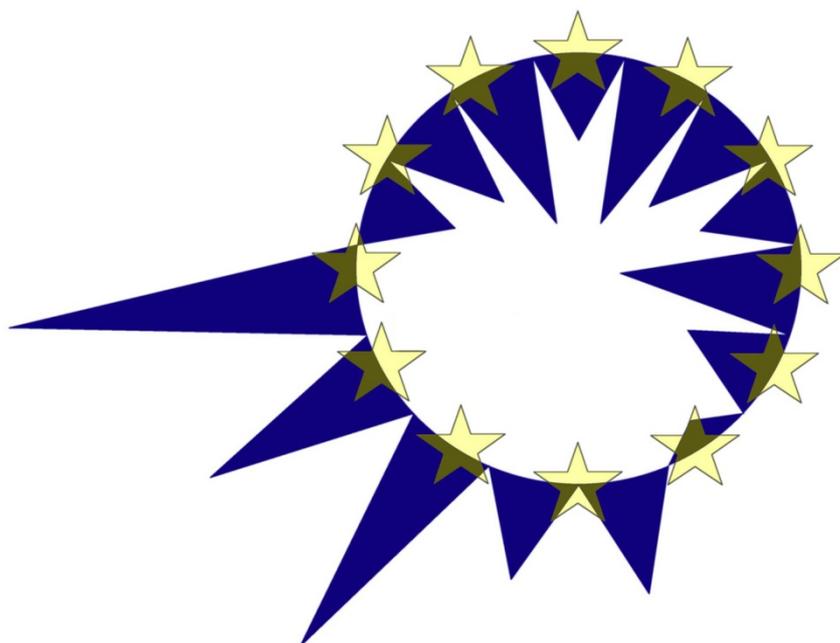


EUROMOD

COUNTRY REPORT



LUXEMBOURG

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July 2012



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 Luxembourg. 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 F6.0 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>

This document is supported by the European Union Programme for Employment and Social Solidarity – PROGRESS (2007-2013).

This programme is managed by the Directorate-General for Employment, social affairs and equal opportunities of the European Commission. It was established to finally support the implementation of the objectives of the European Union in the employment and social affairs area, as set out in the Social Agenda, and thereby contribute to the achievement of the Lisbon Strategy goals in these fields.

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

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

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

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



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1. BASIC INFORMATION

1.1 Basic figures

Table 1. Basic figures

| | Pop. (m.) | Pop. < 15 (%) | Pop. ≥ 65 (%) | Life expect. (years) M / F | Fertility rate | Unemp Rate (not season- ally adjusted data) | GDP per head (PPP, EU27=1 00) | Currency |
|------|--------------|---------------------|---------------------|-------------------------------------|-------------------|---|--|----------|
| 2007 | 0.476 | 18.3 | 14.0 | 76.7 / 82.2 | 1.61 | 4.2 | 275 | Euro |
| 2008 | 0.484 | 18.2 | 14.0 | 78.1 / 82.1 | 1.61 | 4.9 | 278 | Euro |
| 2009 | 0.493 | 18.0 | 14.0 | 78.1 / 82.2 | 1.59 | 5.1 | 267 | Euro |
| 2010 | 0.502 | 17.7 | 14.0 | n.a | n.a | 4.6 | 274 | Euro |

Source: Eurostat (2011) <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

1.2 The tax-benefit system

Table 2. Tax-benefit system and government budget

| | Total general government revenue ^[1] % of GDP | Total tax receipts ^[1] % of GDP | Total general government expenditure ^[1] % of GDP | Social protection ^[2] % of GDP |
|------|---|--|---|--|
| 2007 | 39.9 | 35.6 | 36.2 | 19.3 |
| 2008 | 39.9 | 35.3 | 36.9 | 20.1 |
| 2009 | 41.5 | 37.1 | 42.2 | n.a |
| 2010 | n.a | n.a | n.a | n.a |

Sources: ^[1]OECD (2011) www.oecd.org ; ^[2] Eurostat (2011) <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

Table 3. Social protection expenditure by function (as % of total social protection expenditure)

| | Sickness/ health care | Disability | Old age | Survivors | Family/ children | Unemployment | Housing | Social exclusion |
|------|--------------------------|------------|---------|-----------|---------------------|--------------|---------|---------------------|
| 2007 | 26.0 | 12.3 | 27.4 | 9.9 | 16.6 | 4.9 | 0.8 | 2.1 |
| 2008 | 25.2 | 11.5 | 26.8 | 9.2 | 19.8 | 4.6 | 0.9 | 2.0 |
| 2009 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| 2010 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |

Source: Eurostat (2011) <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>



Table 4. Taxation (as % of total tax receipts)

| | Personal income tax | Corporate income tax | Social security contributions | | Taxes on goods and services | Other taxes |
|------|---------------------|----------------------|-------------------------------|-----------|-----------------------------|-------------|
| | | | Employees* | Employers | | |
| 2007 | 20.0 | 14.8 | 15.9 | 11.8 | 27.5 | 10.0 |
| 2008 | 21.7 | 14.3 | 16.2 | 12.1 | 28.0 | 7.7 |
| 2009 | 20.8 | 14.5 | 16.9 | 13.2 | 27.8 | 6.8 |
| 2010 | n.a | n.a | n.a | n.a | n.a | n.a |

* Includes self-employed

Source: OECD (2011) <http://stats.oecd.org/Index.aspx>

1.2.1 Basic information about the tax-benefit system

- The tax-benefit system is largely a unified, national system. The main exception is property taxes (*impôt foncier*) which are levied at the local level (*commune*).
- In Luxembourg, the “tax year” runs from 1 January to 31 December.
- State pension age in 2007 was 65. Early retirement pension (*pension de vieillesse anticipée*) from 60 years of age, on condition that 480 months of effective insurance can be proved or assimilated periods can be proved. From 57 years of age, on condition that 480 months of effective insurance can be proved.
- Minimum school leaving age in 2007 was 15 (16 since 2009). In 2007, dependent children are defined as aged under 18 or under 27 and in full-time education, which means entitled to family allowances. For income tax purposes, dependent children are defined as children aged under 21 on 1 January of the tax year or aged 21 years old and over who are still studying (entitled to family allowances).
- For benefit and tax purposes a lone parent is not legally married (single, divorced or widowed) to anyone and is a parent of a dependent child.
- Luxembourg has a system of compulsory joint taxation (income splitting) for married couples. Cohabiting couples under the “partenariat” law also have the possibility to be taxed jointly.
- The different income sources (commercial profit, agricultural and forestry profit, liberal profession profit, employee income, pension income, capital income, rental income and miscellaneous income) are aggregated to compute the taxable income. Since 2006 Luxembourg has introduced a 10% withholding tax on income from certain savings products for residents of Luxembourg who are not tax residents in another state. This tax is in full discharge of a person’s liability to tax on that income.
- Withholding taxes are levied on some forms of income: income from employment, pensions and some savings and investment incomes are subject to a pay-as-you-earn system. Other income must be declared in an annual tax return, submitted to the Luxembourg Tax Administration. In the case of couples with two earners, they have to fill a tax return.
- There is a minimum wage in Luxembourg called social minimum wage (*salaire social minimum*). In 2007, the value of the minimum wage was €1,506.55/month for a full time job (40 hours/week).



- Wages and some benefits (pensions, minimum income...) are indexed by 2.5% to price development.
- Social contributions and state benefits and pensions are usually assessed and delivered on a monthly basis

1.2.2 About the minimum (social) wage

- Unless exceptional and specific agreements possible in some circumstances, wages are submitted to minimum rates in Luxembourg : €1,570.28/month for non-qualified wage-earners in 2007 (€9.0768/hour with a basis of 173 hours/month), €1,609.53/month in 2008 and €1,682.76/month in 2009 and 2010.
- Those basic amounts are increased by 20% for qualified workers and also modulated based on the age of the wage-earner : 80% of the basic amount if aged 17 or 18, 75% of the basic amount if between 15- and 17-year-old.
- The basic amount is defined as the “Minimum Social Wage” (MSW) and is also an important parameter for the tax-benefit system as a whole : several amounts are defined based on this MSW : upper limit of the monthly old-age pension in the general scheme (5 times the MSW), ceilings for social contributions, etc

1.3 Social benefits

Maternity allowance (*Allocation de maternité*) is paid by the National Fund of Family Allowances (*Caisse Nationale des Prestations Familiales*) to women, with no loss of income during their maternity leave. This means that maternity allowance is paid to women who do not benefit from maternity benefit. The amount is €194.02 per week, payable over a period of 16 weeks. The allowance is not subject to taxation or to social contributions. Since 2006, the amount of this allowance is no longer linked to changes in prices.

Birth grant (*Allocation de naissance*) totalling €1,740.09 is available to women resident in Luxembourg, on the condition that both mother and child have the required medical examinations. The grant is not subject to taxation or to social contributions. Since 2006, the amount of this allowance is no longer linked to changes in prices.

Child-raising allowance (*Allocation d'éducation*) is a benefit aimed at recognising financially the upbringing activity. For a parent who educates a child under 2 years and either does not have a regular (professional or replacement) income or whose income, cumulated with that of the husband/wife, does not exceed €4,519.65/month when educating one child (3 times the minimum wage); €6,026.20/month when educating two children (4 times the minimum wage); €7,532.75/month when educating three or more children (five times the minimum wage). The amount of the allowance is €485.01 per month. The amount is due from the first day that follows either the end of the maternity leave or the end of the eighth week after the birth. The allowance stops on the first day of the month that follows the month during which the child reaches the age of 2. By derogation, the allowance is maintained in favour of any beneficiary who has educated twins or at least 3 children until one of the children is less than 4 years old. By derogation, the age limit for the payment of the allowance in the case of multiple births of more than 2 children is up-rated by 2 years per supplementary child. The allowance is not subject to taxation or to social contributions. Half the allowance is available in the case of part-time employment. Since 2006, the amount of this allowance is no longer linked to changes in prices.

Child benefit (*Allocations familiales*) is a universal scheme financed by tax. A child's personal rights are related to the residence. Each child brought up continuously in Luxembourg and with



a legal residence there is entitled to this child benefit. The age limit is 18 years. For children in vocational training or further education or suffering from a serious infirmity, the age limit is 27 years old. The monthly amount is €185.60 for one child, €440.72 for two children, €802.74 for three children and €361.82 for each subsequent child. Child benefit does not vary with income. Child benefit varies with age: children aged 6 and more receive a supplement of €16.17/month and children aged 12 and more receive a supplement of €48.52/month. The benefit is not subject to taxation or to social contributions. Since 2006, the amount of this allowance is no longer linked to changes in prices.

Supplementary allowance (*Allocation spéciale supplémentaire*) of €185.60/month for each child under 18, with an insufficiency or permanent reduction of at least 50% of physical or mental ability by comparison with that of a child of the same age. The allowance is not subject to taxation or to social contributions. Since 2006, the amount of this allowance is no longer linked to changes in prices.

New school year allowance (*Allocation de rentrée scolaire*) aims to compensate the costs related to the new school year. This allowance is given to children over 6 years. The amount of this allowance varies with the age and size of the family group.

For one child:

6 - 11 years: €113.15/year

12 years and more: €161.67/year

For two children (amount per child):

6 - 11 years: €194.02/year

12 years and more: €242.47/year

For three or more children (amount per child):

6 - 11 years: €274.82/year

12 years and more: €323.34/year.

Since 2006, the amount of this allowance is no longer linked to changes in prices.

The guaranteed minimum income (*Revenu minimum garanti*) was created by the law of 29 April 1999, which modified the law of July 1986. The principles of this benefit are to fight against social exclusion and to ensure sufficient means for a decent standard of living and measures of professional and social integration. The guaranteed minimum income can be either an integration allowance (*indemnité d'insertion*) or a supplementary allowance aiming at compensating the difference between the highest amounts of the guaranteed minimum income and the sum of the household resources. The eligibility conditions concern i) residence (persons resident in Luxembourg territory and having resided in the country for at least 5 years during the last 20 years. This residence condition is not required for EU or EEA citizens or for refugees); ii) age (with effect from 25 years; exceptions for persons unable to work, those who are looking after a child or an invalid.); iii) willingness to work (to be ready to participate in active measures); iv) should not have abandoned or reduced his work of his own free will, without giving important and real justifications or should not have been dismissed for serious reasons.

The reference minima have been fixed through political decision in comparison with the social minimum wage (*salaires social minimum*) and pension minima. The domestic unit for the calculation of resources is defined by the "de facto" community of all the persons living in the same common household, obviously disposing of a common budget and unable to provide evidence that they live elsewhere. The resources taken into account are the entire gross revenue of the household, possessions and replacement or supplementary social security benefits (excluding family allowances, maternity benefits, long-term care benefits and up to the guaranteed minimum income for a person living alone for the professional income of children less than 25 years old). However, to avoid inactivity traps, up to 30% of the reference minima are disregarded from the professional incomes and replacement incomes to compute the resources.



The guaranteed minimum income is fixed at €1,118.54/month for a person living alone or for the first person of the domestic unit (base amount). For the second adult, the base amount is uprated by 50% of €1,118.54/month (€559.27 /month). For each subsequent adult, the base amount is uprated by € 320.00/month. For each child, the base amount is uprated by € 101.74/month.

When rent is due for an occupied flat, the guaranteed minimum income is increased by the difference between the rent paid and the amount corresponding to 10% of the guaranteed minimum income (revenu minimum garanti). The increase is limited to a maximum of €123.95/month.

The supplementary allowance is subject to taxation and to social contributions for health care and long-term care insurance.

The income for seriously disabled persons (*Revenu pour personnes gravement handicapées*) was created by the law of 12 September 2003. Persons entitled to this benefit must be at least 18 years old, must present a diminution of the ability to work by 30% due to physical, mental, sensorial or psychological disability; the disability has to be obtained before the age of 65. The state of health of the person must be at such a level that it is impossible to adapt a workplace in the ordinary or the protected environment to his needs. The person must be allowed to live in Luxembourg and must live there. Residents from a non-Member state have to show a 5-year long legal residence permit during the last 20 years. The income for a seriously disabled person is fixed at €1,118.54/month. Up to 30% of the reference minima are disregarded from the professional incomes and replacement incomes to compute the resources. The income for seriously disabled persons is subject to taxation and to social contributions for health care and long-term care insurance.

The heating allowance (*Allocation de chauffage*) aims to support the cost of the heating for low income families. This allowance is a means-tested allowance. To be eligible the global annual income must not exceed: €17,605.31 /year for a person living alone, €26,411.15/year for a two-person family, €31,431.24/year for a three-person family, €36,464.06/year for a four-person family and €41,573.23 €/year for a five-person or more family. The amount of the heating allowance is fixed at €600/year for a person living alone, €750/year for a two-person family, € 900/year for a three-person family, € 1,050/year for a four-person family and € 1,200/year for a five-person or more family. The allowance is not subject to taxation or to social contributions.

The cost of living allowance (*Allocation de vie chère*) replaced the heating allowance in 2009. This allowance is a means-tested allowance. To be eligible the global annual income must not exceed: €18,843.89/year for a person living alone, €28,269.17/year for a two-person family, € 33,650.28/year for a three-person family, € 39,031.38/year for a four-person family and € 44,506.07/year for a five-person or more family. The amount of the cost of living allowance is fixed at € 1,200/year for a person living alone, € 1,500/year for a two-person family, € 1,800/year for a three-person family, €2,100/year for a four-person family and €2,400/year for a five-person or more family. The allowance is not subject to taxation or to social contributions.

The higher education grant and/or loan (*Bourse et/ou prêt d'études pour enseignement supérieur*) is provided to students who are registered in a University or a College (tertiary education). The maximum amount a student can receive for the grant and /or the loan cannot exceed €19,920/year (University year 2007/2008). Up to Master level, the proportion between the grant and the loan depends on the student and his/her parents' financial and social situation and on the tuition fees. For a student preparing a PhD or an equivalent diploma, the proportion between the grant and the loan depends on the student's financial and social situation and on the tuition fees.



Old-age pension from the general scheme (*Pension de vieillesse du régime général*). A compulsory social insurance scheme financed by contributions with a participation of the State budget for the active population (employees and self-employed) with benefits depending on the duration of the affiliation (flat-rate) and on contributions (earnings-related). The legal retirement age is 65 years but an early retirement pension (*pension de vieillesse anticipée*) is possible from 60 years of age, on condition that 480 months of effective insurance can be proved or assimilated periods can be proved, and from 57 years of age, on condition that 480 months of effective insurance can be proved. The pension comprises two parts: a flat-rate part depending on the number of insurance years of 1/40 per year (max. 40) and an income- (and contributions-) related part. Flat-rate pension part (*majoration forfaitaire*): €365.74 per month for 40 years of insurance. Income-related pension part (*majoration proportionnelle*): 1.85% of total earnings taken into account. Staggered supplements (*majoration échelonnée*): beyond 55 years and with an effective carrier of 38 years, the rate is increased by 0.01% per supplement year in activity (maximum staggers supplements: 2.05%). The upper limit of the monthly old-age pension is 5 times the monthly minimum wage (€ 7,851.40/month). Allowance at the end of the year (*allocation de fin d'année*) of €598.32/year (in the case of a complete career of 40 years; otherwise proportional reduction). The pension is subject to taxation and to social contributions for health care and long-term care.

Survival pension from the general scheme (*Pension de survie du régime général*). A compulsory social insurance scheme financed by contributions with a participation of the State budget for the active population (employees and self-employed) with benefits depending on the pension (flat-rate and earnings-related) of the deceased person. The pension comprises two parts: a flat-rate part depending on the number of insurance years of 1/40 per year (max. 40) and an income- (and contributions-)related part. The flat-rate pension part (*majorations forfaitaires*) and the special flat-rate supplements (*majorations forfaitaires spéciales*) equal the total to which the insured has or would have been entitled. The income-related pension part (*majorations proportionnelles*) and the special income-related supplements (*majorations proportionnelles spéciales*) equal $\frac{3}{4}$ of the benefit to which the insured has or would have been entitled. There is an allowance at the end of the year (*allocation de fin d'année*) of €598.32/year (in the case of a complete career of 40 years; otherwise proportional reduction). The pension is subject to taxation and to social contributions for health care and long-term care.

Invalidity pension from the general scheme (*Pension d'invalidité du régime général*). A compulsory social insurance scheme financed by contributions with a participation of the State budget for the active population (employees and self-employed) with benefits depending on the duration of the affiliation (flat-rate) and on contributions (earnings-related). The pension comprises two parts: a flat-rate part depending on the number of insurance years of 1/40 per year (max. 40) and an income- (and contributions-)related part: flat-rate pension part (*majorations forfaitaires*): €365.74 per month for 40 years' insurance; income-related pension part (*majorations proportionnelles*): 1.85% of total wage taken into account. For invalidity before age of 55: special flat-rate supplements (*majorations forfaitaires spéciales*) of 1/40 for each year between commencement of entitlement to pension and age 65 (max. 40 years) and special income-related supplements (*majorations proportionnelles spéciales*) for years remaining from commencement of entitlement until age 55. The rate of the supplement is 1.85% of average salary gained between age 25 and the year of cessation. The pension is subject to taxation and to social contributions for health care and long-term care.

Old-age pension from the statutory scheme (*Pension de vieillesse du régime statutaire*). This scheme concerns civil servants and employees of the State administration, civil servants and employees of the Communes, employees of the CFL (train company) and employees of public institutions and institutions of public interest. One must distinguish the transitory scheme that concerns persons in activity or retired as of 31 December 1998 from the special scheme that



concerns persons who started to work after 31 December 1998. For the transitory scheme, a right to old-age pension is open in the following situations: in the case of resignation from the age of 57 and a work duration of 40 years; in the case of resignation from the age of 60 and a work duration of 30 years; in the case of resignation at the age of 65 and a work duration of 10 years. The amount of the pension for the transitory scheme is calculated on the basis of the last wage: 5/6 of the last wage but for the years worked after 1 January 1999 the replacement rate will be progressively taken back to 72%. Nevertheless, civil servants with a complete career (35 or 40 years) at the age of the anticipated retirement (55 or 60 years) can increase their pension by 2.31%/supplement per year worked. The amount of the pension for the special scheme is calculated as for the general scheme except that there is no upper limit. There is an allowance at the end of the year (*allocation de fin d'année*) of €598.32/year (in the case of a complete career of 40 years; otherwise proportional reduction). The pension is subject to taxation and to social contributions for health care and long-term care.

Survival pension from the statutory scheme (*Pension de survie du régime statutaire*). The conditions to be eligible for a survival pension from the statutory scheme are similar to those foreseen for the general scheme and the reversion rates are also similar to those foreseen for the general scheme.

Invalidity pension from the statutory scheme (*Pension d'invalidité du régime statutaire*). The conditions to be eligible and the calculation of the pension for an invalidity pension survival pension from the statutory scheme are similar to those foreseen for the general scheme.

Unemployment benefit (*Indemnité de chômage*). An unemployment allowance scheme financed by the State with benefits related to remuneration previously earned. The main conditions for being eligible for the unemployment benefit are the following: to be involuntarily unemployed, work not permitted, unless part-time and with anti-accumulation rules applying, to be fit to work, to be available for work, to be aged between 16 and 64, to have registered for employment, to accept suitable employment or an active measure offered, to be resident in Luxembourg when the redundancy occurs; claim for the benefit within 2 weeks. The qualifying period for this benefit is at least 26 weeks of employment during the last year. The benefit is determined by the salary earned before unemployment starts. The earnings taken are the gross earnings during the 3 months which precede unemployment. The allowance cannot exceed €3,925.70/month (2.5 times the monthly minimum wage) or €3,140.56/month (2 times the monthly minimum wage) in the case that the unemployment exceeds 182 days in a period of 12 months. In case of complementary benefit (when unemployment benefit is allowed after the 365 days of the normal duration of compensation) the ceiling is fixed at €2,355.42/month (1.5 times the monthly minimum wage). The rate of the benefit is 80% of reference earnings, increasing to 85% of earnings if there are dependent children. The duration of payment is 365 calendar days during a reference period of 24 months (without exceeding the duration of working days over the reference period); 182 extra calendar days for persons who are particularly "difficult" to place. For unemployed of 50 years and more, prolongation of 12, 9 or 6 months respectively if 30, 25 or 20 years of affiliation to pension. Loss of allowance for 7 days (30 days if repeated) if the unemployed person refuses to report to the employment office. Accumulation with other social security benefits is not possible. If income from a gainful professional activity exceeds 10% of the maximum threshold of the provided compensation, the unemployment benefit is reduced by the amount exceeding the provided ceiling. The benefit is subject to taxation and to social contributions for health care, long-term care insurance and pension insurance.

Pre-retirement benefit (*Indemnité de préretraite*). Pre-retirement compensation (*indemnité de préretraite*) permitting enterprises to dismiss structurally redundant workers and to re-equilibrate the age structure among the workers within an enterprise. Early retirement measures are also applied in the case of night- and shift-work. The indemnity is paid by employers and



partially reimbursed by the employment fund. The eligibility conditions are the following: age 57, and having fulfilled in the 3 following years the conditions for an early retirement pension (*pension de vieillesse anticipée*), and fulfilling certain conditions related to the work record. The pre-retired must not exercise any professional activity other than insignificant or occasional activities. The rates of the benefit are a percentage of previous gross earnings, as follows: 85% during 1st 12 months, 80% during 2nd 12 months, 75% during 3rd 12 months. The benefit is subject to taxation and to social contributions for health care, long-term care insurance and pension insurance.

Sickness benefit (*Indemnité pécuniaire de maladie*). Compulsory social insurance scheme financed by contributions for all active population (employees and self-employed) with earnings-related benefits. The amount of the benefit is the full salary which the insured person would have earned if he had continued to work. The duration of the benefit is maximum 52 weeks. Payment ends if an invalidity pension (*pension d'invalidité*) is granted. The benefit is subject to taxation and to social contributions for health care, long-term care insurance and pension insurance.

Maternity cash benefit (*Indemnité de maternité*). Compulsory social insurance scheme financed by contributions for the active population (employees and self-employed) and the recipients of a social security benefit. Maternity benefit (*prestations en espèces de maternité*): 100% of the salary the insured received during the maternity leave. Maternity cash benefits are subject to taxation and to social contributions for health care, long-term care insurance and pension insurance. The benefit is subject to taxation and to social contributions for health care, long term care insurance and pension insurance.

Parental leave benefit (*Indemnité pour congé parental*). Both parents are entitled to take parental leave up to the child's fifth birthday providing they have worked for their employer, without a break, for at least one year. Leave can be taken as either 6 months full-time or 12 months part-time, i.e. 20 hours per week, (with employer's agreement) per child and to qualify, the first period of parental leave must start as soon as maternity leave ends. Parents cannot take parental leave simultaneously, e.g. if they both take part-time leave one parent must work in the morning and the other in the afternoon. The amount of the gross full-time parental leave benefit is € 1,778.31/month and the amount of the gross part-time parental leave benefit is € 889.15/month. The benefit is not subject to taxation or to social contributions except to social contributions for health care (in kind) and long-term care contribution.

Since December 2006 a new law was passed that gave parents the right to unpaid parental leave up to the child's fifth birthday should parental leave not have been taken immediately after maternity or adoption leave.

Long-term care cash benefit (*Prestation en espèce en cas de dépendance*). Compulsory long-term care social insurance financed by a special contribution from the insured and by the State, covering all persons bound by a sickness insurance, with in kind and cash benefits. Benefits in kind can be combined or replaced by cash benefits.

Cash benefits to remunerate persons who are not working on behalf of a professional services network. The amount of the benefits totals half of the value of the benefit in kind. Benefit amount per hour: €20.72. Maximum cash benefits amount per week: €262.50. Benefits are not subject to taxation or to social contributions.

Care allowance (*Allocation de soins*). The law concerning this allowance has been abrogated, with effect from 1 January 1999, by the law concerning long-term care insurance. However, recipients of this allowance at 31 December 1998 continue to receive this allowance. But as soon as long-term care insurance is granted, the care allowance is cancelled. In June 2007 the amount of this allowance was €596.54/month.



Seriously disabled persons allowance (*Allocation spéciale pour personnes handicapées*). The law concerning this allowance has been abrogated, with effect from 1 January 1999, by the law concerning long-term care insurance. However, recipients of this allowance at 31 December 1998 continue to receive this allowance. But as soon as long-term care insurance is granted, the seriously disabled persons allowance is cancelled. In June 2007 the amount of this allowance was €596.54/month.

- *Scope and scale*

Table 5. Social benefits: recipients (as % of population)

| | 2007 | 2008 | 2009 | 2010 |
|--|-------|-------|-------|------|
| Maternity allowance | 0.28 | 0.27 | 0.27 | n/a |
| Birth grant | 1.14 | 1.27 | 1.29 | n/a |
| Child-raising allowance | 1.16 | 1.16 | 1.16 | n/a |
| Child benefit | 24.57 | 24.48 | 24.52 | n/a |
| Supplementary allowance | n/a | n/a | n/a | n/a |
| New school year allowance | 18.34 | 18.03 | 17.92 | n/a |
| Seriously disabled persons benefit | n/a | n/a | n/a | n/a |
| Guaranteed minimum income | 2.92 | 2.94 | 3.34 | 3.56 |
| Income for seriously disabled persons | 0.21 | 0.19 | 0.17 | n/a |
| Heating allowance | 1.96 | 2.82 | n/a | n/a |
| Cost of living allowance | n/a | n/a | 3.39 | n/a |
| Higher education grants | n/a | n/a | n/a | n/a |
| Old-age pension from general scheme | 8.89 | 9.04 | 9.26 | n/a |
| Survival pension from general scheme | 3.95 | 3.89 | 3.83 | n/a |
| Invalidity pension from general scheme | 2.33 | 2.21 | 2.13 | n/a |
| Old-age pension from statutory scheme | 0.92 | 0.94 | 0.96 | n/a |
| Survival pension from statutory scheme | 0.49 | 0.48 | 0.46 | n/a |
| Invalidity pension from statutory scheme | 0.22 | 0.21 | 0.18 | n/a |
| Unemployment benefit | 1.00 | 1.11 | 1.47 | 1.47 |
| Pre-retirement benefit | 0.25 | 0.26 | 0.26 | 0.27 |
| Sickness benefit | n/a | n/a | n/a | n/a |
| Benefit for family reasons | n/a | n/a | n/a | n/a |
| Maternity cash benefit | 0.55 | 0.58 | 0.61 | 0.55 |
| Parental leave benefit | 0.41 | 0.41 | 0.44 | n/a |
| Long-term care cash benefit | 1.07 | 1.10 | 1.14 | 1.16 |
| Care allowance | 0.01 | 0.01 | 0.00 | n/a |

Notes: The % concerns only resident recipients. Recipients living abroad are excluded from the table.

Sources: SNAS, www.isog.public.lu, STATEC, Ministry of Labor and Employment



Table 6. Social benefit: expenditure

| | 2007 | 2008 | 2009 | 2010 |
|---|---------|-----------|-----------|----------------|
| Annual expenditure (in millions €) | 3638.74 | 3934.2654 | 4212.4854 | No information |
| as % of total expenditure | | | | |
| Maternity allowance | 0.12 | 0.11 | 0.10 | |
| Birth grant | 0.41 | 0.43 | 0.42 | |
| Child-raising allowance | 0.99 | 0.94 | 0.86 | |
| Child benefit | 10.02 | 9.34 | 9.02 | |
| Boni for children | 0.00 | 3.41 | 3.01 | |
| Supplementary allowance | 0.15 | 0.15 | 0.14 | |
| New school year allowance | 1.00 | 1.01 | 0.94 | |
| Seriously disabled persons benefit | 0.00 | 0.00 | 0.00 | |
| Guaranteed minimum income | 3.03 | 2.77 | 2.92 | |
| Income for seriously disabled persons | 0.32 | 0.38 | 0.47 | |
| Heating allowance | 0.21 | 0.31 | 0.00 | |
| Cost of living allowance | 0.00 | 0.00 | 0.69 | |
| Higher education grants | 0.00 | 0.00 | 0.00 | |
| Old-age pension from general scheme | 34.70 | 33.74 | 33.89 | |
| Survival pension from general scheme | 11.28 | 10.96 | 11.01 | |
| Invalidity pension from general scheme | 6.05 | 5.88 | 5.91 | |
| Old-age pension from statutory scheme | 11.79 | 11.59 | 11.57 | |
| Survival pension from statutory scheme | 4.15 | 3.93 | 3.81 | |
| Invalidity pension from statutory scheme | 3.02 | 3.03 | 2.92 | |
| Unemployment benefit | 4.54 | 3.79 | 4.27 | |
| Pre-retirement benefit | 1.72 | 1.67 | 1.66 | |
| Sickness benefit | 4.44 | 4.52 | 4.27 | |
| Benefit for family reasons | 0.00 | 0.00 | 0.00 | |
| Maternity cash benefit | 1.15 | 1.19 | 1.26 | |
| Parental leave benefit | 0.90 | 0.85 | 0.86 | |
| Long-term care cash benefit | 0.00 | 0.00 | 0.00 | |
| Care allowance | 0.00 | 0.00 | 0.00 | |

Notes: The annual expenditure and the % concern only resident recipients. For some benefits no distinction is made between residents and non-residents; for these cases we have estimated the amounts received by residents.

The annual expenditure is equal to the sum of the different components present in the table.

According to the statistics produced by the Social Security, the annual expenditure for cash benefits (residents and non-residents) was equal to € 4,947.28 million in 2007, and € 1,170.96 million (no distinction between cash benefits and benefits in kind) was transferred abroad. We estimate that most of the benefits transferred abroad are cash benefits, meaning that the annual expenditure for cash benefits towards the residents must be around €4,000 million in 2007.

Sources: SNAS, www.isog.public.lu



1.4 Social contributions

Social contribution for health care - cash benefits (*Cotisations sociales pour soins de santé – prestations en espèce*) finance sickness and maternity cash benefits. All employees from the private sector and all the self-employed are entitled to these social contributions. The contribution basis is composed of the professional income of the insured person. For employees, the professional income corresponds to the gross pay including all the advantages even if they are in-kind but excluding occasional allowances and bonuses. For the self-employed, excluding the agricultural activity, the professional income corresponds to the net income defined by the tax law. For the agricultural self-employed, the professional income is fixed on the basis of the production. The contribution rates vary between blue-collar workers (4.70% in total: 2.35% for the worker and 2.35% for the employer) and white-collar workers (including the self-employed) (0.20% in total: 0.10% for the worker and 0.10% for the employer). The difference in contribution rates results from the fact that white-collar workers in the private sector continue to receive pay - imposed on the employer - for the month in which the sickness occurs and for the following three months. After expiration of this period, cash benefits for illness are paid by the sickness insurance fund. For the contribution basis there is a ceiling that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€}1,570.28/\text{month} = \text{€}7,851.40/\text{month}$.

Social contribution for health care - benefits in kind (*Cotisations sociales pour soins de santé- prestations en nature*). The contribution basis is composed of the professional incomes defined above, including occasional allowances and bonuses, pensions and all replacement incomes subject to social contributions. The contribution rate is 5.4% in total: 2.7% for the insured and 2.7% for the employer. For the contribution basis there is a ceiling that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€}1,570.28/\text{month} = \text{€}7,851.40/\text{month}$.

Social contribution for long-term care insurance (*Cotisations sociales pour l'assurance dépendance*). The contribution basis is composed of professional incomes, replacement incomes and wealth incomes. The contribution rate amounts to 1.40 % for employees (there is no employer contribution). No maximum is applied to the contribution basis. The monthly contribution basis is reduced by 25% of the minimum wage for persons receiving a wage or a replacement income from the social security.

Social contribution for pension insurance (*Cotisations sociales pour pension*). The contribution basis is composed of professional incomes or the following replacement incomes (unemployment benefit, sickness benefit, maternity benefit, parental leave benefit). The contribution rate is 24% in total: 8% for the insured, 8% for the employer and 8% for the State. For the contribution basis there is a ceiling (except for the civil servants) that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€}1,570.28/\text{month} = \text{€}7,851.40/\text{month}$.

Employer social contributions for accident (*Cotisations sociales de l'assurance accident*). These contributions are paid exclusively by the employer. All industrial firms are ranged in 22 risk classes. The contribution rate varies from 0.52% to 6% depending on the risk class. For the contribution basis there is a minimum that corresponds in principle to the minimum wage. In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€}1,570.28/\text{month} = \text{€}7,851.40/\text{month}$. Concerning the agricultural or forestry sector, the contributions are calculated according to the size of the land, the vineyard or the forest.



Social contributions for family allowances (*Cotisations sociales pour les prestations familiales*). These contributions are paid neither by the employees nor by the employers but by the State.

- *Scope and scale*

Table 7. Social contributions: contributors (as % of population)

| | 2007 | 2008 | 2009 |
|--|-------|-------|-------|
| Social contributions | | | |
| Social contribution health care - cash benefits | 60.51 | 60.75 | 60.17 |
| Social contribution health care - benefits in kind | 33.34 | 33.79 | 33.24 |
| Social contribution long-term care insurance | n/a | n/a | n/a |
| Social contribution for pension insurance | 42.54 | 42.92 | 43.18 |
| Social contribution for accident insurance | n/a | n/a | n/a |
| Social contribution for family allowances | n/a | n/a | n/a |

Notes: The % concern only resident contributors.

Source: www.isog.public.lu

Table 8. Social contributions: revenue

| | 2007 | 2008 | 2009 |
|---|-----------------|-----------------|-----------------|
| Social contributions (millions of €) | 3574.632 | 3839.809 | 3831.970 |
| as % of total revenue | | | |
| Social contribution health care - cash benefits (employee and employer) | 26.13 | 26.09 | 27.40 |
| Social contribution health care - benefits in kind (employee and employer) | 4.94 | 4.87 | 1.57 |
| Social contribution long-term care insurance (employee and employer) | 6.57 | 6.67 | 6.97 |
| Social contribution for pension insurance (employee and employer) / only the general scheme | 56.09 | 56.48 | 58.21 |
| Social contribution for accident insurance (employer) | 4.92 | 4.58 | 4.34 |
| Social contribution for family allowances (employer) | 1.36 | 1.30 | 1.50 |

Notes: The amount and the % concern resident and non-resident (mostly cross-border) workers.

Source: www.isog.public.lu

1.5 Taxes

Personal income tax (*Impôt sur le revenu des personnes physiques*): taxed jointly at the family units. The family unit is defined by the marriage or the legal consensual union and children less than 18 years old on 1 January of the tax year. However, wages received by a child less than 18 years old are not covered by the joint taxation.

Tax payers are granted a tax class according to their family status. Married taxpayers (even in the case of a wedding or divorce during the calendar year), widowed persons for the 3 years following the year in which they became widowed, divorced or separated individuals for the 3 years following the year of divorce or separation and civil partners who live together for a full tax year and elect to file jointly, belong to tax class 2.

Widowed persons not included in tax class 2, individuals aged at least 65 on 1 January and single parents belong to tax class 1a.

All other individuals belong to tax class 1.

For tax class purposes, the definition of a child is different from the one used in the tax unit. A child is less than 21 years old on 1 January of the tax year or 21 years old and more continuing to study.



In Luxembourg, the tax year corresponds to the calendar year. Income tax rates are progressive. They vary from 0% to 38% (16 brackets). A 2.5% surcharge for the unemployment fund applies so that the marginal income tax rate amounts to 38.95%.

There are eight categories of taxable income which, added together over the year, determine the total taxable income: Commercial/business profits; Profits from agriculture and forestry; Profits derived from self-employed professions (*profession libérale*); Net income from employment; Net income from pensions and/or annuities; Net income from investments (movable capital); Net income from rental of property and Other net income (including capital gains).

Withholding taxes are levied on some of the incomes above. Income from employment, pensions and some savings and investment incomes are subject to a pay-as-you-earn system. Other income must be declared in an annual tax return, submitted to the Luxembourg Tax Administration.

The income subject to tax according to the tax schedule (*revenu imposable ajusté*) is equal to the net income of the different categories of incomes after deduction of operating expenses, accusation costs, exemptions and several deductions.

The salary of a child less than 18 years old is taxed individually but parents are eligible to a tax reduction for this child. All other types of income received by a child less than 18 years old are added together with the parent's incomes.

Children aged 18 to 21 years are taxed individually but parents are eligible to a tax reduction for children.

Property tax (*Impôt foncier*): the property tax is a communal tax that applies to all the constructed or non-constructed real properties. The amount of this tax is very low.

Value Added Tax (*Taxe sur la valeur ajoutée*): there are 4 different tax rates: normal rate at 15%, a reduced rate at 6%, a super-reduced rate at 3% and an intermediate rate at 12%.

Excise duties (*Accises et taxes assimilées*): These taxes are levied on alcohol and alcoholic beverages, beer, tobacco, petrol, gas and electrical energy.

- *Scope and scale*

Table 9. Taxes: taxpayers (as % of population)

No information is available to estimate taxpayers as % of population

Table 10. Taxes: revenue

| | 2007 | 2008 |
|--|-------------|--------------|
| Annual revenue (millions of €) | 9664 | 10033 |
| Direct taxes | | |
| Personal income tax | 389 | 411 |
| Solidarity income tax increase for persons | 59 | 65 |
| Withholding personal tax | 1910 | 2125 |
| Property tax | 27 | 28 |
| Indirect taxes | | |
| VAT | 2097 | 2290 |
| Excise duties | 1394 | 1438 |

Notes: The annual revenue numbers reported in the first line are exclusive of revenue from social insurance contributions. The numbers reported in Table 10 include tax paid by non-residents.

Source: OECD Revenue Statistics 1965-2009 – details of tax revenue, Luxembourg



2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Tables 11 and 12 present the different benefits (Table 11) and taxes (Table 12) covered in EUROMOD.

Table 11. Simulation of benefits in EUROMOD

| | Variable name(s) | Treatment in EUROMOD | | | | Why not fully simulated? |
|--|------------------|----------------------|------|------|------|--|
| | | 2007 | 2008 | 2009 | 2010 | |
| Maternity Allowance | bmals | I | I | I | I | No precise information on the contribution history just before the birth |
| Birth grant | bmaba | I | I | I | I | No information on medical examinations |
| Child-raising Allowance | bched04 | I | I | I | I | No precise information on the contribution history before the child is 2 years old |
| Child benefit | bch_s | S | S | S | S | |
| Child credit | bch00_s | - | S | S | S | |
| New school year allowance | bched_s | S | S | S | S | |
| Seriously disabled persons benefit | bdisv | I | I | I | I | No information on disability |
| Guaranteed minimum income | bsa_s | S | S | S | S | |
| Heating allowance / Cost of living allowance | bsaht_s | S | S | S | S | |
| Higher education grants | bed | I | I | I | I | No information |
| Old-age pension from general scheme | poaps | I | I | I | I | No data on contribution history |
| Survival pension from general scheme | psups | I | I | I | I | No data on contribution history |
| Invalidity pension | pdi00 | I | I | I | I | No data on contribution history and on disability |
| Old-age pension from statutory scheme | poapu | I | I | I | I | No data on contribution history |
| Survival pension from statutory scheme | psupu | I | I | I | I | No data on contribution history |
| Unemployment benefit | bunss or bun_s | PS | PS | PS | PS | No data on contribution history / Simulation possible according to the fact that the wage preceding the unemployment benefit has been estimated in the input database (yempv) using the reverse function of the unemployment benefit rules |
| Pre-retirement benefit | byr | I | I | I | I | No data on contribution history |
| Sickness benefit | bhl | I | I | I | I | No data on contribution history and on sickness |
| Maternity cash benefit | bmawk | I | I | I | I | No data on contribution history |



| | | | | | | |
|-----------------------------|-------|---|---|---|---|---|
| Parental leave benefit | bfapl | I | I | I | I | No data on the intention to take the parental leave |
| Long-term care cash benefit | bca02 | I | I | I | I | No data on the level of dependency |
| Care allowance | bca01 | I | I | I | I | No data on the level of dependency |

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 simulated.

Table 12. Simulation of taxes and social contributions in EUROMOD

| | Variable name(s) | Treatment in EUROMOD | | | | | Why not fully simulated? |
|--|------------------|----------------------|------|------|------|--|--------------------------|
| | | 2007 | 2008 | 2009 | 2010 | ... | |
| Personal income tax | tin_s | S | S | S | S | | |
| Tax credit for employees | tintceent_s | - | - | S | S | | |
| Tax credit for retired | tintcpent_s | - | - | S | S | | |
| Tax credit for lone parents | tintclpnt_s | - | - | S | S | | |
| Property tax | | E | E | E | E | No information on the way the administration estimates the value of the property | |
| Value added tax | | E | E | E | E | No information on expenditures | |
| Excise duties | | E | E | E | E | No information on expenditures | |
| Employee social contribution for health care - cash benefits | tsceesi_s | S | S | S | S | | |
| Employee social contribution for health care - benefits in kind | tsceehl_s | S | S | S | S | | |
| Employee social contribution for long-term care insurance | tsceeot_s | S | S | S | S | | |
| Employee social contribution for pension insurance (non civil servant) | tsceepi_s | S | S | S | S | | |
| Employee social contribution for pension insurance (civil servant) | tsceepbpi_s | S | S | S | S | | |
| Employer social contribution for health care - cash benefits | tscersi_s | S | S | S | S | | |
| Employer social contribution for health care - benefits in kind | tscerhl_s | S | S | S | S | | |
| Employer social contribution for pension insurance | tscerpi_s | S | S | S | S | | |
| Employer social contribution for accident insurance | tscerac_s | S | S | S | S | | |
| Employer social contribution for accident insurance | tscerac_s | S | S | S | S | | |



| | | | | | |
|--|------------|---|---|---|---|
| Credited social contributions for health care- benefits in kind | tsccthl_s | S | S | S | S |
| Credited social contributions for pension insurance | tsctpti_s | S | S | S | S |
| Social contributions on social assistance – long term care insurance | tscebeot_s | S | S | S | S |
| Credited social contributions for social assistance – long term care insurance | tscttsi_s | S | S | S | S |
| Self-employed social contribution for health care - cash benefits | tscsesi_s | S | S | S | S |
| Self-employed social contribution for health care - benefits in kind | tscsehl_s | S | S | S | S |
| Self-employed social contribution for long-term care insurance | tscseot_s | S | S | S | S |
| Self-employed social contribution for pension insurance | tscsepi_s | S | S | S | S |
| Self-employed social contribution for accident insurance | tscseac_s | S | S | S | S |

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.

- **Structural changes between 2007 and 2008**

In 2008, linear increase of the tax brackets by 6% and replacement of the “*moderation d’impôt pour enfant*” (child tax credit that concerned only families that paid income tax) by a “*boni pour enfant*” that concerns all families with children eligible to family allowances (the amount of the “*boni pour enfant*” is equal to the amount of the “*moderation pour enfant*” = €922.50/child/year).

- **Structural changes between 2008 and 2009**

In 2009, linear increase of the tax brackets by 9% and introduction of imputable or refundable personal tax credits for employees, self-employed, pensioners and single parents to replace the current allowances.

In 2009 the Government introduced different tax credits (imputable or refundable)

- tax credits for salaries (*credit d’impôt pour salariés*) € 300/year or € 25/month for all salaries (extending to the recipients of unemployed allowance and recipients of the minimum income) that replace the “*abattement compensatoire pour salariés*” (a tax deduction to reduce the taxable income (€600/year)).
- tax credits for pensioners (*credit d’impôt pour pensionnés*) €300/year or €25/month for all pensioners (retirement pension, survival pension, invalidity pension...) that replace the “*abattement compensatoire pour pensionnés*” (a tax deduction to reduce the taxable income (€600/year)).



- tax credits for self-employed (*credit d'impôt pour indépendants*) €300/year or €25/month for all the self-employed that replace the “*abattement commercial*” (a tax deduction to reduce the taxable income).
- tax credits for lone-parents (*credit d'impôt monoparental*) €750/year or €62.50/month that replace the “*abattement monoparental*” (a tax deduction to reduce the taxable income (€ 1920/year)).

The Cost of living allowance (*Allocation de vie chère*) replaced the heating allowance in 2009. Except for the fact that the amount of the cost of living allowance is two times higher than the heating allowance, there are no other changes between these two allowances.

- ***Structural changes between 2009 and 2010***

No structural changes between 2009 and 2010.

2.2 Order of simulation and interdependencies

- ***Order of simulation in 2007- 2010***

The following table shows the order in which the main elements of the Luxembourg system in 2007-2010 are simulated. As the Luxembourg system has few structural changes within this period, we use a single table to display policy simulations over the four year span. Policies which are included in the model but not used in the EUROMOD baseline are marked as “*switched off in the baseline*”. Policies which have been applicable in a specific year only are marked as “switched off in year(-s) X” if unrelated. In general, the spine structure is identical for all four analysed years.

Table 13. EUROMOD Spine: order of simulation, 2007-2010

| Policy | Description | Main output |
|--------------|---|-------------|
| yem_lu | Minimum Wage | yem |
| bun_lu | Unemployment benefit | bun_s |
| bsa_lu | Guaranteed minimum income (RMG) | bsa_s |
| tscee_lu | Employee social contribution | tscee_s |
| tscer_lu | Employer social contribution | tscer_s |
| tsct_lu | Credited social contributions | tsct_s |
| tscse_lu | Self-employed social contributions | tscse_s |
| tsceebeot_lu | Long term care contribution related to RMG | tsceebeot_s |
| tsctsi_lu | Credited social contributions for social assistance | tsctsi_s |
| bch00_lu | Child tax credit (from 2008) | bch00_s |
| bch_lu | Child benefit | bch_s |
| bched_lu | New school year allowance | bched_s |
| bsaht_lu | Heating allowance | bsaht_s |
| tin_lu | Personal income tax | tin_s |
| tintcee_lu | Tax credit for employees (from 2009) | tintceent_s |
| tintpe_lu | Tax credit for retired (from 2009) | tintpent_s |
| tintclp_lu | Tax credit for lone parent (from 2009) | tintclpnt_s |



2.3 Social benefits

2.3.1 Child benefit (*Allocations familiales*) (*bch_lu*)

- *Definitions*

The unit of analysis is the family (*tu_cb_lu*). To form a family, parents do not necessarily have to be married.

- *Eligibility conditions*

The child benefit is a universal scheme. A child's personal rights are related to the residence. Each child brought up continuously in Luxembourg and with a legal residence there is entitled to this child benefit. The age limit is 18 years. For children in vocational training or further education or suffering from a serious infirmity the age limit is 27 years.

- *Income test*

The child benefit does not vary with income.

- *Benefit amount*

The monthly amount is €185.60 for one child, €440.72 for two children, €802.74 for three children and €361.82 for each subsequent child. The child benefit does not vary with income. The child benefit varies with age: children aged 6 and more receive a supplement of €16.17/month and children aged 12 and more receive a supplement of €48.52/month. The benefit is not subject to taxation or to social contributions. Since 2006, the amount of this allowance is no longer linked to changes in prices, meaning that the amounts are similar for the years 2007, 2008, 2009 and 2010.

2.3.2 Tax bonus for children (*Boni pour enfant*) (*bch00_lu*)

- *Definitions*

The tax bonus has been introduced in 2008, it replaced the tax reduction for children and it is paid by the family allowance fund. That is why the tax bonus is classified in the benefit section rather in the tax credit section. The unit of analysis is the same as that used for the personal tax unit (*tu_tin_lu*).

- *Eligibility conditions*

The tax bonus for children is awarded in favour of each child for whom the child benefits are paid. Children to whom the child benefits are no longer paid, are not eligible for the tax bonus for children. These children continue to be eligible for the tax reduction for children.

- *Income test*

The tax bonus for children does not vary with income.

- *Benefit amount*

Since 2008, the monthly amount is €76.88 (€922.50/year) per child. The benefit is not subject to taxation or to social contributions and is not linked to changes in prices, meaning that the amounts are similar for the years 2008, 2009 and 2010.



EUROMOD Notes: The condition of being a child not eligible for the tax bonus but who continues to be eligible for the tax reduction for children is not simulated. It concerns very few cases.

2.3.3 New school year allowance (*Allocation de rentrée scolaire*) (*bched_lu*)

- **Definitions**

The unit of analysis is the family (*tu_cb_lu*). The new school year allowance (*Allocation de rentrée scolaire*) aims to compensate costs related to the new school year.

- **Eligibility conditions**

This allowance is given to children over 6 years. Except for the age condition, the eligibility conditions are similar to those for the child benefit.

- **Income test**

This allowance does not vary with income.

- **Benefit amount**

The amount of this allowance varies with the age and the size of the family group.

For one child:

6 - 11 years: €113.15/year

12 years and more: €161.67/year

For two children (amount per child):

6 - 11 years: €194.02/year

12 years and more: €242.47/year

For three or more children (amount per child):

6 - 11 years: €274.82/year

12 years and more: €323.34/year. Since 2006, the amount of this allowance is no longer linked to changes in prices, meaning that the amount is similar for the years 2007, 2008, 2009 and 2010.

2.3.4 Social assistance (*Revenu minimum garanti*) (*bsa_lu*)

- **Definitions**

The guaranteed minimum income can be either an integration allowance (*indemnité d'insertion*) or a supplementary allowance aiming to compensate the difference between the highest amounts of the guaranteed minimum income and the sum of the household resources. The simulation concerns only the supplementary allowance, the most current situation. The integration allowance can be considered as a salary.

The domestic unit for the calculation of resources is defined by the "de facto" community of all the persons living in the same common household, obviously disposing of a common budget and unable to provide evidence that they live elsewhere (*tu_bsa_lu*).

For social assistance a dependent child is defined as a person less than 18 years old or less than 27 years old and in education or disabled.

- **Eligibility conditions**

The eligibility conditions concern i) residence (persons resident on Luxembourg territory and having resided in the country for at least 5 years during the last 20 years. This residence



condition is not required for EU or EEA citizens or for refugees); ii) age (with effect from 25 years; exceptions for persons unable to work, those who are looking after a child or an invalid); iii) willingness to work (to be ready to participate in active measures); iv) should not have abandoned or reduced his work of his own free will, without giving important and real justifications or should not have been dismissed for serious reasons.

- **Income test**

The resources taken into account are the entire gross revenue of the household, possessions and replacement or supplementary social security benefits. Family allowances, maternity benefits, long-term care benefits and professional income of children less than 25 years old up to the guaranteed minimum income for a person living alone (€1,118.54/month) are not taken into account. However, to avoid inactivity traps, up to 30% of the reference minima are disregarded from the professional incomes and replacement incomes to compute the resources.

The resources of wealth are also taken into account. These resources are defined by conversion into a life annuity of the global value of the wealth through multipliers that have to be defined by the State. The real estate value of property situated in Luxembourg is defined according to the unit values fixed by the tax administration. Due to lack of information, the resources of wealth are not simulated.

- **Benefit amount**

The guaranteed minimum income is fixed at €1,118.54/month for a person living alone or for the first person of the domestic unit (base amount). For the second adult, the base amount is uprated by 50% of €1,118.54/month (€559.27 /month). For each subsequent adult, the base amount is uprated by € 320.00/month. For each child, the base amount is uprated by € 101.74/month.

Where rent is due for an occupied flat, the difference between the rent paid and the amount corresponding to 10% of the guaranteed minimum income (*revenu minimum garanti*) is granted additionally. Maximum: €123.95/month.

The supplementary allowance is subject to taxation and to social contributions for health care and long-term care insurance.

| | First adult | Second adult | Subsequent adult | Child | Maximum supplement in case of tenant |
|------|-------------|--------------|------------------|----------|--------------------------------------|
| 2007 | 1118.54 € | 559.27 € | 320.00 € | 101.74 € | 123.95 € |
| 2008 | 1146.50 € | 573.25 € | 328.00 € | 104.29 € | 123.95 € |
| 2009 | 1198.67 € | 599.34 € | 342.93 € | 109.00 € | 123.95 € |
| 2010 | 1198.67 € | 599.34 € | 342.93 € | 109.00 € | 123.95 € |

2.3.5 Heating allowance (*Allocation de chauffage*) (*bsaht_lu*)

- **Definitions**

The heating allowance (*Allocation de chauffage*) aims to support the cost of heating for low income families. The unit of analysis is the household (*tu_household_lu*).



- **Eligibility conditions**

The eligibility conditions concern residence (persons resident on Luxembourg territory).

- **Income test**

This allowance is a means-tested allowance. To be eligible the global annual income must not exceed: €18,843.89 /year for a person living alone, €28,269.17/year for a two-person family, €33,650.28/year for a three-person family, €39,031.38/year for a four-person family and €44,506.07/year for a five-person or more family.

- **Benefit amount**

The amount of the heating allowance is fixed at €600/year for a person living alone, €750/year for a two-person family, €900/year for a three-person family, €1,050/year for a four-person family and €1,200/year for a five-person or more family. The allowance is not subject to taxation or to social contributions.

Persons with an income higher than the limits defined in the “income test” paragraph are entitled to a reduced allowance that corresponds to the difference between the amounts of the heating allowance and the part of the annual income that exceeds the income limits.

| | One-person household | | Two-person household | | Three-person household | | Four-person household | | Five-person household and more | |
|------|----------------------|------------------|----------------------|------------------|------------------------|------------------|-----------------------|------------------|--------------------------------|------------------|
| | Upper limit €year | Benefit €year | Upper limit €year | Benefit €year | Upper limit €year | Benefit €year | Upper limit €year | Benefit €year | Upper limit €year | Benefit €year |
| 2007 | 18,843.89 | 600 | 28,269.17 | 750 | 33,650.28 | 900 | 39,031.38 | 1,050 | 44,506.07 | 1,200 |
| 2008 | 19,314.99 | 660 | 29,344.90 | 825 | 34,491.54 | 990 | 40,007.16 | 1,155 | 45,618.72 | 1,320 |
| 2009 | 21,545.95 | 1,320 | 31,988.93 | 1,650 | 38,386.72 | 1,980 | 44,784.51 | 2,310 | 51,182.3 | 2,640 |
| 2010 | 21,545.95 | 1,320 | 31,988.93 | 1,650 | 38,386.72 | 1,980 | 44,784.51 | 2,310 | 51,182.3 | 2,640 |

2.3.6 Unemployment benefit (*Indemnité de chômage*) (*bun_lu*)

- **Definitions**

The unemployment benefit (*indemnité de chômage*) is a benefit related to remuneration previously earned. The unit of analysis is the individual (*tu_individual_lu*).

The allowance cannot exceed €3,925.70/month or €3,140.56/month in the case that the unemployment exceeds 182 days in a period of 12 months. For the period of complementary benefit the ceiling is fixed at €2,355.42/month. The rate of the benefit is 80% of reference earnings, increasing to 85% of earnings if there are dependent children. The duration of payment is 365 calendar days during a reference period of 24 months (without exceeding the duration of working days over the reference period); 182 extra calendar days for persons who are particularly "difficult" to place. For unemployed of 50 years and more, prolongation of 12, 9 or 6 months respectively if 30, 25 or 20 years of affiliation to pension. Loss of allowance for 7 days (30 days if repeated) if the unemployed person refuses to report to the employment office. Accumulation with other social security benefits is not possible. If income from a gainful professional activity exceeds 10% of the maximum threshold of the provided compensation, the unemployment benefit is reduced by the amount exceeding the provided ceiling. The benefit is



subject to taxation and to social contributions for health care, long-term care insurance and pension insurance.

- ***Eligibility conditions***

The main conditions for being eligible for the unemployment benefit are the following: to be involuntarily unemployed, work not permitted, unless part-time and with anti-accumulation rules applying, to be fit to work, to be available for work, to be aged between 16 and 64, to have registered for employment, to accept suitable employment or an active measure offered, to be resident in Luxembourg when the redundancy occurs; claim for the benefit within 2 weeks. The qualifying period for this benefit is at least 26 weeks of employment during the last year.

- ***Income test***

None

- ***Benefit amount***

The benefit is determined by the salary earned before unemployment starts. The earnings taken are the gross earnings during the 3 months which precede unemployment. The allowance cannot exceed 2.5 times the minimum wage (€3,925.70/month) or 2 times the minimum wage (€3,140.56/month) in the case that the unemployment exceeds 182 days in a period of 12 months. For the period of complementary benefit (in case of unemployment benefit is allowed after the 356 days of the normal duration of compensation) the ceiling is fixed at 1.5 times the minimum wage (€2,355.42/month). The rate of the benefit is 80% of reference earnings, increasing to 85% of earnings if there are dependent children. The duration of payment is 365 calendar days during a reference period of 24 months (without exceeding the duration of working days over the reference period); 182 extra calendar days for persons who are particularly "difficult" to place. For unemployed of 50 years and more, prolongation of 12, 9 or 6 months respectively if 30, 25 or 20 years of affiliation to pension. Loss of allowance for 7 days (30 days if repeated) if the unemployed person refuses to report to the employment office. Accumulation with other social security benefits is not possible. If income from a gainful professional activity exceeds 10% of the maximum threshold of the provided compensation, the unemployment benefit is reduced by the amount exceeding the provided ceiling. The benefit is subject to taxation and to social contributions for health care, long-term care insurance and pension insurance.

EUROMOD Notes: No information concerning the salary earned before unemployment starts and other eligibility conditions is available. To make it possible to simulate unemployment benefit, an inverse function of the unemployment benefit for the current recipients of the benefit has been implemented in order to estimate the salary earned before unemployment starts. From the estimated salary earned before unemployment starts it is then possible to estimate the unemployment benefit using the 80% or 85% replacement rate. Concerning the ceiling of the benefit, it is only possible to use 2.5 times the minimum wage.

2.4 Social contributions

Social contributions are compulsorily paid by insured persons and, if appropriate, by their employers. Social contributions are calculated on the basis of the professional incomes (or replacement incomes) through an equal contributions rate independently from the individual situation (age, gender, family situation, health status) but depending on the risks insured (health, sickness and maternity, pension, long-term care, accident) and the socio-professional categories (blue-collar, white collar, civil servant, self-employed, farmers...). Unlike in many other countries, unemployment benefits are not financed by social contributions but by income tax.



2.4.1 Employee social contributions (*tscee_s*)

Employee social contributions are composed of social contributions for health care – cash benefits (*tsceesi_s*), social contributions for health care – benefits in kind (*tsceehl_s*), social contributions for pension (*tsceepi_s* and *tsceepbpi_s*) and social contributions for long-term care (*tsceoot_s*). Social contributions are paid on an individual basis (*tu_individual_lu*).

Social contribution for health care - cash benefits (*Cotisations sociales pour soins de santé – prestations en espèce*) finance sickness and maternity cash benefits. All employees from the private sector are entitled to these social contributions. Civil servants who benefit from continuation of the salary in the case of sickness or maternity do not have to pay this social contribution. The contribution basis is composed of the professional income, i.e., the gross pay including all the advantages even if they are in kind but excluding occasional allowances and bonuses. The contribution rates vary between blue-collar workers (4.70% in total: 2.35% for the worker and 2.35% for the employer) and white-collar workers (0.20% in total: 0.10% for the worker and 0.10% for the employer). The difference in contribution rates results from the fact that white-collar workers in the private sector continue to receive pay - imposed on the employer - for the month in which the sickness occurs and for the following three months. After expiration of this period cash benefits for illness are paid by the sickness insurance fund. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (for a full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$.

| | Rate for blue-collar workers | Rate for white-collar workers | Minimum contributory amount | Maximum contributory amount | Value of the minimum wage (MW) |
|------|------------------------------|-------------------------------|-----------------------------|-----------------------------|--------------------------------|
| 2007 | 2.35% | 0.10% | MW | 5 x MW | 1,570.28 €/month |
| 2008 | 2.35% | 0.10% | MW | 5 x MW | 1,609.53€/month |
| 2009 | 2.35% | 0.25% | MW | 5 x MW | 1,682.76€/month |
| 2010 | 2.35% | 0.25% | MW | 5 x MW | 1,682.76€/month |

EUROMOD Notes: The contribution basis is composed of the professional income, i.e., the gross pay including all the advantages even if they are in-kind but excluding occasional allowances and bonuses. However, for the simulation we consider only the gross pay and not the fringe benefits.

Social contribution for health care - benefits in kind (*Cotisations sociales pour soins de santé- prestations en nature*). The contribution basis is composed of the professional incomes defined above including occasional allowances and bonuses, the pensions and all replacement incomes subject to social contributions. The contribution rate is 5.4% in total: 2.7% for the insured and 2.7% for the employer. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (for a full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. The minimum is increased by 30% for persons receiving a pension. If the pension does not reach the minimum, the contribution basis is the effective amount of the pension and the institution that pays the pension will pay the difference. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$.



| | Rate | Minimum contributory amount* | Maximum contributory amount | Value of the minimum wage (MW) |
|------|------|------------------------------|-----------------------------|--------------------------------|
| 2007 | 2.7% | MW | 5 x MW | 1,570.28 €/month |
| 2008 | 2.7% | MW | 5 x MW | 1,609.53€/month |
| 2009 | 2.7% | MW | 5 x MW | 1,682.76€/month |
| 2010 | 2.7% | MW | 5 x MW | 1,682.76€/month |

*MW+30% for pensioners

Social contribution for long-term care insurance (*Cotisations sociales pour l'assurance dépendance*). The contribution basis is composed of the professional incomes, the replacement incomes and the wealth incomes. The contribution rate amounts to 1.40 % for employees (there is no employer contribution). No maximum is applied to the contribution basis. The monthly contribution basis is reduced by 25% of the minimum wage for persons receiving a wage or a replacement income from the social security.

| | Rate | Amount disregarded for wage earner or recipients of a replacement income from the social security | Value of the minimum wage (MW) |
|------|------|---|--------------------------------|
| 2007 | 1.4% | 25% MW | 1,570.28 €/month |
| 2008 | 1.4% | 25% MW | 1,609.53€/month |
| 2009 | 1.4% | 25% MW | 1,682.76€/month |
| 2010 | 1.4% | 25% MW | 1,682.76€/month |

Social contribution for pension insurance (*Cotisations sociales pour pension*). The contribution basis is composed of the professional incomes or by the following replacement incomes (unemployment benefit, sickness benefit, maternity benefit, parental leave benefit). The contribution rate is 24% in total: 8% for the insured, 8% for the employer and 8% for the State. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (for a full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: 5 x €1,570.28/month = €7,851.40/month. Nevertheless, there is no ceiling for civil servants.

| | Rate | Minimum contributory amount | Maximum contributory amount | Value of the minimum wage (MW) |
|------|------|-----------------------------|-----------------------------|--------------------------------|
| 2007 | 8% | MW | 5 x MW | 1,570.28 €/month |
| 2008 | 8% | MW | 5 x MW | 1,609.53€/month |
| 2009 | 8% | MW | 5 x MW | 1,682.76€/month |
| 2010 | 8% | MW | 5 x MW | 1,682.76€/month |

2.4.2 Employer social contributions (*tscer_s*)

Employer social contributions are composed of social contributions for health care – cash benefits (*tscersi_s*), social contributions for health care – benefits in kind (*tscerhl_s*), social contributions for pension (*tscerpi_s*) and social contributions for an accident (*tscerac_s*). Except



for the contributions for an accident, the rules for the other employer social contributions are exactly the same as those concerning employer social contributions.

Employer social contributions for accident (*Cotisations sociales de l'assurance accident*). These contributions are paid exclusively by the employer. All industrial firms are ranged in 22 risk classes. The contribution rate varies from 0.52% to 6% depending on the risk class. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (for a full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$. Concerning the agricultural or forestry sector, the contributions are calculated according to the size of the land, the vineyard or the forest.

EUROMOD Notes: As it is impossible to identify the risk classes of the employers or the size of the land for the farmers, we impose a 2.5% contribution rate.

2.4.3 Self-employed social contributions (*tscse_s*)

Self-employed social contributions are composed of social contributions for health care – cash benefits (*tscsesi_s*), social contributions for health care – benefits in kind (*tscsehl_s*), social contributions for pension (*tscsepi_s*), social contributions for long-term care (*tscseot_s*) and social contributions for accident (*tscseac_s*). Social contributions are paid on an individual basis (*tu_individual_lu*).

Social contribution for health care - cash benefits (*Cotisations sociales pour soins de santé – prestations en espèce*) finance sickness and maternity cash benefits. The contribution basis is composed of the professional income of the insured person. For the self-employed, excluding agricultural activity, the professional income corresponds to the net income defined by the tax law. For the agricultural self-employed, the professional income is fixed on the basis of the production. In 2007, the contribution rate was 0.20%. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (for a full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$.

EUROMOD Notes: As it is impossible to obtain information on the production of the agricultural self-employed, we use the professional income as for the other self-employed.

Social contribution for health care - benefits in kind (*Cotisations sociales pour soins de santé- prestations en nature*). The contribution basis is composed of the professional incomes defined above. In 2007, the contribution rate was 5.4%. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$.



Social contribution for long-term care insurance (*Cotisations sociales pour l'assurance dépendance*). The contribution basis is composed of the professional incomes. The contribution rate amounts to 1.40 %. No maximum is applied to the contribution basis.

| | Rate |
|------|------|
| 2007 | 1.4% |
| 2008 | 1.4% |
| 2009 | 1.4% |
| 2010 | 1.4% |

Social contribution for pension insurance (*Cotisations sociales pour pension*). The contribution basis is composed of the professional incomes. The contribution rate is 16%. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$. Nevertheless, there is no ceiling for civil servants.

| | Rate | Minimum contributor amount | Maximum contributory amount | Value of the minimum wage (MW) |
|------|------|----------------------------|-----------------------------|--------------------------------|
| 2007 | 16% | MW | 5 x MW | 1,570.28 €/month |
| 2008 | 16% | MW | 5 x MW | 1,609.53€/month |
| 2009 | 16% | MW | 5 x MW | 1,682.76€/month |
| 2010 | 16% | MW | 5 x MW | 1,682.76€/month |

Self-employed social contributions for accident (*Cotisations sociales de l'assurance accident*). These contributions are exclusively paid by the employer. All industrial firms are ranged in 22 risk classes. The contribution rate varies from 0.52% to 6% depending on the risk class. For the contribution basis there is a minimum that corresponds in principle to the minimum wage (for a full-time job). In the case of a part-time job, the minimum is reduced proportionally regarding the duration of the job. There is also a ceiling for the contribution basis that corresponds to 5 times the minimum wage, which means for June 2007: $5 \times \text{€ } 1,570.28/\text{month} = \text{€ } 7,851.40/\text{month}$. Concerning the agricultural or forestry sector, the contributions are calculated according to the size of the land, the vineyard or the forest.

EUROMOD Notes: As it is impossible to identify the risk classes of the employers or the size of the land for farmers, we impose a 2.5% contribution rate.

2.4.4 Social contributions on social assistance (*tscebeot_s*)

Two types of social contributions are levied on the social assistance benefit (*revenu mimum garanti*): the social contribution for health-benefit in kind that is calculated in the module “Employee social contributions (section 2.4.1)” and the social contribution for long-term care (*tscebeot_s*).



The rules for calculating these two social contributions are exactly the same as those described above for employees. The contribution basis is the gross amount of the social assistance.

2.4.5 Credited social contributions (*tsctt_s*)

Credited social contributions are composed of social contributions for health care – benefits in kind (*tsctthl_s*) and social contributions for pension (*tsccctpi_s*). The rules for these social contributions are exactly the same as those concerning employee social contributions. The contribution basis is the replacement income or the pension income.

2.4.6 Credited social contributions for social assistance (*tscttsi_s*)

Credited social contributions for social assistance are composed of social contributions for health care – benefits in kind. The rules for these social contributions are exactly the same as those concerning employee social contributions. The contribution basis is the gross amount of the social assistance.

2.5 Personal income tax

2.5.1 Tax unit

Personal income tax (*Impôt sur le revenu des personnes physiques*) is taxed jointly at the family unit (*tu_tin_lu*).

The family unit is defined by the marriage or the legal consensual union and children less than 18 years old on 1 January of the tax year without a salary.

Taxpayers are granted a tax class according to their family status. Married taxpayers (even in the case of a wedding or divorce during the calendar year), widowed persons for the 3 years following the year in which they became widowed, divorced or separated individuals for the 3 years following the year of divorce or separation and civil partners who live together for a full tax year and elect to file jointly, belong to tax class 2.

Widowed persons not included in tax class 2, individuals aged at least 65 on 1 January and single parents belong to tax class 1a.

All other individuals belong to tax class 1.

For tax class purposes, the definition of a child is different from that used in the tax unit. A child is less than 21 years old on 1 January of the tax year or 21 years old and more continuing to study.

| | Without children | With children | More than 64 years old on 1 January |
|-------------------------------------|------------------|---------------|--|
| Single | 1 | 1a | 1a |
| Married/ Legal consensual union* | 2 | 2 | 2 |
| Separated** | 1 | 1a | 1a |
| Divorced** | 1 | 1a | 1a |
| Widow** | 1a | 1a | 1a |

*If the persons in legal consensual union ask to be taxed jointly, the rules concerning married couples are applied

** These taxpayers continue to benefit from splitting (tax class 2) during the 3 years after the separation, the divorce or being widowed.



2.5.2 Exemptions

We define exemptions following Verbist (2004): “income components (that) are part of pre-tax income, but do not have to be declared to the tax authorities, and thus are not included in the concept of taxable income (e.g. child benefits in most countries)”.

Exemptions concern child benefit, new school year benefit, education benefit, maternity benefit, birth benefit, parental leave benefit, heating allowance benefit, 30% of the wage of the agricultural worker, additional wages for night work, Sunday work and bank holiday work, payment for additional hours, and severance pay.

EUROMOD Notes: additional wages for night work, Sunday work and bank holiday work, and payment for additional hours could not be identified in EUROMOD. The exemption of 30% of the wage of agricultural worker is simulated like an allowance in EUROMOD.

2.5.3 Tax allowances

Here, we define tax allowances as any amount subtracted from pre-tax income (including social insurance contributions). Unlike Verbist (2004), there is no distinction between those that are fixed amounts (tax allowances) and those whose level is a function of pre-tax income (deductions).

There are many allowances in the Luxembourg income tax regime. According to the data available in the input data, it is impossible to simulate all of them. The table below presents the main allowances present in the personal income tax regime. Three types of allowances can be distinguished: acquisition costs, special expenses and allowances.

Acquisition costs (*frais d'obtention*) correspond to expenses in order to earn income. For wage earners, the acquisition costs correspond to a lump-sum of €540/year (this lump-sum can be replaced by the allowable expenses if they are higher – no information about allowable expenses in Euromod- lump-sum is used in Euromod) and travelling costs: a minimum of €396/year and a maximum of €2,970/year depending on the distance home-workplace (no information about the distance home-workplace in Euromod – the minimum is used in Euromod). For recipients of pensions, the acquisition costs correspond to a lump-sum of €300/year. When married couples jointly taxed receive each one a wage and/or a pension, the two members of the couple are entitled to these acquisition costs. For persons having income from a movable asset, acquisition costs correspond to a lump-sum of €25/year (doubled in case of joint taxation). The acquisition costs for rental income correspond to 35% of the gross annual rentals. The rental value of a dwelling occupied by an owner-occupier is regarded as taxable (the value of the rent is calculated by the tax administration. The value is unknown in Euromod but it is very low) and the interest repayments on mortgage for the acquisition of the dwelling are considered as acquisition costs. For 2007, these costs are fixed per annum per family member for the first five years of occupation at €1,500, for the next five years at €1,125 and for the next years at €750 (no information about the year of occupation in Euromod – we use the value that corresponds to 6-10 years of occupation).

Special expenses (*dépenses spéciales*) correspond to the compulsory social contributions (except social contributions for long-term care insurance) and other expenses. They are several other expenses but all taxpayers benefit at least from a lump-sum of €480/year without any justification (time two in case of joint taxation and both members of the couple have a salaried occupation). In case of higher expenses than the lump-sum, taxpayers can deduct the amount of the expenses instead the lump-sum (no information about expenses in Euromod – lump-sum is used). Next to the lump-sum, other expenses can be deducted. The most common are i) interest expenses (excluded the mortgage interests of the main residence that are considered as



acquisition costs – see above) up to €672/year (amount multiplied by the number of persons in the tax unit), ii) insurance payment up to €672/year (amount multiplied by the number of persons in the tax unit), iii) private pension contributions (3rd pillar) up to €1,500/year for a person less than 40 years old and up to €3,200/year for a person aged between 55 and 74 years old and iv) maintenance payments up to €21,600/year.

Allowances (*abattements*) are obtained to reduce the taxable income. The most common allowances are i) allowance for extraordinary burden (childcare costs, domesticity costs...); the allowance is maximum equal to €3,600/year and cannot exceed the real costs (no information about these costs in Euromod – not simulated), ii) lone parent allowance equal to €1,920/year, iii) Compensatory allowance for salaries (wage earners) equal to €600/year, iv) Extra-professional allowance equal to €4,500/year applicable to married couples jointly taxed if both of them are working (wage earners or self-employed) and v) allowance for the retired (recipients of a pension) equal to €600/year.

| Allowances (yearly amounts) | | 2007 | 2008 | 2009 | 2010 |
|--|-----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Acquisition costs (<i>Frais d'obtention</i>) | | | | | |
| Income from a salaried occupation | | 540 | 540 | 540 | 540 |
| Travelling costs (depending on the distance home-workplace) | Min | 396 | 396 | 396 | 396 |
| | Max | 2970 | 2970 | 2970 | 2970 |
| Income resulting from a pension | | 300 | 300 | 300 | 300 |
| Income from a movable asset | | 25 | 25 | 25 | 25 |
| Rental income | | 35% of the rent |
| | Max | 2700 per building | 2700 per building | 2700 per building | 2700 per building |
| Interest repayments on mortgage for the main residence | 1-5 years after first occupation | 1500 per member of the HH |
| | 6-10 years after first occupation | 1125 per member of the HH |
| | 11 and more years after first | 750 per member of the HH |
| Special expenses (<i>Dépenses spéciales</i>) | | | | | |
| Compulsory social contributions (except social contributions for long-term care insurance) | | No limit | No limit | No limit | No limit |



| | | | | | |
|---|-----|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| For lack of higher expenses, lump-sum (times two in case of joint taxation and both members of the couple have a salaried occupation) | | 480 | 480 | 480 | 480 |
| Interest expenses (amount multiplied by the number of persons in the tax unit) | | 672 | 672 | 672 | 672 |
| Insurance payment (amount multiplied by the number of persons in the tax unit) | | 672 | 672 | 672 | 672 |
| Private pension contributions | Max | From 1500 to 3200 depending on age |
| Maintenance payment | Max | 20400 | 21600 | 23400 | 23400 |

Allowances (*Abattements*)

| | | | | | |
|---|--|--------|--------|--------|--------|
| Allowance for extraordinary burden (childcare costs, domesticity costs...); the allowance cannot exceed the real costs | | 3600 | 3600 | 3600 | 3600 |
| Lone parent allowance | | 1920 | 1920 | - | - |
| Compensatory allowance for salaries | | 600 | 600 | - | - |
| Extra-professional allowance | | 4500 | 4500 | 4500 | 4500 |
| Allowance for the retired | | 600 | 600 | - | - |
| Agricultural allowance (times two in the case of joint taxation), refused in case of receiving the extra professional allowance | | 2250 | 2250 | 2250 | 2250 |
| Commercial allowance: for the 1 st profit bracket (0 – 75,000 €/year) | | 5% | 5% | 5% | 5% |
| For the profit bracket over 75,000 €/year | | 2% | 2% | 2% | 2% |
| Transfer or termination allowance | | 10.000 | 10.000 | 10.000 | 10.000 |

Notes: allowances in grey are impossible to implement in the simulation

2.5.4 Tax base

The tax base is called “income to tax according to the schedule” (*revenu à imposer suivant barème*), which is equal to the sum of the eight categories of taxable income: Commercial/business profits; Profits from agriculture and forestry; Profits derived from self-employed professions (*profession libérale*); Net income from employment; Net income from pensions and/or annuities; Net income from investments (movable capital); Net income from rental of property and Other net income (including capital gains). By net income we mean the difference between the receipts and the costs of obtaining these receipts (*dépenses*



d'exploitation et frais d'obtention) (for example, travelling costs). Social contributions except for social contributions for long-term care and several allowances (*dépenses spéciales et abattements*) are finally deducted from the net income to obtain the adjusted tax base.

2.5.5 Tax schedule

The tax schedule is progressive. Between 2007 and 2010 the tax rates did not change, unlike the tax brackets, which changed in 2008 and 2009.

For taxpayers in tax class 1, tax is determined by applying the tax schedule presented in the table below to the adjusted taxable income.

For taxpayers in tax class 1a, tax is determined by applying the tax schedule presented in the table below to the adjusted taxable income (ATI) less half of its complement to €39,000 in 2007 (€41,340 in 2008 and €45,060 in 2009 and 2010) on condition that the maximal increase rate does not exceed 38%. In practice it means that the “transformed” tax base for the calculation of the tax is equal to $ATI - ((39000 - ATI)/2)$ in 2007. Since the taxation system is progressive, the tax base is decomposed in the appropriate band, such that income up to K_0 is not taxed, income between K_1 and K_0 is taxed at t_1 rate, etc. and income above K_n is taxed at the tax rate t_n . For each taxpayer, at the margin the tax will be calculated as $(ATI - (39000 - ATI)/2) - K) * t_k$. The marginal tax rate will be hence equal to the derivative of this function with respect to ATI, that is $t_k * 3/2$. In 2007, the limit to the marginal tax rate is 38%, this means that the maximum applicable rate is equal to 24% ($24 * 3/2 = 36$). “Transformed” tax base above 24600, corresponding to adjusted taxable income above 29400, will hence be taxed with the 24% rate.

For taxpayers in tax class 2, tax is determined by applying the tax schedule presented in the table below to the adjusted taxable income divided by 2 and then the tax obtained is multiplied by 2.



| Bracket number | 2007 | | | 2008 | | | 2009 | | | 2010 | | |
|----------------|---------------------|---------------------|------|---------------------|---------------------|------|---------------------|---------------------|------|---------------------|---------------------|------|
| | Lower Limit (€year) | Upper Limit (€year) | Rate | Lower Limit (€year) | Upper Limit (€year) | Rate | Lower Limit (€year) | Upper Limit (€year) | Rate | Lower Limit (€year) | Upper Limit (€year) | Rate |
| 1 | 0 | 9750 | 0 % | 0 | 10335 | 0 % | 0 | 11265 | 0 % | 0 | 11265 | 0 % |
| 2 | 9750 | 11400 | 8 % | 10335 | 12084 | 8 % | 11265 | 13173 | 8 % | 11265 | 13173 | 8 % |
| 3 | 11400 | 13050 | 10 % | 12084 | 13833 | 10 % | 13173 | 15081 | 10 % | 13173 | 15081 | 10 % |
| 4 | 13050 | 14700 | 12 % | 13833 | 15582 | 12 % | 15081 | 16989 | 12 % | 15081 | 16989 | 12 % |
| 5 | 14700 | 16350 | 14 % | 15582 | 17331 | 14 % | 16989 | 18897 | 14 % | 16989 | 18897 | 14 % |
| 6 | 16350 | 18000 | 16 % | 17331 | 19080 | 16 % | 18897 | 20805 | 16 % | 18897 | 20805 | 16 % |
| 7 | 18000 | 19650 | 18 % | 19080 | 20829 | 18 % | 20805 | 22713 | 18 % | 20805 | 22713 | 18 % |
| 8 | 19650 | 21300 | 20 % | 20829 | 22578 | 20 % | 22713 | 24621 | 20 % | 22713 | 24621 | 20 % |
| 9 | 21300 | 22950 | 22 % | 22578 | 24327 | 22 % | 24621 | 26529 | 22 % | 24621 | 26529 | 22 % |
| 10 | 22950 | 24600 | 24 % | 24327 | 26076 | 24 % | 26529 | 28437 | 24 % | 26529 | 28437 | 24 % |
| 11 | 24600 | 26250 | 26 % | 26076 | 27825 | 26 % | 28437 | 30345 | 26 % | 28437 | 30345 | 26 % |
| 12 | 26250 | 27900 | 28 % | 27825 | 29574 | 28 % | 30345 | 32253 | 28 % | 30345 | 32253 | 28 % |
| 13 | 27900 | 29550 | 30 % | 29574 | 31323 | 30 % | 32253 | 34161 | 30 % | 32253 | 34161 | 30 % |
| 14 | 29550 | 31200 | 32 % | 31323 | 33072 | 32 % | 34161 | 36069 | 32 % | 34161 | 36069 | 32 % |
| 15 | 31200 | 32850 | 34 % | 33072 | 34821 | 34 % | 36069 | 37977 | 34 % | 36069 | 37977 | 34 % |
| 16 | 32850 | 34500 | 36 % | 34821 | 36570 | 36 % | 37977 | 39885 | 36 % | 37977 | 39885 | 36 % |
| 17 | 34500 | | 38 % | 36570 | 10335 | 38 % | 39885 | | 38 % | 39885 | | 38 % |

After having applied the tax schedule, a reduction of €900/year is accorded for dependent children (*modération pour enfant*). This reduction (non-refundable tax credit) is multiplied by the number of dependent children. This reduction disappears in 2008 and is replaced by a boni for children (*boni pour enfant*), which is described in the benefit section.

Finally, an additional 2.5% of the tax payable is added as a contribution to the unemployment fund.

2.5.6 Tax credits

Strictly speaking, no refundable tax credits existed before 2009. In 2009, the Government introduced three refundable tax credits to replace three tax allowances. The tax credit for employees (*credit d'impôt pour salariés*) replaced the compensatory tax allowance for salaries (*abattement compensatoire pour salariés*), the tax credit for the retired (*credit d'impôt pour pensionnés*) replaced the tax allowance for the retired (*abattement retraite*) and the tax credit for lone parents (*credit d'impôt monoparental*) replaced the tax allowance for lone parents (*abattement monoparental*).

Three different policies have been created to simulate these three tax credits.

Tax credit for employees (*tintcee_lu*): the unit of analysis is the individual (*tu_individual_lu*). Amount: 25 € per month.

Tax credit for retired (*tintcpe_lu*): the unit of analysis is the individual (*tu_individual_lu*). Amount: 25 € per month.



Tax credit for lone parent (*tintclp_lu*): the unit of analysis is the tax household (*tu_tin_lu*). Amount: 62.5 € per month.

2.6 Minimum wage

Unless exceptional and specific agreements possible in some circumstances, wages are submitted to minimum rates in Luxembourg : €1,570.28/month for non-qualified wage-earners in 2007 (€ 9.0768/hour with a basis of 173 hours/month), €1,609.53/month in 2008 and €1,682.76/month in 2009 and 2010.

Those basic amounts are increased by 20% for qualified workers and also modulated based on the age of the wage-earner : 80% of the basic amount if aged 17 or 18, 75% of the basic amount if between 15- and 17-year-old.

The basic amount is defined as the “Minimum Social Wage” (MSW) and is also an important parameter for the tax-benefit system as a whole : several amounts are defined based on this MSW : upper limit of the monthly old-age pension in the general scheme (5 times the MSW), ceilings for social contributions, etc

EUROMOD Notes: Only the basic amount is simulated in EUROMOD



3. DATA

3.1 General description

The Luxembourg database consists of the Luxembourgish part of the 2008 wave of the European Union Statistics on Income and Living Conditions (EU-SILC). This is a long-term panel survey started in 2003, representative of the Luxembourgish population living in private households. As it is a long-term panel, note that for the year 2008 the sample is composed of 5 longitudinal sub-samples (one started in 2003 composed of 9,580 persons, one started in 2004 composed of 1,760 persons, one started in 2005 composed of 1,432 persons, one started in 2006 composed of 1,678 persons and one started in 2007 composed of 1,357 persons) and one newly cross-sectional sub-sample (individuals and households participated for the first time in the survey composed of 2,000 “fiscal households”). The survey takes place in the first half of the year following the income reference year. The unit of assessment is the sociological household, defined as the persons living at the same address.

The response rate for the total sample is defined as (number of addresses successfully contacted / number of valid addresses contacted) x (number of household interviews completed and accepted for the database / number of eligible households at contacted addresses) = 66.47%. The response rate is “quite high” due to the fact that 2008 corresponds with the 6th wave of a long-term panel. For information, the response rate of the 1st wave was only 37.58%.

The Data Base on which the EUROMOD database is based is provided by CEPS/INSTEAD and STATEC. Contrary to the User Data Base provided by Eurostat the Data Base provided by CEPS/INSTEAD and STATEC is more detailed, especially concerning the income components.

Table 14. EUROMOD database description

| EUROMOD database | LU_2008_a1 |
|-------------------------|---|
| Original name | PSELL3/EU-SILC wave 6 |
| Provider | CEPS/INSTEAD and STATEC |
| Year of collection | 2008 |
| Period of collection | January 2008 to July 2008 |
| Income reference period | 2007 |
| Sampling | Stratified sampling |
| Unit of assessment | Fiscal household |
| Coverage | Private households |
| Sample size | 3,779 households and 7,638 persons aged 16 years and more |
| Response rate | 66.47% |

3.2 Sample quality and weights

3.2.1 Non-response

The response rate is equal to 66.47%, meaning that the non-response rate is equal to 33.53%. PSELL3/EU-SILC is a long-term panel started in 2003. To take into account the high turn-over of the population in Luxembourg and in order to be cross-sectionally representative, a sub-sample of “new immigrants” is added each year. The total non-response rate is equal to 33.53% but it is equal to 14.28% for households having participated in the survey in the previous year and 74.44% for households belonging to the new sub-sample.

For the first year of PSELL3/EU-SILC (year 2003), the non-response rate was 62.42%.



The high non-response rate could be explained by the fact that the participation in this survey is voluntary and by the fact that the probability of being contacted for participating in a survey is quite high in Luxembourg due to the small size of the population.

3.2.2 Weights

The weights were developed in three steps: a) correction for unit non-response, b) adjustment to external sources (calibration) and c) final cross-sectional weights.

The global non-response correction rests on a model of the behaviour of the contacted or responding households. The external sources used for the final calibration come from two different sources: the estimation of the population in 2008 made by STATEC and the 2001 census data. The final cross-sectional weights are elaborated using the Generalized Share Weight Method. Individuals belonging to the same households have the same weight.

Table 15. Descriptive statistics of the grossing-up weight

| | |
|--------------|----------|
| Number | 9366 |
| Mean | 47.1153 |
| Median | 18.9947 |
| Maximum | 442.63 |
| Minimum | 0.2151 |
| Max/Min | 2057.79 |
| Decile 1 | 2.6555 |
| Decile 9 | 138.1894 |
| Dec 9 / Dec1 | 52.0382 |

Note: the numbers in the table correspond to the adjusted dataset (see 3.3 Data adjustment).

3.2.3 Item non-response and under-reporting

Before imputation, item non-response especially concerns income variables and more particularly some income components like interest income or self-employed income. Because of the fact that all income components having item non-response have been imputed, the PSELL3/EU-SILC dataset does not have item non-response for the income variables. Item non-response for other variables is very low.

Concerning under-reporting, the only way to assess if households have under- (versus over-) reported some income components is to compare the survey data with administrative data (see table 17).

3.3 Data adjustment

Adjustments to variables are kept to a minimum. Some minor data cleaning is done to make sure that the households and relationships of individuals within households are coherent (for example, that young children are not living alone or family relations are coherent).

In order to guarantee consistency between demographic variables and income variables which refer to the previous year (and on which the EUROMOD simulation is based), all children born between the end of the income reference period and the date of interview have been dropped from the sample.



Households with at least one international civil servant have been dropped from the PSELL3/EU-SILC dataset. International civil servants have a specific tax-benefit system different from the national one. The PSELL3/EU-SILC dataset contains 10,147 observations. After having dropped the persons living in a household with at least one international civil servant (731 cases) and all the children born between the end of the income reference period and the date of interview (50 cases), the dataset contains 9,366 observations.

3.4 Imputations and assumptions

3.4.1 Time period

- Reference period of socio-demographic, labour, economic characteristics corresponds to the time of data collection (January-July 2008). However, some labour information (monthly main activity) corresponds to the time of income reference period (2007).
- Information on incomes refers to the calendar year 2007.
- For the following income components, information about how many number of months they were paid is present: employment income (*yemmy*), self-employment income (*ysemy*), unemployment income (*bunmy*), fringe benefit (*kfbmy*), invalidity income (*pdimy*), old-age pension (*poamy*) and survivor pension (*psumy*).

3.4.2 Gross incomes

The PSELL3/EU-SILC survey contains information on both gross and net monetary incomes. Both incomes are collected during the fieldwork.

3.4.3 Other imputed variables

Since Luxembourg uses the national version of EU-SILC with detailed information on income components, no specific imputation has been done to disaggregate the income component present in the EU-SILC UDB.

In order to simulate the unemployment benefit, the variable *yempv* (previous year income) has been derived reversing the rule for the calculation of unemployment benefit.

3.5 Updating

The factors that are used to update monetary variables from 2007 to 2010 are shown in the table below. No other updating adjustments are employed. Thus the distribution of characteristics (such as employment status and demographic variables), and the distribution of each income source that is not simulated, remain as they were in 2007.



Table 16. Updating factors

| Index | Income Source/index type | 2007-2008 | 2007-2009 | 2007-2010 |
|-------------------|---|------------|------------|-------------|
| <i>def_factor</i> | Annual average inflation (IPCN) | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>afc</i> | ASSETS: Financial capital | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>bacpm</i> | BENEFIT: Permanent accident | 1.025427 | 1.082044 | 1.10003 |
| <i>bca01</i> | BENEFIT: Care allowance | 1.0208 | 1.046343 | 1.063744 |
| <i>bca02</i> | BENEFIT: Long-term care benefit | 1.0208 | 1.071631 | 1.083756 |
| <i>bched01</i> | BENEFIT: New school year allowance | 1 | 1 | 1 |
| <i>bched02</i> | BENEFIT: Subsidy for primary and post-primary school | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>bched03</i> | BENEFIT: Communal subsidy for school | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>bched04</i> | BENEFIT: Education allowance | 1 | 1 | 1 |
| <i>bdisv</i> | BENEFIT: Heavily disabled person benefit | 1.025427 | 1.082044 | 1.10003 |
| <i>bed</i> | BENEFIT: Scholarship | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>bfapl</i> | BENEFIT: Parental leave allowance | 1 | 1 | 1 |
| <i>bfauc</i> | BENEFIT: Child benefit | 1 | 1 | 1 |
| <i>bhl</i> | BENEFIT: Health payment | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>bho</i> | BENEFIT: Housing benefit | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>bmaba</i> | BENEFIT: Birth allowance | 1 | 1 | 1 |
| <i>bmals</i> | BENEFIT: Maternity allowance | 1 | 1 | 1 |
| <i>bmawk</i> | BENEFIT: Maternity payments | 1.0208 | 1.067277 | 1.08502 |
| <i>bsacm</i> | BENEFIT: Minimum Guaranteed Income (RMG) | 1.0208 | 1.067277 | 1.08502 |
| <i>bsaht</i> | BENEFIT: Heating allowance/ Cost-of-living allowance | 1.1 | 2.2 | 2.2 |
| <i>bsaot</i> | BENEFIT: Other social assistance benefits | 1.0208 | 1.067277 | 1.08502 |
| <i>bunss</i> | BENEFIT: Unemployment benefit | 1.0208 | 1.067277 | 1.08502 |
| <i>byr</i> | BENEFIT: Early retirement benefit | 1.0208 | 1.067277 | 1.08502 |
| <i>pdi00</i> | PENSION: Invalidity pension | 1.025427 | 1.082044 | 1.10003 |
| <i>poacc</i> | PENSION: Old-age pension for having educated children | 1.025427 | 1.082044 | 1.10003 |
| <i>poacm</i> | PENSION: Additional pension (2 nd pillar) | 1.025427 | 1.082044 | 1.10003 |
| <i>poamr</i> | PENSION: Supplementary pension for minors | 1.025427 | 1.082044 | 1.10003 |
| <i>poaps</i> | PENSION: Old-age pension from private sector | 1.025427 | 1.082044 | 1.10003 |
| <i>poapu</i> | PENSION: Old-age pension from public sector | 1.025427 | 1.082044 | 1.10003 |
| <i>poawr</i> | PENSION: War pension | 1.025427 | 1.082044 | 1.10003 |
| <i>poaxp</i> | PENSION: End-of-year allowance for pensioners | 1.025427 | 1.082044 | 1.10003 |
| <i>psups</i> | PENSION: Survivor pension from private sector | 1.025427 | 1.082044 | 1.10003 |
| <i>psupu</i> | PENSION: Survivor pension from public sector | 1.025427 | 1.082044 | 1.10003 |
| <i>tad</i> | TAX: Tax adjustment | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>tin</i> | TAX: Income tax | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>tis</i> | TAX: Income tax and social contributions | 1.03398705 | 1.03779513 | 1.061405179 |



| | | | | |
|----------------|--|-------------|-------------|-------------|
| <i>tpr</i> | TAX: Property tax | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>tscee</i> | TAX: Employee social contributions | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>tscer</i> | TAX: Employer social contributions | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>tscse</i> | TAX: Self-employed social contributions | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>xhc</i> | EXPENDITURE: Housing costs | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>xhcmomi</i> | EXPENDITURE: Mortgage repayment | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>xhcot</i> | EXPENDITURE: Other housing costs | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>xhcrt</i> | EXPENDITURE: Rent | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>xmp</i> | EXPENDITURE: Maintenance payment | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>xpp</i> | EXPENDITURE: Contributions to private pension | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>yds</i> | INCOME: Disposable income | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>yem</i> | INCOME: Wage | 1.0208 | 1.067277 | 1.08502 |
| <i>yempv</i> | INCOME: Previous income (to simulate unemployment benefit) | 1.042297926 | 1.064010101 | 1.11241826 |
| <i>yivwg</i> | INCOME: Hourly predicted wage | 1.0208 | 1.067277 | 1.08502 |
| <i>yyi</i> | INCOME: Investment income | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>yot</i> | INCOME: Other income | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>ypp</i> | INCOME: Private pension | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>ypr</i> | INCOME: Property income | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>yprrt</i> | INCOME: Property income | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>ypt</i> | INCOME: Private transfers received | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>yse</i> | INCOME: Self-employed income | 1.03398705 | 1.03779513 | 1.061405179 |
| <i>ysv</i> | INCOME: Severance pay | 1.03398705 | 1.03779513 | 1.061405179 |

Sources: STATEC and IGSS



4. VALIDATION

4.1 Aggregate Validation

4.1.1 Non-simulated incomes

Table 17 presents a comparison between EUROMOD income components recipients/payers and expenditure/revenue and external sources for the year 2007. Ratio to external source corresponds to EUROMOD numbers divided by the numbers from external sources. In general, the results are good. The discrepancies observed between the EUROMOD and external sources numbers can be explained by three main factors: i) persons living in collective households are present in external sources and not in EUROMOD, ii) the definition of some income components can differ slightly from one source to another iii) some income components are not well understood during the survey. For example, in Luxembourg the concept of early retirement (*préretraite*) coexists with the concept of anticipated retirement (*retraite anticipée*). It seems that some persons confused these two concepts which may explain why the number of recipients of the early retirement benefit is 3 times higher in EUROMOD than in external sources.

Table 17. EUROMOD validation: income sources and taxes and benefits included but not simulated [2007]

| | Recipients/Payers (1000 persons) | | | Expenditure/Revenue (millions of €) | | |
|---|----------------------------------|------------------|---------------------|-------------------------------------|------------------|---------------------|
| | EUROMOD | External sources | Ratio to Ext source | EUROMOD | External sources | Ratio to Ext source |
| Employment income (<i>yem</i>) | 197.55 | 214.24 | 0.92 | 8520.55 | 8073.32 | 1.06 |
| Self-employment income (<i>yse</i>) | 15.54 | 18.28 | 0.85 | 642.99 | 893.29 | 0.72 |
| Early retirement benefit (<i>byr</i>) | 2.88 | 0.98 | 2.95 | 95.66 | 36.82 | 2.60 |
| Disability benefit (<i>pdi00</i>) | 10.84 | 11.28 | 0.96 | 192.66 | 237.80 | 0.81 |
| Old-age pension for having educated children (<i>poacc</i>) | 18.14 | 14.19 | 1.28 | 41.94 | 32.60 | 1.29 |
| Additional pension, 2 nd pillar (<i>poacm</i>) | 1.81 | n/a | n/a | 19.24 | n/a | n/a |
| Supplementary pension for minors (<i>poamr</i>) | 0.18 | n/a | n/a | 0.11 | n/a | n/a |
| Old-age pension from private sector (<i>poaps</i>) | 43.54 | 43.00 | 1.01 | 1177.75 | 1225.91 | 0.96 |
| Old-age pension from public sector (<i>poapu</i>) | 9.35 | 9.21 | 1.01 | 517.26 | 529.37 | 0.98 |
| War pension (<i>poawr</i>) | 0.41 | n/a | n/a | 2.95 | n/a | n/a |
| End-of-year allowance for pensioners (<i>poaxp</i>) | 34.55 | n/a | n/a | 19.96 | n/a | n/a |
| Survivor pension from private sector (<i>psups</i>) | 17.89 | 19.13 | 0.94 | 391.12 | 410.287 | 0.95 |
| Survivor pension from public sector (<i>psupu</i>) | 4.81 | 4.63 | 1.04 | 122.6 | 145.09 | 0.85 |
| Permanent accident benefit (<i>bacpm</i>) | 3.02 | 8.73 | 0.35 | 21.9 | 58.04 | 0.38 |
| Care allowance (<i>bca01</i>) | 0.85 | 0.04 | 19.32 | 3.57 | 19.23 | 1.49 |
| Long-term care benefit (<i>bca02</i>) | 2.19 | 6.34 | 0.35 | 19.34 | | |
| Heavily handicapped person benefit (<i>bdisv</i>) | 0.63 | 1.00 | 0.63 | 5.78 | | |



| | | | | | | |
|--|-------|-------|------|-------|---------|------|
| Subsidy for primary and post-primary school (<i>bched02</i>) | 2.16 | n/a | n/a | 0.25 | n/a | n/a |
| Communal subsidy for school (<i>bched03</i>) | 3.42 | n/a | n/a | 0.57 | n/a | n/a |
| Education allowance (<i>bched04</i>) | 11.35 | 5.97 | 1.90 | 29.75 | 36.447 | 0.82 |
| Parental leave benefit (<i>bfapl</i>) | 3.04 | 1.77 | 1.71 | 21.24 | 32.91 | 0.65 |
| Antenatal, birth, postnatal benefit (<i>bmaba</i>) | 12.1 | 10.24 | 1.18 | 7.82 | 9.02 | 0.87 |
| Maternity allowance (<i>bmals</i>) | 1.44 | 1.39 | 1.03 | 5.54 | 4.23 | 1.31 |
| Maternity payment (<i>bmawk</i>) | 1.97 | 2.66 | 0.74 | 19.67 | 47 | 0.42 |
| Other benefit from FNS (<i>bsaot</i>) | 2.53 | n/a | n/a | 13.43 | n/a | n/a |
| Unemployment benefit (<i>bunss</i>) | 7.18 | 4.76 | 1.51 | 67.24 | 106.302 | 0.63 |
| Health payment (<i>bhl</i>) | 1.33 | n/a | n/a | 25.01 | 73.4 | 0.34 |
| Housing benefit (<i>bho</i>) | 17.51 | n/a | n/a | 26.59 | n/a | n/a |

Sources: IGSS, ADEM and own calculation from IGSS Datawarehouse

Table 17.a presents a comparison between EUROMOD income components recipients/payers and expenditure/revenue and external sources for the year 2008. Ratio to external source corresponds to EUROMOD numbers divided by the numbers from external sources. EUROMOD numbers of recipients/payers are the same in 2008 as in 2007 (no demographic update). But the expenditure/revenue figures are updated using the income updating factors. Comments made for Table 17 are also applicable to Table 17.a.

Table 17.a. EUROMOD validation: income sources and taxes and benefits included but not simulated [2008]

| | Recipients/Payers (1000 persons) | | | Expenditure/Revenue (millions of €) | | |
|---|----------------------------------|------------------|---------------------|-------------------------------------|------------------|---------------------|
| | EUROMOD | External sources | Ratio to Ext source | EUROMOD | External sources | Ratio to Ext source |
| Employment income (<i>yem</i>) | 197.55 | 221.08 | 0.89 | 8697.78 | 8609.00 | 1.01 |
| Self-employment income (<i>yse</i>) | 15.54 | 18.35 | 0.85 | 664.85 | 974.49 | 0.68 |
| Early retirement benefit (<i>byr</i>) | 2.88 | 0.95 | 3.02 | 97.65 | 36.78 | n/a |
| Disability benefit (<i>pdi00</i>) | 10.84 | 10.92 | 0.99 | 197.56 | 237.80 | 0.83 |
| Old-age pension for having educated children (<i>poacc</i>) | 18.14 | 14.31 | 1.27 | 43.01 | 32.7 | 1.31 |
| Additional pension, 2 nd pillar (<i>poacm</i>) | 1.81 | n/a | n/a | 19.73 | n/a | n/a |
| Supplementary pension for minors (<i>poamr</i>) | 0.18 | n/a | n/a | 0.11 | n/a | n/a |
| Old-age pension from private sector (<i>poaps</i>) | 43.54 | 44.61 | 0.98 | 1207.7 | 1301.41 | 0.93 |
| Old-age pension from public sector (<i>poapu</i>) | 9.35 | 9.53 | 0.98 | 530.41 | 566.63 | 0.94 |
| War pension (<i>poawr</i>) | 0.41 | n/a | n/a | 3.02 | n/a | n/a |
| End-of-year allowance for pensioners (<i>poaxp</i>) | 34.55 | n/a | n/a | 20.46 | n/a | n/a |
| Survivor pension from private sector (<i>psups</i>) | 17.89 | 19.19 | 0.93 | 401.07 | 421.95 | 0.95 |
| Survivor pension from public sector (<i>psupu</i>) | 4.81 | 4.62 | 1.04 | 125.72 | 148.60 | 0.85 |



| | | | | | | |
|--|-------|-------|-------|-------|--------|------|
| Permanent accident benefit (<i>bacpm</i>) | 3.02 | n/a | n/a | 22.45 | n/a | n/a |
| Care allowance (<i>bca01</i>) | 0.85 | 0.03 | 27.42 | 3.64 | 22.26 | 1.32 |
| Long-term care benefit (<i>bca02</i>) | 2.19 | 6.59 | 0.33 | 19.75 | | |
| Heavily handicapped person benefit (<i>bdisv</i>) | 0.63 | 0.94 | 0.67 | 5.93 | | |
| Subsidy for primary and post-primary school (<i>bched02</i>) | 2.16 | n/a | n/a | 0.26 | n/a | n/a |
| Communal subsidy for school (<i>bched03</i>) | 3.42 | n/a | n/a | 0.59 | n/a | n/a |
| Education allowance (<i>bched04</i>) | 11.35 | 5.92 | 1.92 | 29.75 | 36.45 | 0.82 |
| Parental leave benefit (<i>bfapl</i>) | 3.04 | 2.01 | 1.51 | 21.24 | 33.38 | 0.64 |
| Antenatal, birth, postnatal benefit (<i>bmaba</i>) | 12.1 | 11.63 | 1.04 | 7.82 | 10.32 | 0.76 |
| Maternity allowance (<i>bmals</i>) | 1.44 | 1.37 | 1.05 | 5.54 | 4.14 | 1.34 |
| Maternity payment (<i>bmawk</i>) | 1.97 | 2.87 | 0.69 | 20.08 | 52 | 0.38 |
| Other benefit from FNS (<i>bsaot</i>) | 2.53 | n/a | n/a | 13.71 | n/a | n/a |
| Unemployment benefit (<i>bunss</i>) | 7.18 | 4.75 | 1.51 | 68.64 | 113.32 | 0.61 |
| Health payment (<i>bhl</i>) | 1.33 | n/a | n/a | 25.86 | 79.3 | 0.33 |
| Housing benefit (<i>bho</i>) | 17.51 | n/a | n/a | 27.49 | n/a | n/a |

Sources: IGSS, ADEM and own calculation from IGSS Datawarehouse

4.1.2 Simulated tax and benefits

Table 18 presents a comparison between EUROMOD simulated components and external sources for the year 2007. Ratio to external source corresponds to EUROMOD numbers divided by the numbers from external sources. Except for social assistance and heating allowance, two components subject to non take-up, the results are rather good. In Luxembourg external sources do not always provide taxes and benefits components paid/received by residents and by non-residents. For some components, we had to hypothesise concerning recipients and the % expenditure/revenue concerning only residents. For *tin_s* and the sum of the contributions for healthcare, we hypothesise that residents pay 65% of the income tax. For the sum of contributions for health payment, we hypothesise that residents pay 53%. For the sum of contributions for pension, we hypothesise that residents pay 55%. For the sum of contributions for long-term-care, we hypothesise that residents pay 60% and for the sum of contributions for accident, they pay 65%. For *bched_s*, we hypothesise that the % received by residents is the same than the % received for *bch_s*.



Table 18. EUROMOD validation: taxes and benefits simulated [2007]

| | Recipients/Payers (1000 persons) | | | Expenditure/Revenue (millions of €) | | |
|--|-------------------------------------|------------------|---------------------|--|------------------|---------------------|
| | EUROMOD | External sources | Ratio to Ext source | EUROMOD | External sources | Ratio to Ext source |
| Unemployment benefit (<i>bun_s</i>) | 7.18 | 4.76 | 1.51 | 67.23 | 106.3 | 0.63 |
| Social assistance (<i>bsa_s</i>) | 14.05 | 7.47 | 1.88 | 104.95 | 84.51 | 1.24 |
| Heating allowance (<i>bsaht_s</i>) | 21.59 | 9.49 | 2.27 | 17.58 | 7.68 | 2.29 |
| Child benefit (<i>bch_s</i>) | 68.10 | 66.80 | 1.02 | 348.73 | 364.20 | 0.96 |
| New year school allowance (<i>bched_s</i>) | 51.36 | 50 | 1.03 | 18.28 | 20.77 | 0.88 |
| Boni for children (<i>bch00_s</i>) | - | - | - | - | - | - |
| Income tax (<i>tin_s</i>) | 180.98 | n/a | n/a | 1513.04 | 1505.43 | 1.01 |
| Employee social contributions for healthcare (<i>tsceehl_s</i>) | 287.98 | 276.17 | 1.04 | 291.68 | 607.03 | 1.00 |
| Employer social contributions for healthcare (<i>tscerhl_s</i>) | 197.52 | 276.17 | 1.09 | 217 | | |
| Credited social contributions for healthcare (<i>tsccthl_s</i>) | 102.97 | | | 71.94 | | |
| Self-employed social contributions for healthcare (<i>tscsehl_s</i>) | 15.24 | 16.39 | 0.93 | 28.84 | | |
| Employee social contributions for health payment (<i>tsceesi_s</i>) | 161.68 | 144.89 | 1.12 | 48.05 | 93.86 | 1.07 |
| Employer social contributions for health payment (<i>tscersi_s</i>) | 161.68 | 144.89 | 1.12 | 48.05 | | |
| Self-employed social contributions for health payment (<i>tscsesi_s</i>) | 15.24 | 16.39 | 0.93 | 1.07 | | |
| Credited social contributions for health payment (<i>tscctsi_s</i>) | 14.05 | n/a | n/a | 2.83 | | |
| Civil servant social contributions for pension (<i>tscepbpi_s</i>) | 35.84 | 24.93 | 1.44 | 174.27 | n/a | n/a |
| Employee from the private sector social contributions for pension (<i>tsceepi_s</i>) | 165.49 | 180.87 | 1.00 | 490.77 | 1102.71 | 0.97 |
| Self-employed social contributions for pension (<i>tscsepi_s</i>) | 15.24 | | | 85.46 | | |
| Employer social contributions for pension (<i>tscerpi_s</i>) | 197.55 | 189.41 | 1.04 | 648.62 | | |
| Credited social contributions for pension (<i>tscctpi_s</i>) | 13.02 | n/a | n/a | 16.61 | | |



| | | | | | | |
|--|--------|--------|------|--------|--------|------|
| Employee social contribution for long-term care (<i>tsceot_s</i>) | 266.04 | 276.17 | 0.99 | 137.59 | 146.09 | 1.00 |
| Social assistance recipient social contribution for long-term care (<i>tscebeot_s</i>) | 8.46 | | | 0.07 | | |
| Self-employed social contribution for long-term care (<i>tscseot_s</i>) | 15.24 | 16.39 | 0.93 | 9.11 | | |
| Employer social contribution for accident (<i>tscerac_s</i>) | 197.55 | n/a | n/a | 200.93 | 96.97 | 2.21 |
| Self-employed social contribution for accident (<i>tscseac_s</i>) | 15.24 | n/a | n/a | 13.35 | | |

Sources: IGSS, Ministry of Finance

The discrepancy between external statistics and simulated contributions for accident are, on the one hand, imputable to our hypothesis that a 2.5% contribution rate is used (see relevant paragraphs in section 2 for more information about this assumption).

Table 18.a presents a comparison between EUROMOD simulated components and external sources for the year 2008. Ratio to external source corresponds to EUROMOD numbers divided by the numbers from external sources. The same comments can be made for Table 18.a as those for table 18. For *bch00_s*, we do not have the number of recipients only for residents from external source. We hypothesise, that the number is the same than for *bch_s*.



Table 18.a EUROMOD validation: taxes and benefits simulated [2008]

| | Recipients/Payers (1000 persons) | | | Expenditure/Revenue (millions of €) | | |
|--|-------------------------------------|------------------|---------------------|--|------------------|---------------------|
| | EUROMOD | External sources | Ratio to Ext source | EUROMOD | External sources | Ratio to Ext source |
| Unemployment benefit (<i>bun_s</i>) | 7.18 | 4.75 | 1.51 | 64.51 | 113.32 | 0.57 |
| Social assistance (<i>bsa_s</i>) | 14.13 | 7.77 | 1.82 | 108.23 | 83.64 | 1.29 |
| Heating allowance (<i>bsaht_s</i>) | 21.71 | 13.90 | 1.56 | 19.61 | 12.03 | 1.63 |
| Child benefit (<i>bch_s</i>) | 68.10 | 67.88 | 1.00 | 348.73 | 365.69 | 0.95 |
| New year school allowance (<i>bched_s</i>) | 51.36 | 51.50 | 1.00 | 18.28 | 20.11 | 0.91 |
| Boni for children (<i>bch00_s</i>) | 69.66 | 67.88 | 1.03 | 110.19 | 143.00 | 0.77 |
| Income tax (<i>tin_s</i>) | 192.93 | n/a | n/a | 1582.13 | 1682.83 | 0.94 |
| Employee social contributions for healthcare (<i>tsceehl_s</i>) | 287.98 | 283.12 | 1.02 | 298.12 | 651.17 | 0.96 |
| Employer social contributions for healthcare (<i>tscerhl_s</i>) | 197.52 | 283.12 | 1.06 | 221.65 | | |
| Credited social contributions for healthcare (<i>tsccthl_s</i>) | 102.97 | | | 73.64 | | |
| Self-employed social contributions for healthcare (<i>tscsehl_s</i>) | 15.24 | 16.50 | 0.92 | 29.72 | | |
| Employee social contributions for health payment (<i>tsceesi_s</i>) | 161.68 | 150.24 | 1.08 | 49.05 | 99.52 | 1.03 |
| Employer social contributions for health payment (<i>tscersi_s</i>) | 161.68 | 150.24 | 1.08 | 49.05 | | |
| Self-employed social contributions for health payment (<i>tscsesi_s</i>) | 15.24 | 16.50 | 0.92 | 1.1 | | |
| Credited social contributions for health payment (<i>tscctsi_s</i>) | 14.13 | n/a | n/a | 2.92 | | |
| Civil servant social contributions for pension (<i>tscepbpi_s</i>) | 35.84 | 25.60 | 1.40 | 177.9 | n/a | n/a |
| Employee from the private sector social contributions for pension (<i>tsceepi_s</i>) | 165.49 | 186.24 | 0.97 | 500.94 | 1192.89 | 0.91 |
| Self-employed social contributions for pension (<i>tscsepi_s</i>) | 15.24 | | | 88.07 | | |
| Employer social contributions for pension (<i>tscerpi_s</i>) | 197.55 | 195.33 | 1.01 | 662.37 | | |
| Credited social contributions for pension (<i>tscctpi_s</i>) | 13.02 | n/a | n/a | 16.65 | | |



| | | | | | | |
|--|--------|--------|------|--------|--------|------|
| Employee social contribution for long-term care (<i>tsceot_s</i>) | 266.04 | 283.12 | 0.97 | 140.48 | 158.16 | 0.95 |
| Social assistance recipient social contribution for long-term care (<i>tscebeot_s</i>) | 8.54 | | | 0.08 | | |
| Self-employed social contribution for long-term care (<i>tscseot_s</i>) | 15.24 | 16.50 | 0.92 | 9.42 | 96.88 | 2.26 |
| Employer social contribution for accident (<i>tscerac_s</i>) | 197.55 | n/a | n/a | 205.24 | | |
| Self-employed social contribution for accident (<i>tscseac_s</i>) | 15.24 | n/a | n/a | 13.76 | | |

Sources: IGSS, Ministry of Finance

4.2 Income distribution

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

4.2.1 Poverty

Table 19 compares poverty rates issued from EUROMOD with the official poverty rates produced from EU-SILC 2007. The EUROMOD 2007 rates are a little lower than the SILC 2007 rates. The difference may be for two main reasons: i) EUROMOD does not take into account the non take-up for social assistance and ii) the coverage of EUROMOD input data differs slightly from that of SILC 2007 because international civil servants (high income) have been excluded from the EUROMOD input data.



Table 19. EUROMOD validation: poverty rates at different poverty lines

| Percentage of individuals below: | EUROMOD 2007 | EUROMOD 2008 | EUROMOD 2009 | EUROMOD 2010 | SILC 2007 |
|----------------------------------|--------------|--------------|--------------|--------------|-----------|
| 40% of median equivalent income | 0.3 | 0.2 | 0.2 | 0.2 | 2.5 |
| males | 0.3 | 0.2 | 0.2 | 0.2 | 2.0 |
| females | 0.2 | 0.2 | 0.2 | 0.2 | 3.1 |
| 50% of median equivalent income | 2.9 | 2.0 | 1.2 | 1.5 | 6.6 |
| males | 2.9 | 2.3 | 1.1 | 1.5 | 5.8 |
| females | 2.9 | 1.7 | 1.4 | 1.6 | 7.5 |
| 60% of median equivalent income | 10.8 | 8.8 | 7.7 | 8.2 | 13.4 |
| males | 10.0 | 8.5 | 7.5 | 7.9 | 12.5 |
| females | 11.6 | 9.0 | 7.9 | 8.5 | 14.3 |
| 70% of median equivalent income | 18.6 | 17.8 | 17.0 | 17.1 | 21.2 |
| males | 17.8 | 17.0 | 16.0 | 16.0 | 20.4 |
| females | 19.3 | 18.6 | 18.1 | 18.1 | 22.1 |

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

For SILC 2007 and the 60% of median equivalent income, we provide the 95% confidence interval in brackets.

Source: Own calculation

Table 20 compares poverty rates by age groups issued from EUROMOD with the official poverty rates produced from EU-SILC 2007. The comments on Table 19 apply.

Table 20. EUROMOD validation: poverty rates by age group

| Percentage of individuals below: | EUROMOD 2007 | EUROMOD 2008 | EUROMOD 2009 | EUROMOD 2010 | SILC 2007 |
|----------------------------------|--------------|--------------|--------------|--------------|-----------|
| Population | 10.8 | 8.8 | 7.8 | 8.2 | 13.4 |
| 0-17 | 16.2 | 11.5 | 10.3 | 10.9 | 19.8 |
| 18-24 | 14.8 | 13.4 | 13.2 | 13.3 | 15.5 |
| 25-49 | 10.5 | 8.5 | 7.5 | 7.8 | 13.4 |
| 50-64 | 8.1 | 7.0 | 6.5 | 6.8 | 9.8 |
| 65and more | 3.3 | 3.3 | 2.2 | 2.5 | 5.4 |

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

Source: Own calculation

4.2.2 Income inequality

Table 21 compares income inequality indicators issued from EUROMOD with the income inequality produced from EU-SILC 2007. Comments for Table 19 apply.



Table 21. EUROMOD validation: income inequality

| Percentage of individuals below: | EUROMOD 2007 | EUROMOD 2008 | EUROMOD 2009 | EUROMOD 2010 | SILC 2007 |
|---|--------------|--------------|--------------|--------------|-------------|
| Gini Coefficient equivalised original income | 0.4640 | 0.4641 | 0.4637 | 0.4637 | 0.4599 |
| Gini Coefficient equivalised disposable income | 0.2503 | 0.2478 | 0.2436 | 0.2446 | 0.2757 |
| Income quintile ratio (S80/S20) | 3.44 | 3.37 | 3.25 | 3.26 | 4.1 |
| Average equivalised disposable income per decile group of equivalised disposable income | | | | | |
| 1 | 1317.7771 | 1392.2832 | 1505.5877 | 1510.1495 | 1109.476596 |
| 2 | 1646.2915 | 1715.5675 | 1834.7102 | 1852.7225 | 1617.034814 |
| 3 | 1919.2106 | 1979.1728 | 2092.8682 | 2119.1517 | 1919.508653 |
| 4 | 2174.5033 | 2235.1982 | 2350.3787 | 2383.6724 | 2181.577596 |
| 5 | 2401.8467 | 2465.1946 | 2593.7110 | 2627.9627 | 2448.977031 |
| 6 | 2666.5603 | 2738.4391 | 2883.1096 | 2921.2340 | 2725.465493 |
| 7 | 2988.3775 | 3070.5548 | 3230.3759 | 3272.6041 | 3072.753472 |
| 8 | 3371.5917 | 3463.0382 | 3640.7021 | 3691.8717 | 3501.843824 |
| 9 | 3959.4409 | 4070.2129 | 4268.3184 | 4328.2548 | 4148.886617 |
| 10 | 6201.0371 | 6373.8829 | 6636.9556 | 6733.1171 | 6740.272025 |
| Mean income (unequivalised) | 5411.98 | 5576.04 | 5858.21 | 5933.91 | 5581.16 |
| Mean income (equivalised) | 2864.47 | 2950.53 | 3102.66 | 3143.12 | 2946.80 |
| Median income (equivalised) | 2520.30 | 2578.91 | 2713.27 | 2750.97 | 2576.39 |

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

Source: Own calculation



4.3 Summary of “health warnings”

This final section summarises the main findings in terms of particular aspects of the LU part of EUROMOD or its database that should be borne in mind when planning appropriate uses of the model and in interpreting results.

- *The input database contains only residents affiliated to the national social security system. That means that international civil servants who have their own social security system and their own tax system have been excluded from the sample. In Luxembourg, a small country with several international institutions, they represent around 5% of the resident active population. Care should be taken in comparing EUROMOD outputs with EU-SILC outputs. One must know that international civil servants earn mid to high wages.*
- *Around half of the labour force from the private sector is composed by cross-border workers in Luxembourg. They are not included in the database because the sample covers only residents. Care should be taken in comparing some EUROMOD outputs with external statistics. External statistics do not always make the difference between residents and cross-border workers.*
- *External statistics about income tax are extremely rare in Luxembourg. It is impossible to know the numbers of persons or fiscal households who pay income tax and the aggregate amount of income tax does not make the difference between residents and cross-border workers. So, the validation for income tax is difficult to achieve.*



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