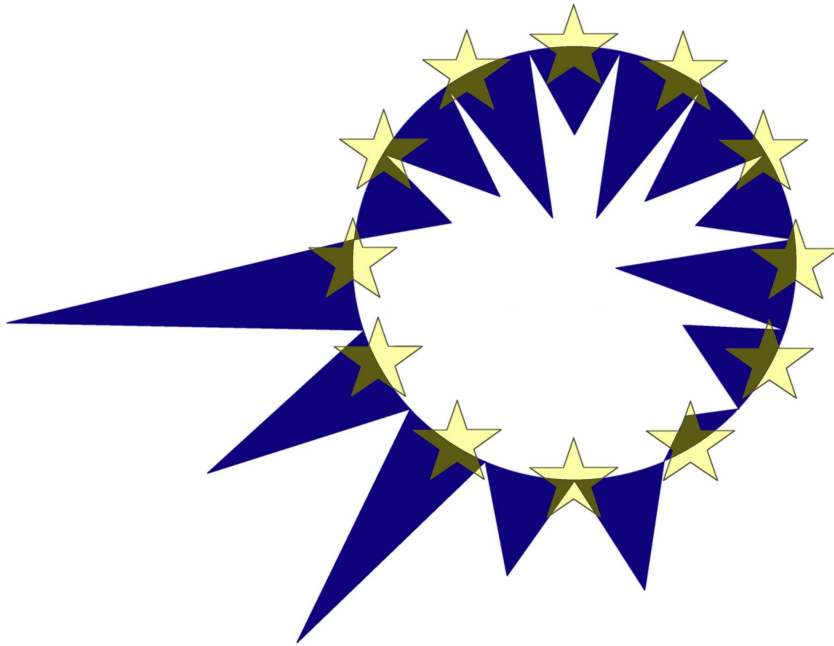


EUROMOD

COUNTRY REPORT



BELGIUM (BE)

2005 - 2008

Kris De Swerdt, Josefine Vanhille

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EUROMOD version F3.0



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.

A major EUROMOD development project (*EUROMODUpdate*) is being supported by DG-EMPL with the key objective to improve and extend EUROMOD's usefulness.

This will involve enlarging and updating EUROMOD from 19 countries to cover all 27 Member States and recent policy systems, using EU-SILC (European Union Statistics on Income and Living Conditions) data as the input database.

EUROMODUpdate project began in February 2009 and will last 3 years.

The work is being carried out by the EUROMOD core developer team, based mainly in ISER University of Essex, in collaboration with a group of national teams.

A project Steering Group has been established, under the chairmanship of Sir Tony Atkinson.

Preparatory work in some of the New Member States is being conducted by the European Centre, Vienna, under the leadership of Orsolya Lelkes.

EUROMOD coordinator: Holly Sutherland

EUROMOD coordinator assistant: Lucy Brown

EUROMOD developer responsible for Belgium: Francesco Figari

National team for Belgium: Gerlinde Verbist, Josefine Vanhille (University of Antwerp), André Decoster, Kris de Swert (University of Leuven).

The results presented in this report are derived using EUROMOD F3.0. EUROMOD is continually being improved and updated and the results presented here represent the best available at the time of writing.

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



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1. BASIC INFORMATION

1.1 Basic figures

Table 1. Basic figures

	Pop. (m.)	Pop. <= 19 (%)	Pop. ≥ 65 (%)	Life expect. (years) m f	Fertility rate	Unemp. rate	GDP per head (PPS, EU27 =100)	Currency Name
2005	10.446	23.1	17.4	76.18 81.85	n.a.	8.5	119.4	EURO
2006	10.511	23.1	17.7	76.62 82.28	n.a.	8.3	118.4	EURO
2007	10.585	23.1	17.9	77.06 82.60	n.a.	7.5	118.0	EURO
2008	10.667	23.0	18.0	n.a.	n.a.	7.0	114.6	EURO

Source: Eurostat (2009).

1.2 The tax-benefit system

Table 2. Tax-benefit system and government budget

	Total general government revenue ^[a] % of GDP	Total tax receipts ^[a] % of GDP	Total general government expenditure ^[a] % of GDP	Social protection ^[b] % of GDP
2005	49.4	44.8	52.2	28.3
2006	48.7	44.5	48.5	28.7
2007	48.1	44.4	48.3	n.a.
2008	48.7	n.a.	49.9	n.a.

Source: ^[a]OECD; ^[b]Eurostat (various years)

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
2005	27.1	7.0	44.7	10.0	7.2	12.2	0.2	1.6
2006	25.7	6.4	47.0	10.3	7.1	11.9	0.4	1.6

Source: Eurostat (various years)



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 ^[a]	Employers		
2005	30.6	7.7	12.1	18.5	25.2	5.9
2006	29.3	8.3	11.9	18.6	25.6	6.3
2007	29.3	8.2	Total 30.9		25.2	6.3

Notes: ^[a] Includes self-employed. Source: OECD (2009)

Basic information about the tax-benefit system

The social security system and tax system are both almost entirely coordinated at the national level. However, a number of taxes and benefits do not belong to the national system and vary according to the regions.

The revenue from taxation is collected at the national level and then it is divided over the different institutional levels (the federal level, the different regions (Brussels/Flanders/Wallonia) and the communities (Flemish community and French-speaking community)). Only municipalities' tax rates vary (from 4% to 8.5%, with an average of 6.8%). Their collection however also takes place at the national level, after which these are transferred to the municipalities. The main exception in the national collection of taxes is the tax on real estate. This tax is administratively coordinated by the regions, while tax rates are set by the municipalities. Its revenue is split over the different administrative levels (municipalities, provinces, regions).

Benefits that are part of the social security system (unemployment, pensions, sickness and disability benefits, family allowances, income support) are within the competence of the federal government. The most important benefits that are within the competence of the regions are threefold. First, there are the benefits related to education (study allowances). Second, additional social assistance (in addition to income support) is also a regional matter. Third, since the mid-2000s, the compulsory "Flemish care insurance" was established, which is only applicable for inhabitants of the region of Flanders and optionally available for the inhabitants of Brussels.

The fiscal year runs from 1st January to 31st December. Main benefit changes usually take place when price-indices reach a certain level. However, as wages increase at a higher pace than the indices, additional adjustments can also take place "outside the index". This is possible when governments and social partners agree on the amount the benefits have to be raised to ensure they do not drop below subsistence levels.

In 2009 the official state pension age is 65 for men as well as for women. Before, there was a slight discrepancy between the pension age of men and women (2003-2005: 63 for women; 2006-2008: 64 for women). However, for a number of professions (miners, seafarers), exceptions to this rule apply. In general, however, the effective retirement age is considerably lower (58.8 in 2005), mainly due to systems of early retirement and supplementary unemployment benefits for older unemployed.

Nursery classes for all children from the age of three onwards are free of charge and universally accessible. Although the compulsory education age is 6 years, the enrolment rate in the Belgian nursery classes is traditionally very high (95-98%). Being in education is compulsory from the



age of 6 onwards, but since September 2009, children should at least have attended one year of nursery school to be admitted to primary school at the age of 6. Compulsory education counts until the age of 18 (by attending school or by homeschooling). Exceptions can be made from the age of 15 onwards. Pupils in an education leading to a specific, mostly technical profession can make use of an apprenticeship agreement, and combine part-time school attendance with working part-time in a firm, exercising their profession under guidance there.

For the family allowances, dependent children are in principle all children under 18 years. The exceptions to this rule are twofold. On the one hand, the child remains dependent until 21 if he or she is disabled. On the other hand, a child can remain dependent until the age of 25 if he or she is in full-time education (including higher and advanced education), not married, and whose net taxable income as well as the number of days a gainful occupation has been exercised do not exceed certain thresholds. The income thresholds are slightly higher for handicapped children as well as for children of lone parents. To qualify as a dependent child in the taxation system, the age restrictions are not applicable. The income thresholds are the same as for the family allowances.

In the taxation system and social assistance system, a lone parent is defined as a parent of resident dependent children, and does not legally cohabit with or is married to a partner (whether or not the partner is the parent of the child is irrelevant).

In the taxation system, the amount of certain allowances depends on whether one is handicapped to a certain degree. The degree is often expressed in % decrease of functioning capacities on the one hand, or points on a medical scale of ability to live independently on the other hand, and is being declared by a doctor. The threshold often employed for taxation allowances is a handicap of 66% or 9 points.

The income tax system is an individual system. However, in the case of couples with a single earner, the system of the marital quotient applies. This consists of treating 30% of the earnings of the total earnings of the couple (with a maximum of €8,160 in 2005 as the income of the non-earning spouse. As a consequence of the progressivity of the Belgian tax rates, this amount is taxed at the lowest marginal tax rate instead of at the higher rate of the bracket in which the single earner's income would fall when treated as one entity.

Capital income is usually taxed at the moment of remittance. This liberates the recipient from the obligation to declare the amounts in the tax return. If the capital income was not taxed at the moment of remittance, it has to be declared. It will then be taxed at a flat tax rate of 15%, except if it is beneficial for the recipient to treat capital income as regular income and to tax it at the standard rates (and brackets).

All earning individuals are obliged to fill in a tax return if their income exceeds the minimum taxable income (€5,780 per individual in 2005), except if their income consists entirely of a state pension or real estate income that is taxable only at the rate of cadastral income. As withholding tax is calculated taking only a few characteristics into account, differences between withholding tax and the final amount due are often considerable. A clearance of the balance usually takes place in the first half of the second year after the period in which the income has been received.

All benefits and tax brackets are indexed to take account of inflation. Benefits usually rise every time price-indices reach a certain level. Tax brackets and all related amounts are indexed on a yearly basis at the transition to the next fiscal year.

Social assistance (the most important means-tested benefit in place) assesses entitlement according to benefit unit income. The benefit unit is the nuclear family – the couple (cohabiting or married) or single adult plus any dependent children. Being assessed is the factual income at



the moment of application for social assistance at the local Centre for Public Assistance (CPAS). The applicant has to declare all factual income, not only official. Some income sources (e.g. child benefits) are discarded in the means-test. The applicant/beneficiary is bound to provide all the necessary information and to contact the CPAS if something changed in his or her personal (financial) situation. The CPAS are obliged to revise the means-test on a yearly basis. However, it belongs to the discretionary power of the local Social Service Departments to do the assessment on a more frequent basis.

1.3 Social Benefits

This is an overview of the existing social benefits in Belgium. Our classification is thematic, which means that not all the benefits in one category are within the competence of the same administrative institution. For instance “guaranteed child allowances” are classified here under “family allowances”, while administratively this measure is part of social assistance. This overview includes all social benefits, including those currently not simulated within EUROMOD.

1.3.1 Pensions

State pensions are financed by a “pay-as-you-go system”. This means that pensions of the currently retired are financed by contributions on wages of the currently employed (and not by their own savings). In addition to the state pension schemes listed hereunder, second pillar pensions provide a supplementary pension to employees, which is being built via the employer. Although it is voluntary, about 50% of the Belgian working population takes part in a second pillar pension scheme, and its importance is increasing.

- *Old age pensions*

Three schemes are in place, depending on whether the retired person was an employee, a civil servant or a self-employed. For those workers who have fallen into more than one of these categories during their career, the rights acquired in the various systems are combined. Periods of involuntary unemployment (unemployment, sickness) are also taken into account. Besides the category one belongs to, the monthly benefit depends also on the course of one’s career, the earned wages and the family situation. Replacement rates for retired employees are typically 75% in the case of single earner couples, and 60% for all other pensioners. Because of upper ceilings on the pension amounts, the replacement rates for higher earners will in general be considerably lower.

- *Survivor pensions*

The survivor pension is granted to the spouse following the death of the person who has built up pension rights. A few additional conditions apply (the spouse has to be over 45 years of age and be married for at least one year, or have a dependent child, or be permanently disabled).



- ***Minimum pension***

A minimum pension is a right granted to all Belgian citizens. As it actually belongs to the social assistance category, it is discussed under this heading and its official name: income guarantee for the elderly (see D.b.)

- ***Early retirement pension***

Early retirement pension is actually an unemployment benefit and is discussed under this heading as well (see B.1.a.). The normal benefit is raised with an additional compensation, usually paid for by the former employer. Also, the early retired are exempt from the obligation to actively seek work that is common for the “normal” unemployed.

1.3.2 Unemployment benefits

Concerning unemployment benefits, three categories of recipients can be distinguished. Firstly, there are the indemnified unemployed. Under this heading the ordinary unemployment benefits are classified, but also the early retirement benefits. Secondly, some categories of employed persons are additionally being supported with unemployment benefits, for instance during temporary unemployment or during training. The third category consists of employees who reduce their working hours with the support of unemployment benefits.

- ***The indemnified unemployed***

- a. Ordinary unemployment benefits (after employment)*

This category includes both jobseekers and persons exempt from seeking work, such as those exempt because of social or familial reasons (and the older employees and early retired discussed in the next paragraph). The amount of the unemployment benefit is calculated on the basis of the previous salary but there is a ceiling (approximately €1,800 gross per month in 2005). Replacement rates depend on family situation and the length of the unemployment. In principle, unemployment benefits are unlimited in time, however, long-term unemployed may be excluded from the system if they do not make sufficient efforts to find work.

- b. Full-time early retirement*

What is described here as “early” retirement is in fact a “bridge” between losing a job before the (legal) age of retirement and the actual retirement. Therefore, a part of this benefit is financed through the unemployment legislation and a part by the employer. The early retired are exempt from the obligation to actively seek work.

- c. Unemployment benefit for older employees*

The older employees can be exempt from the obligation to seek work as well. In addition to the regular unemployment benefit, they receive an additional compensation, called the “seniority supplement”, which is paid for by the former employer.

- d. Unemployment benefit after finishing studies*

Persons younger than 30 and without an employment history can receive unemployment benefits after finishing studies. The applicant must have finished his or her studies, be enrolled as a jobseeker, and must have completed the “waiting time” (between 155 and 310 workdays,



depending on age). The benefit consists of a fixed amount (varying between €208 and €855 / month in 2005), depending on age and family situation (living alone, dependent family...).

- ***Support of employed people***

- a. *Temporary unemployed*

In contrast to the fully unemployed (discussed above), the temporary unemployed is bound by an employment contract, of which however the actual work is temporarily suspended (e.g. because of economic circumstances or weather conditions). Replacement rates are slightly higher than for the fully unemployed and do not decrease over time.

- b. *Part-time unemployed with preservation of rights and income guarantee benefit*

Employees avoiding full unemployment by working part-time, can preserve the rights of a full-time unemployed and can receive an income guarantee benefit when he or she fulfils a number of conditions with regard to reference gross wage (lower than approximately €1,200 in 2005) and effort (apply for a full-time job with the employer if it becomes available).

- c. *Activation measures allowances*

A first measure consists of the exemption from seeking work while receiving the unemployment benefit for those who follow a course that is organized or subsidized by the regional departments of the employment agency, or an individual in professional training in a company or educational institute. Secondly, there are a number of ways in which unemployed who resume work, continue to be supported by the National Employment Office. A part of the wage consists of an activation measure allowance (mostly for jobs in the social economy sector such as sheltered workshops, community work or home help).

- ***Support for the employed who reduce their working hours***

- a. *Part-time early retirement*

Full-time employees have the possibility to reduce their working hours, while receiving an additional supplement to the part-time wage (paid partly by the employer and partly by the National Employment Office), from the age of 55 years onwards.

- b. *Time credit*

Employees can interrupt their career full-time or part-time for a certain period. During this period, they remain under the same employment contract and receive compensation from the National Employment Office in the form of a career break allowance. After the break, they are entitled to the same rights as before. Different systems are elaborated for the different sectors ('time credit' is the name for the measure in the private sector). In each of the systems, besides a normal form, three special forms exist, targeted at specific needs to interrupt ones career (parental leave, palliative care leave, and medical assistance).

- ***Sickness & Disability Benefits***

- a. *Primary incapacity of work (sickness benefit)*

This term is applicable during the first year during which a person is medically incapable of work, but not because of an occupational injury or disease. The (degree of) incapacity of work has to be recognized by a doctor approved by the social security office. The system exists for both employees and self-employed. In any case, the person should have paid a certain amount of



social contributions to be eligible for this benefit. During the first month of work incapacity, employees receive 60% of their gross wage (with a maximum dependent on family situation, e.g. €64 /day in 2005 for employees with dependants). From the second month onwards this is decreased to 55% for employees without dependants. Self-employed receive a fixed amount per day (varying from €23.82 to €31.76 in 2006) depending on the family situation.

b. Disability benefit

The difference between the disability scheme and the sickness scheme is that the disability scheme starts after one has medically incapable of work for more than one year. For the employees, there is a difference in the replacement rates:

- 65% of the gross wage, if the person has dependants (max €69.82/day in 2005)
- 55% of the gross wage in the case of a single person (max €53.71/day in 2005)
- 40% of the gross wage when the person lives with someone else (max €42.97/day)

The disability benefit for the self-employed is increased by 12 €cent/day in comparison to the sickness benefit. The benefit is increased by 5 to 8 €/day in the case the business is discontinued.

c. Occupational injury

Workers are covered by an insurance against accidents at work, which each employer is obliged to have. Not only accidents which occur at the workplace but also accidents which happen on the way to or from work are classified as accidents at work. Self-employed persons are not insured against accidents at work. A separate rule applies to civil servants.

d. Occupational disease

There is a list of disorders which are recognised as occupational illnesses and which entitle the person suffering from one of the disorders to compensation. People who suffer from an illness not included on the list must prove that there is an established and direct link between the illness and their work. The benefit is paid for by the Fund for Occupational Diseases. If the disease is of a temporary nature, the replacement rate is 90% of the last wage. In the case when one becomes permanently disabled, the benefit is calculated according to the degree to which one is declared disabled (in %) and the last wage. All workers and civil servants are insured against occupational illnesses, self-employed persons are not.

e. Maternity leave

Maternity leave consists of a period of 15 weeks around the birth of the child, during which the female employee is indemnified by the National Sickness and Invalidity Insurance Institute. The allowance amounts to 82% of the normal wage for the first 30 days of the leave. Afterwards, the replacement rate is reduced to 75%, and a maximum is installed of €79/day in 2005. The 15 weeks can be spread around the foreseen birth date as the mother wishes, starting at the earliest six weeks before the foreseen birth date. In the case of multiple births, maternity leave is extended with two weeks.

f. Paternity leave

Paternity leave guarantees for each employee within a period of four months after the birth of the child a leave of 10 days (to be spread as one wishes). During the first three days, the employer continues to pay the full wage. The other days, the National Sickness and Invalidity Insurance Institute pays an allowance of 82% of the wage, with a maximum of €88/day.



1.3.3 Family Allowances

- *Ordinary child allowance*

Child allowance is paid to families with dependent children. In principle, children are dependent if they are younger than 18 years old. The exceptions to this rule are twofold. On the one hand, the child remains dependent until 21 if he or she is disabled. On the other hand, a child can remain dependent until the age of 25 if he or she is in full-time education (including higher and advanced education), not married, and whose net taxable income as well as the number of days a gainful occupation has been exercised do not exceed certain thresholds. The income thresholds are slightly higher for handicapped children as well as for children of lone parents.

In general a beneficiary, usually the father, opens a right to child allowance if his employer (or himself if he is self-employed) pays or has paid social security contributions. The relevant rules for the computation of child allowances depend on the contribution scheme to which the employer of the beneficiary or the beneficiary himself contributed: the contributory scheme can be as wage earner on the private labour market, as wage earner on the public labour market (either statutory or contractual) or as self-employed. If a beneficiary did not contribute to any of the social security contribution schemes he or she may still open a right to child allowance through the system of guaranteed child allowance. The amount of child allowance depends on the birth rank of the child. The guaranteed child allowance is means tested. Orphan allowances do not depend on the child's rank. A monthly lump sum amount of €290.20 is granted to each orphan.

- *Supplements to the ordinary child allowance*

- a. Age-related supplements*

Age-related supplements are the same for all schemes as well as for orphans and guaranteed child allowance. Only for the self-employed scheme there is a difference in that there is no age supplement for the youngest child that gives right to child benefits nor is there an age supplement for a lone child.

- b. Social supplements*

The social supplements are primarily for children of beneficiaries that receive a replacement income: retirement pension, survival pension, unemployment benefits (full-time and longer than six months in unemployment), and disability benefits. There are income conditions that must be met in order to be eligible for social supplements to child benefits.

- c. Supplements for disabled children*

Ordinary child allowances and orphan allowance can be supplemented with an allowance for handicapped children of up to 21 years of age and if the child has a disability of at least 66%. The amount of the supplement is based on the consequences of the condition both for the child itself and for the family in the sense of a diminished degree of social activity and participation.

- *Birth allowance*

The birth allowance for the first-born is higher (€1,023.45 in 2005) than for all following births (€770 in 2005). If the first-borns are twins then the amount for a first-born applies for both. A birth allowance can also be given in case of miscarriage as long as the pregnancy has lasted at least 180 days.



- *Adoption premium*

An adoption premium is granted at the moment of adoption and is independent of the contribution scheme and amounts to €1,023.45 in 2005.

1.3.4 Social Assistance

- *Income support*

If the means of a person are less than a certain threshold, that person is eligible for income support. Income support is provided up to the level of the minimum income, i.e. the amount of the benefit is equal to the minimum existence level minus the own means. In principle one needs to apply for social assistance at a local centre for public assistance (CPAS), a body which is present in each municipality. The CPAS have some discretionary power over the acceptance. For example, the CPAS can demand an individualized project for social (re)integration that the applicant has to agree to and follow in order to get and/or keep social assistance. The income support is for unlimited duration but each year the CPAS has to make a re-assessment of the personal situation of the applicant and can withdraw income support based on the results of that inquiry. The beneficiary is bound to contact the CPAS from the moment something changed in his or her personal (financial) situation. The benefit unit is the nuclear family - the couple (cohabiting or married) or single adult plus any dependent children. This means that if a person claims income support his/her spouse is automatically covered, i.e. (s)he cannot claim income support separately.

- *Income Support for the Elderly*

All persons aged 63 or above are eligible to receive income support for the elderly. There is a distinction for persons living alone (monthly €670 in 2005) and those living with others at the same address (monthly €447 in 2005). A person without a partner but living with (a) minor child(ren) or adult child(ren) for whom child benefits are received and/or relatives (descendants) are considered as living alone and are eligible to receive the increased amount. Income support for the elderly is an individual right whether being married or not.

- *Contribution towards disabled persons*

Disabled persons receive an allowance in line with their age and level of disability. The parents of disabled children receive more child allowance if the child (until the age of 21) is at least two-thirds disabled. Disabled persons older than 21 receive an income replacement benefit if they can prove that their ability to earn an income is two-thirds lower than that of a non-disabled person. The disabled person receives an integration allowance if a medical examination shows that the person's ability to live independently is restricted.

1.3.5 Other

- *Flemish care insurance*

The recently installed Flemish care insurance (2002) is an exception to the nationally organized social security system. It is a collective insurance to provide partial reimbursement for the costs of care (informal care, professional home care, or professional residential care). The care insurance is compulsory for inhabitants of Flanders, and optionally available to inhabitants of Brussels and to Europeans working in Belgium. The annual fee - €25 per person older than 25 - is to be paid to the health insurance fund one is registered with.



- *Scope and scale*

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

	2005
Pensions (old age + survivors)	13.82%
Unemployment Benefits	11.53%
Unemployment after employment	3.49%
Unemployment after finishing studies	1.21%
Unemployed older employees	1.11%
Full-time early retirement	1.06%
Part-time early retirement	0.01%
Temporary unemployed	1.16%
Part-time employed with income guarantee	0.46%
Other activation measures	0.47%
Career break (time-credit)	2.02%
Sickness & disability benefits (incl. maternity leave)	6.47%
Occupational injury and disease	2.06%
(children giving right to) family allowances	19.79%
Social Assistance	2.87%
Income support	2.04%
Income support for the elderly	0.83%

Notes: All categories group the different social insurance schemes.

Source: NAR, RVA, Riziv, POD MI, RVP, RKW, FBZ, FAO

Table 6. Social benefit: annual expenditure (as % of total government expenditure)

	2005
Pensions	55.07%
Unemployment Benefits	20.54%
unemployment after employment	7.79%
Unemployment after finishing studies	2.13%
Unemployed older employees	3.19%
Full-time early retirement	3.16%
Part-time early retirement	0.01%
Temporary unemployed	1.05%
Part-time employed with income guarantee	0.54%
Other activation measures	1.27%
Career break (time-credit)	1.40%
Sickness & disability benefits	11.86%
(including occupational injury and disease)	
Family allowances	9.10%
Social Assistance	2.34%
Income support	1.78%
Income support for the elderly	0.56%

Notes: All categories group the different social insurance schemes.

Source: OESO detailed dataset of social expenditures Belgium, RVA annual report 2005

1.4 Social contributions

Social insurance contributions are different for wage earners on the public and private labour market, are different for blue and white collar workers, and are different for earned wages and for replacement income.



Employers: employers' social insurance contributions are calculated on the gross wage. The final total ratio ranges from 33% to 40.73% of the gross wage, dependent on the size of the firm and whether the employee is a blue or white collar worker.

Employees: social insurance contributions are paid on total gross earnings without ceiling and before income tax deductions. Remunerations include any advantages in money, or advantages that can be expressed in monetary terms, granted by the employer to the employee as a counterpart for labour supplied. The standard rate of the social insurance contribution is 13.07% of total gross earnings. Employees are eligible for a reduction in social insurance contributions, called "workbonus", if they satisfy certain income conditions. Social insurance contributions are calculated slightly differently for some income components of blue collar workers and white collar workers. For instance, blue collar workers don't pay social insurance contributions on their single holiday earnings (corresponding to 8% of their yearly wage), but on their regular earnings, pay social insurance contributions on 108% of their wage.

Civil servants: Social insurance contributions for wage earners on the public labour market *without statutory service* are the same as those for wage earners on the private labour market. The social insurance contributions for civil servants *with statutory service* are different than those for wage earners. The standard rate of the social insurance contribution for the civil servant is 11.05% of total gross earnings. Moreover, there is a difference for civil servants working for the federal government and those working for local and provincial administrations concerning the social insurance contributions paid by the employer.

Self-employed: Full-time self-employed pay social insurance contributions on a quarterly basis based on their income in the third calendar year preceding the year of contribution. If the self-employed has not yet been active for three years a lump sum amount of contributions is levied which will be regulated later against real earned income. The basis of calculation is net indexed earnings, i.e. gross earnings net of professional costs, and possible losses. The consumer price index is used for indexation. For self-employed in complementary activity, a different system applies, a category which is further subdivided for those before retirement age, the self-employed who combine this with pension benefits, and the self-employed after retirement age but without retirement pension. For the exact details of these systems, we refer to section 2.4. A self-employed person starting an activity will enjoy a reduction of social insurance contributions during the first four quarters following the third complete calendar year of activity.

Retirement pensions, survival pensions and early retirement pensions: Retirement and survival pension benefits are subject to a social insurance contribution of 3.55% for the funding of sickness and disability insurance. However, if the contribution would bring the pension amount below a certain threshold no contributions are due. Although strictly speaking an unemployment benefit, the treatment of early retirement pensions concerning social insurance contributions is more similar to that on pensions. On the one hand, a social insurance contribution of 3.5% is withheld by the employer on the part paid by the employer to fund pension insurance. On the other hand, a contribution of 1% to 3%, depending on the start date of the early retirement, is withheld by the unemployment office on the unemployment benefit.

Disability benefits: On disability benefits received by wage earners a social insurance contribution of 3.5% is due to fund the pension insurance scheme. Again the payment of such a contribution may not have as a consequence that the benefits fall below a certain threshold. No contributions are due on benefits for primary disablement (first year).



Occupational injury and disease: The percentage applicable is 13.07% on benefits for either permanent or temporary disablement but no contribution is due on benefits for assistance by a third person.

Unemployed: do not pay social insurance contributions.

Special professional categories: a number of exceptions to the general calculation rules apply for a number of professional categories (independent child minders, seafarers, professional athletes with an employment contract, waiters, students employed by student contract, seasonal workers in horticulture or agriculture ...). Exceptions exist for both employee as well as employer contributions.

- *Scope and scale*

Table 7. Social contributions: annual revenue (in millions of €)

	2005	2006	2007	2008
Social contributions (in millions of €)	41,414.9	43,031.4	45,477.8	48,045.4
Employees (incl. civil servants)	12,713.4	12,977.4	13,802.0	
Employers (incl. public administr.)	25,059.7	26,220.7	27,701.5	
Self-employed	2,532.4	26,79.8	2,792.4	
Unemployed	0.0	0.0	0.0	
Pensions	934.2	986.9	1,013.8	
Other	175.2	166.6	168.1	

Notes: The other-category contains mainly contributions on disability benefits and occupational injury and disease. Source: OECD revenue statistics – details of tax revenue, Belgium

1.5 Taxes

1.5.1 Personal income taxes

Personal income taxes are calculated by applying a progressive rate structure to the net taxable income of an individual person. Net taxable income equals gross income minus the sum of social insurance contributions, work-related expenses (only for working persons), and deductible expenses. For a more detailed description of the tax system, refer to section 2.5.

The tax calculation system is individual; however, in order to apply the correct credits and allowances, the level at which the tax return is to be filled is the nuclear family: the single person or married couple together with dependent children (and, occasionally, other dependent persons). To qualify as dependent one's own income may not surpass certain limits. Otherwise the person is considered a separate tax unit.

In the case of one-earner couples the tax legislator allows for income sharing between spouses up to a certain limit. If one of the spouses earns less than 30% of total net taxable income from professional activity, income between spouses is shared as if the higher earning spouse earned 70% of total household income from professional activity and the other spouse 30%. The amount thus transferred is limited to €9,280 (income year 2009).

Replacement incomes are taxable with the exception of social assistance, war pensions and benefits in case of a work-related accident or sickness for a person without any other income. Furthermore, replacement incomes give right to a tax credit, and total taxes on replacement income can be reduced to zero if they are below a given threshold and are the sole source of income.



1.5.2 Property and wealth taxes

Real estate taxes for house-owners are organised at the regional level. The tax base is the “cadastral income”, an estimate of the hypothetical annual net rental income of the property. This is taxed against a basic levy rate of 2.5%. The municipalities decide on the level of the supertax (opcentiemen/centimes additionnelles). Reductions apply for specific family situations (having children, disabled household members), modest size and energy-efficiency of the dwelling. The real estate taxes are organised and collected at the regional level (slightly different systems apply in Brussels, Flanders and Wallonia).

Investment income is taxed at the source. On income from dividends, a 25% rate applies. Interest income from bonds is taxed at 15%, as is interest income from ones savings account. For natural persons, however, this last category is exempt from taxation as long as the interest income does not exceed €1,550 in 2005.

For individuals or households, there exists no property tax on assets (or wealth tax). However, a number of taxes do apply on transactions of property (both movable and immovable). For immovable property, the most important category consists of registration taxes. For movable property, the main tax is the tax on stock exchange and carry-over transactions.

The inheritance tax can be seen as a form of wealth tax for individuals. This is a complex system with different rates (ranging from 3% to 80%) applying to different forms in which an inheritance can take place (money or in kind, descendants of which order, ...).

1.5.3 Taxes on goods and services

The standard VAT rate is 21%. A lower rate of 6% exists for basic needs goods and services (e.g. food, books, pharmaceutical products, coffins ..) or 12% on a very limited number of intermediate-needs goods and services (e.g. construction of social housing).

Excise duties exist on a number of products. Some important examples are mineral oils, tobacco, various alcoholic beverages, packaging.

A tax applies to individuals and corporations owning motor vehicles. The amount due depends on the type of motor vehicle, the cylinder capacity, the horse power and the type of fuel used.



- *Scope and scale*

Table 8. Taxes: revenue (in millions of €)

	2005	2006	2007	2008
Annual revenue (millions of €)	93,907	98,133	101,461	104,428
Most important components for households / natural persons:				
Direct taxes				
Personal income taxes	37,242	37,089	38,374	
Real estate tax	2,448	2,529	2,616	
Investment income tax	1,658	1,790	2,004	
Registration taxes	2,976	3,233	3,435	
tax on stock exchange and carry-over transactions	157	247	237	
Inheritance tax	1,757	1,958	2,062	
Indirect taxes				
VAT	21,482	23,099	23,660	
Excise duties	7,118	7,088	7,259	
Motor vehicle tax (part paid by hh)	1,065	1,015	1,068	

Notes: The annual revenue numbers reported in the first line are exclusive of revenue from social insurance contributions (cfr. Table 7); more detailed 2008 revenue statistics are not available yet at the time of writing.

Source: OECD Revenue Statistics – details of tax revenue, Belgium

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Not all the taxes and benefits mentioned in the previous section are simulated by EUROMOD. Some are entirely beyond its scope. Others are not possible to simulate accurately with the available data. They are included in the final output, but the rules governing them may not be changed by the model. Table 9 lists the main benefit categories, Table 10 the social insurance contributions and taxes.



Table 9. Simulation of benefits in EUROMOD

	Variable name(s)	Treatment in EUROMOD				Why not fully simulated?
		2005	2006	2007	2008	
Pensions	poa, psu	I	I	I	I	No data on contribution history
Unemployment benefits	bun, byr	PS	PS	PS	PS	In the baseline simulation, UBs are taken from the data.
Ordinary UB	bun_s	S	S	S	S	Simulation of UB and early retirement benefit based on a number of assumptions. See below.
Early retirement benefit	byr_s	S	S	S	S	
Sickness & Disability benefits	pdi, phl	I	I	I	I	No information on disability
Family benefits						
Maternity leave	bma	I	I	I	I	No data to simulate
Child allowance	bch_s	S	S	S	S	No information on disability: child allowance for disabled children not simulated
Birth allowance	bchba_s	S	S	S	S	
Education related allowances	bed	I	I	I	I	No data to simulate
Social assistance						
Income support	bsa_s	S	S	S	S	Simulation of IS and IS for the elderly based on a number of assumptions and switched off in the baseline
Income support for elderly	bsaoa_s	S	S	S	S	
Housing benefit	bho	I	I	I	I	No data to simulate

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 10. Simulation of taxes and social contributions in EUROMOD

	Variable name(s)	Treatment in EUROMOD				Why not fully simulated?
		2005	2006	2007	2008	
Social contributions						
employees	tscee_s	S	S	S	S	
civil servants	tscee_s	S	S	S	S	
self-employed	tscse_s	S	S	S	S	
pensions	tscpe_s	S	S	S	S	
disability	tscdb_s	S	S	S	S	
special contribution	tsceesp_s	S	S	S	S	
Taxes						
Personal income tax	tin_s	S	S	S	S	
Real estate	-	E	E	E	E	No information on cadastral income
Investment income tax	tinkt_s	S	S	S	S	A uniform tax rate of 15% is assumed
Property transactions	-	E	E	E	E	No information available
Inheritance	-	E	E	E	E	No information available
VAT	-	E	E	E	E	No information available
Excise duties	-	E	E	E	E	No information available
Motor vehicle tax	-	E	E	E	E	No information available

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. Although there is variable in SILC for property/wealth taxes, it is empty for Belgium, so it cannot be included in the model.



2.2 Simulated policies and order of simulation

2.2.1 Simulated policies

- *Order of the simulated policies*

Table 11 shows the order of simulation (i.e. spine). Each policy corresponds to a ‘sheet’ in the Belgium.xls policy file.

At the beginning of the spine, in the sheet called TakeUp_be, the user finds the switch related to the take-up correction of Income Support. In the baseline, the correction is switched on, but standard, the simulated values are not included in the simulated disposable income, but instead the reported values are taken from the data. See section 2.3.3, for more details.

The first five policy sheets concern the simulation of the social insurance contributions: for employees (including civil servants), for employers, for self-employed, for pensioners (including early retirement pensioners), and for disability benefits. The social insurance contributions are deducted from gross income in order to calculate taxes.

For workers, professional expenses are additionally deducted in order to attain the taxable income.

The policy sheet tinwh_be contains the withholding tax legislation.¹ The next policy sheet calculates the final tax.

After calculation of taxes due there is also a special contribution for social security (due by all wage earners) that we mention separately since it is applied after taxes and hence does not influence net taxable income.

Following the contributions and taxes, the benefits are simulated. Family allowances include the birth allowance and the child benefits. Next, the most important categories of social assistance are simulated (income support as well as income support for the elderly).

Finally, unemployment benefits are simulated, including the early retirement benefits. However, in the baseline, these are taken from the data.

¹ In the baseline this policy is switched off, as the standard is to calculate final taxes.



Table 11. Simulated policies

Section	Policy	Description	Main output	Year			
				2005	2006	2007	2008
2.4.0	tscee_be	Employee social insurance contribution	tscee_s ; tsceerd_s	X	X	X	X
2.4.0	tscer_be	Employer social insurance contribution	tscer_s ; tscerrd_s	X	X	X	X
2.4.3	tscepe_be	Pensioners contributions to health and disability insurance and solidarity contribution	tscepe_s	X	X	X	X
2.4.2	tscse_be	Self-employed social insurance contribution	tscse_s	X	X	X	X
2.5	tintace_be	Deduction of professional expenses	tintace_s	X	X	X	X
2.5	tinwh_be	Withholding income tax; withholding special social insurance contribution	tinwh_s ; tscwheesp_s	X	X	X	X
2.3.5	bun_be	Unemployment benefits	bun_s ; byr_s	X	X	X	X
2.5	tin_be	Income tax	tin_s ; tinkt_s	X	X	X	X
2.4.1	tsceesp_be	Special social insurance contribution	tsceesp_s	X	X	X	X
2.3.2	bchba_be	Birth allowance	bchba_s	X	X	X	X
2.3.3	bsa_be	Income support	bsa_s	X	X	X	X
2.3.4	bsaoa_be	Income support for the elderly	bsaoa_s	X	X	X	X
2.3.1	bch_be	Child benefits	bch_s	X	X	X	X

2.2.2 Structural changes in simulated policies, 2005-2008

- *Family policies*

Since 2006 parents of school going children receive a lump sum supplemental child allowance in August/September to ease the costs in those months. The amounts are €50 for children aged 6 to 11 and €70 for children aged 12-17. Since 2008 children from 18 to 25 are also eligible for a supplement if they are still studying.

Since 2007 there is a supplement of €20 per month for lone parents that have earned income of less than €1,740.15 per month.

- *Personal income taxation*

- Regional tax credit*

Since 2007 employed persons residing in Flanders enjoy a yearly reduction in personal income taxes based on their activity income with a higher reduction for low earners that is subsequently withdrawn to reach zero at a yearly income of €22,250.

Table 12. Amounts of the regional tax credit (2007)

Activity income (I)	yearly reduction
$5500 \leq I < 21000$	€125
$21000 \leq I < 22250$	$\text{€}125 - 0.1 * (I - 21000)$
$I \geq 22250$	0

- Calculation of base allowance*

In 2008 the calculation of the base allowance changed. The base allowance has been made dependent on taxable income to some extent. The base allowance is increased by €250 for



taxable income less than €22,870 and is then reduced to again reach the base amount of €6,150 at a taxable income of €23,120.

c. Tax credit for low activity income

In 2007 a distinction has been made between civil servants and self-employed in the calculation of the refundable tax credit for low activity income. The base amount was set at €1026 for civil servants instead of the regular €570. This was a one-time change, only applicable in 2007.

2.3 Social benefits

2.3.1. Child allowance (kinderbijslag / allocations familiales) (*bch_s*)

- *Brief description*

Child allowance is paid to families with dependent children. In principle, children are dependent if they are younger than 18 years old. The exceptions to this rule are twofold. On the one hand, the child remains dependent until 21 if he or she is disabled. On the other hand, a child can remain dependent until the age of 25 if he or she is in full-time education (including higher and advanced education), not married, and whose net taxable income as well as the number of days a gainful occupation has been exercised do not exceed certain thresholds. The income thresholds are slightly higher for disabled children as well as for children of lone parents.

The beneficiary, in general the father, opens a right to child allowance if his employer (or himself if he is self-employed) pays or has paid social security contributions. The relevant rules for the computation of child allowances depend on the contribution scheme to which the employer of the beneficiary or the beneficiary himself contributed (wage earner on the private labour market, wage earner on the public labour market (either statutory or contractual), or self-employed). The wage earners without statutory service on the public labour market are treated in the same way as wage earners on the private labour market. If the beneficiary is currently not active on the labour market he can open a right to child allowance if he is sick or disabled or inactive due to occupational hazard or disease, he is unemployed, or he is pensioner. If a beneficiary did not contribute to any of the social security contribution schemes he or she may still open a right to child allowance through the system of guaranteed child allowance. The guaranteed child allowance is means tested.

The amount of child benefits depends on the birth rank of the child. The oldest one gets rank 1, the second oldest rank 2 and all the following children rank 3. If the number of beneficiary children decreases the remaining ones get a lower rank. The second oldest then becomes rank 1, etc.

In EUROMOD, the simulated supplements to the child allowance include age-related supplements and social supplements². *Age-related supplements* are the same for all schemes as well as for orphans and guaranteed family allowance. Only for the self-employed scheme there is a difference in that there is no age supplement for the youngest child that gives a right to child benefits nor is there an age supplement for a lone child. The *social supplements* are primarily for children of beneficiaries that receive a replacement income: retirement pension, survival pension, unemployment benefits (full-time and longer than six months in unemployment), and

² Supplements for disabled children are not simulated as this information is not available in the data.



disability benefits. There are income conditions that must be met in order to be eligible for social supplements to child benefits.

- **Definitions**

The benefit unit is the nuclear family (tu_cb_be). The child allowance is paid to the person responsible for the upbringing of the child (in EUROMOD, the mother is the default).

- **Eligibility conditions**

There is no additional eligibility rule apart from the presence of children in the family. The actual amounts, however, can differ slightly among the contributory categories of the beneficiary.

- **Income test**

The guaranteed child allowance is means tested and is for the most destitute families only. To be eligible the own means of the beneficiary and his or her partner (TU: tu_cb_be) may not exceed €3,467.64 per quarter. This amount is increased by 20% for each child from the second onward. In the means test child benefits, scholarships, maintenance allowances, alimony, army indemnities, rents obtained by non-insured pensioners, allowances from private or public assistance (social assistance) and cadastral income are not included. In the implementation, the guaranteed child allowance is not simulated separately, as we cannot identify those that do not contribute to any of the social insurance schemes, and as the amounts are basically the same as for the regular scheme.

In order to be eligible for social supplements to child benefits, there are also income conditions that must be met. For lone parents with children the total amount of the replacement incomes and incomes from professional activity may not exceed €1,672.38 per month. For couples this amount is €1,930.21 per month.

- **Benefit amount**

The actual *child allowance* received is very similar along the different contributory schemes. The amount received per child increases with the rank of the child. This gives Belgium a pro-natalist family benefit scheme. The amounts in Table 13 apply for all schemes, except for the self-employed. In the scheme of the self-employed, the first-born (rank 1) gives right to a monthly child allowance of €38.41 (2005) instead of €75.54. The amounts for children in rank 2 and higher do not change for the self-employed scheme.

Table 13. Amounts of the ordinary child allowance per month

	2005	2006	2007	2008
Rank 1 (oldest child)	€75.54	€77.05	€78.59	€81.77
Rank 2	€139.78	€142.58	€145.43	€151.30
Rank 3	€208.70	€212.87	€217.13	€225.90

Age-related supplements are the same for all schemes (as well as for orphans and guaranteed family allowance). Only for the self-employed scheme there is a difference in that there is no age supplement for the youngest child that gives a right to child benefits nor is there an age supplement for a lone child. The calculation rules are summarized in Table 14.



Table 14. Amounts of the age-related supplements per month

Date of Birth	Age	Amount of supplement			
		2005	2006	2007	2008
first rank					
born after 31/12/1990	6-12	€13.16	€13.42	€13.69	€14.25
born after 31/12/1990	12-18	€20.04	€20.44	€20.8	€21.69
born between 1/1/1985 and 31/12/1990	0-18	€26.24	€26.77	€27.30	€0.00
born between 1/1/1985 and 31/12/1990	18-25	€28.19	€28.75	€29.33	€30.51
born between 1/1/1981 and 31/12/1984	0-25	€42.04	€42.89	€43.74	€45.51
higher rank					
-	6-12	€26.24	€26.77	€27.30	€28.41
-	12-18	€40.10	€40.90	€41.72	€43.41
-	18-25	€50.99	€52.01	€53.05	€55.19

Social supplements can be granted according to the social status of the beneficiary of the child benefit. The social supplements are primarily for children of beneficiaries that receive a replacement income: retirement pension, survival pension, unemployment benefits (full-time and longer than six months in unemployment), and disability benefits. The amounts of the supplements are summarized in Table 15. Only for the disabled beneficiaries, the amounts differ for the first child. There it gives right to a supplement of €83.72 instead of €39.44 (2005).

Table 15. Amounts of the social supplements per month

	2005	2006	2007	2008
Rank 1	€39.44	€39.23	€40.01	€41.63
Rank 2	€23.84	€24.31	€24.80	€25.80
Rank 3	€4.18	€4.27	€4.35	€4.53

2.3.2 Birth allowance (geboortepremie / prime de naissance) (*bchba_s*)

- *Brief description*

The birth allowance is a universal lump sum benefit to the parents of a new-born baby. The amount only depends on the rank of the child (first-born or not). If the first-borns are twins then the amount for a first-born applies for both. A birth allowance can also be given in case of miscarriage as long as the pregnancy has lasted at least 180 days.

- *Definitions*

The benefit unit is the nuclear family (*tu_cb_be*), and the birth allowance is usually assigned to the same beneficiary as the child allowance.

- *Eligibility conditions*

There is no eligibility condition apart from being the parent of a new-born baby. The amounts for the birth allowance are independent of the contribution scheme.

- *Income test*

None.



- *Benefit amount*

Table 16. Birth allowance amounts

	Amount in euro			
	2005	2006	2007	2008
First born	1,023.45	1,403.93	1,064.79	1,086.11
Following births	770.02	785.43	801.13	833.49

2.3.3 Income support (leefloon / revenu d'integration sociale) (*bsa_s*)

- *Brief description*

If the means of a person are less than a certain threshold, that person is eligible for income support up to the level of the minimum income. In order to receive income support, one needs to apply for it at the offices for public assistance (CPAS). These centers have some discretionary power over the acceptance. For example, the CPAS can demand an individualized project for social (re)integration that the applicant has to agree to and follow in order to get and/or keep income support. Here we assume full take-up (and acceptance of the application by the CPAS).

- *Definitions*

The benefit unit is the nuclear family – the couple (cohabiting or married) or single adult plus any dependent children. In the social assistance legislation three categories are distinguished:

- category one: applicant living with partner and no dependent family
- category two: single (no partner, no dependents)
- category three: person with dependent family

If the applicant falls under category one, the income of the partner is accounted for in the determination of the income support level for the part that exceeds the income support level. If the applicant falls under category three, all of the partner's income, if there is a partner, is taken into account for the calculation of income support. In this case the right for his/her spouse is automatically covered, i.e. (s)he cannot claim for income support, and each spouse/partner gets half of the income support amount.

- *Eligibility conditions*

Income support can be granted to all adult (≥ 18) residents living in Belgium. It can be extended to minors if they no longer have a legal guardian following a marriage, if they are pregnant, or if they have dependent children. The focus here is on adults from 18 to 62 (from the age of 63 one is eligible for income support to the elderly). To become eligible, one has to apply for income support at the CPAS, which means the benefit is not automatically granted.

- *Income test*

If the means of a person are less than a certain threshold that person is eligible for income support up to the level of the minimum income, i.e. the amount of income support is equal to the minimum existence level minus the own means. The means include all factual income, not only official income. The income support is for unlimited duration but each year the CPAS will make a re-assessment of the personal situation of the applicant and can withdraw the income support based on the results of that inquiry. It belongs to the discretionary power of the CPAS to do the re-assessment on a more frequent basis. The applicant/beneficiary is bound to provide all the



necessary information and to contact the CPAS if something changed in his or her personal (financial) situation.

Own means include the following:

- net occupational income (from employment)³
- replacement incomes
- income from real estate: not simulated⁴
- income from equity: the first €6,200 of (financial) capital is not taken into account. For the part between €62,00 and €12,500, 6% is taken as income from capital and for the amount higher than €12,500 10% is taken into account as income from capital⁵

The following income components are not taken into account:

- benefits in-kind (such as meals)
- social assistance
- child benefits
- alimony for children
- study grants
- refundable tax credit for children

- ***Benefit amount***

Table 17. Base amounts for income support per month [2005-2008]

	2005	2006	2007	2008
Category 1	€408.89	€417.01	€429.66	€465.07
Category 2	€613.33	€625.60	€644.48	€697.61
Category 3	€817.77	€834.14	€859.31	€930.14

³ To encourage employment for social assistance beneficiaries the first three years of employment €200.19 of net occupational income is discarded (not simulated).

⁴ Since we do not have information on cadastral income yet the calculation of income from real estate will be switched off. Normally, the calculation for income from real estate is the following: non-indexed cadastral income with an exemption of €750 plus €125 per dependent child (=child that gives right to child benefits). The result is then multiplied by 3 and taken into account in the means test. In case the property is rented one takes the rent received unless this should be less than the amount obtained when using the cadastral income. As social assistance is an individual right the income from real estate will be multiplied by the fraction representing the ownership of the person in the property (in case of shared ownership).

⁵ Income stemming from the sale or donation of propert(y)(ies) within a period of 10 years preceding the application for social assistance. The same schedule applies as for income from capital. This is not simulated due to lacking information.



Table 18. Disregarded amounts for income support per month [2005-2008]

	2005	2006	2007	2008
Category 1	€155	€155	€155	€155
Category 2	€250	€250	€250	€250
Category 3	€310	€310	€310	€310

If eligible after all calculations the final amount is equal to the base amount minus own income.

- *Treatment of the simulated income support in EUROMOD*

In the baseline system **the amounts of Income Support recorded in the EU-SILC are included in the disposable income concept** rather than the simulated amounts.

As will be clear from the report on validation exercises in section 4, assuming that Income Support is received by those calculated by EUROMOD to be entitled results in over-estimates of recipients and an under-estimate of poverty and inequality.

However, the simulation of the benefit is implemented in the system (with the take-up correction) and can be switched on in the spine. In this way the simulated values of the benefits are included in the disposable income rather than the recorded ones.

To adjust for the non take up of benefits we employ a simple random **non take-up correction** by applying the take-up proportion estimated as the ratio between the caseload recipients reported by the Official Statistics and those simulated to be entitled by EUROMOD (i.e. 31.4% in 2005). Once the simulated benefit is switched on in the spine, the correction for non take up is switched on as well. To switch the take-up correction off, a user needs to switch off the relevant function (i.e. func_ArithOp) in the sheet TakeUp_be. The take-up probability mentioned above is defined in the relevant policy sheet at the end of the simulation. A user can change these probabilities or switch off the take-up correction.

However, the non take-up correction is still very rough and does not satisfactorily reflect the real take-up issues playing (large discretionary power of the CPAS, detailed means-test). The refinement of this is one of our planned further development.

2.3.4 Income support for the elderly (inkomensgarantie voor ouderen / la garantie de revenus aux personnes âgées) (bsaoa_s)

- *Brief description*

Income support for the elderly is designed in the same way as the regular income support, but available for persons aged 63 or over. The categories are different than in the regular income support, as are the amounts.

- *Definitions*

There is a distinction for persons living alone and those living with others at the same address (presumably couples). In fact a person without a partner but living with (a) minor child(ren) or adult child(ren) for whom child benefits are received and/or relatives (descendants) are considered as living alone and are eligible to receive the increased amount. Income support for the elderly is an individual right whether being married or not.



- **Eligibility conditions**

All persons aged 63 or above are eligible to receive income support for the elderly.

- **Income test**

Income on the benefit unit level (tu_oa_be) is taken into account as follows:

- 75% of gross employment income other than self-employment income
- gross income from self-employment minus incurred expenses (we assume expenses to be 5% as is the case for the lump sum expenses in the personal income tax)
- Income from capital. Similar rules apply as for income support: €6,200 exempted, from €6,200 to €18,600 consider 4% as income and beyond €18,600 take 10% as income from capital
- Income from real estate⁶
- pension income minus paid alimony and the result accounted for at 90%

Not counted are:

- income support
- alimony received

As the income support is an individual right, in the calculation of the benefit amount (for the individual) the income used in the means-test will be divided by the number of persons in the benefit unit.

- **Benefit amount**

Table 19. Base amounts for income support for the elderly, per person per year [2005-2008]

	2005	2006	2007	2008
Living alone	€8,047.59	€8,234.87	€9,545.48	€10,1280
Living with partner	€5,365.06	€5,489.91	€6,363.65	€753.20

Table 20. Disregarded amounts in the income assessment for income support for the elderly per person per year [2005-2008]

	2005	2006	2007	2008
Living alone	€1,000	€1,000	€1,000	€1,000
Living with partner	€625	€625	€625	€625

The resulting income support is the base amount minus the income of the applicant.

- **Treatment of the simulated income support for the elderly in EUROMOD**

Similar to the issue for the regular income support (cfr. supra), the simulation of the income support for the elderly is implemented in the system but it is switched off in the baseline system and it is not included in the simulated disposable income. As will be discussed in Section 4.1.6,

⁶ Non-indexed cadastral income, with an exemption of €743.68 plus €123.95 per dependent child (=eligible for child allowance). The result is multiplied by 3 to get the income from real estate. If the property is rented the rent is taken into account, unless this should be less than the amount when cadastral income is taken. The resulting amount should be multiplied by the part the person has in the property in case of shared ownership. This is not simulated due to lack of information on cadastral income.



it is unclear whether in the SILC survey this benefit was mistakenly recorded as regular pension income in the majority of the cases and is as such already included in the data. This hinders a correct interpretation of the simulated values.

2.3.5 Unemployment benefits (*werkloosheidsuitkering / allocation de chômage*) (*bun_s; byr_s*)

- *Brief description*

In the employment legislation one can distinguish three main groups (cfr. section 1.3.B): the indemnified unemployed, support for employed people, and support for the employed who reduce their working hours. The simulation of unemployment benefits will only be for the first group (also the most important group in size). This includes the unemployed after employment, the unemployed after finishing studies, the older unemployed and the early retired.

- *Definitions*

Unemployed are subdivided into three categories according to household situation: 1) unemployed with dependent family; 2) singles; and 3) unemployed living with a partner (but no dependents).

To determine whether a person is dependent or not one has to look at the earnings of this person.

Earnings from a professional activity of the partner are not taken into account if they do not exceed €382.98 net per month and stem from employment as wage earner. This implies that any self-employment income by the partner excludes the latter of being dependent, i.e. the unemployed will not be categorized as an unemployed with dependent family.

Pension benefits or benefits following industrial accidents or work-related illness are not taken into account as long as they do not exceed the level of €453.72 per month.

Other benefits, such as unemployment benefits and sickness and disability benefits other than industrial accidents or work-related illness, are always taken into account to determine whether the partner is dependent or not. It means that having unemployment benefits makes the partner not dependent.

If the unemployed does not have a partner but lives with children then the income from professional activities of a child is not taken into account if it does not exceed the amount of €336.50 gross per month. A child living in the same household as the unemployed person will also be considered dependent in the case he/she receives pension benefits of some kind or benefits related to industrial accidents or work-related disease that do not exceed the amount of €453.72 per month. Sickness and disability benefits other than those for industrial accidents and work-related illness and unemployment benefits of a child may not exceed the amount of €336.50 per month for the child to remain dependent

If besides living with one or more children the unemployed also lives with relatives up to the third degree, ascendants are considered dependent if their pension does not exceed €1,690.23 gross per month. If the unemployed lives with relatives but not with any children, the pension of ascendants cannot exceed the level of €1,024.09 gross per month (or €1,690.23 if the person has lost all ability to do things independently or whose ability to function independently has dropped by at least 9 points).



- *Eligibility conditions*

Unemployment benefits after employment (general case)

To be eligible to receive unemployment benefits an inactive person has to be in search of work. The unemployed person has to be involuntarily unemployed and without wages whatsoever. He or she has to be available for the labour market and has to be and remain registered as a person in search of work. Furthermore, the unemployed has to reside in Belgium, be fit for work, and has to meet age conditions.

Unemployment benefits after studies

For students following graduation to be entitled to unemployment benefits they must prove a period of inactivity depending on their age. This period is called the “waiting period”. The number of days according to age is as follows:

Table 21. Waiting period according to age [2005-2008]

Younger than 18	155 days
Between 18 and 26	233 days
Between 26 and 30	310 days

Unemployment benefits for older employees

Older unemployed, aged 50 or more who have had an active career of at least 20 years and who are unemployed for at least one year, are entitled to a seniority supplement.

Early retirement benefit

To be eligible for early retirement benefits the following conditions must be met:

- employee has to be fired by employer
- employee must be entitled to an additional supplement, paid by the employer or some specific fund, on the basis of a collective labour agreement
- employee must be eligible for regular unemployment benefits
- employee must be at least 58 years old
- employee must have had an active career of at least 25 years (as wage earner)

To be eligible for part-time early retirement benefits the employee has to be at least 55 years old, with a career of at least 25 years, of which the last 12 months have to be with the current employer.

- *Benefit amount*

Unemployment benefits after studies

Within the group of cohabitating unemployed one makes a further distinction between those with a partner and those with a “privileged” partner. The latter is a person that has as their sole source of income unemployment benefits that do not exceed €1,025.70 per month.

The unemployment benefits for the young unemployed are then as follows:



Table 22. Calculation table for unemployment benefits for the young unemployed [2005-2008]

	Benefit per day			
	2005	2006	2007	2008
Unemployed with dependent family	€32.88	€ 33.54	€32.1	€35.58
Single unemployed				
Younger than 18	€9.15	€9.34	€9.52	€10.11
18 or older but younger than 21	€14.38	€14.67	€14.7	€15.89
21 or older	€23.36	€24.07	€24.79	€26.32
Cohabiting unemployed				
Not cohabitating with privileged partner				
Younger than 18	€8.00	€8.16	€8.33	€8.67
18 or older	€12.77	€13.03	€13.55	€13.83
Cohabitating with privileged partner				
Younger than 18	€8.48	€8.65	€8.82	€9.17
18 or older	€13.62	€13.90	€14.17	€14.74

Unemployment benefits after employment

For unemployed after a period of employment the unemployment benefit depends on household characteristics, as for the young unemployed (after studies), and on past labour market histories. In principle, benefits for unemployed after a period of employment are based on their (lost) wages. The daily (lost) wage is limited, however, to €65.76 and the unemployment benefits are capped if they exceed set limits after applying the percentages on the (lost) wage. There is often also a minimum benefit level.

The percentages and lower and upper limits for unemployment benefits after a period of employment are given for the year 2005 in the table below (average lost but limited daily wages are abbreviated as ALDW; average lost unlimited daily wages are abbreviated as AUDW):



Table 23. Calculation table for unemployment benefits after employment [2005]

	Percentage rule	Minimum daily amount	Maximum daily amount
Unemployed with dependent family			
Unemployed disabled	60% of AUDW		
Unemployed not disabled	60% of ALDW	€33.74	€39.45
Single unemployed			
Unemployed is disabled	50% of AUDW		
Unemployed is not disabled			
First 12 months of unemployment	60% of ALDW	€28.34	€39.45
After 12 months of unemployment	50% of ALDW	€28.34	€32.88
Cohabiting unemployed			
Unemployed is disabled	50% of AUDW		
Unemployed is not disabled			
First 12 months of unemployment	55% of ALDW	€21.25	€36.17
From 13 th until 15 th month	40% of ALDW	€21.25	€26.30
After 15 th month			
Unemployed has worked more than 20 years as a wage earner	40% of ALDW		
Unemployed is permanently disabled for at least 33% of his earning capacity	40% of ALDW		
All other cases			
Not cohabiting with privileged partner		€14.97 / day	
Cohabiting with privileged partner		€14.97+4.67 / day	

Unemployment benefits older unemployed

The table below shows the “rule” used to determine the seniority supplement and the minimum and maximum daily amounts of the total benefits, i.e. regular + supplement (ALDW=Average lost but Limited Daily Wage). The amounts are for 2005.

Table 24. Calculation table for unemployment benefits for the older unemployed [2005]

	Rule	Minimum daily amount (base amount + supplement)	Maximum daily amount (base benefit + supplement)
Unemployed with dependent family		€3.91	€36.12
Single unemployed			
55 years or older	10% of ALDW	€33.26	€39.45
All other cases	4.5% of ALDW	€30.21	€35.84
Cohabiting unemployed			
First 15 months of unemployment			
55 or older, younger than 58	10% of ALDW	€27.45	€32.88
58 years or older	15% of ALDW	€30.21	€36.17
All other cases	5% of ALDW	€24.59	€29.59
After 15 months of unemployment		€3.14	€18.11



Early retirement benefits

- **Conventional early retirement**

The early retirement benefit paid by the unemployment office is a percentage of lost but limited wages. The wage is limited to €65.76 per day. The benefits are calculated as follows (amounts for 2005):

Table 25. Calculation table for conventional early retirement benefits [2005]

	Rule	Minimum	Maximum
Early retirement benefits	60% of ALDW	€33.74 per day	€39.45 per day

The minimum legally required amount of the additional benefit to be paid by the employer is equal to half the difference between the net wages and the unemployment benefit. Net wages are gross wages (capped at €3,096.06 per month) minus social security contributions and withholding tax.

- **Part-time early retirement benefits**

The part of the part-time early retirement benefit paid by the unemployment office is a lump sum amount of €12.97 per day. To this benefit is added a part that is paid by the employer. This additional amount is equal to one half of a full-time early retirement benefit minus the unemployment benefits of €12.97.

2.4 Social contributions

2.4.1 Employee social contributions and employer social contributions (*tscee_s, tscer_s*)

- *Wage earners on the private labour market*

First the percentages will be listed for regular social insurance contributions. In some cases social insurance contributions can be reduced. The reductions will be treated in a later section.

Social insurance contributions before deductions

In total, social insurance contributions amount to 13.07% of the gross wage for employees, and to 33% to 40.73% of the gross wage for the employers, dependent on the size of the firm and whether the employee is a blue or white collar worker.

The applicable percentages for the different components of social insurance for wage earners (including wage earners on the public labour market without statutory service) are listed in Table 26.



Table 26. Employee and employer social insurance contribution for wage earners on the private labour market [2005-2008]

	blue collar workers % of gross earnings at 108%			white collar workers % of gross earnings		
	employee	employer	total	employee	employer	total
General contributions						
Pensions	7.50	8.86	16.36	7.50	8.86	16.36
Sickness and disability						
Medical care	3.55	3.80	7.35	3.55	3.80	7.35
Disability benefits	1.15	2.35	3.50	1.15	2.35	3.50
Unemployment	0.87	1.46	2.33	0.87	1.46	2.33
Family benefits		7.00	7.00		7.00	7.00
Accidents at work		0.30	0.30		0.30	0.30
Work-related illness/disease		1.02	1.02		1.02	1.02
Annual vacation		6.00	6.00			
Educational leave		0.04	0.04		0.04	0.04
Work integration/guidance programs for youth		0.05	0.05		0.05	0.05
Childcare		0.05	0.05		0.05	0.05
(Re)employment of vulnerable groups		0.10	0.10		0.10	0.10
Wage moderation		7.48	7.48		7.48	7.48
Contribution unemployment						
10 employees or more		1.60	1.60		1.60	1.60
Wage moderation		0.09	0.09		0.09	0.09
Company closing						
1 to 19 employees: general		0.25	0.25		0.25	0.25
1 to 19 employees: wage moderation		0.01	0.01		0.01	0.01
20 or more employees: general		0.29	0.29		0.29	0.29
20 or more employees: wage moderation		0.01	0.01		0.01	0.01
Temporary unemployment		0.22	0.22		0.22	0.22
Wage moderation		0.01	0.01		0.01	0.01
Global total						
1 to 9 employees	13.07	39.00	52.14	13.07	33.07	46.14
10 to 19 employees	13.07	40.70	53.83	13.07	34.76	47.83
20 or more employees	13.07	40.73	53.88	13.07	34.81	47.88

Single holiday earnings for civil servants are equal to the wage that would have been earned when not on holiday and the double holiday earnings consist of a lump sum amount of €961.48 and a variable part equal to 1.1% of gross annual earnings.⁷

For white collar workers the percentages are applied on gross earnings received while working and on gross single holiday earnings. For blue collar workers the percentages are applied on 108% of their gross remunerations while working (and not on holiday earnings). In the case of blue collar workers single and double holiday earnings are not part of the remuneration concept on which social insurance contributions are levied. White and blue collar workers also have to pay social insurance contributions on their double holiday earnings. For white collar workers

⁷ The percentage of the variable part is linked to the evolution of the consumer price index that determines the gross wage due in March of the year of holiday.



this is 13.07%; blue collar workers also have to pay 13.07% and the calculation base is 6.80% of 108% of gross earnings in the year preceding the year of the holiday.

As the single holiday earnings of blue-collar workers consist of 8% of the gross wage, total social insurance contributions amount to the same as if 13.07% on 100% of total earnings were levied. Because it is impossible to distinguish holiday earnings from the data, this is the way it is simulated in EUROMOD.

An additional 10.27% on 108% of annual earnings⁸ of the previous year is due by employers for blue collar workers to finance holiday earnings.⁹

Deductions on social insurance contributions

Employers’ deductions

Employers can enjoy a structural deduction of social insurance contributions as a measure to stimulate employment. The structural deduction is applicable for all workers that are subject to all branches of social insurance. In reality this means that the structural deduction is for employers in the private sector only. The basic structural deduction amounts to €400 per quarter for each full time worker.¹⁰ This amount is increased for low income workers and high income workers according to the following scheme:

Table 27. Employers’ deductions in social insurance contributions [2005]

Earnings in euro per quarter (I)	
Less than €5,870.71	$400 + 0.1444 * (5870.71 - I)$
More than €12,000	$400 + 0.06 * (I - 12000)$

⁸ Again, 108% is on annual earnings exclusive of holiday earnings. In the implementation, 100% is used, as the employment income variable includes holiday earnings.

⁹ Because in EUROMOD we only dispose of the earnings of the current income year, it is assumed that earnings have remained the same as the preceding year in order to calculate these contributions.

¹⁰ The lump sum reduction of €400 is not applicable to employers in the non-profit sector as they enjoy other reductions (not simulated).



Besides the structural deduction there are several specific target-group reductions that aim to increase the employability of certain more vulnerable groups (not simulated).¹¹ The structural deduction can be combined with only one target-group reduction.

¹¹ - **reduction for long-term unemployed** (who are in search of work)
the reduction depend on the age of the unemployed and are limited in time as follows:

	Time in unemployment	Reduction per quarter and duration (in quarters)
Less than 45 years of age	312 days in 18 months	€1000 (5)
	624 days in 36 months	€1000 (9)
	936 days in 54 months	€1000 (9) and €400 (4)
	1560 days in 90 months	€1000 (9) and €400 (12)
At least 45 years of age	156 days in 9 months	€1000(5) and €400 (16)
	312 days in 18 months	€1000 (21)
	468 days in 27 months	€1000 (21)

- **reductions for hiring young workers** (applicable to employers in private as well as public sector) Employers are eligible if they employ at least 3% (1.5% in public or non-profit sector) young workers in companies with more than 50 employees. Two categories of employees must be distinguished:

- a) youngsters until December 31 of the year they turn 18
- b) youngsters from January 1 of the year they turn 19 until the last day of the quarter of the year they turn 26

For workers of the first category there are no additional conditions and the employer gets a reduction of €1,000 until the 4th quarter of the calendar year the employee turns 18.

Workers of the second category must be in search of employment at time of their recruitment and must be low skilled (at most lower secondary degree). If all conditions are met the employer enjoys a reduction of €1,000 for 8 quarters following recruitment and €40 per quarter thereafter until the quarter the employee turns 26.

- **older employees** (applicable to all employers that employ workers subject to all branches of social insurance). The worker must be at least 57 years old in the quarter the deduction is applied for. The amount of the deduction is €400 per quarter for the entire duration of employment.

- **restructuring**: employers that hire employees that are fired due to restructuring. The quarterly reduction is €400 for a limited duration of 3 quarters.

- **collective work-time reduction and 4-day working week**. The lump sum amount of the reduction is €400 and the duration depends in the work-time reduction: 8 quarters for reduction from 38 to 37 hours, 12 quarters for a reduction to 36 hours or less, and 16 quarters for a reduction to 35 hours or less.

- **start-ups that hire their first employees** also enjoy a reduction of social insurance contributions during a certain number of quarters. For the first employee the reduction is €1,000 for 5 quarters and €400 for the following 8 quarters; the second employee gives right to a reduction of €400 during 13 quarters; and €00 during 9 quarters for a third employee.

- **activation of social assistance**: the centers for social assistance can contribute in the wage cost by “activating” part of the social assistance if an eligible person is hired. The amount of the intervention is €500 and duration is related to the age of the employee with a minimum of 15 and a maximum of 29 months following recruitment. For part-time workers the activation amount is adjusted accordingly.

- **activation of unemployment benefits**: same principle as for the social assistance. An amount of €500 is activated, i.e. the employer has to pay €500 less in net wages, and the amount is proportionally decreased for part-time employees.

- **employers in the non-profit sector** can get a lump sum reduction of €354.92 per quarter per employee that works at least 50% of a full-time positions. To be eligible employers must be subject to certain collective labour agreements set by joint committees.



Employees social insurance reductions

Employees are eligible for a reduction in social insurance contributions, called “workbonus”, if they satisfy certain income conditions. The income used in the means-test is based on full-time equivalent income and requires a distinction between labour time expressed in days and one expressed in hours and minutes. The full-time equivalent income (FTE) is calculated as follows:

Table 28. Determination of the full-time equivalent income concept [2005-2008]

Labour time measured in days	$FTE = \text{gross earnings} * [(\text{number of days per month corresponding to full-time position}) / (\text{number of days per month actually worked})]$
Labour time measured in hours	$FTE = \text{gross earnings} * [(\text{number of hours per month corresponding to full-time position}) / (\text{number of hours per month actually worked})]$

The basic reduction is then calculated according to the following rules:

Table 29. Employee social insurance reduction (“workbonus”) [2005-2008]

Full-time equivalent income per month (in 2005)	Monthly amount of reduction in euro			
	2005	2006	2007	2008
≤1234.23	125	140	143	143
>1234.23 and ≤1703.42	$125 - 0.2664 * (\text{FTE} - 1234.23)$	$140 - 0.1746 * (\text{FTE} - 1234.23)$	$143 - 0.1804 * (\text{FTE} - 1283.91)$	$143 - 0.1734 * (\text{FTE} - 1335.78)$
>1703.42	0	0	0	0

The actual reduction is calculated by taking the basic reduction and multiplying it by the fraction of the actual number of hours or days worked (variable lhw) to the corresponding number for a full-time position (38 hours per week). If the number of hours worked per week is more than 38 than we just take a ratio of 1, i.e. working full-time. For a full-time employee the workbonus is equal to the basic amount. For employees that work less than full-time the amount of the workbonus is calculated in a similar manner as the full-time equivalent income but with the fraction reversed. The rules are the same for white and blue collar workers.

- *civil servants*

Social insurance contributions for wage earners on the public labour market without statutory service are the same as those for wage earners on the private labour market. The only exception is that wage earners on the public labour market without statutory service do not have to pay contributions for company closure (company closure fund).

In principle the (public) employer of wage earners in the public sector without statutory service enjoys the same deductions as private employers if the employees are subject to all branches of social insurance (where required).



The social insurance contributions for civil servants with statutory service are different than those for wage earners. Moreover, there is a difference for civil servants working for the federal government and those working for local and provincial administrations¹². Because the data did not allow making the distinction, all civil servants are simulated along the federal level scheme:

Table 30. Social insurance contributions for civil servants at the federal level [2005-2008]

Type of contribution	Employee (% of gross earnings)	Employer (% of gross earnings)
Survival pensions	7.50	
Sickness and disability benefits	3.55	3.80

¹² The percentages for employees of local or provincial administrations are as follows

Type of contribution	Employee (% of gross earnings)	Employer (% of gross earnings)
Pensions	7.50	20.00
Sickness and disability benefits	3.55	3.80
Family benefits		5.25
Work-related illness		0.17
Wage moderation		7.48
Childcare		0.05



Reductions employers' social insurance contributions

Also for employers in the public sector at local or provincial level programs exist that give right to a reduction of social insurance contributions.¹³

Reductions employees' social insurance contributions

Certain low wage civil servants of local and provincial administration might be eligible for a reduction of personal social insurance contributions of the monthly wage mass does not exceed a certain amount (not simulated).

¹³ The following can be distinguished:

- **subsidized contractual workers**: local authorities that hire subsidized contractual workers are entitled to a premium that covers a considerable part of their wage cost and they are exempt from paying social insurance contributions except for the contributions for wage moderation and the 0.05% for childcare services.
- **incentive plan to promote recruitment of individuals in search of a job**: if the individual received unemployment benefits, the guaranteed minimum income or social assistance in the 12 months before recruitment the reduction is 75% during quarters 1 to 5 and 50% for quarters 6 to 9. If the individual was entitled to unemployment benefits, the guaranteed income or social assistance in the 24 months preceding recruitment, the reduction is 100% during quarters 1 to 5 and 75% for quarters 6 to 9.
- **low skilled youth in a first job**: recruiting low skilled younger employees (younger than 26) that are registered as unemployed in search of a job and that have never worked before gives rise to a lump sum reduction during a limited period of time.
- **redistribution of labour in the public sector**: local authorities that hire a contractual worker to replace a worker who voluntarily reduced his or her labour time to 4/5th of a full-time position are entitled to an exemption from all social insurance contributions except for the 0.05% for childcare services.
- **offices for public assistance (CPAS) that hire individuals entitled to social integration** (social assistance, guaranteed minimum wage) and immigrants registered in the foreigners' register with a permit of residence of unlimited duration and that are entitled to financial social assistance are exempt from paying social insurance contributions. The financial means that are thus liberated should be used to enhance employment or training and guidance of those targeted by the program.
- **promotion of employment in the not for profit sector**. A reduction of social insurance contributions of €354.92 is granted to employers in the health, social services or cultural sector. The reduction is not accorded directly to the employers but deposited in a special fund that serves as a means to finance initiatives to enhance employment in the non-profit sector.
- **transition programs**. Those programs have the goal to increase the probability of (re-)integration of long-term unemployed in the labour market through work experience. The employer enjoys a reduction of social insurance contributions and a reduction of the net wage through the activation of the unemployment benefit (see supra).
- **promotion of integration in the labour market of long-term unemployed** in search of a job through a wage subsidy and a reduction of employers' social insurance contributions.



2.4.2 Special social security contributions (*tsceesp_s*)

After calculation of taxes due there is also a special contribution for social security that we mention separately since it is applied after taxes and hence does not influence net taxable income. This contribution is withheld each month and shown on the payslip. The final amount, however, is calculated on (fiscal) household level (*tu_couple_be*) and is settled together with the final personal income tax. The special contribution is due by all employees subject to the social insurance scheme for wage earners.¹⁴

The final settlement – as it is implemented in EUROMOD baseline – will be calculated according to the following schedule:

Table 31. Special social insurance contribution (final settlement) [2005-2008]

Gross net taxable household income (I)	Yearly in euro
<=18592.02	0
>18592.02 and <=21070.96	0.09*(I-18592.02)
>21070.96 and <=60161.85	223.10+0.013*(I-21070.96)
>60161.85	731.28

2.4.3 Self-employed social contributions (*tsce_s*)

Self-employed pay social insurance contributions on a quarterly basis based on their income in the third calendar year preceding the year of contribution. If the self-employed has not yet been active for three years a lump sum amount of contributions is levied¹⁵ which will be regulated later against real earned income. As the EUROMOD data contain income information of one

¹⁴ The monthly withheld amounts are as follows:

Gross monthly earnings in € (at 108% for blue collar workers) (I)	Single or spouse without income from professional activity (monthly amount in €)	Spouse with income from professional activity (monthly amount in €)
<1095.10	0	0
>=1095.10 and <1945.39	0	9.30
>=1945.39 and <2190.19	0.076*(I-1945.39) with a max. of 18.60	0.076*(I-1945.39) with a min. of 9.30 and a max. of 18.60
>=2180.19 and <6038.83	18.60+0.011*(I-2180.19)	18.60+0.011*(I-2180.19) with a max. of 51.64
>=6038.83	60.94	51.64

¹⁵ Not simulated. For an individual starting a self-employment activity as a full-time job social insurance contributions are set at a lump sum amount as follows:

First calendar year and preceding quarters	€459.30 per quarter
Second calendar year	€533.41 per quarter
Third calendar year	€604.20 per quarter

When an activity as self-employed as a secondary job (complementary activity) is started, a lump sum contribution of €57.84 per quarter is levied.

The contribution for individuals receiving pension benefits and who start an activity is €89.45 per quarter. For individuals after retirement age, but not receiving pension benefits, the contribution is fixed at €115.67 per quarter.



year, it is assumed that the income has remained similar, so social insurance contributions are calculated on the income of the current year.

If the spouse of a self-employed works as an assistant there are two possibilities: he or she opts for a “maxi-statute” or a “mini-statute”. In the former case the normal rules to calculate social insurance contributions apply. In the latter case the social insurance contributions are calculated differently¹⁶, but this is not simulated.

The self-employed, besides paying the contributions according to the rules set out above, also have to participate in the working costs of the social insurance funds to which they are affiliated. The percentages range between 3.2% and 4.7% on the contribution amounts (not simulated).

Calculation of social insurance contributions of self-employed

The basis of calculation is net indexed earnings, i.e. gross earnings net of professional costs and possible losses. The consumer price index is used for indexation. All monetary amounts in the tables and text refer to 2005.

Self-employed in main activity before retirement age

Table 32. Social insurance contributions for self-employed in main activity before retirement age [2005]

Annual net indexed earnings (I)	Annual social insurance contribution
≤€45664.64	$\max\{1837.20, 0.1965 \cdot I\}$
>€45664.64 and ≤€67300.67	$8973.10 + 0.1416 \cdot (I - 45664.64)$

The amounts in Table 32 imply a minimum quarterly contribution of €459.30 and maximum contribution of €3,009.19 per quarter.

Self-employed in complementary activity before retirement age

When the self-employed activity is not the main activity of the individual social insurance contributions are set differently. If net earnings in the third calendar year preceding the year of contribution are less than €1,177.31, no social insurance contributions are due. If net earnings exceed €1,177.31 the same schedule applies as for self-employed as main activity. The minimum contribution per quarter is €57.84 and the maximum is €3,009.19. These amounts are for 2005. The structure of the calculation is similar in the following years, only the amounts are indexed. The applicable amounts for 2006-2008 can be found in the EUROMOD policy sheets.

¹⁶ The rules to calculate the social insurance contributions in the case of the mini-statute are as follows:

Annual net earnings of self-employed of which the spouse is assistant (I)	Annual contribution
>€9349.59 and ≤€45664.64	$76.35 + 0.0079 \cdot (I - 9349.59)$
>€45664.64 and ≤€67300.67	$363.24 + 0.0051 \cdot (I - 45664.64)$



Self-employed activity in combination with pension benefits

For individuals that receive pension benefits rules exist about the combination of those benefits with a self-employed activity.¹⁷ The social insurance contributions that are due on the net earnings from the self-employed activity are as follows:

Table 33. Social insurance contributions for self-employed activity in combination with pension benefits [2005]

Annual net earnings	Annual contribution
<€2354.60	0
>=€2354.60	14.70%

The minimum contribution is €86.53 per quarter and the maximum contribution is set to €586.739 per quarter (amounts 2005).

Self-employed after retirement age but without retirement pension benefits

The social insurance contributions on the earnings of individuals in this category are as follows:

Table 34. Social insurance contributions for self-employed after retirement age without pension benefits [2005]

Annual net earnings (I)	Annual contribution
<€2354.60	0
>=€2354.60 and <=€45664.64	$462.68 + 0.1965 * (I - 2354.60)$
>€4664.64 and <=€67300.67	$8973.10 + 0.1416 * (I - 45664.64)$

The minimum contribution per quarter is €115.67 and the maximum contribution is €3009.17 per quarter (amounts 2005).

2.4.4 Social insurance contributions paid on non-labour income (*tscope_s*)

Retirement and survival pensions

Retirement and survival pension benefits are subject to a social insurance contribution of 3.55% for the funding of sickness and disability insurance. However, if the contribution would bring

¹⁷ If the following conditions are satisfied the pension benefits are paid out in full, i.e. they receive their pension benefits as if they had no other earnings from a paid activity.

Age and type of pension	Maximum income from self-employed activity without losing pension benefit
65 year or older	€12472.14 (without dependent children) €15440.77 (with dependent children)
Less than 65, one or more survival pensions	€1187450 (without dependent children) €14843.13 (with dependent children)
Less than 65, retirement or retirement and survival pension	€5937.26 (without dependent children) €8905.89 (with dependent children)

If the above amounts are violated by more than 15% the entire pension benefit is lost. If the above amounts are violated by less than 15% the pension benefits are decreased at the rate at which they exceed the income threshold conditions.



the pension amount below a certain threshold, contributions are limited to the amount exceeding the threshold.

Table 35. Monthly thresholds for social insurance contributions for retirement and survival pensions [2005-2008]

	2005	2006	2007	2008
Pensioner without dependent family	€1114.78	€1137.08	€1159.82	€1182.99
Pensioner with dependent family	€1321.18	€1347.61	€1200.99	€1224.99

A second contribution (solidarity contribution) is withheld for pensions that exceed €1,481.31 for pensioners with dependent family (i.e. children) and €1,185.05 for pensioners without dependent family. This solidarity contribution has as purpose to increase solidarity among pensioners and is especially used to protect and preserve minimum pensions. The rate progressively increases from 0.5% to 2%. If the pension benefit exceeds €2,394.73 (€2,095.39) for pensioners with (without) dependent family the contribution percentage is 2%. These and following amounts are for 2005.

Table 36. Calculation of social insurance contributions for pensioners & survival pensioners[2005]

Without dependent family		With dependent family	
Pension amount in euro per month (P)	Contribution	Pension amount in euro per month (P)	Contribution
0.01-1185.05	0	0.01-1481.31	0
1185.06-1196.99	$(P-1196.98)*0.5$	1481.32-1496.24	$(P-1481.31)*0.5$
1197.00-1481.31	$P*0.005$	1496.25-1777.57	$P*0.005$
1481.32-1496.42	$7.41+(P-1496.41)*0.5$	1777.58-1795.64	$8.89+(P-1777.57)*0.5$
1496.43-1777.57	$P*0.01$	1795.65-2073.82	$P*0.01$
1777.58-1795.88	$17.78+(P-1795.87)*0.5$	2073.83-2095.15	$20.74+(P-2073.82)*0.5$
1795.89-2073.82	$P*0.015$	2095.16-2370.73	$P*0.015$
2073.83-2095.39	$31.11+(P-2073.82)*0.5$	2370.74-2394.73	$35.55+(P-2370.73)*0.5$
≥ 2095.40	$P*0.02$	≥ 2394.74	$P*0.02$

Social insurance contributions on conventional early retirement benefits¹⁸

An employee has a right to a conventional early retirement if he or she is 58 years old with at least 25 years of professional activity. Part of the conventional early retirement is paid by the unemployment office and part is paid by the employer.

A social insurance contribution of 3.5% is withheld by the employer on the part paid by the employer to fund pension insurance and a contribution of 1% to 3%, depending on the start date of the early retirement, is withheld by the unemployment office on the unemployment benefit. The 1% is for those whose early retirement started before 1997 and the 3% for those who retired early after 1997. In 2005, the pension cannot fall below €1,340.61 (€1,112.99) per month for early retired with (without) dependent family following payment of social insurance contributions. If it does no contributions are due. In the case of part-time early retirement the threshold values are €670.31 and €556.50 respectively (2005 amounts).

¹⁸ This is not simulated as it cannot be derived from the data which part is attributable to the employer and which part to the unemployment office as the rates differ.



Social insurance contributions on disability benefits

On disability benefits received by wage earners a social insurance contribution of 3.5% is due to fund the pension insurance scheme. Again the payment of such contribution may not have as a consequence that the benefits fall below a certain threshold. The threshold for beneficiaries with dependent family is €48.00 per day and for beneficiaries without dependent family it is €39.85 per day (2005). Contributions are not due on benefits for primary disablement (first year).

Table 37. Social insurance contributions on disability benefits [2005-2008]

	2005	2006	2007	2008
Beneficiary without dependent family	39.85	40.65	41.46	43.14
Beneficiary with dependent family	48.00	48.97	49.94	51.96

Social insurance contributions on benefits for work-related sickness and disease and occupational injuries

The percentage applicable is 13.07% on benefits for either permanent or temporary disablement but no contribution is due on benefits for assistance by a third person. Because in the data, it is not possible to distinguish work-related sickness and disease and occupational injuries from regular sickness- and disability-benefits, all sickness and disability benefits are treated as the regular category (see paragraph above). Thus, the social insurance contributions on occupational injuries and work-related sickness and disease are not implemented.

2.5 Withholding income tax (*tinwh_s*)

• *Brief description*

The withholding income tax is a system of advance payments, each time one's salary or allowance is paid (mostly monthly, but also weekly or two-weekly is possible).¹⁹ It seeks to approximate the final personal income taxes due. The rough lines of the calculation of the withholding tax are similar to the calculation of the personal income tax, however, it only takes into account the most important elements, and is in that way much less detailed, so differences can be considerable. A clearance of the balance between withholding tax (already paid) and final income taxes due (calculated on the basis of the filed tax returns which are due by the end of June of the year after the income reference year) usually takes place in the first half of the second year after the period in which the income has been received.

After subtracting social insurance contributions and (fixed) professional expenses in the case of employment income, the calculation of the withholding tax takes the following elements into account:

- Number of dependent children and persons
- Family situation: standard rates apply for single persons or couples (married or with cohabitation contract) in which both partners receive income. Differently, a deduction mechanism applies for couples in which only one of the partners receives income (to adjust for the 'marital quotient' that applies in the personal income tax system (cfr. paragraph 2.6.4).

¹⁹ Strictly speaking, self-employment income is treated differently, with prepayments on a quarterly basis. However, as we cannot simulate this complex system, all income is treated as regular income.



- The type of payment (regular (recurrent) versus exceptional (non-recurrent)). The grade of detail of the available data prevents distinguishing between regular and exceptional payments, therefore, all income is treated as regular.

- *Tax base, schedule and allowances*

The basis for the calculation of the withholding tax is the reference income for one year. It is assumed that the present income is being received for one year.

First, social insurance contributions are being deducted from the gross income. For the determination of the amount, see section 2.4.

For the determination of the amount to be deducted as professional expenses, see “allowances related to expenses” under paragraph 2.6.3.

After these two deductions, the schedule in Table 38 is applied to the resulting tax base (the reference net taxable yearly income). This schedule counts for both single persons, and fiscal couples (= married or consensual union with a legal basis) of which both partners have a net income (employment income, pensions or other replacement incomes) higher than €105 per month (amount 2005). Net refers here to *after* deduction of social insurance contributions and an additional deduction of 20% of the remaining amount.

Table 38. Withholding tax schedule [band limits for 2005]

Net taxable yearly income band		% applied on band
0	- 7,090	26.75
7,090	- 9,640	32.10
9,640	- 13,970	42.80
13,670	- 30,840	48.15
30,840	- and more	53.50

For fiscal couples where only one spouse receives income higher than the above threshold, a specific mechanism applies. 30% of the net taxable yearly income of the earning spouse is first transferred to the other spouse, with a maximum of €8,330 (amount 2005). This split part of the income is then treated as the net taxable yearly income of the non-earning spouse, and the above (individual) schedule is then applied to both parts of the income as if it were two separately gained incomes. This mechanism is entirely parallel to the marital quotient system in the personal income taxation (cfr. paragraph 2.6.4)

Next, a number of allowances are deducted from the resulting tax sum. First, a lump-sum deduction of €1,313.43 (amount 2005) is subtracted in the case of single person or from each tax sum of both partners in the dual-earner case. In the case of one-earner couples, the lump sum deduction amounts to €2,626.86 (amount 2005), which is deducted from the total of calculated taxes for the couple.

The amounts from Table 39 that are applicable, depending on the family situation, are additionally deducted from the obtained tax sum.



Table 39. Reductions from basic withholding tax sum [2005-2008]

Family situation	Additional deduction (€)			
	2005	2006	2007	2008
For the first dependent child	360*	348*	348*	360*
----- second -----	540*	576*	600*	624*
----- third -----	1512*	1560*	1572*	1632*
----- fourth -----	2004*	2064*	2100*	2172*
----- fifth -----	2100*	2160*	2208*	2280*
----- sixth -----	2100*	2340*	2208*	2292*
----- seventh -----	2122*	2412*	2196*	2280*
----- eighth -----	2256*	348*	2376*	2248*
For each child beyond the eighth	2340*	348*	2460*	2532*
For single persons	240	240	252	252
Single parents with dependent children	336	348	348	360
Not (re)married widow(er) with dependent children	336	348	348	360
For each other dependents than own children	336*	348*	348*	360*
If the taxpayer him/herself is handicapped	336	348	348	360
Ascendants and relatives older than 65	696	696	708	732

* if the child or dependent person is handicapped, the applicable amount is doubled.

After the relevant deductions you get the equivalent of the yearly amount of withholding tax. Of course, the amount is then divided by the relevant period (e.g. divided by 12 for persons that are paid on a monthly basis) to obtain the amount that is actually withheld on the pay slip.

- *Special social insurance contribution – determination of withheld amount*

The special social insurance contribution is already discussed in paragraph 2.4.2. As mentioned there, it is withheld every month and appears on the pay slip. In this paragraph, only the calculation of the monthly withheld amount is explained. The final amount, however, is calculated after the settlement of taxes, according to the rules explained in paragraph 2.4.2.

Table 40. Calculation rules of the monthly withheld special social insurance contribution [2005-2008]

Monthly gross income = X	Single person	Spouse in dual earner couple
	Earning spouse in single earner couple	Monthly withheld amount (€)
X < 1,095.10	0	0
1,095.10 <= X < 1,945.39	0	9.3
1,945.39 <= X < 2,190.19	7.6% of (X-1,945.39) With a maximum of 18,60	7.6% of (X-1,945.39) With a maximum of 18,60 and a minimum of 9,30
2,190.19 <= X < 6,038.83	18.60 + 1.1% of (X-2,190.19)	18.60 + 1.1% of (X-2,190.19) With a maximum of 51.64
X >= 6,038.83	60.94	51.64

Thresholds and amounts have remained unchanged over the period 2005-2008.



2.6 Personal income tax (tin_s)

2.6.1 Tax unit

The tax unit typically consists of a single person or married couple,²⁰ with dependent persons. Household members that satisfy one of the following conditions are possibly fiscally dependent:

- descendants of the taxpayer or his/her spouse (no age limits)
- children (up to 18 years old) who are not descendants but for whom the taxpayer or his/her spouse bears responsibility
- ascendants of the taxpayer or his/her spouse
- relatives of the taxpayer or his/her spouse
- individuals of whom the taxpayer was him- or herself dependent in the past, according to tax legislation.

To qualify as dependent one's own income may not surpass certain limits. If it does, the individual is considered a separate tax unit.

To determine a potentially dependent person's own means, the tax legislator takes into account both non-taxable and taxable income sources. Among the latter a further distinction is made between 1) occupational income, 2) real estate income, 3) income from assets, and 4) other income sources.

In case of income from a professional activity (occupational income) one compares 80% of gross taxable income²¹ with gross taxable income minus the costs incurred to obtain this income and takes the lower of the two. The incurred costs can either be real or lump sum (cfr. section 2.6.3 for more details).²²

For replacement incomes the standard rate of 80% is used to determine net own means from replacement income.

For income from unrented property the minimum is taken of cadastral income and 10/6 (developed) or 10/9 (undeveloped) of cadastral income minus real incurred costs.²³ If the property produces rental income then the minimum is taken of the received rent minus the real costs and 60% of the received rent for developed property or 80% of rent received for undeveloped property.²⁴

Income from assets is counted in net own means as the minimum of gross income from assets minus real costs and 80% of gross income from assets.

For maintenance allowances (alimony) and income from non taxable sources one takes 80% of the (gross) amount as net own means.

²⁰ Married couples form a fiscal unit from the year following the year of marriage onwards.

²¹ Gross taxable income consists of gross earnings minus personal social security contributions. The special contribution for social security for households with income exceeding €18592.01 is not deductible. Contributions paid by pensioners with a pension exceeding €991.57 a month are deductible.

²² In case of income from professional activity if the costs thus calculated should be lower than €350 then the latter amount applies (if not larger than gross taxable income). In the implementation, the choice for 80% of gross taxable income is assumed (in the definition of the income list).

²³ Not simulated due to lack of data.

²⁴ In the implementation, 60% of rent is assumed (variable ypr).



In the case of children child allowances, birth and adoption allowances, scholarships, alimony and earnings of disabled children from employment in sheltered workplaces are not included in the means test for net own means and they are not taxable either.

The yearly net own means for children cannot exceed €2,120(2005). This amount is increased to €3,670 for children of lone parents.²⁵

Other rules apply for assessing the dependency of (grand)parents. The principal amount of €2,120 remains the same, but if the persons are 65 or older and enjoy pensions, part of the latter (with a maximum of €20,450 / year) is not considered in the determination of net own means. For the remainder, if yearly net own means do not exceed €2,120 both (grand)parents are dependent. If net own means are between €2,120 and €4,230 only the (grand)parent with the lowest net own means is considered dependent. If net own means are above €4,230 then none of the (grand)parents are dependent.

2.6.2 Exemptions

Following Verbist (2004), we define exemptions as “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)”.

In Belgium this applies for child benefits, social assistance benefits, war pensions and benefits in case of a work-related accident or sickness for a person without any other income.

2.6.3 Tax allowances

Here, we define tax allowances as any amount subtracted from pre-tax income (including social insurance contributions). Differently from 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).

In the Belgian tax system, a number of allowances apply. Roughly, three categories exist. First, the social insurance contributions are deducted from gross income. As social insurance contribution is extensively discussed in section 2.4, it is not treated here. Secondly, there are the allowances related to the size and the composition of the tax unit. The different components are added up to a total base tax allowance, a sum of income on which no taxes have to be paid. Thirdly, there are the deductions related to expenses. The expenses are subtracted from the total taxable income. In the following, we discuss the tax allowances that are simulated in EUROMOD.

- *Allowances related to the size and composition of the tax unit*

The tax legislator grants the taxpayer an income amount that is exempt from taxation. The exemption is from the bottom up. This means that the taxes due on that amount are calculated following the normal income brackets and applicable rates. The amount that is then obtained will be deducted from the final tax payment calculated on total net taxable income.

The basic amount in 2005 is equal to €5,780 regardless the marital status. It is the same for all individuals. In a cohabitating couple consisting of two tax units each person will get the basic

²⁵ This amount is further increased to €4,230 for disabled children of lone parents, but due to lack of data on disability this is not simulated.



amount of €5,780, in a married couple that makes up a single tax unit each spouse will be granted €5,780. Moreover, if the income of one of the spouses is less than the basic exempted income amount than the remainder can be transferred to the other spouse (if his or her income is sufficiently large).

If the taxpayer is disabled the basic amount is increased by €1,230(2005).

For each dependent child the basic amount is further increased as follows:²⁶

Table 41. Tax allowances for dependent children [2005-2008]

	Allowance amount per child ²⁷			
	2005	2006	2007	2008
First child	€1,230	€1,260	€1,280	€1,310
Second child	€1,930	€1,990	€2,030	€2,060
Third child	€3,920	€4,030	€4,100	€4,170
From fourth child onward	€4,370	€4,490	€4,570	€4,66

The basic amount is further increased for the following family situations:

Table 42. Additional tax allowances for special family situations [2005]

Family situations	Increase of the tax allowance			
	2005	2006	2007	2008
Ascendants and relatives older than 65	€2,450	€2,50	€2,570	€2,610
Other dependent person	€1,230	€1,260	€1,280	€1,310
Handicapped dependent person	€1,230	€1,260	€1,280	€310
Lone parent with dependent children	€1,230	€1,260	€280	€1,310

- *Allowances related to expenses*

In this category, the simulation possibilities are limited. As detailed expenditure data lack from the data, it is impossible to reconstruct the deductions.

²⁶ An extra lump sum increase of the tax allowance of €460 (2005) for each child younger than 3 is granted if no childcare costs are declared on the tax form for this child. (not simulated).

²⁷ A disabled child counts for two, but due to lack of data this could not be simulated.



Two exceptions to this apply: paid alimony and work-related expenses. Paid alimony is available in the data and is deductible up to 80% of the paid amounts if the beneficiary does not live in the same household as the taxpayer and the payment must be the result of a court order.

For all workers, gross taxable income from a professional activity is reduced by the amount of work-related costs incurred, or by a lump sum amount, whichever is most favourable. In the case of real costs the taxpayer must prove these costs if asked for by the tax legislator. In EUROMOD, lump sum costs are simulated for every worker.²⁸

To determine the lump sum amount of work-related costs the following rates are applied:

Table 43. Schedule for lump sum deduction of professional expenses [2005]

Gross taxable income in euro [2005]	Rate applied on gross taxable income
>0 and <=4660	25%
>4660 and <=9270	10%
>9270 and <=15420	5%
>15420	3%

The total amount of the lump sum costs cannot exceed the amount of €3,110 which corresponds to gross taxable income of €54,637 (amounts for 2005).

For managers and self-employed only one rate of 5% on gross taxable income applies to determine the lump sum amount of work related costs with a maximum set at €3,110.

²⁸ Self-employed usually don't make use of the system of assumed work-related expenses, and usually choose to prove their costs by means of the invoices. In the EUROMOD database, the actual work-related expenses of the self-employed are not available, so the wage-related formula is assumed to apply to their work-related expenses as well.



The net taxable income that results from the above rules can then further be reduced by declared expenses such as charitable donations,²⁹ mortgage repayments,³⁰ life insurance premiums,³¹

²⁹ Not simulated because of lack of data. Charitable donations to recognized institutions of more than €30 can be deducted. The donations cannot amount to more than 10% of global net taxable income of the spouse, nor can it be more than €310,930 per spouse. The deduction is proportional to the income of each spouse.

³⁰ In the case of mortgage repayments the following table shows the basis amounts that are applicable for mortgages originated in different years. The amounts imply that deductions of capital repayments are limited relative to the proportion of the actual mortgage loan to the basis amount in the table. For example, someone with a mortgage of €100,000 originated in 2000 and with a capital repayment of €3,000 can only expense €1,670 ($3000 * 55652.10 / 100000$).

Year of loan	Basis amount giving right to tax reduction (in Euro)
1989	49,578.70
1990	51,115.64
1991	52,875.69
1992 to 1998	54,536.58
1999	55,057.15
2000	55,652.10
2001	57,570.00
2002	58,990.00
2003	59,960.00
2004	60,910.00

The amounts in the table are further increased by 5, 10, 20 or 30% depending on whether the taxpayer has one, two, three, or more than three dependent children on January 1 of the year following that of the origination of the loan. For loans that originated before 1989 a distinction is made between social housing (purchased), houses of medium size and big size houses. For social housing the entire amount of the loan is taken into account. For medium sized houses the first €49,578.70 if the house is newly built and the loan originated after April 30, 1986 and €9915.74 in all other cases. Loans for big sized houses do not enjoy any tax reductions for loans originated before 1989.

Interest paid on mortgage loans are also tax deductible to a certain extent. In principle interest payments are deducted from net taxable income from real estate and limited to the latter (cadastral income) (this is taken up but switched off). The remaining interest payments above net taxable real estate income can give rise to further deductions if the loan has as its purpose the financing of the building of a new house or to finance important renovations. The basic amounts are as in the table above and the same principle applies, i.e. interest payments in relation to proportion of basic amount to actual mortgage amount, after which a degressive percentage is applied to this reduced amount to determine the actual tax deductions: 80% for the first 5 years, 70% for year 6, 60% for year 7, 50% for year 8, 40% for year 9, 30% for year 10, 20% for year 11, 10% from year 12 onwards. The percentages are applied to the reduced interest deduction from the first step (in function of the basic amount and the total loan amount) in order to get to the actual interest amount that can be deducted from taxable income.

³¹ These are not simulated, but give rise to tax reductions that are calculated per spouse and limited in the following way:

- limited to 15% of the first €1,550 of income from professional activity and 6% for income above €1,550
- limited to a maximum of €1,870

The actual tax reduction is in principle calculated at the average tax rate of the previous year.



Contributions to private pension plans,³² and childcare costs³³ (not simulated).

2.6.4 Tax base

To calculate personal income taxes we need to determine the tax base, i.e. net taxable income. This is done by subtracting the tax allowances discussed in section 2.6.3. from gross income.³⁴

All replacement incomes are taxable except for the one exempt from taxation enumerated in section 2.6.2. (income support, war pensions and benefits in case of a work-related accident or sickness for a person without any other income).

For certain income from assets, such as dividends, interest from bonds and other fixed income securities, there is no obligation to declare since taxes are withheld at the source (simulated separately, see section 2.7.). Other income from assets such as income originated and collected abroad and interest on savings in a savings account should be declared.³⁵ Income from assets can be taxed separately or jointly with other income, whichever is more advantageous for the taxpayer. In EUROMOD it is assumed that separate taxation is more advantageous, because of the low average rate (15%).

Other income sources include maintenance allowance (alimony) of which 80% is subject to taxation.

Occasional profits and benefits are taxed net of incurred costs. These do not include profits and benefits from regular exploitation of a private enterprise or estate, nor do they include winnings from lotteries or games.³⁶

³² These are not simulated due to missing information in the Belgian SILC in this respect. Contributions to private pension plans can be deducted up to a maximum amount of €780 per spouse. The actual tax reduction is in principle calculated at the average tax rate of the previous year.

³³ Not simulated because of lack of data. Child care costs are tax deductible for the full amount with an upper limit of €11.20 per day. The deduction is applied proportionally on the income of both spouses. For children less than 3 years a lump sum deduction of €460 is granted if no other costs for childcare are declared.

³⁴ Losses that are incurred can be deducted from any positive income to establish taxable income. Moreover, losses are transferrable without limitation to other tax years to be set off against positive income. Because data from other years are not disposable, this is not simulated.

³⁵ In case of savings accounts the first €1,550 in interest on savings per spouse is exempt from taxation altogether. As it is not possible to identify which income is from interest on savings accounts, this policy is switched off.

³⁶ For awards and subsidies the tax base is the received amount plus any withholding taxes minus gifts to Belgian universities or other recognized institution for scientific research. Awards and subsidies are taxable only for the part that exceeds €3,110. (notsimulated)



Some income items are taxed separately such as wages overdue, holiday allowance paid up-front, capital from collective insurance contracts. These are, however, not simulated because the data are not detailed enough in this respect.³⁷

Also taxed separately are income from assets, awards, and certain subsidies (cfr. section 2.7).

2.6.5 Tax schedule

The rate structure in the table below is applied to individual net taxable income to determine the gross amount, before any other reductions (cfr. section 2.6.6), of personal income taxes.

Table 44. Tax schedule [2005-2008]

Tax brackets	Upper limits of yearly net taxable income				Rate applied
	2005	2006	2007	2008	
1 st bracket	7100	7290	7420	7560	25%
2 nd bracket	10,100	10,380	10,570	10,760	30%
3 rd bracket	16,830	17,300	17,610	17,920	40%
4 th bracket	30,840	31,700	32,270	32,860	45%
5 th bracket	∞	∞	∞	∞	50%

As discussed above, the amount of income corresponding to the basic tax allowance is exempt from tax. This means that the rate structure applies on the entire net taxable income, and in the end the tax due on the base allowance (after applying the rate structure on that amount) is subtracted to obtain the final tax amount.

In the case of married couples the tax legislator allows for income sharing between spouses up to a certain limit (the so-called ‘marital quotient system’). If one of the spouses earns less than 30% of the couple’s total net taxable income, income between spouses is shared as if the higher earning spouse earned 70% of total household income from professional activity and the other spouse 30%. The amount thus transferred is limited to €8,160(2005) and may not exceed 30% of total household professional income, i.e. the net taxable income of the “receiving” spouse is limited to €8,160. After this income sharing, the rate structure is applied to both individuals as if the income was their own individual income. This implies that the transferred part of the income is taxed against a much lower marginal rate than if it would have been had it not been transferred, i.e. if it had remained part of the income of the higher earning spouse.

³⁷ It concerns the following items (not simulated) :

Income from assets	15 to 25%
Occasional profits	33%
Awards and subsidies	16.5%
Income from subletting and transfer lease	15% from March 1st 1990; 25% otherwise
Capital gain real estate	16.5%
Capital gain land (for construction)	33% if sold within 5 yrs of acquisition.; 16.5% otherwise
Wages and replacement incomes overdue	average tax rate previous year
Severance pay of more than €750 gross	idem
Holiday earnings paid in advance	idem
Capital from life or collective insurance contracts, or pension plans	33%, 16.5% or 10%



If the professional income of one of the spouses is negative, this can be deducted from the earnings of the other spouse without, however, exceeding those earnings (not simulated).

In the case of self-employed part of the income can be transferred to the “co-working” spouse if the latter has no net taxable income from professional activity that exceeds €10,820. The compensation should be in relation to the services provided by the spouse of the self-employed but cannot, in principle, exceed 30% of total income earned with the help of the spouse. We assume that the sharing is in relation to the services.

Municipality taxes

Municipality tax rates are collected in addition to the above tax schedule. The rates vary from 4% to 8.5%, with an average of 6.8%. As in EUROMOD database we do not dispose of municipality information, these taxes are calculated taking 7.3% of calculated national taxes. This percentage corresponds to the proportion of aggregated municipality taxes / aggregated national taxes in the administrative fiscal data.

2.6.6 Tax credits

- *Refundable tax credit for children*

Normally, if the tax allowance exceeds the actual income, the result is that no taxes have to be paid, but no compensation exists for the ‘remainder’ of the tax allowance, the part that one cannot ‘use’ because income is insufficient. However, if the increase of the tax allowance is due to increases related to children, then part of the tax allowance is refundable in the form of a tax credit for children. The refundable amount is limited to €350 per child per year (2005).

- *Credits in the case of replacement income*

When part of one’s income stems from replacement income (unemployment benefits, early retirement benefits, sickness and disability benefits, pensions), tax credits are applicable to that part. In Table 45 the yearly basic tax credits are shown for different types of replacement income. The amounts regard 2005. For most types of replacement income, the assessment unit is the individual, i.e. the recipient’s family situation does not influence the amount of the credit. Only for the unemployment benefit (regular and for older employees), the assessment unit consists of the couple. Here, the family situation matters for the amount of the tax credit. In what follows it will be explained how these credits are further reduced in function of total income.

Table 45. Tax credits for replacement incomes [2005]

Type of replacement income	Assessment unit	Single	Spouse
Pensions	individual	€1,672.24	€1,672.24
Early retirement benefits	individual	€1,672.24	€1,672.24
Unemployment benefits (incl. for elderly unemployed)	couple	€1,672.24	€1,952.56
Legal benefits sickness and invalidity	individual	€2,146.60	€2,146.60



These credits are further reduced “horizontally” and “vertically”.

Horizontal limit

The tax credit is limited to the proportion of replacement income on total net taxable income. A taxpayer receiving unemployment benefits of €2,500 and net taxable income from professional activity of €10,000 will only be eligible to receive 1/5 of the tax credit related to unemployment benefits ($2500/(10000+2500)$), where €12,500 is the *total* net taxable income in this example. This rule is applied on the “calculation basis”. In case the latter is the spouse than net total taxable income is before application of the marital quotient system (cfr. section 2.6.5). Amounts are for 2005.

Vertical limit

The general rule which is applicable to all replacement incomes except the regular unemployment benefits is as follows, where R is the reduction after applying the horizontal limit, and NTI is net taxable income (at the level of the tax unit):

Table 46. Determination of vertical limit of the tax credit for replacement income (except regular unemployment benefits) [2005]

$NTI < €18530$	$R' = R$
$€18530 \leq NTI \leq €37060$	$R' = R * 1/3 + [R * 2/3 * (37060 - NTI) / 1850]$
$NTI > €37060$	$R' = R * 1/3$

In case of regular unemployment benefits the following rules apply:

Table 47. Determination of vertical limit of the tax credit for regular unemployment benefits [2005]

$NTI < €18530$	$R' = R$
$€18530 \leq NTI \leq €23130$	$R' = R * (23130 - NTI) / 4600]$
$NTI > €23130$	$R' = 0$

The reductions that are obtained after applying the horizontal and vertical limits cannot be more than that part of the tax that is proportional to the tax base on which they apply. It means that the reduction as a proportion of the total tax cannot be more than the replacement income as a proportion of total net taxable income.

After all the reductions the taxes due can be further reduced to zero in case taxable income’s sole component is replacement income –and only one type of replacement income– and does not exceed the following amounts:

Table 48. Upper limits for further reduction to zero taxes in the case of pure replacement income [2005]

Unemployment benefits elderly unemployed (aged 58 or more)	€13,686.52
Regular unemployment benefits, pensions, early retirement and other replacement income	€12,452.13
Sickness and disability benefits	€13,835.70



- **Refundable tax credit on low activity incomes**

Low activity incomes are incomes from professional activity net of costs, either real or lump sum that are not replacement incomes, wage incomes (except for statutory civil servants)³⁸ or other separately taxed incomes. It implies that this tax credit is applicable only for self-employed and statutory civil servants. The base for the calculation of the credit is before application of the marital quotient and is calculated per spouse. The credit calculated according to the rules in the table below is limited to the ratio of activity income in total net income from professional activity. The tax credit is refundable.

Table 49. Determination of the refundable tax credit on low activity incomes [2005]

Net income in euro (I)		Tax credit in euro
G1	G2	
0	4,050	0
4,050	5,410	$550 * (I - G1) / (G2 - G1)$
5,410	13,530	550
13,530	17,590	$550 * (G2 - I) / (G2 - G1)$
17,590	and more	0

2.7 Investment income taxes (*tinkt_s*)

For certain income from assets, such as dividends, interest from bonds and other fixed income securities, there is no obligation to declare since taxes are withheld at the source, at a rate ranging between 15% and 25%. In principle, income from assets can be taxed separately or jointly with other income, whichever is more advantageous for the taxpayer. The assumption in EUROMOD is that this income is taxed at the source and is hence not taken up in taxable income. An average tax rate of 15% on gross investment incomes is assumed.

Other income from assets such as income originated and collected abroad and interest on savings in a savings account should be declared. In case of savings accounts the first €1,550 in interest on savings per spouse is exempt from taxation altogether. Because with the EUROMOD data it is not possible for investment income to distinguish whether it comes from abroad or not, whether it originates from interest on savings account or not, these details are not simulated. Hence, all investment income is treated in the same way and taxed at an average rate of 15%.

2.8 Real estate taxes

Real estate taxes are implemented as part of personal income tax, but switched off because the EUROMOD database does not contain data on cadastral income.

Cadastral income needs to be declared on the tax form. However, taxes on cadastral income are paid separately. Therefore taxes due on cadastral income are “settled” against the final tax payment at a rate of 12.5% of the part of cadastral income that is effectively taken up in the tax base (not simulated).

Real estate income is taxable at the rate of the cadastral income (indexed with coefficient 1.3889). If the property is the second home or rented to a natural person that does not use it for

³⁸ Wage earners that are not eligible for this tax credit are in principle eligible for a reduction in personal social security contributions.



professional activities or rented to a legal person that is not a corporation and that sublets to (a) natural person(s) to use the property as residence then the indexed cadastral income is further increased by 40%. If the property is rented to a natural person for professional activity or to a corporation then the tax base is rental income net of a 40% lump sum cost allowance. The net rent may not be lower, however, than the indexed cadastral income plus 40% (not simulated).

Interest payments on loans originated to purchase or maintain the property can be deducted from cadastral income. The deduction is limited to the amount of the cadastral income. In some cases an additional interest deduction is allowed (cfr. footnote 30). If the deductible interest of one of the spouses exceeds his or her part of cadastral income³⁹ then the remainder can be transferred to the other spouse without ever exceeding the total of real estate income (cadastral income) (not simulated).

There is also a lump sum deduction of €4,170 per spouse in the household augmented with €350 per dependent person and another €350 for each child that has been a dependent child before in the same residence. The augmented amounts are split between spouses in the same way as the cadastral income. The deduction thus calculated is called the regular deduction. If the net income of an individual is not higher than €29,230 then this person enjoys an additional deduction that is equal to one half of the difference between his or her part of cadastral income and his or her regular deduction. Amounts are for 2005.

3. DATA

3.1 General description

The Belgian database consists of the Belgian part of the European Union Statistics on Income and Living Conditions. This is a rotating panel survey (4 rotational groups), representative of the Belgian population in private households. The survey takes place in the second 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 (“old” households (3/4) and “new” households (1/4) together) is defined as (number of addresses successfully contacted / number of valid addresses contacted) * (number of household interviews completed and accepted for the database / number of eligible households at contacted addresses) = 61.5. The User Data Base on which the EUROMOD database is based, is provided by Eurostat.

More information on technical issues concerning the Belgian SILC2006 can be found in its Quality Report:

http://statbel.fgov.be/fr/binaries/Quality_report_EU_SILC_2006%5B1%5D_tcm326-59600.pdf

³⁹ For properties that are jointly owned the cadastral income is split between spouses.



Table 50. EUROMOD database description

	Year 2005
EUROMOD database	BE_2006_a1
Original name	EU-SILC_UDB_c06 (ver 2006-1)
Provider	Eurostat
Year of collection	2006
Period of collection	July-December
Income reference period	2005
Sampling	2-stage sampling; with stratification of sampling units (no clustering of sampling units)
Unit of assessment	Sociological household
Coverage	Private households
Sample size	14,329 individuals; 5860 households
Response rate	61.5% (household response rate for total sample)

3.2 Sample quality and weights

3.2.1 Non-response

- *Unit non-response*

For the total sample (four rotational groups):

- Household non-response rates (NRh) : 39.5%
- Individual non-response rates (NRp): 0.840%
- Overall individual non-response rates (*NRp): 40.02 %.

For the new households (rotational group 2):

- Household non-response rates (NRh): 53%
- Individual non-response rates (NRp): 0.884%
- Overall individual non-response rates (*NRp): 53.39 %.

Unit non response is extensively documented in the Belgian SILC Quality Report (http://statbel.fgov.be/fr/binaries/Quality_report_EU_SILC_2006%5B1%5D_tcm326-59600.pdf). From page 26 onwards, more detailed info on unit non-response can be found.

- *Patterns of non-response*

For the Belgian SILC-data, so far no further analyses of systematic non-response patterns have been published.

Concerning attrition for the “old households”- part of the sample, the strongest attrition predictor turned out to be a combination of PB090 and PB100 (month / quarter of interview in 2006), showing that “late” 2005 respondents were more likely to drop out:



Table 51. Patterns of non response

Month of Interview 2005	Attrition in 2006	Stayed in 2006
September	16.2	83.8
October	20.3	79.7
November	20.7	79.3
December	26.6	73.4
Total	19.7	80.3

3.2.2 Weights

The weights provided in the Belgian SILC are household weights, imputed for each person in the household. The weights were developed in three steps. The initial weights are the inverse of the inclusion probability of each household. The second step contains a slight correction for non-response. A final correction for over/under representation of certain population groups is implemented through calibration taking account of NUTS1-level, age*sex, and household size. Table 51 presents some basic descriptive statistics of the Grossing-up weight.

Table 52. Descriptive Statistics of the Grossing-up weight

	BE_2006_a1
Number	14,329
Mean	728.0678
Median	695.1022
Maximum	3,292.177
Minimum	192.5108
Max/Min	17.101257
Decile 1	494.043
Decile 9	997.3368
Dec 9 / Dec1	2.0187244

3.2.3 Item non-response and under-reporting

Concerning item non-response, an overview is provided in the Belgian SILC Quality Report (http://statbel.fgov.be/fr/binaries/Quality_report_EU_SILC_2006%5B1%5D_tcm326-59600.pdf). From page 30 onwards, item non-response for each variable is assessed.

Concerning under-reporting, so far the only comparisons that have been made concern comparisons of reported net monthly wage between three Belgian surveys for the period 2003-2006, Household Budget Survey (HBS), Labour Force Survey (LFS) and SILC (Lusyne 2007).



Table 53. Comparison of reported net monthly wage between 3 surveys for Belgium

	Median
LFS2003	1383.3333
LFS2004	1415
LFS2005	1466.6667
LFS2006	1500
HBS2003	1454.42
HBS2004	1445.94
HBS2005	1507.95
SILC2004	1535.7172
SILC2005	1557.6667

Source: Lusyne (2007)

The fact that SILC monthly net incomes are slightly higher than in the other two surveys, is most likely due to the different way of interviewing. In HBS the net monthly wage is derived from the income that respondents report during the one month of observation. In LFS the interviewee is asked to report a global net monthly wage, while in EU-SILC each component of the wage is separately asked for. It is probable that the differences in the median between the different surveys are due to the interviewees overlooking certain wage components when reporting one global estimate, or when based on one reference month (in the first place incomes that are related to a specific point in time, such as holiday premiums or a 13th month).

From this comparison, there seems to be no evidence for underreporting in EU-SILC concerning market income. For underreporting on benefit income components (most importantly income support benefits), refer to section 4.1.2. and 4.1.5.

3.3 Data adjustment

Adjustments to variables are kept to a minimum. There is some minor data cleaning that is done to make sure that the households and relationships of individuals within households, are coherent (for example, that both partners identify each other correctly, to rule out inconsistencies in family structure).

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

3.4 Imputations and assumptions

3.4.1 Time period

All income information in EU-SILC 2006 refers to the fiscal year 2005 (January – December). Monetary amounts in the original variables are normally expressed in yearly totals, unless otherwise indicated. Incomes and benefits are paid on a monthly basis in Belgium. For most income variables, information is included on how many months a certain wage or benefit was received.



For the construction of the EUROMOD database from the Belgian SILC, all monetary amounts are re-scaled to “an average month”, dividing all amounts by 12.

For non-monetary variables, two reference periods co-exist in EU-SILC. On the one hand, with respect to the reference year (2005) there is relevant information included on e.g. activity status and household composition, complementing the income information. On the other hand, a number of questions (on e.g. education activity, child care) refer to the “current” state at the time of the interview, which means during the second half of 2006.

In the EUROMOD database, the information refers as much as possible to the same reference period, to ensure a consistent picture with regard to income sources and non-monetary information such as labour market and socio-economic characteristics. Therefore, different sources of information available in EU-SILC are combined. In order of preference:

- 1) Direct information from EU-SILC referring to the income reference period (e.g. monthly labour market information) is being used where possible.
- 2) In addition, information on the income reference period is derived from the current reference period (e.g. education activity).
- 3) If no alternative is available, the current value is taken as the best proxy for the value during the income reference period (e.g. hours usually worked per week)

In this way, we approximate best the general consistency of the personal and household characteristics with the incomes that are reported.

3.4.2 Gross incomes

For the applicable income variables, gross and net incomes are both collected in the original data. Consistency checks between corresponding net and gross amounts were done by the National Statistics Office Belgium. Notes on the followed methodology can be found in the Quality Report (http://statbel.fgov.be/fr/binaries/Quality_report_EU_SILC_2006%5B1%5D_cm326-59600.pdf) from page 37 onwards.

3.4.3 Other imputed variables

Because it was not possible to identify the civil servants in the EU-SILC, for the EUROMOD database, civil servants were imputed using a probit approach based on a number of variables like age, occupation, NACE, type of contract, education, number of persons working at the local unit.

Early retired people form another important category in the Belgian tax-benefit system that is not identifiable from the SILC data. Thus, persons reporting an amount of unemployment income (PY090), but whose main economic activity status indicates that they are retired or early retired (PL030==5), and that are older than 60, are imputed as being early retired. This is a relatively crude imputation, so cautiousness is recommended when interpreting any results for this subgroup.

3.5 Updating

The factors that are used to update monetary variables from the mid-point of the data year to mid-point of simulation years until 2008 are shown in Table 53.



No other updating adjustments are employed. Thus the distribution of characteristics (such as employment status and demographic variables) as well as the distribution of each income source that is not simulated, remain as they were in 2005.

Table 54. Updating factors

Income Source	2005-2006	2005-2007	2005-2008	Source
Income: employment; loc>6	1.024960	1.046699	1.077295	Wage index
Income: employment; loc<7	1.022575	1.041806	1.076087	Wage index
Income: fringe benefits	1.018668	1.031794	1.091687	Consumer Price Index
Income: investment	1.175542	1.519937	1.194972	Belgian All Share Price Index
Income: property	1.017640	1.035625	1.079425	Health Index
Income: private pensions	1.018668	1.031794	1.091687	Consumer Price Index
Income: private transfers	1.018668	1.031794	1.091687	Consumer Price Index
Income: other	1.018668	1.031794	1.091687	Consumer Price Index
Income: self-employment	1.042591	1.102720	1.145900	Annual Report National Bank (aggregates)
Benefit: family	1.019989	1.040376	1.082473	Based on evolution in base amounts wage earners and civil servants
Benefit: housing	1.017640	1.035625	1.079425	Health Index
Benefit: income support	1.020001	1.050796	1.137396	Based on evolution in income support level for category 1
Benefit: unemployment	1.019921	1.040298	1.071776	Evolution in maximum daily unemp. benefits for first year in unemployment
Benefit: disability	1.020018	1.071814	1.137410	Federal Public Service Social Security
Benefit: health	1.020015	1.040321	1.082396	Federal Public Service Social Security
Benefit: maternity leave	1.020015	1.040321	1.082396	Federal Public Service Social Security
Pension: old age	1.019987	1.040345	1.082398	Federal Pension Disbursement Service
Pension: survivors	1.019987	1.040345	1.082398	Federal Pension Disbursement Service
Benefit/ Pension: early retirement	1.019921	1.040298	1.071776	assume same evolution as unemployment benefits

Sources: Indices like consumer price index and health index, as well as specific indices for non-benefit incomes (employment income, investment income, property income) are published by Belgostat (<http://www.nbb.be/belgostat>). Indices of benefits are published by the relevant public services (health, pensions). The updating factors for the other benefits are calculated on the basis of the evolution of the official benefit amounts for a representative category (income support, unemployment, family benefits).

4. VALIDATION

4.1 Aggregate Validation

4.1.1 Gross wages

Table 55 shows that gross wages are on average about 13% higher in SILC than in the statistics from the National Statistics Office. However, it is unclear how the National Statistics Office



defines ‘full time workers’ in these data. To have a convenient comparison group here, we have ad hoc defined full-time workers as workers with an average working week of at least 30 hours. It is possible that our condition is more or less strict than the definition used in the Structure of Earnings Survey and therefore not entirely comparable to the National Statistics Office data. This can be a first cause of deviation. However, while on average, the wages in the EUROMOD database are higher than in the Structure of Earnings Survey, we see that this pattern is not the same over all categories. A second cause for the deviation can be that in the EUROMOD database also bonuses and holiday earnings are counted as wages, whereas this is not explicitly stated in the Structure of Earnings Survey. This could explain the slight upward bias of the EUROMOD wages in comparison to this external source.

Table 55. EUROMOD validation: full-time workers’ gross wages for different categories [2005]

	Recipients (full time workers)	Average wage per worker (monthly)		
	EUROMOD database	EUROMOD database	External source	Ratio
General full time	2,745,474	2,953	2,766	1.07
Occupation (ISCO-1)				
Senior officials and managers	210,039	5,446	5,596	0.97
Professionals	539,653	3,462	3,965	0.87
Technicians and associate professionals	401,773	2,865	3,076	0.93
Clerks	706,525	2,753	2,607	1.06
Service and sales workers	273,938	2,412	2,106	1.15
Craft and trades workers	420,771	2,560	2,299	1.11
Plant & machine operators	225,918	2,569	2,427	1.05
Elementary occupations	260,359	2,108	2,230	0.95
Gender				
Women	1,168,074	2,581	2,491	1.03
Men	1,922,520	3,178	2,846	1.12

Notes:

Sources: External Source: National Statistics Office on the basis of the Structure of Earnings Survey.

Table 56 compares the total of gross wages earned (on which social insurance contributions are due) in Belgium. The number of employees is 24% overestimated in the EUROMOD database, mainly driven by an overestimation of the number of employees in the private sector. The total of gross wages is overestimated even more severely. However, the components of the income concept (wage) in this case are not entirely similar in the comparison. While the income from employment in EURMOD contains all holiday payments, bonuses and even meal vouchers, the income concept of the social insurance institution (external source) does not contain a substantial part of the holiday payments, no performance related bonuses and no meal vouchers. We expect that while employees might well be overrepresented in the database, the wage structure is more or less representative (cfr. Table 55) and the more severe overestimation of the total of gross wages comes from the divergence in the components of the income from employment.



Table 56. EUROMOD validation: total gross wages [2005-2008]

	Recipients (employees)			Total gross wages (millions of € per year)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005						
Private sector	3,168,824	2,452,067	1.29	90,930	64,586	1.41
Civil servants	766,541	732,308	1.05	26,090	21,955	1.19
Total	3,935,364	3,184,375	1.24	117,020	86,541	1.35
2006						
Private sector	3,168,824	2,513,277	1.26	93,040	67,719	1.37
Civil servants	766,541	731,293	1.05	26,690	22,549	1.18
Total	3,935,364	3,244,570	1.21	119,730	90,268	1.33
2007						
Private sector	3,168,824	2,589,225	1.22	94,860	72,917	1.30
Civil servants	766,541	732,358	1.05	27,190	23,057	1.18
Total	3,935,364	3,321,583	1.18	122,050	95,974	1.27
2008						
Private sector	3,168,824	2,616,946	1.21	97,880	76,750	1.28
Civil servants	766,541	733,326	1.05	28,080	24,116	1.16
Total	3,935,364	3,350,272	1.17	125,960	100,866	1.25

Notes: For 2005, statistics on the numbers of employees were not available at the time of writing

Sources: Rijksdienst voor Sociale Zekerheid – aangegeven lonen en bezoldigingsperiodes (2005-2008); loontrekkende tewerkstelling (2005-2008)

4.1.2 Taxable income

To have a more global picture of the amount of taxable income in EUROMOD, the total taxable income simulated is compared with the available fiscal data (Table 57). On the aggregate level, this corresponds very closely. For the region of Brussels, substantially more taxable income is found in EUROMOD in comparison to the fiscal statistics.

One explanatory hypothesis here is that the concentration of liberal professions is in relative terms very high in Brussels compared to the rest of Belgium. Treated as self-employed in the taxation system or as employees of their own one-person firm, persons in the statute of a liberal profession typically dispose of a variety of measures that reduce the final taxable income. Of course, this cannot explain the entire difference.

A second partial explanation might be that although European officials and their family working in Brussels are not obliged to be subscribed to the Population Register (from which the sample is drawn), they are free to do so if they wish. Their wages, however, are exempt from taxes.

Besides these two explanatory factors, it must be kept in mind that the Brussels sample is fairly small and this is very probably to have impact on the accuracy for Brussels' results.



Table 57. EUROMOD validation: total taxable income for the different regions [2005-2008]

	Total taxable income (millions of €)		
	EUROMOD database	External source	Ratio
2005			
Belgium	142,900	143,086	1.00
Region Brussels	14,780	11,698	1.26
Region Flanders	85,140	87,782	0.97
Region Wallonia	42,960	44,511	0.97
2006			
Belgium	146,400	149,193	0.98
Region Brussels	15,141	12,288	1.23
Region Flanders	87,240	91,663	0.95
Region Wallonia	43,979	46,491	0.95
2007			
Belgium	149,200	156,104	0.96
Region Brussels	15,430	12,867	1.20
Region Flanders	88,910	95,820	0.93
Region Wallonia	44,840	48,399	0.93
2008			
Belgium	154,100	n.a.	n.a.
Region Brussels	15,930	n.a.	n.a.
Region Flanders	91,800	n.a.	n.a.
Region Wallonia	46,330	n.a.	n.a.

Sources: External source: fiscal administrative data

Additionally, we have a look at the number of fiscal units (Table 58). This corresponds fairly closely for those categories of taxable income above €10,000/year. However, the number of tax units with a taxable income lower than €10,000 is strongly underestimated in EUROMOD. On the other hand, the number of tax units in the higher bands is overestimated in EUROMOD. The same pattern appears in the comparison of average taxable income per tax unit (cfr. Table 59). In all regions, the EUROMOD simulated taxable income is higher than in the administrative statistics.

We list 4 complementary explanations for this pattern:

1) Specifically with respect to the strong underestimation of tax units with taxable income lower than €10,000, a large part could be explained by the fact that the fiscal statistics include persons with a very small income (e.g. students with a small job for instance only during summer time) as separate fiscal units, even if they do not exceed the thresholds to belong to the fiscal unit of their parents.⁴⁰ In EUROMOD, these students are grouped into the fiscal unit of the family. For the results, this should not matter (even if they are included as separate units in the statistics, for the actual calculation of due taxes (mostly none as long as the thresholds are not exceeded) they are counted as part of the fiscal household of the parents). In addition, we should note that there is no specific question in SILC that mentions income from (mostly relatively small) holiday

⁴⁰ For a critical discussion of the methodology of the National Statistics Office, see Defeyt (2010)



jobs. It depends on the student in question whether this income is mentioned as income from employment or not.

2) An important reason for this can be that EUROMOD does not simulate some important deductible expenses, as the data lack information to adequately do this. The most important examples are costs from mortgages (house bonus), and actual professional expenses incurred (the so-called operating expenses). Others include gifts (to approved organizations), cheques from the local employment agency cheques to hire household help (PWA-cheques), all kinds of energy-saving investments, investments for safety and security, ...

3) It is also possible that EU-SILC for Belgium contains too few people with low earnings. The fiscal data include persons in collective households (prisons, convents, homes for the elderly, ...), while the SILC data only contain private households. This might lead to a small sample bias. If we assume that incomes of the tax units in collective households are on average often lower than in private households, this might contribute to the lower taxable incomes in the fiscal data as well. This would be in line with the evidence found in section 4.1.1 of the overrepresentation of employees in the database and their wages.

4) Finally, a hypothesis that would explain too high net taxable incomes in EUROMOD when compared to external sources, especially in the higher end of the income distribution, is tax evasion. However, as we have no knowledge of research being conducted on this topic for Belgium, it is not possible to validate this hypothesis with the data we dispose of.



Table 58. EUROMOD validation: number of tax units according to yearly taxable income [2005-2007]

Taxable income	Number of tax units		
	EUROMOD database	External source	Ratio
2005			
All	5,235,332	5,858,996	0.89
>0 - < 10,000	627,839	1,209,829	0.52
>= 10,000 - < 20,000	1,786,975	1,974,606	0.90
>= 20,000 - < 30,000	1,177,122	1,186,764	0.99
>= 30,000 - < 40,000	637,735	580,513	1.10
>= 40,000	1,005,659	907,824	1.11
2006			
All	5,237,244	5,991,864	0.87
>0 - < 10,000	593,987	1,210,055	0.49
>= 10,000 - < 20,000	1,748,566	1,981,476	0.88
>= 20,000 - < 30,000	1,193,836	1,234,778	0.97
>= 30,000 - < 40,000	657,034	597,417	1.10
>= 40,000	1,043,820	968,138	1.08
2007			
All	5,239,344	6,078,890	0.86
>0 - < 10,000	577,651	1,148,375	0.50
>= 10,000 - < 20,000	1,705,793	2,010,897	0.85
>= 20,000 - < 30,000	1,212,455	1,270,755	0.95
>= 30,000 - < 40,000	664,763	620,185	1.07
>= 40,000	1,078,681	1,028,678	1.05
2008			
All	5,224,912	n.a.	n.a.
>0 - < 10,000	502,666	n.a.	n.a.
>= 10,000 - < 20,000	1,676,031	n.a.	n.a.
>= 20,000 - < 30,000	1,216,737	n.a.	n.a.
>= 30,000 - < 40,000	695,329	n.a.	n.a.
>= 40,000	1,134,146	n.a.	n.a.

Sources: External source: administrative fiscal statistics



Table 59. EUROMOD validation: average taxable income per tax unit for the different regions [2005-2007]

	Average taxable income per tax unit (€)		
	EUROMOD database	External source	Ratio
2005			
Belgium	26,858	24,422	1.10
Region Brussels	26,139	22,565	1.16
Region Flanders	28,037	25,609	1.09
Region Wallonia	25,010	22,824	1.10
2006			
Belgium	27,507	24,949	1.10
Region Brussels	26,764	22,516	1.19
Region Flanders	28,711	26,187	1.10
Region Wallonia	25,623	23,431	1.09
2007			
Belgium	28,024	25,680	1.09
Region Brussels	27,275	23,100	1.18
Region Flanders	29,254	26,967	1.08
Region Wallonia	26,094	24,121	1.08
2008			
Belgium	29,010	n.a.	n.a.
Region Brussels	28,187	n.a.	n.a.
Region Flanders	30,288	n.a.	n.a.
Region Wallonia	27,021	n.a.	n.a.

Sources: External source: administrative fiscal statistics

4.1.3 Non simulated taxes and benefits

The following tables compare statistics on benefits and taxes that are not simulated in EUROMOD, with external sources. This provides an assessment of the quality of the database and also provides some useful background information for the validation of simulated components of income which may depend on or be associated with the non-simulated components. For these income components, the EUROMOD database is in fact equal to the original database (here SILC 2006), while the external source are administrative figures.

In Table 60, retirement pensions are assessed. The difference between old age pensions and survivor's pensions appeared unclear to the respondents. When assessed separately, the figures diverge considerably from administrative sources (old age pension being overreported, survivor pension underreported). However, when both pensions are aggregated, the ratio becomes closer to 1. The number of is somewhat lower than in administrative sources, while the total revenue is somewhat higher than the administrative numbers. The slight underrepresentation of pensioners can be due to the fact that only private households were sampled in the EU-SILC, so persons in collective households, such as in nursery homes, are not represented in the survey. At the same time, it might be that the amounts reported as state pension might sometimes also include non-state pension income components, such as some types of private pensions.



Table 60. EUROMOD validation of taxes and benefits included but not simulated: retirement pensions [2005-2008]

	Recipients (persons)			Expenditure (millions of € per year)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	1,759,687	1,827,039	0.96	25,980	24,740	1.05
2006	1,759,687	1,819,927	0.97	26,500	25,754	1.03
2007	1,759,687	1,833,378	0.96	27,030	27,012	1.00
2008	1,759,687	1,856,017	0.95	28,120	29,230	0.96

Source: RVP, jaarlijkse statistiek

For early retirement benefits (Table 61), the difference between administrative figures and the observation in SILC is wider. While the number of recipients is underestimated (by 10% in 2005), the total expenditure on this component is overestimated by about one quarter. This suggests that the imputation procedure for early retirees (not directly observed in the data) might have been too rough due to data limitations, and results for early retirement benefits should be interpreted with great care.

Table 61. EUROMOD validation of taxes and benefits included but not simulated: early retirement pensions [2005-2008]

	Recipients (persons)			Expenditure (millions of € per year)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	96,943	109,018	0.89	1,603	1,257	1.28
2006	96,943	111,851	0.87	1,635	1,301	1.26
2007	96,943	114,281	0.85	1,668	1,359	1.23
2008	96,943	114,768	0.84	1,718	1,429	1.20

Source: RVA, jaarboek 2005-2008

Table 62 shows that the number of unemployed individuals is underestimated while the unemployment benefits are slightly overestimated, but this has to be considered with some caution. Here, administrative sources (in this case RVA (Dutch acronym), ONEM (French) or NEO (English) – the National Employment Office) and OECD figures (detailed social expenditure dataset for Belgium) are contradictory. Until now no explanation for their divergence could be found. When compared to the OECD figures, EUROMOD figures are underestimating the total expenditure on unemployment benefits, but when compared to the administrative numbers of the NEO, unemployment benefits are overestimated in the EUROMOD data. Because OECD figures are only available for 2005, the NEO numbers are used in the table for comparability. With respect to the overestimation of expenditure, the expected explanation is that redundancy payments were included in the unemployment benefit variable, while in the Belgian tax-benefit system these payments are classified and treated separately from unemployment benefits.



Table 62. EUROMOD validation of taxes and benefits included but not simulated: unemployment benefits [2005-2008]

	Recipients (persons)			Expenditure (millions of € per year)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	962,822	1,094,923	0.88	7,588	6,882	1.10
2006	962,822	1,127,242	0.85	7,739	6,848	1.13
2007	962,822	1,076,697	0.89	7,894	6,697	1.18
2008	962,822	1,076,210	0.89	8,132	6,884	1.18

Source: RVA, jaarboek 2005-2008

With regards to the incapacity related benefits (cfr. Table 63), the issue is similar. While the number of recipients is underestimated in the EUROMOD data, the total expenditure is also underestimated according to OECD figures, but slightly overestimated in comparison with the administrative figures from the National Institute for Sickness and Disability Insurance (NISDI/RIZIV/INAMI). Again, the figures from the national institute are reported instead of OECD figures, because of availability and comparability.

Table 63. EUROMOD validation of taxes and benefits included but not simulated: incapacity-related benefits (sickness & disability) [2005-2008]

	Recipients (persons)			Expenditure (millions of € per year)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	433,513	594,150	0.73	3,647	3,182	1.15
2006	433,513	608,177	0.71	3,720	3,368	1.10
2007	433,513	638,268	0.68	3,884	3,624	1.07
2008	433,513	658,039	0.66	4,105	3,987	1.03

Source: RIZIV – Statistieken afdeling Uitkeringen, 2005-2008

Finally, the non-simulated income support (social assistance) variable is presented in Table 65. First, an important disclaimer applies with respect to the official statistics used as external source in the validation exercise.

In Belgium, one has to distinguish two measures for cash income support. First, regular income support (*regulier leefloon*) is allocated to Belgians, and foreigners with a stable or long term residence permit (Belgians, EU-citizens, foreigners with permanent residence permit). An “equivalent” cash income support (*equivalent leefloon*) is allocated to persons whose statute is very precarious, e.g. candidate refugees, undocumented residents or temporary residing foreigners. Both types of income support are made up of the same amounts, only the financing is different. However, from SILC analyses comparing the number of recipients in SILC and in the administrative sources by nationality, it seems that the lion’s share of equivalent income support is not captured: the proportion of foreigners receiving income support is too small when both types of income support are taken into account, but correspond more or less when only regular income support is regarded (Table 64). Also, only a part of the recipients of equivalent income support are registered in the state register, which means a significant proportion of the



equivalent income support recipients do not make part of the sample population of the SILC survey. **For the validation, we decided to leave the equivalent income support component out.** In other words, we made the comparison valid for the SILC population, as EUROMOD data are based on the SILC population. One has to bear in mind, however, this means that the most precarious foreign population in Belgium (for which on average the equivalent income support is an important income source) is not represented in these data.

Table 64. Comparison of number of recipients of income support (both “regular” and “equivalent”) by nationality [2005]

Nationality	SILC (theoretically both regular and equivalent)	%	Official regular	%	Official equivalent	%	Total Official	%
Belgian	45,241	69%	96,064	76%			96,064	60%
EU	5,258	8%	8,073	6%				
Non-EU	11,160	17%	22,568	18%	34,219	100%	64,860	40%
Unknown	4,080	6%	35	0%				
Total	65,739	100%	126,740	100%	34,219	100%	160,924	100%

Source: Statistics of the Federal Public Service Social Integration, anti-Poverty Policy, Social Economy and Federal Urban Policy (2009)

The number of recipients is severely underestimated in these data, the data captures only half of the persons receiving income support in reality. The expenditure on the other hand only diverges 10% from the official statistics. This suggests that these families who were to a large extent dependent on income support, are more represented in the survey and/or less likely to underreport than families who have received smaller amounts of income support or for only a short period of time during the year.



Table 65. EUROMOD validation of taxes and benefits included but not simulated: income support (bsa) [2005-2008]

	Recipients (persons)			Expenditure (millions of € per year)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	65,739	126,740	0.52	431	482	0.89
2006	65,739	130,578	0.50	440	514	0.85
2007	65,739	134,825	0.49	453	555	0.82
2008	65,739	140,751	0.47	462	617	0.75

Source: own calculations on the basis of statistics of the Federal Public Service Social Integration, anti-Poverty Policy, Social Economy and Federal Urban Policy (2009)

4.1.4 Simulated income tax

From Table 66 it is observed that while the number of fiscal units is simulated very closely in EUROMOD, the total taxes are overestimated by 12%. This could be expected from the previous validations concerning the higher average for taxable incomes in EUROMOD in comparison to the administrative sources.

An interesting detail to note is that the refundable tax credit for children is simulated substantially less frequently by EUROMOD, compared to the administrative source. Given the small number of cases eligible for the refundable tax credit for children (n=240), this can be due to weighting biases.

Table 66. EUROMOD validation: income tax, [2005-2008]

	Taxpayers (fiscal units)			Revenue (millions of €)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005						
Income tax – general federal income tax	5,662,265	5,858,996	0.97	34,960	31,076	1.12
Income tax – municipal income tax	4,657,177	5,858,996	0.93	2,561	2,282	1.12
Refundable tax credit for children	139,411	n.a.	n.a.	-91	n.a.	n.a.
Income tax – capital and investment	4,657,177	n.a.	n.a.	1,312	1,658	0.79
2006						
Income tax – general federal income tax	5,656,723	5,991,864	0.04	35,740	31,076	1.12
Income tax – municipal income tax	5,453,384	5,991,864	0.93	2,618	2,282	1.12
Refundable tax credit for children	137,732	187,491	0.73	-93	-145	0.65
Income tax – capital and investment	4,657,177	n.a.	n.a.	1,542	1,790	0.86
2007						
Income tax – general federal income tax	5,661,378	6,078,890	0.93	36,250	33,833	1.07
Income tax – municipal income tax	5,438,954	6,078,890	0.89	2,657	2,514	1.06
Refundable tax credit for children	137,232	n.a.	n.a.	-95	n.a.	n.a.
Income tax – capital and investment	4,657,177	n.a.	n.a.	1,994	2,004	1.00
2008						
Income tax – general federal income tax	5,659,879	n.a.	n.a.	41,270	n.a.	n.a.
Income tax – municipal income tax	5,409,202	n.a.	n.a.	3,023	n.a.	n.a.
Refundable tax credit for children	144,695	n.a.	n.a.	-101	n.a.	n.a.
Income tax – capital and investment	4,657,177	n.a.	n.a.	1,994	n.a.	n.a.

Notes: The refundable tax credit for children external source figures is only available for income year 2006; the figure in the external source “income tax – all”-payers is taken from the general income tax figures. This, however, does not include people only paying capital and investment taxes, whereas the EUROMOD-counterpart does include those.

Sources: External source: administrative fiscal statistics; for refundable tax credit for children: parliamentary questions and answers.

4.1.5 Simulated social contributions

Table 67 presents the aggregated revenues from social insurance contributions. The total amounts simulated correspond quite closely to actual total revenue, with the exception of the employee social insurance contributions being overestimated by 16% in EUROMOD.

This divergence is entirely explained by the fact that the database contains in relative terms too much income from employment (cfr. Table 56). From the observation that total gross wages in EUROMOD is 35% higher compared to the administrative sources, we would even expect a higher overestimation of total social insurance contributions.

The employer social contributions correspond relatively well in aggregates, despite the database's bias towards too much income from employment. In fact, too little employer social contributions are simulated on the micro-level, because the data do not allow the implementation of the detailed components that make up the employer social insurance contribution, such as on private pensions or the private use of company cars.

Table 67. EUROMOD validation: social contributions, [2005-2008]

	Revenue (millions of €)		
	EUROMOD database	External source	Ratio
2005			
Employee social contribution	16,000	13,822	1.16
Employer social contribution	26,730	25,060	1.07
Self-employed social contribution	2,478	2,532	0.98
2006			
Employee social contribution	16,180	14,131	1.15
Employer social contribution	27,460	26,221	1.05
Self-employed social contribution	2,600	2,680	0.97
2007			
Employee social contribution	16,490	14,984	1.10
Employer social contribution	28,100	27,702	1.01
Self-employed social contribution	2,654	2792	0.95
2008			
Employee social contribution	17,050	n.a.	n.a.
Employer social contribution	28,950	n.a.	n.a.
Self-employed social contribution	3,051	n.a.	n.a.

Notes: employee social contributions include the social insurance contributions on pensions and disability-related incomes. For this reason, the OECD

Sources: External source: OECD revenue statistics – details of tax revenue Belgium.

4.1.6 Simulated social benefits

- *Child allowance (bch_s)*

Although the number of children giving right to child allowance corresponds, the total expenditure simulated for child benefit is slightly underestimated when compared to the



administrative statistics. One reason for this might be that the children's disability status is not observed in the data, which means that the higher allowances (normal amount times two) for handicapped children cannot be simulated.

Table 68. EUROMOD validation: child allowance

	Recipients (children giving right to)			Expenditure (millions of €)		
	EUROMOD database	External source	Ratio	EUROMOD database	External source	Ratio
2005	2,501,701	2,559,850	0.98	4,096	4,667	0.88
2006	2,501,100	2,563,403	0.98	4,254	4,844	0.88
2007	2,501,100	2,583,354	0.97	4,417	4,973	0.89
2008	2,500,216	2,604,040	0.96	4,607	5,236	0.88

Notes: statistics for the persons in the civil service scheme of social insurance contributions are only available for 2006 – the other years are derived from this number assuming the same evolution as in the employee scheme.

Sources: External source: Vademecum Social Security

- *Birth allowance (bchba_s)*

According to the administrative statistics, the yearly expenditure for birth allowance is overestimated in the EUROMOD simulations.

There are no numbers available for the recipients from the civil servant social security scheme, which hinders the strict comparison of the number of recipients between administrative statistics and EUROMOD database. Therefore, we used the number of births in Belgium from the demographic data to compare with. In SILC the newborns are slightly overrepresented (5% in 2005). The data on expenditure in Table 69 are based upon the administrative source (Vademecum Social Security), and corresponds very closely, with and as expected a slight overestimation of the budget given the higher number of newborns.

Table 69. EUROMOD validation: birth allowance

	Recipients (children giving right to)			Expenditure (millions of €)		
	EUROMOD database	External source	Ratio	EUROMOD Database	External source	Ratio
2005	123,784	118,002	105%	110	107	103%
2006	123,784	121,382	102%	112	109	103%
2007	123,784	120,663	103%	114	111	103%
2008	123,784	n.a.	n.a.	118	119	99%

Notes: statistics for the persons in the civil service scheme of social insurance contributions are only available for 2006 – the other years are derived from this number assuming the same evolution as in the employee scheme.

Sources: Vademecum Sociale Zekerheid, OECD – details of social expenditure Belgium; Statistics Belgium – number of births according to State Register.

- *Income support (bsa_s)*

The simulation of Income support is implemented in the system, but not the recorded values in the EU-SILC are included in the disposable income concept rather than the simulated ones. The problematic nature of simulating the income support measures stems from the difficulty to capture the means-test in the simulations and from the complex issue of non-take up.



Belgian Local Welfare Centres have large discretionary power over deciding on the eligibility of the applicant (see section 1.3.D.). Typically, a very detailed means-test is performed which can only be partly simulated. Second, the quality of the data available does not allow to simulate this part sufficiently accurate. For instance, income from capital, an important element in the means-test, is not well captured in the SILC data. Cadastral income, a measure indicating the value of the dwelling owned, is not present in the data (this part of the simulation is thus switched off). The result (cfr. Table 70) is that EUROMOD simulates income support for too many persons in the dataset.

The take-up correction implemented in the system has the advantage that aggregate figures correspond, and in that way performs much better. Still, it is assumed that non-take up is a random phenomenon, ignoring the difference that the true, detailed means-test implies and the specific non-take up issues playing for different individuals and families.

Therefore, as discussed in the section on income support in paragraph 4.1.3, we decided to use the recorded income support in the data for the validation concerning the characteristics of the income distribution. In what follows, the results of the simulated variables are discussed.

Table 70. EUROMOD validation: income support, [2005-2008] – Full take-up

	Recipients (nuclear families)			Expenditure (millions of €)		
	EUROMOD simulation	External source	Ratio EM/ES	EUROMOD simulation	External source	Ratio EM/ES
2005	338,309	126,740	2.67	2,006	482	4.16
2006	335,603	130,578	2.57	2,042	514	3.97
2007	338,729	134,825	2.51	2,109	555	3.80
2008	362,059	140,751	2.57	2,350	617	3.81

Sources: Statistics of the Federal Public Service Social Integration, anti-Poverty Policy, Social Economy and Federal Urban Policy.

Table 70 shows that under the full-take up assumption, income support is severely overestimated. The number of nuclear families that are eligible is more than 2.5 times higher than the number of nuclear families that are actually making use of it (comparison to the administrative data for regular income support only). Concerning the total expenditure, this is 4 times higher when simulated by EUROMOD. This suggests (a) a strong overestimation by EUROMOD (as we cannot simulate the eligibility results based on the detailed means-test as performed by the local welfare centres) and (b) strong non-take up effects. The finding of severe non-take up is in line with existent literature on non-take up of social assistance benefits.⁴¹

A remarkable observation from Table 70 is that total expenditure is even more severely overestimated (four times) than the number of beneficiaries (2.5 times). An important explanation factor in this respect is the result from previous studies that income support is not taken up from the moment on one is eligible for it, but severe delays apply. As such, eligible persons do appear in the “yearly beneficiaries” statistics, but the number of months that they have received income support is substantially lower than the number of months that they were eligible for it. In EUROMOD, these people are simulated to have had income support over all months that they were eligible. It can be expected that the overestimation of the received amount over the year will therefore be even stronger in terms of expenditures than in terms of beneficiaries.

⁴¹ See, e.g. Nicaise & Groenez (2002)



A quick overview of the literature on non-take up of income support in Belgium:

- Between 1993-1995, based on research with the ECHP, 9.7% of the Belgian population was estimated to be eligible for social assistance, without making use of it. The researchers report that they have filtered as much as possible unreliable income household from the data before making these estimations. (Nicaise & Groenez (2002))

The number of persons receiving income support is overestimated by EUROMOD by 300%. This means 4.5% of the working age population (between 18&65) in 2005. Although not strictly comparable, this figure is in line with the 9.7% over three years that was found from the ECHP data.

- Rotation in and out of social assistance is relatively high, with many people only being in this stage for a couple of months: For a sample of entrants for the period of June 1987 to November 1990, Cockx (1997) finds a median duration for women and men respectively of 4.5 and 6 months.
- Vercauteren en Daems (1995) point out the importance of the delay between becoming eligible and submitting the application. Based on half-open interviews with clients of the local centres for social assistance, they find that more than 50% wait during a considerable amount of time before submitting their application (29% even more than 1 year). The main reasons that were quoted are that they didn't know about the centres for social assistance, or the application procedure was feared to be too complex, they felt ashamed or they feared reclamation from family members.

This is in line with the observation that the number of recipients corresponds more closely with the official statistics than the total expenditures. Those who apply for income support with a delay, appear in the yearly statistics as recipients but have received the benefit for a shorter time than what is simulated in EUROMOD, assuming immediate take-up.

A module is included to enable users to apply a random correction for non-take up. It is switched on by default when the simulation of the income support is switched on in the spine. The random correction is applied so that the aggregate number of recipients matches with the official statistics.

Table 71. EUROMOD validation: income support, [2005-2008] – Incomplete take-up

	Recipients (nuclear families)			Expenditure (millions of €)		
	EUROMOD database	External source	Ratio EM/ES	EUROMOD database	External source	Ratio EM/ES
2005	124,068	125,510	0.99	765	482	1.59
2006	128,409	129,165	0.99	81	514	1.59
2007	122,836	132,877	0.92	786	555	1.42
2008	136,935	138,560	0.99	895	617	1.45

Sources: Statistics of the Federal Public Service Social Integration, anti-Poverty Policy, Social Economy and Federal Urban Policy (2009)



In Table 71, the number of recipients is in accordance with the official statistics, while total expenditure remains overestimated by 40% to 60%. This is in line with the previous remark on the nature of take up and the stronger overestimation of expenditures in comparison to the number of recipients.

In the last part of section 4.2 we provide the main poverty and inequality statistics for the different options of including the recorded or the simulated income support in EUROMOD's disposable income concept.

- *Income support for the elderly (bsaoa_s)*

Similar to the issue for the regular income support, the income support for the elderly is implemented in the system, but is not included in the simulated disposable income. It is very difficult to interpret the simulated results, because it is unclear what is and what was not included in the income concept the means test is based upon. The reason is that it is impossible to find out to what extent the income support for the elderly amounts is or is not included in the SILC survey. It seems that this benefit was mistakenly recorded as regular pension income in the majority of the cases and is as such already included in the data. For other persons, it was not recorded at all, and only for a few cases the amount was correctly recorded in SILC as income support for the elderly. The means-test in the simulations is performed on the income as recorded in SILC, which means that the actually received income support for the elderly, when it was reported or included in the regular pension amount, was included in the income used to assess eligibility for this benefit. Of course, this is not correct and strongly thwarts a correct interpretation of the simulated values.

Similar as with income support, the amounts are still implemented in the system and can be found in the output as the variable bsaoa_s – but for the construction of simulated net disposable income, just pensions (not simulated) are taken from the data.

Table 72. EUROMOD validation: income support for the elderly, [2005-2008]

	Recipients (individuals)			Expenditure (millions of €)		
	EUROMOD Database	External source	Ratio	EUROMOD database	External source	Ratio
2005	92,967	87,516	1.06	262.5	329.4	0.80
2006	92,153	88,630	1.04	263.4	397.3	0.66
2007	123,913	91,202	1.36	426.4	397.1	1.07
2008	130,088	98,747	1.32	468.1	441.4	1.06

Sources: Rijksdienst voor pensioenen: Jaarlijkse statistiek op 1 januari 2006-2009 – hoofdstuk IV en VII.

Table 72 shows that the number of recipients is slightly overestimated in EUROMOD, while the aggregated expenditure is underestimated by 20%. At the one hand, this is an expected result, as income support functions as a top-up income, and we pointed out that it is probable that income support already received is inevitably included in the income base used in the means-test to assess eligibility. On the other hand, as the income on which the threshold is applied already contains this benefit for the persons taking up the benefit and for whom the amount is recorded in the regular pensions variable, we would expect that the persons who are in reality taking up this benefit and for whom this is recorded in the regular pension variable, should in this case already be above the eligibility threshold in the means test and thus should not be included as a simulated recipient. This means that it is possible that the income support EUROMOD



simulates is mainly to the benefit of those who in reality do not make use of the benefit, even though they are eligible. The interpretation of the simulated results is thus far from clear.

4.2 Income distribution

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

4.2.1 Poverty

Table 73 shows there is a considerable gap between the EUROMOD income poverty figures and the external source poverty figures (calculated on the basis of the SILC data). The gap decreases (or the ratio comes closer to 1) the higher the poverty line is defined.

Table 73. EUROMOD validation: poverty rates at different poverty lines, [2005-2008]

Percentage of individuals below:	EUROMOD 2005	EUROMOD 2006	EUROMOD 2007	EUROMOD 2008	SILC 2005	Ratio EM05/SILC05
40% of median equivalent income	1.9%	1.9%	1.9%	1.7%	3.3%	0.58
Males	1.9%	1.9%	1.8%	1.6%	3.3%	0.56
Females	1.9%	1.9%	1.9%	1.7%	3.2%	0.60
50% of median equivalent income	5.4%	5.5%	5.6%	4.7%	8.1%	0.67
Males	5.2%	5.3%	5.3%	4.5%	7.9%	0.66
Females	5.6%	5.7%	5.8%	4.9%	8.4%	0.67
60% of median equivalent income	11.3%	11.5%	11.4%	10.1%	14.6%	0.78
Males	10.6%	10.7%	10.6%	9.5%	13.7%	0.78
Females	12.0%	12.2%	12.1%	10.7%	15.5%	0.77
70% of median equivalent income	19.4%	19.8%	19.7%	17.9%	23.3%	0.83
Males	18.0%	18.3%	18.2%	16.8%	21.7%	0.83
Females	20.8%	21.2%	21.1%	19.1%	24.9%	0.83

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

The extent of the gap is influenced by a number of sources. First, the poverty lines for the EUROMOD disposable income are slightly lower in comparison with the poverty line calculated on the basis of the SILC disposable income. This is due to the fact that the medians differ (equivalized median income of €16,535 in EUROMOD 2005 versus €17,233 on the basis of SILC). The lower median value in EUROMOD leads to lower poverty lines (expressed as 60% of this median equivalent income, i.e. €9,921 in EUROMOD versus €10,340 on the basis of SILC), and thus possibly to lower percentage of poverty according to these thresholds.

Secondly, as presented in the figures on income inequality (cfr. Table 75), net disposable incomes are overestimated in the lower regions of the income distribution, while underestimated



in the higher half of the income distribution. This has a direct impact on the number of individuals below the 60%-median income. The combined effect of a lower poverty line and higher net disposable incomes in deciles 1 and 2 in EUROMOD when compared to SILC has a strong influence on the discrepancy between both poverty figures.

Table 73 shows that the estimated discrepancy between the poverty figures from EUROMOD incomes and from SILC incomes is not entirely evenly distributed over the age categories. For working age individuals and young children the discrepancy is significantly higher than for the youngsters and for the elderly.

Table 74. EUROMOD validation: poverty rates by age groups, [2005-2008]

	EUROMOD 2005	EUROMOD 2006	EUROMOD 2007	EUROMOD 2008	SILC 2005	Ratio EM05/SILC05
Age group						
0-15	10.5%	10.6%	10.4%	8.7%	14.6%	0.72
16-29	11.9%	12.0%	11.9%	10.7%	14.0%	0.85
30-44	7.8%	7.8%	7.8%	6.8%	10.9%	0.72
45-64	9.8%	9.9%	9.7%	8.8%	12.8%	0.77
65+	18.9%	19.3%	19.5%	17.9%	23.3%	0.81

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the “modified OECD” equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions. Poverty line is set at 60% of median equivalent income.

Sources: own calculations on the basis of EUROMOD and SILC2006

4.2.2 Income inequality

Complementary to the underestimation of the poverty figures in EUROMOD when compared to SILC, also inequality is lower for EUROMOD incomes relative to SILC. Both Gini as the S80/S20 measure are lower for EUROMOD incomes than for SILC incomes. From the more detailed average income per decile (equivalized), it is observed that these results are mainly driven by divergence in the extreme ends of the income distribution. Disposable income in the first decile is on average 13% higher when simulated by EUROMOD compared to SILC disposable incomes. In the 10th decile, on the other hand, EUROMOD simulated 11% less disposable income than what is reported in SILC.

Table 75. EUROMOD validation: income inequality, [2005-2008]

EUROMOD	EUROMOD 2005	EUROMOD 2006	EUROMOD 2007	EUROMOD 2008
Gini Coefficient	0.2486	0.2521	0.2583	0.2431
Income quintile ratio (S80/S20)	3.49	3.55	3.31	3.12
Average income per decile (equivalised)				
1	7,144	7,340	7,568	7,793
2	10,684	10,993	11,318	11,654
3	12,386	12,741	13,092	13,392
4	13,949	14,373	14,770	14,944
5	15,682	16,167	16,620	16,670
6	17,372	17,912	18,426	18,280
7	19,056	19,653	20,225	19,910
8	21,203	21,860	22,504	22,066
9	24,295	25,064	25,816	25,148
10	38,058	39,999	42,768	40,559
Mean income (unequalised)	33,728	34,865	36,062	35,651
Mean income (equivalised)	17,978	18,605	19,308	19,037
Median income (equivalised)	16,535	17,056	17,534	17,535
SILC	SILC incomes 2005		RATIO	Ratio EM05/SILC05
Gini Coefficient	0.2785		Gini Coefficient	0.89
Income quintile ratio (S80/S20)	4.17		Income quintile ratio (S80/S20)	0.84
Average income per decile (equivalised)			Average income per decile (equivalised)	
1	6,345		1	1.13
2	10,385		2	1.03
3	12,359		3	1.00
4	14,192		4	0.98
5	16,160		5	0.97
6	18,272		6	0.95
7	20,383		7	0.93
8	22,975		8	0.92
9	26,906		9	0.90
10	42,767		10	0.89
Mean income (unequalised)	36,400		Mean income (unequalised)	0.93
Mean income (equivalised)	19,072		Mean income (equivalised)	0.94
Median income (equivalised)	17,233		Median income (equivalised)	0.96

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the "modified OECD" equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions. Income concepts were not top-bottom coded and negative and zero-values are taken into account for calculating inequality indices.

Sources: own calculations on the basis of EUROMOD and SILC2006.

A number of explanations could be brought forward in order to explain these differences.

- no simulation of deductible expenses leads to too high net taxable incomes on average in EUROMOD

From Table 55 to 57, it is clear that taxable income per tax unit is higher in EUROMOD than in the administrative fiscal data. A natural consequence is that the simulated taxes will be too high in EUROMOD as well, resulting in a lower net disposable income after taxes are deducted. The factors that were referred to earlier on, have the same explanatory value here. A number of important deductible expenses are not simulated in EUROMOD because of lack of adequate data. Another hypothesis that would explain too high net taxable incomes, too high taxes, and hence lower net disposable incomes in EUROMOD when compared to external sources, especially in the higher deciles, is tax evasion. However, as we have no knowledge of research being conducted on this topic for Belgium, it is not possible to validate this hypothesis with the data we dispose of. Finally, it is also possible that EU-SILC for Belgium contains too few people with low earnings (a.o. because collective households are not covered).

- recording of gross and net income in SILC and withholding tax

The net income reported in SILC should be net of withholding tax. As many reductions of taxes to zero and making use of tax deductions are only applied at the final tax calculations, they are not represented in the difference between gross and net incomes reported in SILC. Therefore, it is possible that the net incomes differ after applying the full tax system calculations.

- *Poverty & inequality figures with the simulated values for income support included in the disposable income concept.*

The tables below provide the main poverty and inequality statistics for the different assumptions regarding the simulation of income support. Poverty is lower when the simulated income support (under full take up) is used rather than the values recorded in the EU-SILC (see Table 76).

Table 76. EUROMOD validation: Income Support simulated – full take up [2005-2008]

	EUROMOD 2005	EUROMOD 2006	EUROMOD 2007	EUROMOD 2008
Poverty rate (60%) - All	10.59	10.68	9.70	8.54
Poverty rate (60%) – Children	11.58	11.26	10.92	9.60
Poverty rate (60%) – Elderly	18.30	18.75	14.32	12.81
Gini	0.2403	0.2439	0.2492	0.2332

Sources: own calculations on the basis of EUROMOD. Notes: “Children” are individuals aged 18 or younger, “Elderly” are individuals aged 65 or older.

The scenario with the incomplete take up generates broadly speaking comparable results in terms of poverty and inequality with the scenario using the values reported in the EU-SILC (see Table 77). For smaller subgroups (e.g. children) it does make a difference, as the take-up correction is random, while take up effects in reality are not random.



Table 77. EUROMOD validation: Income Support simulated - incomplete take up [2005-2008]

	EUROMOD 2005	EUROMOD 2006	EUROMOD 2007	EUROMOD 2008
Poverty rate (60%) - All	11.02	11.26	10.39	9.09
Poverty rate (60%) – Children	11.27	11.59	11.20	9.41
Poverty rate (60%) – Elderly	18.55	19.18	14.56	12.90
Gini	0.2467	0.2497	0.2557	0.2402

Sources: own calculations on the basis of EUROMOD. Notes: “Children” are individuals aged 18 or younger, “Elderly” are individuals aged 65 or older.

Table 78. EUROMOD validation: Income Support taken from the data (baseline scenario) [2005-2008]

	EUROMOD 2005	EUROMOD 2006	EUROMOD 2007	EUROMOD 2008
Poverty rate (60%) - All	11.32	11.46	11.39	10.15
Poverty rate (60%) – Children	11.19	11.30	11.13	9.37
Poverty rate (60%) – Elderly	18.89	19.30	19.47	17.90
Gini	0.2486	0.2521	0.2583	0.2431

Sources: own calculations on the basis of EUROMOD. Notes: “Children” are individuals aged 18 or younger, “Elderly” are individuals aged 65 or older.

4.3 Summary of “health warnings”

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

- The sample is relatively small. Care should be taken in interpreting results for small sub-groups.
- Although aggregates correspond, care should be taken in interpreting results for civil servants and early-retired as separate groups, as these characteristics were imputed.
- The number of employees (private sector) and the total aggregate income from employment are too high in the EUROMOD database. It seems that this is primarily caused by the fact that employees are slightly overrepresented, while the recorded wages are representative for the Belgian population as a whole.
- On average, taxable income per tax unit is slightly higher in EUROMOD than in the administrative data, especially so in the higher deciles. This may be due to the fact that some important deductible expenses are not simulated in EUROMOD (house bonus, actual costs incurred for the self-employed, ...). It is also possible that tax evasion plays a role here, or that there are too few people with *low* earnings in the data.
- The options for the treatment of the simulated income support are threefold: 1) In the baseline scenario, income support is modelled with take up correction, but not included in the simulated disposable income concept. 2) assuming 100% take up and include *bsa_s* and *bsoa_s* in the appropriate income lists (in the sheet *ILDef_be*), and switch the take up correction off in the sheet *TakeUp_be*. This option results in an overestimation of income support and a decrease of poverty figures. Option 3) include *bsa_s* and *bsoa_s* in the simulated disposable income list, and switch on the take up correction. Poverty figures are in this scenario broadly the same as in option 1). However, it is possible that the figures



change for some detailed groups change in comparison to the baseline scenario because the take up correction is random. One should be aware of these effects when choosing one way of modelling over the other.

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- *Sources for tax-benefit descriptions/rules*

Non-technical introduction to social security: “Everything you have always wanted to know about social security” (in English):

http://www.socialsecurity.fgov.be/docs/en/alwa2008_en.pdf

Income tax legislation (in Dutch & French):

<http://ccff02.minfin.fgov.be/KMWeb/document.do?method=view&id=2849549a-92d4-435c-8f4a-ff90a442b1ff#findHighlighted>

Technical details on taxation system presented in a comprehensive way:

<http://www.monkey.be> (in Dutch & French, subscription required)