

# **EUROMOD**

## **COUNTRY REPORT**



## **CYPRUS (CY)**

### **2009 - 2013**

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

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

This report documents the work done in one annual update for 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 G2.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

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

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

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## 1. BASIC INFORMATION

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

- The basic rules of the tax-benefit system do not vary across regions or municipalities.
- The “tax year” runs from 1<sup>st</sup> of January and ends on the 31<sup>st</sup> of December.
- The retirement age in the public sector is 63 years old for employees of the public administration, but for certain occupations such as police officers or military officers may be lower. Pensionable age for the private sector is 65 but under certain conditions it may be lowered at 63.
- 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 but in military or in full-time education. Individuals deprived of their subsistence capabilities are considered depended 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 interest are taxed at a flat rate.
- The levels of benefits, pensions as well as wages in the public sector were determined through statutory indexing regimes that took into account inflation and/or cost of living. After 2012, most of these indexing arrangements have been temporary suspended.
- Income for the purpose of means-testing is assessed in annual or monthly basis depending on the context of each policy and its calculation is based on past income. The definition of income varies across policies while a number of changes in the respective Laws were introduced in 2011 and 2012.

### 1.2 Social Benefits

The section describes a number of basic benefits, simulated and not simulated, excluding negligible, abolished and minor benefits. The description is limited to the essential features of the benefit (i.e. the structure of the benefit) while relevant parametric information (ex: benefit can be found in other sections of the country report.

#### **Contributory insurance-based 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 benefit rate is flat and annually adjusted. 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.

**Funeral Grant (βοήθημα κηδείας):** The funeral grant is payable to survived spouses, children or other persons responsible for the payment of the funeral bill. The amount of the grant is flat but it increases in the presence of dependents. Eligibility is defined on the contribution record of the diseased.

**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 underage<sup>1</sup> 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.

**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 benefit) 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 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 the widower, of a person who on his/her death satisfied the relevant contribution conditions. As it is the case with old age and incapacity pension, certain contribution conditions should be met. Widows' pension comprises of a basic and supplementary part. The basic is calculated as a proportion of insurable earnings increased by 1/3, 1/2 and 2/3 for one, two or three dependants respectively.

**Benefits for employment accidents:** These include benefits to persons who are victims of employment accidents (or employment-related diseases) taken place in the workplace during

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<sup>1</sup> 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.

work time due to work-related causes. The injury benefit (for temporary incapacity), the disablement benefit (or pension) and the parent's allowance fall into this category of benefits. In most cases no particular contribution conditions are required. The level of benefits varies across cases depending on various factors (e.g. degree of disability).

### **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.

**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 party. The basic part is a flat amount and the supplementary party 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.

### **1.3 Social contributions**

Section 1.3 describes simulated and unsimulated social contributions. The description focuses only on the structure of each policy while parametric information on ceilings and contribution bases is provided in following sections.

**Employee social contributions (ασφαλιστικές εισφορές εργαζομένων):** For employees the total contribution rate is 16.6%, where 6.3% is paid by the employer, 6.3% by the employee and the rest 4% by the state. When the employee is covered by a pension plan from the employer without any contribution from the part of the employee, then the social contribution paid by the employer is 9.4% and by the employee 3.2%. 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):** The total contribution of self-employed is 15.6% of their insured earnings. From this percentage, 11.6% is paid by the self-employed and the rest 4% by 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 13.5% from which 10% is paid by the optionally insured person and 3.5% by the state. The amount of insured earnings for which the optionally insured person is paying social contributions is chosen by him/herself 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*): Provident funds or Pension Schemes 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.

### 1.4 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).

## **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 2.1 Simulation of benefits in EUROMOD

variable names		treatment					why not fully simulated?
		2009	2010	2011	2012	2013	
Public assistance benefit	bsa_s	PS	PS	PS	PS	PS	Lack of information regarding recipients' special needs.
Unemployment benefit: From SIF	bunct_s	PS	PS	PS	PS	PS	Not possible to define contribution record and past earnings.
Unemployment: other	bunot	I	I	I	I	I	No information to define eligibility
Maternity benefit	bfamh	I	I	I	I	I	Paid SICs cannot be defined perfectly, no available inform.
Child benefit	bch_s	S	S	S	S	S	Relevant income may not be defined exactly
Mother allowance	bfamh	I	I	I	I	I	Eligibility cannot be defined.
Missing person allowance	bsa	I	I	I	I	I	Eligibility cannot be defined.
Military service grant	bml	I	I	I	I	I	Not enough information to define the exact amount of the grant.
Students grant	bedet_s	S	S	S	S	S	-
Special grant to blind persons	pdi	I	I	I	I	I	Eligibility cannot be defined.
Sickness benefit	bhl	I	I	I	I	I	Eligibility cannot be defined.
Physical injury benefit	bhl	I	I	I	I	I	Eligibility cannot be defined.
Disability pension	pdi	I	I	I	I	I	Eligibility cannot be defined.
Disability benefit	pdi	I	I	I	I	I	Eligibility cannot be defined.
Widow/widower pension	psuwd	I	I	I	I	I	Depends on the SICs of the deceased.
Orphan benefit	psuor	I	I	I	I	I	Eligibility cannot be defined.
Parent pension	psuot	I	I	I	I	I	Eligibility cannot be defined.
Birth grant	bchba_s	S	S	S	S	S	-
Wedding grant	bfamh	I	I	I	I	I	Eligibility cannot be defined.
Funeral grant	bfamh	I	I	I	I	I	Eligibility cannot be defined.
Widow pension for public employees	psuwd	I	I	I	I	I	Eligibility cannot be defined.
Child pension for public employees	psuor	I	I	I	I	I	Eligibility cannot be defined.
Old age pension	poa	I	I	I	I	I	The amount of the pension depends on the SICs which

Social pension	poasp	I	I	I	I	I	are not known.
Incapacity pension	pdi	I	I	I	I	I	Eligibility cannot be simulated
Single parent benefit	bsalp_s	-	-	-	S	S	Eligibility cannot be defined.

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 2.2 Simulation of taxes and social contributions in EUROMOD

Social Insurance Contributions (SICs)		2009	2010	2011	2012	2013	Why not fully simulated?
Employee SICs	tscee_s	S	S	S	S	S	
Employer SICs	tscer_s	S	S	S	S	S	
Employer SICs: Annual Holidays Fund	tscer00_s	S	S	S	S	S	Contributors randomly chosen
Employer SICs: Redundancy Fund	tscer01_s	S	S	S	S	S	
Employer SICs: Human Resources Fund	tscer02_s	S	S	S	S	S	
Employer SICs: Social Insurance Fund	tscer03_s	S	S	S	S	S	
Employer SICs: Social Cohesion	tscer03_s	S	S	S	S	S	
Self-employed SICs	tsce_s	S	S	S	S	S	
Optionally insured person SICs	-	E	E	E	E	E	
Credited SICs	-	E	E	E	E	E	Non-sufficient information available from data
Provident-fund contributions	-	E	E	E	E	E	Non-sufficient information available from data
Special contr. (public employees)	txcpb_s	-	-	-	S	S	
Special contr. (priv. employees)	txceeps_s	-	-	-	S	S	
Special contr. (priv. employers)	txcerps_s	-	-	-	S	S	
Special contr. (self-employed)	txcseps_s	-	-	-	S	S	
Contribution for public pensions	tpipb_s	-	-	-	S	S	
Personal Income Tax	tin_s	S	S	S	S	S	
Corporate income tax		E	E	E	E	E	Out of scope of the model
Property tax	-	E	E	E	E	E	No information about the value of property
Special contribution for defence	txc_s	PS	PS	PS	PS	PS	No information on legal entities
Value Added Tax	-	E	E	E	E	E	Out of scope of the model
Excise duties	-	E	E	E	E	E	Out of scope of the model
Other indirect taxes	-	E	E	E	E	E	Out of scope of the model
Indirect taxes	-	E	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. Overall, most changes that took place during the reference period were parametric and not structural, while a number of austerity measures were introduced in 2012. Policies, which are included into the model but not used in the EUROMOD baseline output are marked as “switched off”.

Table 2.3 EUROMOD Spine: order of simulation

Policy	2009	2010	2011	2012	2013	Description of the instrument and main output
<i>tscee_cy</i>	On	On	On	On	On	Employee social insurance contributions
<i>tscer_cy</i>	On	On	On	On	On	Employer social insurance contributions
<i>tsese_cy</i>	On	On	On	On	On	Self-employed social insurance contributions
<i>txcbp_cy</i>	Off	Off	Off	On	On	Special contribution of public employees
<i>txcps_cy</i>	Off	Off	Off	On	On	Special contribution of private sector
<i>txcpe_cy</i>	Off	Off	Off	On	On	Special contribution on pensions
<i>tpipb_cy</i>	Off	Off	Off	On	On	Contribution to government employees plan
<i>tin_cy</i>	On	On	On	On	On	Income Tax
<i>txc_cy</i>	On	On	On	On	On	Special contribution for defence
<i>bchba_cy</i>	On	On	On	On	On	Birth grant
<i>bunct_cy</i>	Off	Off	Off	Off	Off	Unemployment benefit
<i>bedet_cy</i>	On	On	On	On	On	Student grant
<i>bch_cy</i>	On	On	On	On	On	Child benefit
<i>bsa_cy</i>	On	On	On	On	On	Public assistance
<i>bsalp_cy</i>	Off	Off	Off	On	On	Single parent benefit

## 2.3 Policy switches

The spine structure is similar for 2009, 2010 and 2011 years. First, we simulate employee social insurance contributions, followed by employer social insurance contributions. Employees’ SICs finance the Social Insurance Fund, while employers’ SICs finance Annual Holidays Fund, Human Resources Fund, Social Cohesion Fund, as well as the Social Insurance Fund. Then, 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 are 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. Furthermore, unemployment benefit is switched off in the baseline scenario across all years.

## 2.4 Social benefits

### 2.4.1 Public assistance benefit (*bsa\_s*)

- *Definitions*

Public assistance is a non-contributory benefit designed to compensate any person (and his/her dependents) legally residing in Cyprus, whose income is not enough to cover his/her basic or

special needs and satisfies the conditions set by the Public Assistance Law. 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) who cohabit 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 his husband is not capable of doing so. But she is not responsible for the care of disabled children who 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 Law<sup>2</sup>;
- 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.

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<sup>2</sup> 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).



## 2.4 Monthly minimum threshold

Year	Head	Dependent >14	Dependent <14
July 1 <sup>st</sup> 2007 - June 30 <sup>th</sup> 2008	€379.31	€189.66	€113.79
July 1 <sup>st</sup> 2008 - June 30 <sup>th</sup> 2009	€425	€12.5	€27.5
July 1 <sup>st</sup> 2009 - June 30 <sup>th</sup> 2010	€452	€26	€35.6
July 1 <sup>st</sup> 2010 - June 30 <sup>th</sup> 2011	€452	€26	€35.6
July 1 <sup>st</sup> 2011 - June 30 <sup>th</sup> 2012	€452	€26	€35.6
July 1 <sup>st</sup> 2012 - June 30 <sup>th</sup> 2013	€452	€26	€35.6

The amount of public assistance benefit cannot be less than €5.54 euro per month. If it is estimated less than €5.54 then €5.54 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 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 paid<sup>3</sup> or been credited<sup>4</sup> with contributions in previous contributions year<sup>5</sup>. 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.

**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 is used the employment income.

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

Unemployed person who has exhausted 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 omits 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.

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<sup>3</sup> The paid insured earnings are the earnings for which contributions had been paid.

<sup>4</sup> 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.

<sup>5</sup> 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.

- *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 benefit. The weekly amount of the basic benefit is equal to 60% of the weekly mean of the basic insurable earnings of the beneficiary during the previous contribution year and increases by 1/3 for the dependent spouse and by 1/6 for every child or other dependant<sup>6</sup> (the maximum number of dependent children/ other dependants is 2)<sup>7</sup>. The increase for the dependent spouse is paid only when the earnings of the spouse from his/her work or the level of the benefit that the dependent spouse is getting for the Social Insurance Fund does not exceed the amount that corresponds to the increase of the benefit for dependants. 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 benefit is equal to 50% of the weekly mean of insurable earnings of the beneficiary that exceeds the basic insured earnings, but the complementary benefit 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)].

### 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.

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<sup>6</sup> 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.

<sup>7</sup> The usual definition of dependent child applies.

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 euro.

- **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**

Table 2.5 Benefit levels for 2009

No of dep. children	Basic annual benefit (in euro)	Supplementary annual benefit for families with gross income during 2006:	
		Up to 17.086 euro	Between 17.086 and 34.172
1 child	409.99	102.49	51.25
2 children	820.00	409.98	307.49
3 children	2459.94	922.50	768.72
4+ children	1,352.98 per child	450.99 per child	281.87 per child

Table 2.6 Benefit levels for 2010

No of dep. children	Basic annual benefit (in euro)	Supplementary annual benefit for families with gross income during 2007:	
		Up to 18,367 euro	Between 18,367 and 36,734
1 child	411.30	102.82	51.41
2 children	822.62	411.30	308.47
3 children	2,467.83	925.44	771.18
4+ children	1,357.31 per child	452.43 per child	282.77 per child

Table 2.7 Benefit levels for 2011

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	2527.80	947.91	789.90
4+ children	1,390.29 per child	463.43 per child	289.64 per child

Table 2.8 Benefit levels for 2012

○ 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 2.9 Benefit levels for 2013

○ 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).

**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 mono-parental families which already receive the child benefit. Namely, a family eligible for the child benefit is also eligible for the single-parent benefit. Mono-parental 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 mono-parental 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 2.10 Benefit levels for 2012

Family income in 2011	Monthly amount of the benefit
0 - 39,000	200 per child
39,000-49,000	180 per child
49,000-59,000	160 per child
49,000-69,000	140 per child
69,000-79,000	120 per child
79,000-89,000	100 per child
above 99,000	0

Table 2.11 Benefit levels for 2013

Family income in 2012	Monthly amount of the benefit
0 - 39,000	180 per child
39,000-49,000	160 per child
49,000-59,000	140 per child
49,000-69,000	120 per child
69,000-79,000	100 per child
79,000-89,000	90 per child
above 99,000	0

#### 2.4.5 Students grant (*bedet\_s*)

- **Definitions**

Student grant is a universal non-contributory benefit given to families with children in higher education. It is provided by the Grants and Benefits Services of the Ministry of Finance. Students should be Cypriot citizens or EU citizens who have their permanent residence in Cyprus. In case that the student is a non-EU citizen, then he or she is eligible for the grant if at least one of his/her parents is Cypriot or EU citizens. Furthermore, the recipient should have graduated from a secondary school in Cyprus. Permanent residents are considered persons that had been staying in Cyprus for at least 30 months the past 3 years before the beginning of their studies.

The student grant is given to the parents of the student or in other cases to persons paying student's expenses.

The Law considers the following family units:

1. Couples with children
2. Lone father (irrespective of the marriage condition) and his children.
3. Lone mother (irrespective of the marriage condition) and her children.
4. Any adult person and abandoned child/children if the former can prove that he/she supports financially the child/children.

### 5. Orphans.

Children should either live under the same household with their parents or live separately but are financially supported by their parents.

#### • *Eligibility conditions*

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 for student that:

1. Attend language learning programmes that are prerequisites for entering the educational institution;
2. Attend tertiary foundation certificate or similar courses
3. Attend distance learning courses or open university courses;
4. Attend courses as external students and not as normal students;
5. Are in PhD program (for the academic year 2011/12 and afterwards) ;

In academic year 2011/12 and afterwards, total gross family income shall be considered for the provision of the grant.

#### ○ *Income test*

In (academic year) 2006/07 and afterwards, income acquired in the public or private sector or from teaching or research work should be below €17,086 in order to be eligible for the grant. In 2011/12 and afterwards, total gross family income, acquired in the year before the 1st of January of the academic year, is used for defining eligibility instead of the employment income of the student. For the computation of the total gross family income, the incomes of all family members (parents and children) from employment, self-employment, pensions, rents, interests, dividends, alimony, public assistance benefit, unemployment benefit, maternity benefit, other benefits from social security fund (birth grant, wedding grant, widows, orphans, survivors benefits) and military grant are considered.

Families with students are eligible for the grant if they have total gross annual family income less than 100,000 euro (with up to two children) and for families with more than two children the maximum amount increases by 10,000 euro for each additional child.

#### • *Benefit amount*

Until the academic year 2010/11 the annual amount of the grant is €1708 per student during the normal period of studies. If the student pays fees then the grant is increased by €854.30, annually. Multi-child families also receive a supplementary amount of €854.30. Since 1<sup>st</sup> September 2007, 3-children families are also eligible for the supplementary amount. From 2011/12 and afterwards the annual amount of the grant and the supplementary part depend on the total gross family income.

If the student ends his/her studies during the first semester of the year then the family is allowed to half of the grant and half of the grant paid for fees. No grant is paid for studies smaller in duration than one semester (6 months).

In cases of part time studies the grant is paid when the period for a full time study that corresponds to one year of normal study is completed.



Table 2.12 Benefit Rates

Year	Annual student grant (in euro)	Additional amount equal to:	
		If pay fees	If multi-child family
2009	1708	854.30	854.30 (if 3+ children)
2010	1708	854.30	854.30 (if 3+ children)
2011	1708	854.30	854.30 (if 3+ children)

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

Table 2.13 Benefit Rates

Family income in 2011(2012)	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.

**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 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*
- *Benefit amount*

The amount of the birth grant (per child in the case of twins) in 2009 was €466 and increased at €491, €521, €533 and €544 in 2010, 2011, 2012 and 2013, respectively.

**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.

### 3. SOCIAL CONTRIBUTIONS

#### 3.1.1 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;

- €3,435 per year or €162.22 per week in 2009,
- €3,687 per year or €167.05 per week in 2010,
- €3,886 per year or €170.88 per week in 2011,
- €4,068 per year or €174.38 per week in 2012,
- €4,995 per year or €172.98 per week in 2013.

- *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 persons. Moreover, employees in the broad public sector were additionally covered by the Government Employees Pension Scheme (GEPS). As of the 1<sup>st</sup> 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 payments are not included. Also, the Law sets a maximum amount of earnings for contribution purposes which is revised annually:

- €4,004 per month or €24 per week in 2009,
- €4,216 per month or €73 per week in 2010,
- €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,

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

- ***Contribution rates***

In case of employed persons the social insurance contribution is 16.6% on their insurable earnings, of which 6.3% is paid by the employer, 6.3% by the employee and 4% by the state. When the employee is covered by a pension plan from the employer without any contribution from the employee, then 9.4% of the contribution is paid by the employer and 3.2% by the employee. Liability for paying contributions arises, when the employed person receives no less than €1.71 in the contribution week (or equivalently no less than €6.83 in the calendar month).

Since 1st April 2009 the total contribution rate increased at 17.9% of insurable earnings, of which 6.8% is paid by the employer, 6.8% by the employee and the rest 4.3% by the state. When the employee is covered by a pension plan from the employer without any contribution from the part of the employee then the social security contribution paid by the employer is 10.15% and by the employee 3.45%. In cases of trainees working without earnings, the employer has to pay both the contribution of the employer and the employee, i.e. 12.6%.

- ***EUROMOD notes***

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.

### **3.1.2 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 week<sup>8</sup>. The liability of the employer for paying contributions ceases 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,

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<sup>8</sup> For trainees and apprentices, the employer has to pay contributions to the Social Insurance Fund even if the employee has no earnings.

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**

For the rate of 12.6% the employer and employee pay 6.3% each. 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 1<sup>st</sup> April 2009 the respective percentages are 13.6%, 6.8%, 6.8%, 10.15% and 3.45%.

**(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 3.1 Rate of contribution to the Central Holiday Fund for employees with a 5-day/6-day working week

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

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 wholly 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 22% 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.

### **3.1.3 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. 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;

- €340 per week in 2009
- €358 per week in 2010
- €369 per week in 2011
- €377 per week in 2012
- €403 per week in 2013.

- **EUROMOD notes**

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

### 3.1.4 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 is 4.0% on their insurable earnings. Since 1st April 2009, the contribution rate paid by the State increased at 4.3% of insurable earnings. Note also that contributions to the Annual Holidays Fund are part of the earnings that are considered for the estimation of government contributions.

## 3.2 Personal income tax

### 3.2.1 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.

### 3.2.2 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
- whole 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.

### 3.2.3 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.

### 3.2.4 Tax base

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

### 3.2.5 Tax schedule

Income taxation is progressive, with higher marginal tax rates applying to higher income brackets. The tax rates and income tax brackets are shown in the following table.



Table 3.3 Tax rates and income brackets

Tax rate	2009	2010	2011	2012	2013
0%	0 – 19,500	0 – 19,500	0 – 19,500	0 – 19,500	0-19,500
20%	19,501 – 28,000	19,501 – 28,000	19,501 – 28,000	19,501 – 28,000	19,501 – 28,000
25%	28,001 – 36,300	28,001 – 36,300	28,001 – 36,300	28,001 – 36,300	28,001 – 36,300
30%	36,301 -	36,301 -	36,301 – 60,000	36,301 – 60,000	36,301 –60,000
35%			60,001-	60,001-	60,001-

### 3.2.6 Tax credits

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

### 3.3 Other taxes

#### 3.3.1 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%)
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 11960 euro (12000 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.
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.

#### 3.3.2 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 1<sup>st</sup> 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 3.4 Contribution rates and income brackets

Contribution rate	Time period	
	1 <sup>st</sup> September 2011-31 <sup>st</sup> December 2011	1st January 2012-31 <sup>st</sup> December 2013
0%	0-1,500	0-2,500
1.5%	1,501-2,500	-
2.5%	2,501-3,500	2,501-3,500
3.0%	3,501-4,500	3,501-4,500
3.5%	4,501-	4,501-

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

**Notes on Euromod implementation:** EUROMOD model simulates the system as it stands on 30<sup>th</sup> 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 1<sup>st</sup> January 2012 - 31<sup>st</sup> December 2013.

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

Another contribution was put in effect on 1<sup>st</sup> January 2012 (ending on 31<sup>st</sup> 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 3.5 Contribution rates and income brackets

Contribution rate	Period
	1 <sup>st</sup> January 2012-31 <sup>st</sup> December 2013
0%	0-2,500
2.5%	2,501-3,500
3.0%	3,501-4,500
3.5%	4,501- above

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.

### 3.3.4 Contribution of public employees to Government Employees Pension Plan

Starting from 1<sup>st</sup> 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 30<sup>th</sup> 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 1<sup>st</sup> 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.

### 3.3.5 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 1<sup>st</sup> 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 1<sup>st</sup> 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.

### 3.4 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.

Table 3.6 Scaled reduction

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

## 4. DATA

### 4.1 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 4.1 EUROMOD database description

EUROMOD database	CY_2010_a2
Original name	UDB_c10_ver 2010-3 from 01-03-13(CY)
Provider	Statistical Service of Cyprus
Year of collection	2010
Period of collection	March - July 2010
Income reference period	2009
Sample size	11,059 IND, 3,780 HH
Response rate	90.1%

Notes: <https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp>

## 4.2 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.

## 4.3 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 ( $yempv$ ).

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 4.2 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

#### 4.3.1 Time period

The EU-SILC information on demographic variables refers to the time of data collection, while the income reference period is year 2009. Accordingly, the same reference period applies for income taxes and social insurance contributions, as well as taxes on wealth.

#### 4.3.2 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.

#### 4.3.3 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.

### 4.4 Updating

The income variables in the EU-SILC dataset refer to 2009. This information should be 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.

## 5. VALIDATION

### 5.1 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.

#### 5.1.1 Components of disposable income

Table 4.1 shows the components comprising disposable income in SILC based on SILC 2010.



Table 4.3 Components of disposable income

	EUROMOD [2009] ils_dispy	EU-SILC [2010] HY020
Employee cash or near cash income		+
Employer's social insurance contribution		0
Company car		+
Contributions to individual private pension plans		0
Cash benefits or losses from self-employment		+
Pension from individual private plans		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		+

### 5.1.2 Validation of incomes inputted into the simulation

Tables 4.2-4.6 in the Annex report number of recipients/earners and amounts of incomes and non-simulated benefits for the years 2009-2013. In parallel the Tables include external statistics collected from various administrative sources (Statistical Service of Cyprus, Ministry of Labour and Social Insurance, Ministry of Finance) aiming at validating the database. Tables 4.2 and 4.3 show that while the comparison is satisfactory both for the number and the mean income from employment, relevant discrepancies arise for the number of persons receiving self-employment income and for the number of unemployed.

Table 4.4 and 4.5 reports comparison between instrument that are included in EUROMOD calculation but which are not simulated. Here, it should be noted that comparisons between difference sources are not always straightforward insofar statistic definitions differ. For example, the statistics on old-age pensions are not strictly comparable. In particular, the EM variable (*poa*) is calculated using the EU-SILC variable *py100g*, which includes widows pensions, disability pensions and invalidity pensions if the recipient is older than 63. If the recipient is below 63, the relevant pension is included in survivors' benefits (*py110g*). However, the published administrative data do not separate recipients according to age. This is the reason, for example, widow pensions appear highly underestimated. In fact the two figures are not strictly comparable. Furthermore, the administrative data include only pensions provided by the

Social Insurance Fund, while the EU-SILC data include, also, pensions from other sources for which is difficult to collect statistics. Similarly, external data on housing allowances and family-related allowances are not strictly comparable with the corresponding EM variables, since this category consists of a large number of benefits given by a variety of authorities for some of which there was not available information.

### 5.1.3 Validation of outputted (simulated) incomes

Tables 4.7 and 4.8, included in Annex 2, report differences between the number of recipients/payers and aggregate yearly amounts of various types of simulated benefits/taxes/contributions and external statistics. In general, the model estimates are in accordance with administrative data, however several discrepancies do exist.

The model overestimates the number of student grant recipients, but total expenditures are underestimated. Yet, it should be noted that this benefit is also underestimated according to our splitting from the original EU-SILC dataset. On the other hand, simulation estimates concerning the birth grant appear to be in line with external data.

Seemingly, the model underestimates substantially the total expenditures for public assistance. However, the model simulates only the part of the public assistance which covers the basic needs of the household. Special needs cannot be simulated by the model. The special needs component of the public assistance benefit depends on the particular circumstances of the applicant. It can 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 calculate the amount of public assistance as a top-up. This mode of calculation implies that it is not possible to separate public expenditures according to what type of needs they cover. However, as a rule of thumb it is realistic to assume that about half of public expenditures are directed to recipients' basic needs. Furthermore, it should be noted that model cannot simulate several other special cases of recipients such as asylum seekers, recognized political refugees, immigrants granted subsidiary protection and victims of sexual harassment or human trafficking. One has to consider targeting errors, too. Possibly, the benefit is subject to Type II errors that arise from false positives (i.e. the benefit is attributed to non-eligible persons).

Regarding child benefit, EUROMOD provides figures close to external data especially as concerns the number of recipients. Total expenditures are slightly underestimated. The benefit consists of two parts: a basic part which is universal and a supplementary party which is means-tested. Administrative data refer to total amounts (basic parts and supplementary parts are aggregated) and therefore we cannot conclude whether the supplementary part (which is income related) is the cause of underestimating the total spending for the benefit. However, the result is in line with our expectations: according to the law, means-testing is based on previous years' family income. On the contrary, EUROMOD model uses current income. Since current income is likely to be higher than past income, at least for years 2009, 2010 and 2011, the model is likely to underestimate the supplementary part of the benefit and hence the aggregated amount.

The number of employees paying social insurance contributions is underestimated when compared to external statistics, while the aggregate amount of contributions is in line with the official figures. It should be noted that the EUROMOD database contains 344 thousand people with positive employment income, and that this number is already smaller than the number of social insurance contribution payers reported in the external statistics. The EU-Labour force survey reports a number of employees even smaller. Hence, it is likely that the external statistics on the number of social insurance contributors are not entirely comparable to the EUROMOD simulation. The model falls short of producing accurate estimates regarding self-employed SICS (both the number of self-employed and the amount of revenues collected from self-employed

SICs are overestimated); a problem possibly originating from the EU-SILC database. Income taxes appear to be largely overestimated. However, it should be noted that the external data for income taxes are not directly comparable to model estimates. Inland Revenue Department published data on total taxes collected per year. These taxes may refer to previous years' income. Apart from comparability issues, other factors explaining the overestimation of income taxes are:

- a) The model does not take into account tax evasion. Both anecdotal and empirical evidence show that tax evasion is considerable in Cyprus, Pashardes and Polycarpou (2008).
- b) EU-SILC data did not contain adequate information for the simulation of a number of tax allowances and deductions.

### 5.2 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.

#### 5.2.1 Income inequality

EUROMOD estimates on income inequality, as reflected on deciles shares and Gini index, are very close to estimates based on EU-SILC data. Income share ratios (presented in Table 4.9 in Annex 2) are very close to unity with the exception of poorest decile whose income share appears to be overestimated while the share of the rich decile is slightly underestimated. Gini ratio fluctuates slightly above 0.94

#### 5.2.2 Poverty rates

Comparisons of poverty estimates (shown in Table 4.10 in Annex 2) reveal that in general poverty indicators generated by EUROMO are close to EU-SILC estimates. However, some differences arise, especially for alternative choices of the poverty line (typically poverty threshold is estimated as 60% of the median equivalized disposable income). On the contrary, the model appears to provide accurate estimates of poverty rates when “usual” poverty lines are chosen. Regarding child and elderly poverty, children are defined as persons aged below 18 and the elderly as those aged above 64. Again, the simulated values appear to be very close to those from other sources when standard poverty lines are adopted.

Partly, the observed differences between the model and the other statistics are due to the fact that no adjustments were made for tax evasion and non take-up. These methodological treatments are likely to affect the distribution, resulting to larger differences between Euromod estimates and other sources only when we adopt extreme poverty lines (for example, Euromod assumes perfect take-up when in reality a number of prospective recipients are likely to remain prospective).

In general, the issue of tax evasion deserves attention. Tax non-compliance is a common problem of tax authorities in most countries. Cyprus is no exemption. According to Pashardes and Polycarpou (2008) the size of black economy in Cyprus is around 6.7% - 8.1% of GDP. Income from self-employment is under-reported by 44.8% and capital income by 40.3%, while the highest under-reporting rate was estimated for agricultural income (59.9%). Inescapably, tax

evasion has distributional consequences. Most probably, measures of poverty and inequality that do not take into account tax evasion underestimate the actual level of poverty and inequality.

### 5.3 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 the comparison of both simulated and non-simulated policy instruments with external information provided by administrative or other sources. In some cases the observed disparities between EU-SILC variables, EUROMOD estimations and administrative data are the result of differences in the methodological settings between the various administrative sources and the model. These cases are discussed separately in the report on external data.

- Partly simulated instruments

Several instruments were not fully simulated due to data limitations. For example, the model simulates only the part of the public assistance which is designed to cover the basic needs of the recipient household. However, in several cases the public assistance may be given in order to cover special needs of the households (rent allowance, a medically prescribed diet allowance, home-care, day-care, house equipment, house repairs, allowance for mortgage interest deriving from a house loan, transportation for work or treatment, etc.). In other cases, it was not possible to fully simulate the administrative practices of an instrument. For example, a common contribution condition of the Social Insurance Scheme refers to insurable earnings of the previous contribution year. Special notes in the document explain how each case was practically treated by the model.

- Imperfect targeting and tax evasion

The model does not take into account imperfect targeting of social benefits and tax evasion, thus we implicitly assume perfect targeting and tax compliance. 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. However the same biases are present in all types of microdata if adjustments are not made.

## 6. 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](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](http://www.mlsi.gov.cy/mlsi/sws/sws.nsf/dmlindex_en/dmlindex_en?OpenDocument)

## 7. ANNEX 1

### 7.1 Updating Factors

Variable	Label	2009	2010	2011	2012	2013
<b>default</b>		1.0000	1.0243	1.0580	1.0833	1.0862
<i>yivwg</i>	INCOME : Imputed value : Wage/Salary	1.0000	1.0239	1.0523	1.0622	-
<i>yem</i>	INCOME : Employment	1.0000	1.0239	1.0523	1.0622	-
<i>ypp</i>	INCOME : Private Pension	1.0000	1.0243	1.0580	1.0833	1.0862
<i>yse</i>	INCOME : Self Employment	1.0000	1.0256	1.0324	1.0094	-
<i>yiy</i>	INCOME : Investment	1.0000	1.0243	1.0580	1.0833	1.0862
<i>ypr</i>	INCOME : Investment	1.0000	1.0243	1.0580	1.0833	1.0862
<i>ypt</i>	INCOME : Private Transfers	1.0000	1.0243	1.0580	1.0833	1.0862
<i>yot</i>	INCOME : Other	1.0000	1.0243	1.0580	1.0833	1.0862
<i>yds</i>	INCOME : Disposable	1.0000	1.0243	1.0580	1.0833	1.0862
<i>bch</i>	BENEFIT/PENSION : Child	1.0000	1.0032	1.0276	1.0244	1.0244
<i>bed</i>	BENEFIT/PENSION : Education	1.0000	1.0000	1.0000	1.0000	1.0000
<i>bun</i>	BENEFIT/PENSION : Unemployment	1.0000	1.0239	1.0523	1.0622	-
<i>bhl</i>	BENEFIT/PENSION : Health	1.0000	1.0239	1.0523	1.0622	-
<i>bfa</i>	BENEFIT/PENSION : Family	1.0000	1.0044	1.0297	1.0293	0.9688
<i>bsa</i>	BENEFIT/PENSION : Social Assistance	1.0000	1.0308	1.0308	1.0308	1.0308
<i>bho</i>	BENEFIT/PENSION : Housing	1.0000	1.0243	1.0580	1.0833	1.0862
<i>pdi</i>	BENEFIT/PENSION : Disability	1.0000	1.0529	1.0842	1.1091	1.1091
<i>poa</i>	BENEFIT/PENSION : Old Age	1.0000	1.0529	1.0842	1.1091	1.1091
<i>psu</i>	BENEFIT/PENSION : Survivors	1.0000	1.0529	1.0842	1.1091	1.1091
<i>tpr</i>	TAX : Property tax	1.0000	1.0243	1.0580	1.0833	1.0862
<i>tad</i>	TAX : Repayments/Receipts	1.0000	1.0243	1.0580	1.0833	1.0862
<i>tis</i>	TAX : Income tax and SICs	1.0000	1.0242	1.0488	1.0535	-
<i>tpr</i>	TAX : Property tax	1.0000	1.0243	1.0580	1.0833	1.0862
<i>kfb</i>	IN KIND : Fringe Benefit	1.0000	1.0243	1.0580	1.0833	1.0862
<i>kivho</i>	IN KIND : Imputed value : Housing	1.0000	1.0243	1.0580	1.0833	1.0862

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<i>afc</i>	ASSETS : Financial Capital	1.0000	1.0243	1.0580	1.0833	1.0862
<i>xmp</i>	EXPENDITURE : Maintenance Payment	1.0000	1.0243	1.0580	1.0833	1.0862
<i>xpp</i>	EXPENDITURE : Private Pension (voluntary)	1.0000	1.0243	1.0580	1.0833	1.0862
<i>xhc</i>	EXPENDITURE : Housing cost	1.0000	1.0243	1.0580	1.0833	1.0862
<i>xhcrt</i>	EXPENDITURE : Housing cost : Rent	1.0000	1.0243	1.0580	1.0833	1.0862
<i>xhcmomi</i>	EXPENDITURE : Housing cost : Mortgage Payment (interest+capital) : Mortgage Interest	1.0000	1.0243	1.0580	1.0833	1.0862
<i>xhcot</i>	EXPENDITURE : Housing cost : Other	1.0000	1.0243	1.0580	1.0833	1.0862
<i>bml</i>	BENEFIT/PENSION: military grant	1.0000	1.0000	1.0000	1.0000	1.0000
<i>psuwd</i>	BENEFIT/PENSION: survivors: widows	1.0000	1.0529	1.0842	1.1091	1.1091
<i>psuor</i>	BENEFIT/PENSION: survivors: orphans	1.0000	1.0529	1.0843	1.1091	1.1091
<i>psuot</i>	BENEFIT/PENSION : Survivors : other	1.0000	1.0243	1.0580	1.0833	1.0862
<i>bedet</i>	BENEFIT/PENSION: education: student grant	1.0000	1.0000	1.0000	1.0000	1.0000
<i>bedsl</i>	BENEFIT/PENSION: education: student scholarship	1.0000	1.0243	1.0580	1.0833	1.0862
<i>bfamh</i>	BENEFIT/PENSION: Family related allowances	1.0000	1.0243	1.0580	1.0833	1.0862
<i>bchba</i>	BENEFIT/PENSION : Maternity : birth grant	1.0000	1.0536	1.1185	1.1441	1.1676
<i>poasp</i>	BENEFIT/PENSION : Social Pension - Old Age	1.0000	1.0529	1.0843	1.1091	1.1228
<i>poatx</i>	BENEFIT/PENSION : Taxable old Age	1.0000	1.0529	1.0842	1.1091	1.1091
<i>poant</i>	BENEFIT/PENSION : Non-taxable old Age	1.0000	1.0529	1.0842	1.1091	1.1091
<i>yempv</i>	Income - monthly wage from previous work	1.0000	1.0387	1.0635	1.0930	-
<i>bunct</i>	BENEFIT/PENSION : SIF unemployment benefit	1.0000	1.0239	1.0523	1.0622	-
<i>bunot</i>	BENEFIT/PENSION : Other unemployment benefit	1.0000	1.0239	1.0523	1.0622	-
<i>ydses_o</i>	INCOME : Disposable: equalized: original SILC	1.0000	1.0243	1.0580	1.0833	1.0862

Note: “-“ indicates that no uprating factor is available for a given year. In these cases the CPI growth rate is applied to the last available uprating factor. See the model for more information

7.2 Macrovalidation Tables

Table 4.2 – Number of Employed and Unemployed (in thousands)

		EUROMOD		External				Ratio				
years		2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
liwmy	Number of employed	364.5	386.4	387.2	389.2	376.0	n/a	0.94	1.00	0.99	1.04	n/a
lunmy	Number of unemployed	27.3	21.7	26.4	34.0	52.0	n/a	1.26	0.82	0.78	0.60	n/a

Source: Statistical Service of Cyprus.

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

		EUROMOD		External				Ratio				
		2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
	Employment income	344.2	383.9	395.2	388.6	389.1	n/a	0.90	0.87	0.89	0.88	n/a
	Self-employment income	78.5	31.4	30.1	28.5	27.3	n/a	2.50	2.61	2.75	2.87	n/a
	Rent income	38.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Investment income	55.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Statistical Service of Cyprus.

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

		EUROMOD					External					Ratio				
		2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
	Mean empl. income	21242.97	21750.67	22353.97	22564.28	22289.2	22440	22980	23616	24000	n/a	0.95	0.95	0.95	0.94	n/a
	Empl. income	7311.4	7486.1	7693.7	7766.1	7671.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Self-empl. income	1206.3	1237.2	1245.4	1217.7	1220.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Rent income	203.8	208.8	215.7	220.9	221.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Investment income	140.8	144.2	148.9	152.5	152.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Social Insurance Services, Archived Statistical Data, Ministry of Labour and Social Insurance.



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

	EUROMOD	External					Ratio				
	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
<b>Benefits</b>											
Education related scholarship	3.44259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Family Related allowance	50.80874	47.863	51.382	52.991	57.979	n/a	1.06	0.99	0.96	0.88	n/a
Sickness benefits	7.62584	38.045	41.811	36.315	38.587	n/a	0.20	0.18	0.21	0.20	n/a
Housing allowances	10.77574	5.12	4.685	4.823	4.084	n/a	2.10	2.30	2.23	2.64	n/a
Military Grant	13.59831	8.24	n/a	n/a	n/a	n/a	1.65	n/a	n/a	n/a	n/a
Contributory unempl. benefit	26.92487	38.045	39.9	43	50.376	n/a	0.71	0.67	0.63	0.53	n/a
Other unempl. related benefits	2.8613	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Disability benefits	16.97932	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
No taxable old age pension	40.42408	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social Pension old age	15.44852	15.793	16.046	16.241	16.52	n/a	0.98	0.96	0.95	0.94	n/a
Taxable Old age pension	66.82443	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Orphan Allowance	0.43081	1.576	1.612	1.67	1.63	n/a	0.27	0.27	0.26	0.26	n/a
Other survivor benefit	0.79453	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Widows pensions	4.13271	27.2	27.459	27.816	28.378	n/a	0.15	0.15	0.15	0.15	n/a
<b>Taxes and Social Insurance contributions</b>											
Regular taxes on wealth	156.167	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: a) Social Insurance Services, Archived Statistical Data, Ministry of Labour and Social Insurance; b) Grants and Benefits Services, Ministry of Finance; c) Inland Revenue Department, Ministry of Finance.

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

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
<b>Benefits</b>															
Educ. related scholarships	10.82	11.08	11.45	11.72	11.75	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Family rel. allowances	127.01	130.10	134.38	137.59	137.96	57.074	63.85	57.54	66.009	n/a	2.23	2.04	2.34	2.08	n/a
Sickness benefits	17.96	18.39	18.90	19.08	19.13	33.152	38.07	33.96	38.097	n/a	0.54	0.48	0.56	0.50	n/a
Housing allowances	56.05	57.42	59.31	60.72	60.89	68.6	66.82	60.69	53.46	n/a	0.82	0.86	0.98	1.14	n/a
Military Grant	18.40	18.40	18.40	18.40	18.40	17.3	n/a	n/a	n/a	n/a	1.06	n/a	n/a	n/a	n/a
Unemployment benefit	67.91	69.53	71.46	72.13	72.33	77.5	85.9	98.5	124.76	n/a	0.88	0.81	0.73	0.58	n/a
Other unempl. related benefits	39.60	40.54	41.67	42.06	42.17	91.5	99.1	n/a	n/a	n/a	0.43	0.41	n/a	n/a	n/a
Disability benefits	134.62	141.74	145.96	149.31	149.31	126.7	129.5	n/a	n/a	n/a	1.06	1.09	n/a	n/a	n/a
Non taxable old age pension	503.87	530.52	546.29	558.84	558.84	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social Pension	76.65	80.70	83.11	85.01	86.06	56.197	59.806	62.58	64.37	n/a	1.36	1.35	1.33	1.32	n/a
Taxable Old age pension	977.36	1029.06	1059.65	1083.99	1049.08	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Orphan Allowance	0.80	0.84	0.86	0.88	0.88	3.649	3.843	4.264	4.319	n/a	0.22	0.22	0.20	0.20	n/a
Other survivor benefit	5.60	5.73	5.92	6.07	6.08	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Widows pensions	39.25	41.32	42.56	43.53	43.53	148.8	158.74	167.81	175.1592	n/a	0.26	0.26	0.25	0.25	n/a
<b>Taxes and Social Insurance contributions</b>															
Regular taxes on wealth	13.56	13.89	14.35	14.69	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/an/a

Source: a) Social Insurance Services, Archived Statistical Data, Ministry of Labour and Social Insurance; b) Grants and Benefits Services, Ministry of Finance; c) Inland Revenue Department, Ministry of Finance.

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

	EUROMOD					SILC	Ratio	External					Ratio				
	2009	2010	2011	2012	2013	2009	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
<b>Benefits</b>																	
Student Grant	33.52	33.38	33.30	34.39	34.39	28.35	1.18	29.85	29.93	29.76	22.14	N/A	1.12	1.12	1.12	1.55	N/A
Birth Grant	7.84	7.84	7.84	7.84	7.84	6.30	1.24	7.18	8.14	9.56	8.78	N/A	1.09	0.96	0.82	0.89	N/A
Social Assistance	22.76	24.08	22.66	10.65	10.65	1.79	12.71	28.66	30.96	32.00	30.64	N/A	0.79	0.78	0.71	0.35	N/A
Child benefit	108.07	108.07	108.07	81.93	82.33	93.05	1.16	109.92	111.22	112.34	67.48	N/A	0.98	0.97	0.96	1.21	N/A
Child benefit-supplementary	42.60	45.78	49.35	46.39	46.91	0.00	N/A	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Child benefit-basic	108.07	108.07	108.07	81.93	82.33	0.00	n/a	109.92	111.22	112.34	67.48	n/a	0.98	0.97	0.96	1.21	n/a
single parent benefit	0.00	0.00	0.00	11.12	11.12	0.00	n/a	n/a	n/a	n/a	7.74	n/a	n/a	n/a	n/a	1.44	n/a
<b>Taxes and Social Insurance contributions</b>																	
Employee SIC	339.72	339.72	339.72	339.72	339.72	0.00	n/a	419.95	424.79	426.80	n/a	n/a	0.81	0.80	0.80	n/a	n/a
Self Employed SIC	70.72	70.72	70.72	70.72	70.72	0.00	n/a	31.41	30.09	28.53	27.30	n/a	2.25	2.35	2.48	2.59	n/a
Employer SIC	344.19	344.19	344.19	344.19	344.19	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Annual Holidays Fund	76.99	76.99	76.99	76.99	76.99	0.00	n/a	95.74	95.48	n/a	n/a	n/a	0.80	0.81	n/a	n/a	n/a
Redundancy Fund	344.19	344.19	344.19	344.19	344.19	0.00	n/a	419.95	424.79	426.80	n/a	n/a	0.82	0.81	0.81	n/a	n/a
Human resource Fund	344.19	344.19	344.19	344.19	344.19	0.00	n/a	419.95	424.79	426.80	n/a	n/a	0.82	0.81	0.81	n/a	n/a
Social Insurance Fund	339.72	339.72	339.72	339.72	339.72	0.00	n/a	419.95	424.79	426.80	n/a	n/a	0.81	0.80	0.80	n/a	n/a
Social Cohesion Fund	344.19	344.19	344.19	344.19	344.19	0.00	n/a	419.95	424.79	426.80	n/a	n/a	0.82	0.81	0.81	n/a	n/a
Income Tax	181.20	187.64	195.12	195.40	194.36	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Special contr. for defence	85.30	85.30	85.30	85.30	85.30	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. public employees	0.00	0.00	0.00	25.93	22.80	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. private employees	0.00	0.00	0.00	50.52	51.26	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. priv. employer	0.00	0.00	0.00	50.52	51.26	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. self employed	0.00	0.00	0.00	7.93	7.97	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. from pensioners	0.00	0.00	0.00	14.62	14.49	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
contrib. to pub. pensions	0.00	0.00	0.00	52.92	52.92	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: a) Social Insurance Services, Archived Statistical Data, Ministry of Labour and Social Insurance; b) Grants and Benefits Services, Ministry of Finance; c) Inland Revenue Department, Ministry of Finance.

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

	EUROMOD					SILC	Ratio	External					Ratio				
	2009	2010	2011	2012	2013	2009	2009	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
<b>Benefits</b>																	
Student Grant	79.80	79.58	79.35	63.18	63.43	83.64	0.95	90.55	91.47	92.21	56.17	n/a	0.88	0.87	0.86	1.12	n/a
Birth Grant	3.69	3.89	4.13	4.22	4.31	2.98	1.24	3.41	4.06	4.25	4.80	n/a	1.08	0.96	0.97	0.88	n/a
Social Assistance	90.52	98.95	95.72	43.35	43.51	10.84	8.35	219.8	244.8	253.5	202.8	n/a	0.41	0.40	0.38	0.21	n/a
Child benefit	149.62	151.45	156.73	115.51	105.29	132.76	1.13	165.78	163.89	166.27	99.82	n/a	0.90	0.92	0.94	1.16	n/a
- supplementary part	14.33	15.73	17.71	15.55	14.19	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- basic part	135.28	135.71	139.02	99.97	91.10	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
single parent benefit	0.00	0.00	0.00	47.90	43.13	0.00	n/a	n/a	n/a	n/a	18.56	n/a	n/a	n/a	n/a	2.58	n/a
<b>Taxes and Social Insurance contributions</b>																	
Employee SIC	431.74	443.85	456.29	480.59	477.84	0.00	n/a	391.10	415.80	n/a	n/a	n/a	1.10	1.07	n/a	n/a	n/a
Self Employed SIC	93.35	97.28	99.64	100.21	104.37	0.00	n/a	58.26	58.26	57.04	n/a	n/a	1.60	1.67	1.75	n/a	n/a
Employer SIC	896.57	922.09	947.97	958.80	951.42	0.00	n/a	856.41	900.30	n/a	n/a	n/a	1.05	1.02	n/a	n/a	n/a
Annual Holidays Fund	113.89	117.09	120.38	121.75	122.37	0.00	n/a	101.30	103.90	97.05	n/a	n/a	1.12	1.13	1.24	n/a	n/a
Redundancy Fund	84.03	86.42	88.84	89.86	89.26	0.00	n/a	82.60	85.81	n/a	n/a	n/a	1.02	1.01	n/a	n/a	n/a
Human resource Fund	35.01	36.01	37.02	37.44	37.19	0.00	n/a	34.70	36.00	n/a	n/a	n/a	1.01	1.00	n/a	n/a	n/a
Social Insurance Fund	523.59	538.53	553.65	559.98	553.84	0.00	n/a	500.70	532.20	n/a	n/a	n/a	1.05	1.01	n/a	n/a	n/a
Social Cohesion Fund	140.05	144.03	148.08	149.77	148.76	0.00	n/a	137.11	142.40	n/a	n/a	n/a	1.02	1.01	n/a	n/a	n/a
Income Tax	666.01	708.88	771.05	756.43	722.80	0.00	n/a	558.5	583.1	628.0	643.0	n/a	1.19	1.22	1.23	1.18	n/a
Special contr. for defence	16.26	16.69	17.26	23.60	41.43	0.00	n/a	366.97	395.60	447.50	410.10	n/a	0.04	0.04	0.04	0.06	n/a
special contr. pub. employees	0.00	0.00	0.00	9.96	7.38	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. priv. employees	0.00	0.00	0.00	13.87	13.97	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. priv. employer	0.00	0.00	0.00	13.87	13.97	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. self employed	0.00	0.00	0.00	6.30	6.34	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
special contr. to pens.	0.00	0.00	0.00	9.51	8.52	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
contrib. to pub. pensions	0.00	0.00	0.00	46.82	43.84	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: a) Social Insurance Services, Archived Statistical Data, Ministry of Labour and Social Insurance; b) Grants and Benefits Services, Ministry of Finance; c) Inland Revenue Department, Ministry of Finance.

Table 4.9-Distribution of equivalised disposable income

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
D1	3.81	3.87	3.88	3.88	3.91	3.5	3.6	3.5	-	-	1.09	1.08	1.11	-	-
D2	5.29	5.35	5.32	5.39	5.44	5	5.2	5	-	-	1.06	1.03	1.06	-	-
D3	6.34	6.34	6.39	6.44	6.48	6.1	6.2	6	-	-	1.04	1.02	1.07	-	-
D4	7.33	7.33	7.34	7.33	7.35	7.1	7.2	6.9	-	-	1.03	1.02	1.06	-	-
D5	8.21	8.2	8.28	8.29	8.4	8.1	8.1	7.9	-	-	1.01	1.01	1.05	-	-
D6	9.24	9.24	9.19	9.24	9.22	9.1	9.1	8.9	-	-	1.02	1.02	1.03	-	-
D7	10.44	10.41	10.43	10.42	10.55	10.3	10.3	10.2	-	-	1.01	1.01	1.02	-	-
D8	12.01	11.94	11.95	11.91	11.82	11.9	12	11.9	-	-	1.01	1.00	1.00	-	-
D9	14.32	14.36	14.35	14.31	14.28	14.4	14.6	14.7	-	-	0.99	0.98	0.98	-	-
D10	23.01	22.97	22.87	22.77	22.54	24.4	23.6	25.1	-	-	0.94	0.97	0.91	-	-
Median	17034	17405	17820	17778	17670	16180	16990	16927	-	-	1.05	1.02	1.05	-	-
Mean	19502	20003	20421	20284	20055	18929	19621	20218	-	-	1.03	1.02	1.01	-	-
Gini	28.15	28.01	27.89	27.69	27.4	30.1	29.2	31	-	-	0.94	0.96	0.90	-	-
S80/S20	4.1	4.05	4.04	4	3.94	4.5	4.3	4.7	-	-	0.91	0.94	0.86	-	-

Source: Eurostat Online Database

Table 4.10-Poverty rates by gender and age

	EUROMOD					External					Ratio				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
<b>40% median HDI</b>															
Total	2.97	2.69	2.67	2.57	2.52	3.5	2.9	3.2	-	-	0.85	0.93	0.83	-	-
Males	2.45	2.28	2.28	2.21	2.21	3.1	2.3	2.7	-	-	0.79	0.99	0.84	-	-
Females	3.48	3.09	3.05	2.93	2.83	4	3.5	3.6	-	-	0.87	0.88	0.85	-	-
<b>50% median HDI</b>															
Total	7.46	6.96	7.05	7.11	6.99	8.4	8.3	8	-	-	0.89	0.84	0.88	-	-
Males	6.27	5.84	5.94	6.16	6.06	6.8	6.8	6.8	-	-	0.92	0.86	0.87	-	-
Females	8.63	8.07	8.14	8.04	7.9	9.8	9.8	9.1	-	-	0.88	0.82	0.89	-	-
<b>60% median HDI</b>															
Total	14.79	14.13	14.05	14.16	13.94	15.6	14.8	14.7	-	-	0.95	0.95	0.96	-	-
Males	13.47	12.78	12.76	13.09	12.79	13.8	12.9	12.9	-	-	0.98	0.99	0.99	-	-
Females	16.09	15.45	15.31	15.21	15.07	17.2	16.6	16.4	-	-	0.94	0.93	0.93	-	-
<b>70% median HDI</b>															
Total	23.03	22.53	22.45	21.97	21.83	23.3	23.3	23.9	-	-	0.99	0.97	0.94	-	-
Males	21.36	20.95	20.8	20.59	20.48	21.4	21.1	21.9	-	-	1.00	0.99	0.95	-	-
Females	24.68	24.1	24.08	23.34	23.16	25.2	25.3	25.7	-	-	0.98	0.95	0.94	-	-
<b>60% median HDI</b>															
0-15 years	11.7	11.47	11.62	11.46	11.32	12.8	12.7	14.3	-	-	0.91	0.90	0.81	-	-
16-24 years	11.08	10.72	10.31	11.16	11.48	12.1	12	11.2	-	-	0.92	0.89	0.92	-	-
25-49 years	10.1	9.72	9.88	10.39	10.13	11.2	11.1	12.6	-	-	0.90	0.88	0.78	-	-
50-64 years	11.6	11.11	11	11.4	10.98	13.2	12	11.9	-	-	0.88	0.93	0.92	-	-
65+ years	41.53	38.86	38.14	36.24	35.73	39.9	35.5	29.3	-	-	1.04	1.09	1.30	-	-

Source: Eurostat Online Database