 | 0.00 | 0.32 | 0.25 | 0.02 | 0.00 | -0.01 | 0.04 | 0.62 |
| 4 | 0.00 | 0.27 | 0.18 | 0.01 | 0.00 | -0.01 | 0.05 | 0.50 |
| 5 | 0.00 | 0.22 | 0.17 | 0.02 | 0.00 | -0.01 | 0.07 | 0.47 |
| 6 | 0.00 | 0.21 | 0.13 | 0.01 | 0.00 | -0.01 | 0.09 | 0.43 |
| 7 | 0.00 | 0.18 | 0.10 | 0.02 | 0.00 | -0.01 | 0.12 | 0.40 |
| 8 | 0.00 | 0.21 | 0.11 | 0.02 | 0.00 | -0.01 | 0.16 | 0.49 |
| 9 | 0.00 | 0.23 | 0.03 | 0.01 | -0.01 | -0.01 | 0.19 | 0.45 |
| 10 | 0.00 | 0.49 | 0.01 | 0.10 | -0.02 | 0.00 | 0.12 | 0.69 |
| Total | 0.00 | 0.32 | 0.11 | 0.04 | -0.01 | -0.01 | 0.11 | 0.57 |

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

¹⁵ Annual average retrieved from Eurostat website, AMECO forecast for 2016 data.

been applied to the same input data, deflating monetary parameters of 2015 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure 1: Policy effects in 2014-2015, using the CPI-indexation, %

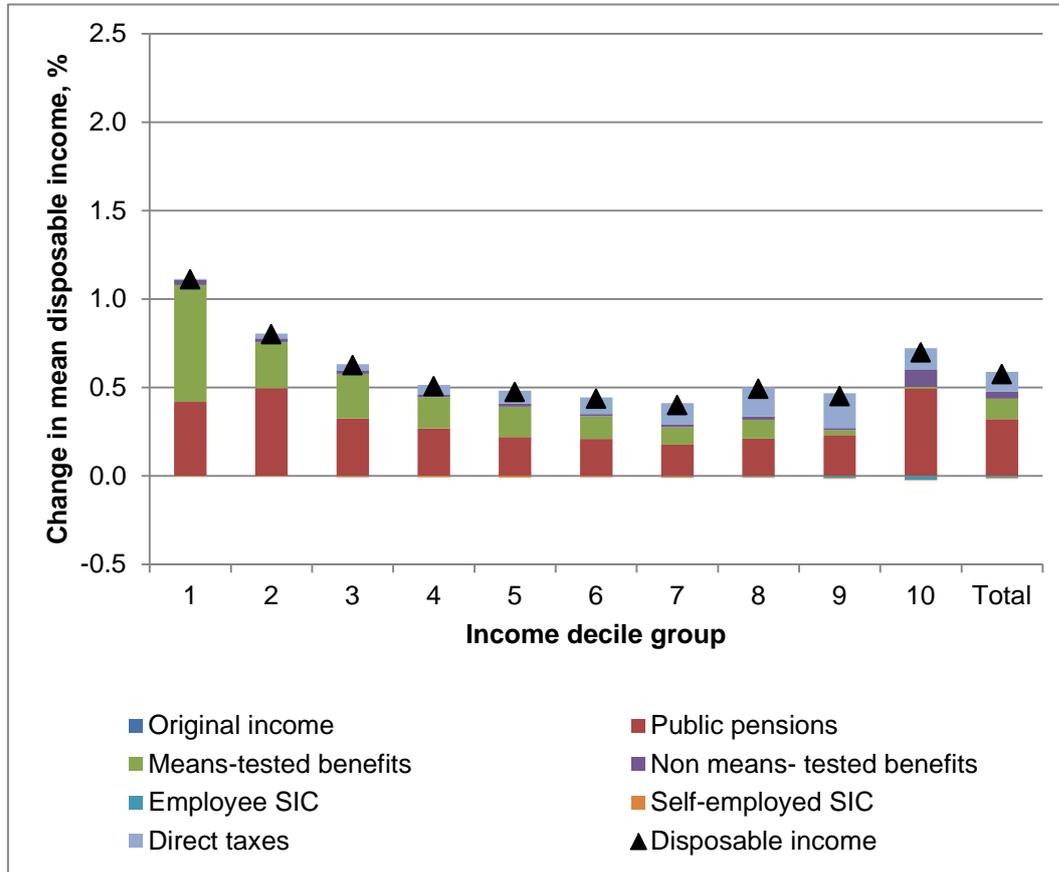
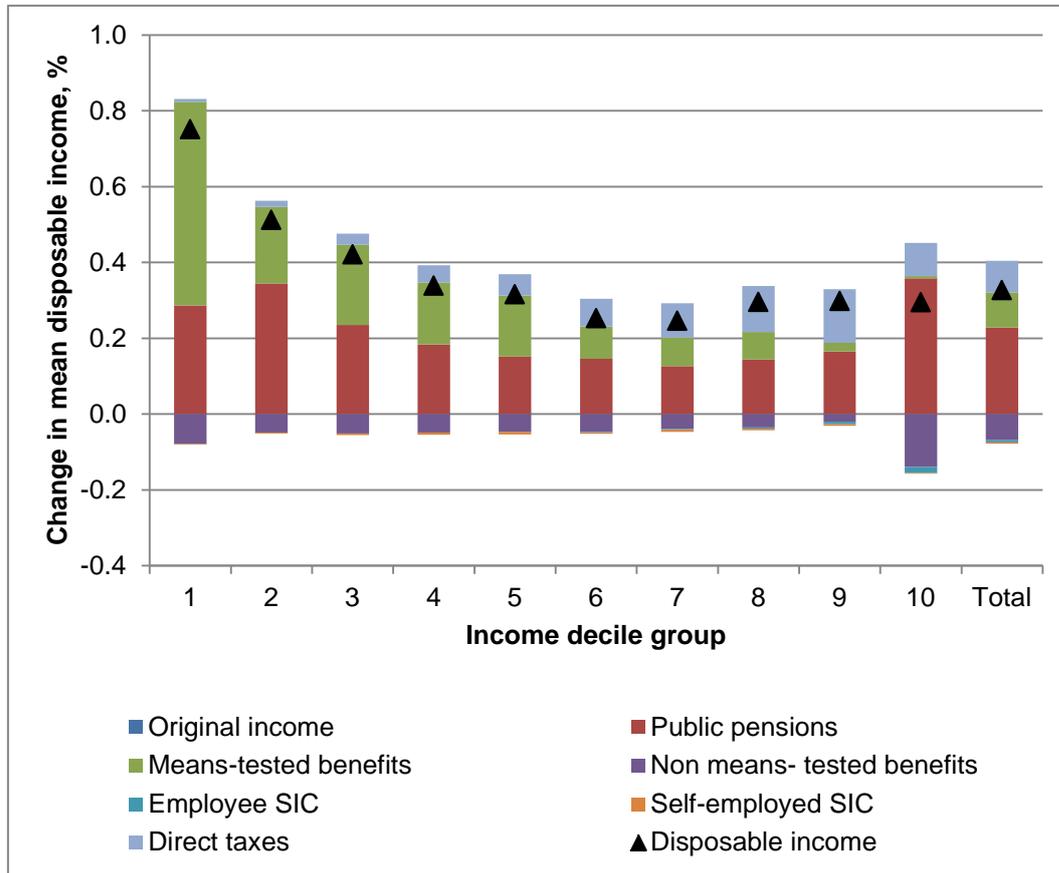


Table 2: Policy effects in 2015-2016, using the CPI-indexation, %

| Decile | Original income | Public pensions | Means-tested benefits | Non means-tested benefits | Employee SIC | Self-employed SIC | Direct taxes | Disposable income |
|--------------|-----------------|-----------------|-----------------------|---------------------------|--------------|-------------------|--------------|-------------------|
| 1 | 0.00 | 0.29 | 0.54 | -0.08 | 0.00 | 0.00 | 0.01 | 0.75 |
| 2 | 0.00 | 0.34 | 0.20 | -0.05 | 0.00 | 0.00 | 0.02 | 0.51 |
| 3 | 0.00 | 0.24 | 0.21 | -0.05 | 0.00 | 0.00 | 0.03 | 0.42 |
| 4 | 0.00 | 0.18 | 0.16 | -0.05 | 0.00 | -0.01 | 0.04 | 0.34 |
| 5 | 0.00 | 0.15 | 0.16 | -0.05 | 0.00 | -0.01 | 0.06 | 0.32 |
| 6 | 0.00 | 0.15 | 0.09 | -0.05 | 0.00 | 0.00 | 0.07 | 0.25 |
| 7 | 0.00 | 0.13 | 0.08 | -0.04 | 0.00 | -0.01 | 0.09 | 0.25 |
| 8 | 0.00 | 0.14 | 0.07 | -0.03 | 0.00 | 0.00 | 0.12 | 0.30 |
| 9 | 0.00 | 0.17 | 0.02 | -0.02 | -0.01 | 0.00 | 0.14 | 0.30 |
| 10 | 0.00 | 0.36 | 0.01 | -0.14 | -0.02 | 0.00 | 0.09 | 0.29 |
| Total | 0.00 | 0.23 | 0.09 | -0.07 | -0.01 | 0.00 | 0.08 | 0.33 |

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 2015, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2016 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).

Figure 2: Policy effects in 2015-2016, using the CPI-indexation, %



ANNEX 3: VALIDATION STATISTICS

Table 4.2-Number of employed and unemployed

| | EUROMOD | | | | | External | | | | Ratio | | | |
|----------------------|---------|------|------|------|------|----------|------|------|------|-------|--|--|--|
| | 2013 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 | | | | |
| Number of employed | 352 | 365 | 363 | 361 | N/A | 0.96 | 0.97 | 0.97 | N/A | | | | |
| Number of unemployed | 88 | 69 | 70 | 64 | N/A | 1.27 | 1.26 | 1.38 | N/A | | | | |

Source: Labour Force Survey.

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

| | EUROMOD | External | Ratio | | | | | | |
|------------------------|---------|----------|-------|------|------|------|------|------|------|
| | 2013 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 |
| Employment income | 367 | 301 | 298 | 307 | N/A | 1.22 | 1.23 | 1.19 | N/A |
| Self-employment income | 82 | 43 | 45 | 40 | N/A | 1.89 | 1.83 | 2.03 | N/A |
| Rent income | 39 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Investment income | 83 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Source: Labour Force Survey.

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

| | EUROMOD | | | | External | | | | Ratio | | | |
|---|---------|-------|-------|-------|----------|------|------|------|-------|------|------|------|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 |
| Benefits | | | | | | | | | | | | |
| Education related scholarship | 13 | 13 | 13 | 13 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Family Related allowance | 123 | 121 | 119 | 116 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Sickness benefits | 32 | 31 | 30 | 30 | 33 | 33 | N/A | N/A | 0.95 | 0.95 | N/A | N/A |
| Housing allowances | 48 | 48 | 47 | 46 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Military Grant | 20 | 20 | 20 | 20 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Contributory unemployment benefit | 175 | 171 | 169 | 165 | 150 | 117 | N/A | N/A | 1.17 | 1.50 | N/A | N/A |
| Other unemployment related benefits | 424 | 413 | 409 | 400 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Disability benefits | 167 | 167 | 167 | 167 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| No taxable old age pension | 802 | 802 | 802 | 802 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Social Pension old age | 69 | 69 | 69 | 69 | 66 | 67 | N/A | N/A | 1.05 | 1.03 | N/A | N/A |
| Taxable Old age pension | 1,154 | 1,154 | 1,154 | 1,154 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Orphan Allowance | 1 | 1 | 1 | 1 | 4 | 4 | N/A | N/A | 0.31 | 0.31 | N/A | N/A |
| Other survivor benefit | 18 | 18 | 17 | 17 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Widows pensions | 227 | 227 | 227 | 227 | 192 | N/A | N/A | N/A | 1.18 | N/A | N/A | N/A |
| Taxes and Social Insurance contributions | | | | | | | | | | | | |
| Regular taxes on wealth | 60 | 59 | 58 | 57 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Source: Ministry of Labour and Social Insurance, Ministry of Finance, Ministry of Defence.

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

| | EUROMOD | | | | SILC | Ratio | External | | | | Ratio | | | |
|---|---------|------|------|------|------|-------|----------|------|------|------|-------|------|------|------|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2013 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 |
| Benefits | | | | | | | | | | | | | | |
| Student Grant | 36 | 36 | 36 | 37 | 22 | 1.65 | 22 | 19 | N/A | N/A | 1.63 | 1.94 | N/A | N/A |
| Birth Grant | 9 | 9 | 9 | 9 | 7 | 1.25 | 8 | 8 | N/A | N/A | 1.13 | 1.10 | N/A | N/A |
| Social Assistance | 25 | 0 | 0 | 0 | 5 | 4.75 | 25 | N/A | N/A | N/A | 1.00 | N/A | N/A | N/A |
| Child benefit | 98 | 87 | 88 | 89 | 54 | 1.84 | 68 | 67 | N/A | N/A | 1.44 | 1.31 | N/A | N/A |
| Child benefit-supplementary bit | 68 | 70 | 70 | 71 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Child benefit-basic | 98 | 87 | 88 | 89 | 0 | N/A | 68 | 67 | N/A | N/A | 1.44 | 1.31 | N/A | N/A |
| lone parent social assistance | 14 | 14 | 14 | 14 | 0 | N/A | 9 | 10 | N/A | N/A | 1.51 | 1.46 | N/A | N/A |
| GMI | 0 | 51 | 52 | 53 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Taxes and Social Insurance contributions | | | | | | | | | | | | | | |
| Employee SIC | 363 | 363 | 363 | 363 | 0 | N/A | 391 | 383 | N/A | N/A | 0.93 | 0.95 | N/A | N/A |
| Self Employed SIC | 72 | 72 | 72 | 72 | 0 | N/A | 26 | 28 | N/A | N/A | 2.73 | 2.58 | N/A | N/A |
| Employer SIC | 367 | 367 | 367 | 367 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Annual Holidays Fund | 76 | 76 | 76 | 76 | 0 | N/A | N/A | 80 | N/A | N/A | N/A | 0.95 | N/A | N/A |
| Redundancy Fund | 367 | 367 | 367 | 367 | 0 | N/A | 391 | 383 | N/A | N/A | 0.94 | 0.96 | N/A | N/A |
| Human resource Fund | 367 | 367 | 367 | 367 | 0 | N/A | 391 | 383 | N/A | N/A | 0.94 | 0.96 | N/A | N/A |
| Social Insurance Fund | 363 | 363 | 363 | 363 | 0 | N/A | 391 | 383 | N/A | N/A | 0.93 | 0.95 | N/A | N/A |
| Social Cohesion Fund | 367 | 367 | 367 | 367 | 0 | N/A | 391 | 383 | N/A | N/A | 0.94 | 0.96 | N/A | N/A |
| Income Tax | 158 | 152 | 150 | 146 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Special Contribution for defence | 110 | 110 | 110 | 110 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution public employee | 20 | 30 | 30 | 30 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution private employee | 50 | 115 | 114 | 111 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution private employer | 50 | 115 | 114 | 111 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution private self employed | 5 | 82 | 82 | 82 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution from pensioners (private and public) | 19 | 29 | 29 | 29 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| contribution to public pensions | 39 | 39 | 39 | 39 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Source: Ministry of Labour and Social Insurance, Ministry of Finance, Tax Department.

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

| | EUROMOD | | | | SILC | Ratio | External | | | | Ratio | | | |
|---|---------|------|------|------|------|-------|----------|------|------|------|-------|------|------|------|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2013 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 |
| Benefits | | | | | | | | | | | | | | |
| Student Grant | 67 | 74 | 74 | 75 | 57 | 1.19 | 57 | 49 | N/A | N/A | 1.19 | 1.50 | N/A | N/A |
| Birth Grant | 5 | 5 | 5 | 5 | 4 | 1.19 | 4 | 5 | N/A | N/A | 1.19 | 1.08 | N/A | N/A |
| Social Assistance | 123 | | | | 167 | 0.74 | 167 | N/A | N/A | N/A | 0.74 | N/A | N/A | N/A |
| Child benefit | 111 | 101 | 101 | 103 | 95 | 1.17 | 95 | 90 | N/A | N/A | 1.17 | 1.12 | N/A | N/A |
| Child benefit-supplementary bit | 19 | 19 | 19 | 20 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Child benefit-basic | 92 | 81 | 82 | 83 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| lone parent social assistance | 44 | 44 | 44 | 44 | 28 | 1.58 | 28 | 28 | N/A | N/A | 1.58 | 1.57 | N/A | N/A |
| GMI | | 217 | 219 | 225 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Taxes and Social Insurance contributions | | | | | | | | | | | | | | |
| Employee SIC | 446 | 497 | 494 | 486 | 393 | 1.13 | 393 | 428 | N/A | N/A | 1.13 | 1.16 | N/A | N/A |
| Self Employed SIC | 80 | 94 | 93 | 92 | 50 | 1.61 | 50 | 49 | N/A | N/A | 1.61 | 1.90 | N/A | N/A |
| Employer SIC | 871 | 926 | 921 | 907 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Annual Holidays Fund | 114 | 111 | 111 | 109 | N/A | N/A | N/A | 65 | N/A | N/A | N/A | 1.72 | N/A | N/A |
| Redundancy Fund | 82 | 81 | 80 | 79 | 77 | 1.08 | 77 | 74 | N/A | N/A | 1.08 | 1.09 | N/A | N/A |
| Human resource Fund | 34 | 34 | 33 | 33 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Social Insurance Fund | 503 | 566 | 563 | 554 | 467 | 1.08 | 467 | 510 | N/A | N/A | 1.08 | 1.11 | N/A | N/A |
| Social Cohesion Fund | 137 | 135 | 134 | 132 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Income Tax | 653 | 604 | 595 | 574 | 486 | 1.34 | 486 | 442 | N/A | N/A | 1.34 | 1.37 | N/A | N/A |
| Special Contribution for defence | 42 | 40 | 39 | 38 | 462 | 0.09 | 462 | 416 | N/A | N/A | 0.09 | 0.10 | N/A | N/A |
| special contribution public employee | 9 | 18 | 18 | 18 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution private employee | 13 | 25 | 25 | 23 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution private employer | 13 | 25 | 25 | 23 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution private self employed | 2 | 13 | 13 | 13 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| special contribution from pensioners (private and public) | 21 | 30 | 30 | 30 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| contribution to public pensions | 34 | 34 | 34 | 34 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Source: Ministry of Labour and Social Insurance, Ministry of Finance, Tax Department.

Table 4.9-Distribution of equivalised disposable income

| | EUROMOD | | | | External | | | | Ratio | | | |
|---------|---------|--------|--------|--------|----------|------|------|------|-------|------|------|------|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 |
| D1 | 3.48 | 3.73 | 3.75 | 3.78 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D2 | 4.83 | 4.89 | 4.90 | 4.90 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D3 | 5.61 | 5.69 | 5.69 | 5.68 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D4 | 6.49 | 6.49 | 6.46 | 6.47 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D5 | 7.42 | 7.37 | 7.39 | 7.35 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D6 | 8.46 | 8.46 | 8.45 | 8.53 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D7 | 9.82 | 9.75 | 9.73 | 9.61 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D8 | 11.58 | 11.48 | 11.49 | 11.50 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D9 | 14.33 | 14.25 | 14.24 | 14.30 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| D10 | 27.98 | 27.89 | 27.92 | 27.87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Median | 15,038 | 14,711 | 14,658 | 14,437 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Mean | 18,993 | 18,647 | 18,561 | 18,331 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Gini | 33.84 | 33.32 | 33.32 | 33.31 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| S80/S20 | 5.09 | 4.88 | 4.87 | 4.86 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Source: Eurostat Online Database.

Table 4.10-Poverty rates by gender and age

| | EUROMOD | | | | External | | | | Ratio | | | |
|-----------------------|---------|-------|-------|-------|----------|------|------|------|-------|------|------|------|
| | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 | 2013 | 2014 | 2015 | 2016 |
| 40% median HDI | | | | | | | | | | | | |
| Total | 2.49 | 1.24 | 1.22 | 1.18 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Males | 2.37 | 1.10 | 1.09 | 1.06 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Females | 2.60 | 1.38 | 1.34 | 1.30 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 50% median HDI | | | | | | | | | | | | |
| Total | 7.29 | 5.89 | 5.84 | 5.54 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Males | 6.65 | 5.17 | 5.15 | 4.94 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Females | 7.89 | 6.56 | 6.49 | 6.11 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 60% median HDI | | | | | | | | | | | | |
| Total | 14.19 | 13.29 | 13.24 | 13.07 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Males | 12.96 | 12.21 | 12.17 | 12.03 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Females | 15.34 | 14.31 | 14.26 | 14.06 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 70% median HDI | | | | | | | | | | | | |
| Total | 24.20 | 23.08 | 23.09 | 22.94 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Males | 22.97 | 21.68 | 21.72 | 21.72 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Females | 25.37 | 24.40 | 24.38 | 24.10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 60% median HDI | | | | | | | | | | | | |
| 0-15 years | 11.95 | 12.23 | 12.19 | 12.45 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 16-24 years | 10.08 | 12.12 | 12.10 | 12.10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 25-49 years | 12.81 | 11.54 | 11.48 | 11.62 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 50-64 years | 13.62 | 13.39 | 13.44 | 13.42 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 65+ years | 26.87 | 21.14 | 21.01 | 18.89 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Source: Eurostat Online Database.