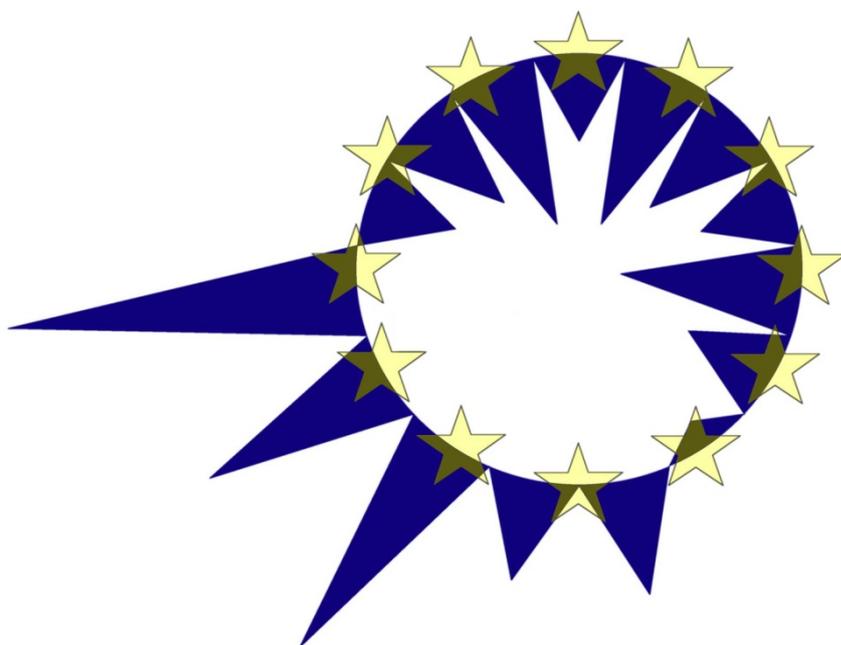


EUROMOD
COUNTRY REPORT



FRANCE (FR)
2009-2012

Karina Doorley

April 2013



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

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

This report documents the work done in one annual update for France. This work was carried out by the EUROMOD core developer team, based mainly in ISER at the University of Essex, in collaboration with a national team.

EUROMOD coordinator: Holly Sutherland

EUROMOD coordination assistant: Cara McGenn

EUROMOD developer responsible for France: Silvia Avram

National team for Karina Doorley, Olivier Bargain and Alain Trannoy

This report accompanies the release of EUROMOD G1.0. There may be minor differences between the results presented here and those obtained with G1.0 due to further improvements since the report was prepared.

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

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

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

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

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

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

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



CONTENTS

1. BASIC INFORMATION	5
1.1 __ Basic figures.....	5
1.2 __ The tax-benefit system.....	5
1.2.1 Basic information about the tax-benefit system	6
1.3 __ Social Benefits.....	7
1.4 __ Social contributions	10
1.5 __ Taxes	11
2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD.....	13
2.1 __ Scope of simulation	13
2.2 __ Order of simulation and interdependencies	16
2.3 __ Social benefits.....	17
2.3.1 Family Allowance (Allocation Familiale AF).....	17
2.3.2..... Mean-tested Young children allowance (Plan d'Accompagnement du Jeune Enfant PAJE).....	18
2.3.2.1 .. Baby bonus (Prime de naissance).....	19
2.3.2.2 .. Supplement for free choice of activity (Complément de libre choix d'activité).....	20
2.3.3..... Mean-tested education related Family benefit (Allocation de rentrée scolaire ARS)	21
2.3.4..... Family support benefit (Allocation de soutien familial ASF)	22
2.3.5..... Family Complement (Complément familial):	23
2.3.6..... Disabled benefit (Allocation aux adultes handicapés AAH).....	24
2.3.7..... Survivor Minimum Pension (Allocation veuvage - AV).....	25
2.3.7.1 .. Solidarity Labour Income (RSA) from 2009.....	26
2.3.8..... Solidarity allowance for the elderly (Allocation de solidarité aux personnes âgées ASPA)	29
2.3.9..... Housing Benefits (Allocation Logement APL and AL)	30
2.3.10... Unemployment Benefit (Allocation de retour à l'emploi ARE)	33
2.3.11 ... Unemployment assistance Benefit (Allocation de solidarité spécifique ASS)	34
2.4 __ Social contributions	35
2.4.1 Employee social contributions	36
2.4.2..... Employer social contributions.....	37
2.4.3..... Self-employed social contributions	38
2.4.4..... General Social contribution (Contribution Sociale Généralisée CSG).....	39
2.4.5..... Social security debt repayment contribution (CRDS)	40
2.4.6..... Social contribution on capital income	41
2.5 __ Personal income tax	41
2.5.1 Tax unit	41
2.5.2..... Exemptions.....	41
2.5.3..... Tax base	42
« Revenu Brut global ».....	42
The tax base differs according to the income category.....	42



The existing classes are:	42
« Revenu Net global RNG »	43
Net taxable Income (“Revenu net imposable”)	43
2.5.4..... Tax schedule.....	45
2.5.5..... Tax credits.....	46
3. DATA	49
3.1 __ General description.....	49
3.2 __ Sample quality and weights.....	51
3.2.1 Non-response.....	51
3.2.2..... Weights	51
3.2.3..... Item non-response and under-reporting.....	52
3.3 __ Data adjustment	52
3.4 __ Imputations and assumptions	52
3.4.1 Time period	52
3.4.2..... Gross incomes	53
3.4.3..... Other imputed variables	53
3.5 __ Updating	54
4. VALIDATION	59
4.1 __ Aggregate Validation.....	59
4.1.1 Validation of incomes inputted into the simulation.....	60
4.1.2..... Validation of outputted (simulated) incomes	64
4.2 __ Income distribution.....	69
4.2.1 Income inequality.....	70
4.2.2..... Poverty rates.....	70
4.2.3..... Validation of minimum wage.....	74
4.3 __ Summary of “health warnings”	74
5. REFERENCES.....	74



1. BASIC INFORMATION

1.1 Basic figures

Table 1.1 Basic figures

	Pop (m)	Pop < 15 (%)	Pop >= 65 (%)	Life expectancy (men in years)	Fertility rate	Unemployment rate	GDP per head (PPP)	Currency
2009	64.4	18.5	16.5	78	2.00	9.5	25600	Euro
2010	64.7	18.5	16.6	78.2	2.03	9.7	26500	Euro
2011	65	18.6	16.7	78.7	2.01	9.6	27200	Euro
2012	65.4	18.6	17.1	n/a	n/a	10.2	n/a	Euro

Source: Eurostat (2013)

1.2 The tax-benefit system

Table 1.2 Tax-benefit system and government budget

	Total government revenue ^[1]	Total tax receipts ^[2]	Total government expenditure ^[1]	Social protection ^[2]
	% GDP	% GDP	% GDP	% GDP
2009	49.2	42.5	56.8	23.9
2010	49.5	42.9	56.6	23.9
2011	50.8	44.2	56.0	n/a
2012	n/a	n/a	n/a	n/a

Source: ^[1]OECD (2013); ^[2] Eurostat (2013); http://www.oecd-ilibrary.org/taxation/total-tax-revenue_20758510-table2; http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Table 1.3 Social protection expenditure by function (as % of total social protection expenditure)

	Sickness/ healthcare	Disability	Old age	Survivors	Family/ children	Unemployment	Housing	Social exclusion
2009	27.4	5.8	36.8	5.7	8.1	6.4	2.5	2.2
2010	27.4	5.8	36.9	5.7	7.9	6.5	2.4	2.3
2011	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Eurostat (2013)



Table 1.4 Taxation (as % of total tax receipts)

Taxation	Personal income tax	Corporate income tax	Social contributions	security	Taxes on goods and services	Other taxes
			Employees*	Employers		
2009	17.3	3.5	12.7	26.7	25.1	3.5
2010	17	5.0	12.4	26.3	25	2.4
2011	17.1	5.7	12.1	25.8	24.8	2.8
2012	n/a	n/a	n/a	n/a	n/a	n/a

* Includes self-employed

Source: OECD (2013); <http://stats.oecd.org/Index.aspx?DataSetCode=REV>

1.2.1 Basic information about the tax-benefit system

The tax-benefit system in France is mainly a national system where people are taxed the same way in whatever region they live. There are, however, exceptions for local taxes such as the land tax (*taxe foncière*) and the tax on occupied housing (*taxe d'habitation*), which are defined at the regional level. For local taxes, the rates are set every year by the local authorities.

The fiscal year runs from 1st of January to the 31st of December. The tax rules usually change in November each year defining the tax policy of the next year. The state pension age up to 30/06/2011 began at 60. To receive a full pension the state pension age was 65. Reforms after this date in 2011 increased the state pension age to 62 and 67 for the full-pension. In June 2012, this reform was reversed. The amount pension paid depends on the number of quarters worked.

The minimum school leaving age is 16. The conditions to be considered as a socially dependent child are to be aged under 20 and to earn less than 55% of the minimum wage or to be disabled and under 20. These conditions are used for the calculation of social benefits.

For both benefit and tax purposes, lone parents are the parents of resident dependent children aged under 18, who

- Do not cohabit with others adults who are not dependant. (disabled)
- Cohabit with adults with whom they cannot marry (mother, brother, cousin...)

The income tax system is a joint system. It is based on a tax group: the “foyer fiscal. Spouses are assessed together. People who are married or who have signed a contract of civil partnership (PACS) are considered spouses.

This tax group consists of one taxpayer plus the persons who are “fiscally” dependent like dependent children and dependent parents.

Children are considered to be fiscally dependent if:

- They are aged under 18 (automatically)
- They are aged under 21 (and they want to be declared with their parents)
- They are aged under 25 and they are students (and want to be declared with their parents)
- They are disabled (automatically whatever their age).

Other adults can be dependent if they are disabled.

All incomes of people on the tax group are combined to calculate income tax. In France, there is a family ratio system (quotient familial) which is applied before the calculation of income tax. This family ratio gives a weight to each person in the tax group. The family ratio is applied to the total income of the tax group before it is subjected to the tax schedule.



Taxpayers have to fill in a tax return with the total of the revenue of the previous year in May. There are two different ways to pay income tax.

- A monthly withholding, evaluated based on the amount paid the previous year. The difference between the amount actually paid and the amount payable is adjusted in September.
- 3 payments in the year evaluated on the amount paid the previous year (“Tiers provisionnel”). The third payment is reassessed in September depending on the amount effectively due for the year.

Most benefits in France are indexed every year to take account of inflation (particularly for social minima). In the same way, tax brackets and the amounts involved in tax computation are re-evaluated to take account of inflation.

Most benefits are assessed monthly based on past income (the previous year or before).

Table 1.5 Minimum Wage

	2009	2010	2011	2012
Minimum wage (monthly)	1 321.02	1 343.77	1365.03	1398.37

Notes : euros per month, gross minimum wage

Source: Insee, www.insee.fr/fr/themes/tableau.asp?ref_id=NATnon04145

1.3 Social Benefits

There are broadly three types of social welfare payments operating in France: family benefits (means and non-means tested), replacement incomes and social assistance.

Family Allowance (Allocations Familiales AF): Family allowance is the main children benefit in France. It is granted to household with two or more dependent children. The amount varies with the number of children and their age. There is no condition on the household income.

Mean-tested Young children allowances (Prestation d’accueil des jeunes enfants PAJE): This mean-tested benefit is for families with children under 3.

Family Complement (Complément familial): This mean-tested allowance is targeted at families with at least three dependent children aged 3 and over.

Mean-tested education related Family benefit (Allocation de rentrée scolaire ARS): is an annual lump-sum allowance for school children, paid in September. It is paid for each dependent child aged between 6 and 18. There is an income threshold

Family support allowance (Allocation de soutien Familial ASF): is not mean-tested. The benefit is paid to children under 20 who are not raised by both parents.

Education allowance for handicapped children (Allocation d’Education de l’Enfant Handicapé AEEH) : A family is entitled to the allowance if a child under 20 has at least a 79% disability or a disability between 50% and 80% while attending special school, or if the condition requires the use of special education. The benefit amount is increased for lone parents.

Disabled benefit (Allocation aux adultes handicapés AAH): is an allowance for disabled working age adults who cannot work because of disability. It concerns people over 20 and under 60 years of age. It is paid to persons who suffer from permanent disability of at least 80% or between 50% and 79% and have difficulties in finding substantial and sustainable employment. There is an income threshold.



Solidarity Labour Income (Revenu de solidarité active RSA): The RSA is a guaranteed minimum income and low-earnings top-up. It was tested in 34 counties from May 2007 and then generalized to the entire country from 1 June 2009. The RSA replaces the minimum income (RMI), the single parent allowance (API), and some lump-sum aids like the grant of temporary return to work.

Back-to-work allowance (Prime de retour à l'emploi): A back-to-work financial is allocated to the beneficiaries of the RSA who find a job.

Solidarity allowance for the elderly (Allocation de solidarité aux personnes âgées ASPA): provides a minimum pension for persons aged 65 and over with limited resources. It varies according to household income.

Since 1st of January 2006, the minimum pension for elderly (Minimum vieillesse MV) was replaced by the solidarity allowance for the elderly (Allocation de solidarité aux personnes âgées ASPA). ASPA replaces a dozen benefits merging into a single allowance (like the allowance for elderly employed persons, allowance for elderly non-employed persons, allowance for mother etc.).

Survivor Minimum Pension (Allocation veuvage): is a minimum pension limited in time (2 years) to a spouse of a previously insured person. It applies for persons who were widowed at under 55 years old with resources under a threshold income.

Personalised housing benefit (Aide personnalisée au logement APL): is an aid granted to persons whose principal residence meets certain conditions, to help reduce expenses related to their principal primary residence. It applies only to tenants living in subsidized housing or owners who have to repay certain types of loans (state-subsidized loan). The amount depends on the resources and the rent paid or loan repayment.

Housing benefit (Allocation logement AL): applies to persons not eligible for the APL because their principal residence does not respect some conditions of the APL. This allowance is divided into Allocation de logement familial ALF and Allocation au logement social ALS. ALF is for tenants and owners if they are eligible for other benefits like the Family allowance, Family support allowance, etc. ALS is granted only to tenants and changes according to resources of the household and the number of dependent persons.

Contributory Pensions: The pension system in France is based on a PAYG system, employees contributions are used to pay pensions for retirees. It is managed by a number of bodies known as pension funds and has two components: the basic pension and supplementary pension. Retirees receive a pension which is proportional to the amount of contributions made by them during their career.

Unemployment Benefit: the unemployment compensation system consists of two regimes: the unemployment insurance (RAC) and the National Solidarity Plan (RSN). The RAC is funded by contributions from employees and employers. RSN compensates the unemployed who have exhausted their rights to unemployment insurance.

The insurance agreement in force at the time of breach of contract defines the maximum duration of benefits and the amount of the allowance based on past wages.

Sickness Benefit: The Health Insurance body (l'Assurance Maladie) is one of the four branches of the Securite Sociale (the French social protection system). It manages, at the national level, the disease and accident branches and includes the three main insurance schemes (general, agricultural and independent). It provides protection against five risks: sickness, maternity, disability, death, accidents / illnesses. Its funding is mainly provided by social security contributions on wages (employee and employer charges) as well as social contributions (CSG). Contributors (employees, unemployed, pensioners, students) and their spouses and children are insured. Universal health coverage (CMU) offers basic health insurance for everyone (especially for people who do not meet the criteria for entitlement to Social Security) and supplemental health coverage for people whose incomes are lower.



- *Scope and scale*

Table 1.6 Social benefits: number of recipients

	2009	2010	2011	2012
Family benefit				
Family allowance (AF)	4,682,468	4,708,136	4,747,185	4,759,157
Family allowance (CF)	822,327	823,081	820,128	802,436
Means tested education related family benefit (ARS)	2,861,844	2,861,185	2,837,597	
Young child benefit (PAJE)	2,266,845	2,286,231	2,287,637	2,284,041
<i>means-tested bonus for childbirth</i>	<i>53,765</i>	<i>52,623</i>	<i>52,317</i>	<i>50,766</i>
<i>means tested benefit for children under 3</i>	<i>1,870,213</i>	<i>1,884,186</i>	<i>1,871,913</i>	<i>1,834,957</i>
Lone parent				
Lone parent allowance (API)	29,763	30,227	1	
Child's social assistance (ASF)	735,916	732,347	727,037	725,442
Housing				
Family housing benefit (ALF)	1,307,006	1,287,736	1,284,763	1,213,724
Social housing benefit (ALS)	2,234,923	2,225,865	2,260,491	2,135,395
Personalised housing benefit (ALP)	2,516,425	2,519,813	2,576,574	2,507,602
Disability				
Handicapped child benefit (AEEH)	160,316	169,468	191,437	187,981
Handicapped adult benefit (AAH)	851,316	883,276	923,974	916,647
Unemployment				
Back to work allowance (ARE)	2,106,669	2,100,557		
Solidarity benefit (ASS)	308,465	310,463		
Minimum Income (RMI)	139,332	140,199	69	30
Minimum Income/Low earnings top-up (RSA)	1,697,357	1,797,714	2,032,370	2,059,084
Old-age				
Minimum pension for elderly (ASPA)	581,700	576,300		
State Pension	12,200,000	12,600,000	12,900,000	

Source: Source : CNAF, fichier FILEAS – BENETRIM



Table 1.7 Social benefit: expenditure

	2009	2010	2011	2012
Family benefits				
Family allowance (AF)	12535	12354	12432	12644
Family supplement (CF)	1629	1631	1650	1650
Means-tested education related family benefit (ARS)	1495	151	1490	1485
Child's social assistance (ASF)	1257	1255	1267	1274
Young child benefit (PAJE)	489	4911	4952	4966
Lone parent				
Lone parent allowance (API)	534	-	-	-
Housing				
ALS	4628	4915	5014	5117
APL	6449	6869	7143	7359
ALF	3981	4151	4217	4281
Disability				
AAH	6180	6610	7183.5	n/a
Unemployment				
ARE	23761	25047	n/a	n/a
ASS	1809	1897	n/a	n/a
RMI	5830	-	-	-
RSA	1697	1797	1835	n/a

Notes : million euros ; n/a-not available

Source: Comptabilité nationale, www.insee.fr, 2010, 2011

Pension and unemployment : DGI

- *Not strictly benefits*

Student grants (Bourse étudiante): The grant is non-taxable and is means-tested on parental income. Student must be under 28 years on 1 October of the academic year, and the training must qualify to receive the grant. The aid is then awarded based on three criteria: household income tax, the number of children in the family's tax burden and the remoteness of the place of study.

1.4 Social contributions

General Social Security Contribution (CSG): The general social security contribution is a levy with a social purpose. The CSG is allocated to the social security budget and, specifically, to the national family allowance fund, the old-age solidarity fund and compulsory health insurance schemes. The contribution is levied on individual members of a French compulsory health insurance scheme.

Social security debt repayment contribution (CRDS) : The CRDS is intended to clear the deficits of the social security system. Like the CSG, it is payable by individuals who are domiciled in France for tax purposes and who contribute to a French compulsory health insurance scheme.

Social contribution and other additional contributions: Individuals are liable to a social contribution, introduced in 1998, on income from personal assets and investment income. The proceeds are allocated to the old-age solidarity fund, the national retirement pension fund and the pension reserve fund. The social contribution was 3.4% in 2011 and 5.4% in 2012. An additional 0.3% contribution on income from personal assets and investment income, allocated to the national solidarity fund for autonomy (CNSA), was introduced in 2004. In 2009, a new 1.1% additional contribution on income from personal assets and investment income was created, intended to fund the earned-income supplement (revenu de solidarité active, RSA).

The collection methods for contributions are similar to those for the CSG relating to the same income. These contributions are not deductible from the income tax base.



- *Scope and scale*

Table 1.8 Social contributions: revenue

	2009	2010	2011	2012
Total of social contributions	351.81	357.08	363.5	374.4
Employer social contributions	249.86	253.61	258.2	265.9
Including private sector	164.08	166.54	169.5	174.6
Including public sector	85.78	87.07	88.6	91.3
Employee social contributions	77.72	78.88	80.3	82.7
Self-employee social contributions	24.23	24.59	25	25.8
CSG&CRDS	87.18	89.12	91.8	94.5

Notes: billion euros

Source: 2005-2009: Comptabilité nationale, www.insee.fr, 2010, 2011

1.5 Taxes

To finance replacement incomes, family benefits and social assistance, a number of taxes and contributions have to be paid. Employees and employers pay contributions on their wages to cover a variety of risks : health, maternity, widowhood, pensions and unemployment whereas family benefits and housing are financed only by employer contributions.

Personal Income Tax (Impôt sur le revenu des personnes physique IRPP) :

Personal income tax is, in principle, a comprehensive tax levied on an individual's total income in a given year. All incomes, regardless of origin, are aggregated to give an overall net income to which a single tax scale is applied. The scale has progressive income bands. However, there are many provisions in the method for calculating income tax that allow taxation to be adjusted to personal circumstance. Personal income tax is assessed annually on a tax household's (a foyer fiscal) taxable income in a calendar year. The system of taxation is based on the family quotient: the sum of all household incomes are added together and then divided by the number of shares before being submitted to the tax schedule.

Value Added Tax (Taxe sur la valeur ajoutée TVA): There are 4 main rates: the standard rate of 19.6% applies to all taxable transactions for which no other rate exists, the reduced rate of 7% applies to goods and services such as restaurants, hotels, transport etc after 01/01/2012. The second reduced rate of 5.5% applies to food, utilities etc from 01/01/2012. Before this date, the reduced rate of 5.5% applied to both restaurants, hotels etc and food utilities etc. The specific rate of 2.1% essentially concerns certain medications and certain cultural products.

Excise Duty (Droit d'accises): They are charged on alcohol and alcoholic beverages, tobacco and fuel (TIPP).

Wealth tax (impôt de solidarité sur la fortune , ISF): is an annual progressive tax payable by individuals on account of their ownership of personal assets, when the net value of these exceeds a certain amount (1,300,000 € Euros at 1 January 2012). The tax is assessed by household, which comprises spouses, cohabiting partners and minor children.

Inheritance tax (Droit de successions): It is charged using a progressive tax schedule. There are many exemptions and deductions related to the type of relationship with the previous owner (spouse, children) and the nature of the donation or bequest.



Housing Tax (Taxe d'habitation TH): Residential premises are liable for housing tax. The tax is payable by any person who, on 1 January of the year of taxation, has taxable premises at their disposal, whatever their status (owner, tenant, free occupier). Housing tax is assessed on the value of residential premises resulting from valuations by the authorities. The amount of tax is calculated by multiplying the tax base by the rates voted by each beneficiary local authority for the year in question

Land Tax (Taxe Foncière TF): is levied annually on land situated in France. Taxable property includes permanent constructions perpetually attached to the ground such as premises intended to accommodate people (residential properties) or business assets (workshops, sheds) etc. The tax base is equal to 50% of the value, which is regularly updated by the authorities. The amount of tax is calculated by multiplying the tax base by the rates voted by each beneficiary local authority for the year in question. The tax is payable by the owner of the property at 1 January of the year of taxation

Waste Tax (Taxe sur les ordures ménagères): Communes that collect household waste may introduce a household waste collection tax. When responsibility for waste disposal has been transferred to a public establishment for intercommunal cooperation, it may levy a tax provided that it at least collects the waste. The tax is assessed on the cadastral income used as the base for property tax on developed land.

Cap on Direct Taxes (Bouclier Fiscal): This "tax shield" is a device to cap direct taxes, in force since 2007. Direct taxes paid by a taxpayer may not exceed 60 % of their revenues. Taxes covered by the cap are: income tax, the ISF, the housing tax and land tax payable on the principal residence. Since October 2007, the ceiling is set at 50% of the amount of income tax, social contributions, the CSG, CRDS, the ISF, the housing tax and land tax payable on the principal residence. This tax cap was abolished in July 2011.

- *Scope and scale*

Table 1.9 Taxes: Number of taxpayers

	2009
Number of tax units (personal Income IRPP)	36,397
Personal Income Taxpayers	19,491
Non-taxable	16,906

Notes: thousands

Source: Insee, Direction générale des Finances Publiques.



Table 1.10 Taxes: revenue

	2009	2010	2011	2012
Direct Corporate tax	23.05	35	45.0	46.4
Direct Personal tax	167.63	171.86	179.8	185.2
Personal income tax	140.28	143.92	151.1	155.6
<i>IRPP</i>	45.8	47.36	51.6	53.1
<i>contributions on capital income</i>	7.3	7.5	7.7	7.9
<i>CSG/CRDS</i>	87.18	89.12	91.8	94.5
ISF (wealth tax)	3.6	3.7	3.8	3.9
Local tax				
TH (housing tax)	16.3	16.6	17.1	17.6
TF (Land tax)	46.51	46.68	n/a	n/a
Inheritance tax	7.5	7.7	7.9	8.1
Indirect tax				
VAT (plus excise duties)	197.26	197.98	205.7	211.8

Notes: billion euros

Source: 2005-2009: Comptabilité nationale, www.insee.fr, 2010, 2011

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

We do not simulate the entire tax-benefit system in France in EUROMOD. In some cases, adequate data to feed into the simulations is not available. Some examples include lack of information on the contribution history to simulate long-term contributory benefits such as pensions, lack of information on wealth to simulate property taxes etc. As a result, some instruments are not simulated. Instead, the values reported by responded households are taken directly from the underlying microdata. Information about which tax-benefit instruments are simulated and which not, along with information about why some instruments could not be simulated is displayed in tables 2.1 and 2.2.



Table 2.1 Simulation of benefits in EUROMOD

	Variable name(s)	Treatment in EUROMOD				Why not fully simulated?
		2009	2010	2011	2012	
Family allowance (AF)	bch00_s	S	S	S	S	
Means-tested allowances for young children (PAJE)	bchyc_s	S	S	S	S	
Free choice of activity-PAJE	bchcc_s	S	S	S	S	
Large family benefit (CF)	bchlg_s	S	S	S	S	
Means-tested education benefit (ARS)	bched_s	S	S	S	S	
Family support allowance (ASF)	bchor_s	S	S	S	S	Benefit can only be simulated for widows/widowers with underage children; children where one parent has deserted them, as well as children where both parents have died/abandoned the child cannot be identified in the data
Special education allowance (AEEH)	bchot	IA	IA	IA	IA	No information on the disability status of children; included in other benefits for children
Disability benefit (AHA)	bdi_s	S	S	S	S	
Solidarity labour income (RSA)	bsa00_s	S	S	S	S	
Return to work allowance	bsaot	IA	IA	IA	IA	No information about previous status before work; no information about continuous employment
Solidarity allowance for the elderly (ASPA)	bsaoa_s	PS	PS	PS	PS	Eligibility is based on observed receipt in the data; although eligibility can be simulated fully, non take-up of the benefit leads to severe overestimation
Survivor minimum pension (AV)	bsuwd	I	I	I	I	Simulated but turned off in the baseline; no information about when a person became widowed
Housing benefit (APL)	bhoot	IA	IA	IA	IA	No information on subsidized loans; no information on eligible subsidized tenancies;
Housing benefit (AL)	bhotn_s	S	S	S	S	Benefit simulated for rent paying tenants only; benefits paid for owners are included in bhoot
Housing benefit (AL)	bhoot	IA	IA	IA	IA	Benefits for homeowners cannot be simulated; they are included alongside other housing benefits
Contributory unemployment benefit (ARE)	bunct_s	PS	PS	PS	PS	No information on contribution history; eligibility approximated by receipt in the data
Means-tested unemployment benefit (ASS)	bunmt_s	I	I	I	I	Simulated but turned off in the baseline; no information on when entitlement to the unemployment contributory benefit expires
Contributory pensions	poa	I	I	I	I	No information on contribution history and on past wages
Sickness benefits (AM)	bhl	I	I	I	I	No information on days of sickness; no information on previous contribution history
Disability pension	pdi00	I	I	I	I	No information on degree of disability; no information on contribution history
Survivor pensions	psu	I	I	I	I	No information about contribution history

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 2.2 Simulation of taxes and social contributions in EUROMOD

	Variable name(s)	Treatment in EUROMOD				Why not fully simulated?
		2009	2010	2011	2012	
Personal income tax (IRPP)	tin_s	S	S	S	S	Some tax allowances and tax credits cannot be simulated due to absence of relevant information in the data
Generalised social insurance contributions (CSG)	tscxc_s	S	S	S	S	
Insurance contributions for the repayment of the deficit (CRDS)	tscdf_s	S	S	S	S	
Social insurance contributions paid on capital income	tscct_s	S	S	S	S	
Social insurance contributions paid by employees	tscee_s	S	S	S	S	Only the general 'regime' is simulated; it is not possible to identify employees belonging to the various 'regimes'
Social insurance contributions paid by employers	tscer_s	S	S	S	S	Only the general 'regime' is simulated; it is not possible to identify employees belonging to the various 'regimes'
Social insurance contributions paid by the self-employed	tscse_s	S	S	S	S	

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

- **Structural changes between 2009 and 2010**

There were no structural changes between 2009 and 2010.

- **Structural changes between 2010 and 2011**

There were no structural changes between 2010 and 2011.

- **Structural changes between 2011 and 2012**

Starting in 2012, households who slightly exceed the income threshold for the Back to School Allowance are eligible for the residual amount of this benefit (ARS différentielle, AD) if their revenue is less than the threshold, plus the relevant benefit amount, where N is the number of children.

$$(AD = \text{income threshold} + (\text{ARS}_{6-10} * N_{6-10}) + (\text{ARS}_{11-14} * N_{11-14}) + (\text{ARS}_{15-18} * N_{15-18})) - \text{income}) / N$$

In 2012, an end of year bonus was introduced for RSA recipients.

In 2012, a new income tax band was introduced. Incomes over EUR150,000 are now subject to income tax at the rate of 45% instead of 41%.

Until 2011, dividends were subject to a 40% deduction in addition to a fixed deduction of EUR1,525 for singles and EUR3,050 for couples, before taxation. The fixed portion of the deduction was abolished in 2012.



2.2 Order of simulation and interdependencies

- *Order of simulation in 2009- 2012*

The order in which the components of the tax benefit system in France are simulated is shown in Table 2.3 below. The order in which simulations take place is largely determined by the existing interactions within the system. For example, net taxable income which served to determine eligibility for many means-tested benefits is simulated before these benefits. Contributory unemployment benefits which are liable to income taxation are simulated before income tax, etc.

Table 2.3 EUROMOD Spine: order of simulation, 2009- 2012

Policy	Description	Main output
uprate_fr	Uprating of input data	
constdef_fr	Definition of constants used in the model	
ildef_fr	Definition of standardized income lists	
tundef_fr	Definition of assessment units used in the model	
yse_fr	Recoding of negative values of self-employment income	yse
yem_fr	Minimum wage	yem
bunct_fr	Unemployment insurance benefit (Allocation de retour à l'emploi ARE)	bunct_s
bch00_fr	Universal child benefit (Allocation Familiale AF)	bch00_s
bchor_fr	Family Support Allowance (Allocation de soutien familial ASF)	bchor_s
tscee_fr	Employee social insurance contributions	tscee_s
tscer_fr	Employer social insurance contributions	tscer_s
tscese_fr	Self-employed social insurance contributions	tscese_s
tsckt_fr	Social insurance contributions paid on capital income	tsckt_s
bsuwd_fr	Minimum survivor pension (Allocation veuvage AV)	bsuwd_s
tinty_fr	Net taxable income	il_rniy
tsxc_fr	Generalized social insurance contributions (Contribution Sociale Généralisée CSG)	tsxc_s
tinkt_s	Personal income tax when using flat rate taxation of capital income (Prélèvement temp_tingt1 forfaitaire libérateur PFL)	temp_tingt1
tin_fr	Personal income tax when using the progressive tax schedule only and optimization of gross tax	temp_tingt2; tintg_s
tincot_fr	Tax credits other than PPE	tintch_s; tintemi_s; tintced_s
tintcee_fr	Low earner refundable tax credit (Prime Pour L'Emploi PPE) & net tax	tintcee_s; tin_s
bdi_fr	Means-tested disability benefit (Allocation aux adultes handicapés AAH)	bdi_s
bunmt_fr	Unemployment assistance benefit (Allocation de solidarité spécifique ASS)	bunmt_s
bchyc_fr	Means-tested benefit for young children (Plan d'Accompagnement du Jeune Enfant PAJE)	bchyc_s
bchba_fr	Means-tested birth grant (Prime de naissance PN)	bchba_s
bchcc_fr	Parental leave supplement (Complément de libre choix d'activité CLCA)	bchcc_s
bched_fr	Means-tested education grant (Allocation de rentrée scolaire ARS)	bched_s
bchlg_fr	Means-tested benefit for large families (Complément familial CF)	bchlg_s
bchor_fr	Non means-tested benefit for orphans (Allocation de soutien familial ASF)	bchor_s
bhotn_fr	Means-tested housing benefits (Allocation Logement AL)	bhotn_s
bsaoa_fr	Means-tested benefit for the elderly (Allocation de solidarité aux personnes âgées ASPA)	bsaoa_s
bsa00_fr	Minimum guaranteed income (Revenu minimum d'insertion RMI/Revenu de solidarité active RSA)	bsa00_s
tscdf_fr	Contribution for the deficit repayment (Contribution pour le Remboursement de la Dette Sociale CRDS)	tscdf_s
output_std_fr	Standard output file at the individual level	
output_std_hh_fr	Standard output file at the household level	



2.3 Social benefits

2.3.1 Family Allowance (Allocation Familiale AF)

- *Definitions*

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage.

- *Eligibility conditions*

The benefit is received by households with two or more dependent children. In case of legal separation or divorce of the parents, the beneficiary is the parent who is in charge of the child.

- *Income test*

There is no income test for this benefit.

- *Benefit amount*

The monthly amount depends on the number and age of dependent children in the household:

	2009	2010	2011	2012
<i>Monthly amount</i>				
2 dependent children	124.54	124.54	126.41	127.05
3 dependent children	284.12	284.12	288.38	289.82
Each child after the 3rd	159.57	159.57	161.97	162.78
Increase for child between 11 and 16 (14 after 2011)	35.53	35.53	35.55	35.74
Increase for child over 16	62.27	62.27		
Increase for 1 child over 14			63.21	63.53
Fixed amount paid to families of 3+ children with eldest of 20-21	78.36	78.75	79.93	80.33

The fixed amount paid to families of 3+ children is paid under two conditions:

- One of the children is 20 and lives at home, and
- The family has received benefits for at least three children in the month before the 20th birthday.

Qualifying families receive a monthly lump sum of €80.33 in 2012 until the month before the child turns 21.

If there are only two children in the household, the increases for children between 11 and 16 and for children over 16 is not paid for the first child.

- *Compatibilities*

This benefit is compatible with national or regional lump-sum child benefits.

- *Taxation and income testing*

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- *EUROMOD notes*

The benefit is simulated based on the age of children at the end of the income reference period. No benefit is simulated for children who reach the age threshold during the income reference period as



their month of birth is unknown. Similarly, the age-based increase is simulated for the entire year for children who turn 11 and 16 respectively in the income reference period. The supplement for children aged 20 is simulated for the entire year whenever a person aged 20 (who is not head or partner) is living with at least two dependent children.

2.3.2 Mean-tested Young children allowance (Plan d'Accompagnement du Jeune Enfant PAJE)

Mean-tested young children allowance contains:

- The PAJE base amount (allocation de base): mean-tested benefit for children under 3.
- The baby bonus: mean-tested bonus for childbirth.
- The supplement for free choice of custody: for families with children born after 2004 and aged less than 6 when parents work and are under the income threshold.
- The supplement for free choice of activity: this allowance replaces the Parent education allowance APE for children born after 2004.

- *Eligibility conditions*

PAJE: The benefit is received by households with children under 3 born **after 2004** (for each child).

- *Definitions*

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage. The assessment unit includes parents (married or cohabiting) and their dependent children.

- *Income test*

Concerning the PAJE base amount (Child born after the 1st of January 2004), Family income must be below:

Yearly amount	2009	2010	2011	2012
One earner couples				
One dependent child	32,813	33,731	33,765	34,103
Two dependent children	39,376	40,477	40,518	40,924
Three dependent children	47,251	48,573	48,622	49,109
Each child after the third	7,875	8,096	8,104	8,185
Two Earner couples or lone parent				
One earner couples				
One dependent child	43,363	44,576	44,621	45,068
Two dependent children	49,926	51,322	51,374	51,889
Three dependent children	57,801	59,418	59,478	60,074
Each child after the third	7,759	8,096	8,104	8,185



- **Benefit amount**

The monthly amount per family (and not per child except for multiple births) is:

	2009	2010	2011	2012
Monthly amount	178.83	178.83	181.52	183.35

- **Compatibilities**

This benefit is compatible with national or regional lump-sum child benefits, except for the Family Complement and Family Support Benefit (ASF).

- **Taxation and income testing**

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- **EUROMOD notes**

Only PAJE (which has higher income thresholds) is simulated. The income test is calculated based on yearly net taxable income during the income reference period (rather than past taxable income). The simulation is based on the age of children at the end of the income reference period. Consequently, no benefit is simulated for children turning three during the income reference period. Conversely, the benefit is simulated for the entire year for children born during the income reference period.

2.3.2.1 Baby bonus (Prime de naissance)

- **Definitions**

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage.

- **Eligibility conditions**

Have a child born in the year, or have adopted a child under 20 years of age.

- **Income test**

Annual family net taxable income must be below:

	2009	2010	2011	2012
Couple with one revenue				
One dependent child	32,813	33,731	33,765	34,103
Two dependent children	39,376	40,477	40,518	40,924
Three dependent children	47,251	48,573	48,622	49,109
Each child after the third	7,875	8,096	8,104	8,185
Couple with two revenues or lone parent				
One dependent child	43,363	44,576	44,621	45,068
Two dependent children	49,926	51,322	51,374	51,889
Three dependent children	57,801	59,418	59,478	60,074
Each child after the third	7,759	8,096	8,104	8,185



- **Benefit amount**

The lump-sum is for each child born in the year:

	2009	2010	2011	2012
Childbirth	893.92	893.92	907.60	916.70
Adoption	1,788.32	1,788.32	1,815.21	1,833.42

- **Compatibilities**

This benefit is compatible with national or regional lump-sum child benefits.

- **Taxation and income testing**

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- **EUROMOD notes**

No information exists in the data about adoptions. Only the benefit for childbirth is simulated. The income test is based on current yearly net taxable income rather the previous taxable income.

2.3.2.2 Supplement for free choice of activity (Complément de libre choix d'activité)

- **Definitions**

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage.

- **Eligibility conditions**

- Have at least one child under 3 years of age
- Stop or partially stop work to take care of the child. The beneficiary must have made social security contributions for 8 quarters out of the previous two years if it is the first child, of the previous 4 years if it is the second child or of the previous 5 years if it is the 3rd + child.

- **Income test**

The benefit is not means-tested.

- **Benefit amount**

If there is one child, the benefit is paid for 6 months from the birth/end of maternity leave. If there are two or more children, the benefit is paid from the birth/end of maternity leave until the month before the 3rd birthday of the youngest.

	2009	2010	2011	2012
Non-receipt of PAJE base amount				
Full rate (stop working completely)	554.88	554.88	563.21	566.01
Reduce work to < 50%	421.93	421.93	428.26	430.4
Reduce work to 50-80%	319.07	319.07	323.85	325.47
Receipt of PAJE base amount				
Full rate (stop working completely)	376.05	376.05	381.69	383.59
Reduce work to < 50%	243.09	243.09	246.74	247.98
Reduce work to 50-80%	140.23	140.23	142.33	143.05



If there are three children and the youngest was born after 01/07/2007, the family can opt for the optional complement for free choice of activity (COLCA) instead of the CLCA if one parent stops work completely for up to one year after the birth. This is paid for a maximum of 12 months after the birth of the youngest child subject to the same contribution requirements as the CLCA at the following rate:

Optional free choice of activity	2009	2010	2011	2012
Non-receipt of PAJE base amount	793.5	793.5	805.41	809.42
Receipt of PAJE base amount	614.66	614.66	623.89	626.99

- ***Compatibilities***

This benefit is not compatible with paid holidays, maternity/paternity/adoption leave, sick leave or unemployment benefit.

- ***Taxation and income testing***

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- ***EUROMOD notes***

Detailed information on contribution history is not available. Eligibility is based on fulfilling the contributory requirement of 2 years of contributions during the entire work history. Thus, the difference in contribution requirements between children of different birth orders is not simulated. Amounts are simulated based on earnings and current working hours. Entitlement to the out of work amount is based on absence of earnings during the entire income reference period. Reduced amounts corresponding to reduced working time are based on current (rather than contemporaneous) working hours. When only one child is present, the benefit is simulated for 6 months during the income reference period conditional on the child being aged 0 (i.e. it is assumed the benefit is paid in the first year after birth) and no entitlement of children aged 1 & 2 is simulated when only one child is present. It is assumed a parent always takes up the optional CLCA if entitled. In practice, this means this benefit is simulated for all entitled parents (i.e. parents who fulfil the contribution requirements and stop working) whose third child is aged 0. It is assumed this benefit is not paid for children aged 1 and 2. The simulation is based on the ages of the children at the end of the income reference period, i.e. benefits received for only part of the year (before a child turns 3 or 1) are not simulated. Only the incompatibility with unemployment benefit is simulated. Since the other benefits are short term ones and no information about their receipt within the year is available, other incompatibilities are not simulated.

2.3.3 Mean-tested education related Family benefit (Allocation de rentrée scolaire ARS)

- ***Definitions***

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage.

- ***Eligibility conditions***

Have at least one child aged 6 to 18 who is at school. The child must not earn more than 55% of the SMIC.



- **Income test**

The income test depends on the number of dependent children:

Euros per year	2009	2010	2011	2012
One dependent child	22,321	22,946	22,970	23,200
Two dependent children	27,472	28,241	28,271	28,554
Three dependent children	32,623	33,536	33,572	33,908
Each child after the third	5,151	5,295	5,301	5,354

Starting in 2012, households who slightly exceed the income threshold, are eligible for the residual amount of this benefit (ARS différentielle, AD) if their revenue is less than the threshold, plus the relevant benefit amount, where N is the number of children.

$$(AD = \text{income threshold} + (ARS_{6-10} * N_{6-10}) + (ARS_{11-14} * N_{11-14}) + (ARS_{15-18} * N_{15-18}) - \text{income}) / N$$

with a minimum payment of €15

The income used here is the net taxable income.

- **Benefit amount**

The benefit is paid by child. The yearly amount depends on the child's age:

Benefit amount per child	2009	2010	2011	2012*
6-10 years	282.16	282.16	284.97	356.2
11-14 years	297.7	297.7	300.66	375.85
15-18 years	308.04	308.04	311.11	388.87

- **Compatibilities**

This benefit is compatible with national or regional lump-sum child benefits.

- **Taxation and income testing**

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- **EUROMOD Notes:**

The simulation is based on current rather than previous taxable income. It used ages of children at the end of the income reference period rather than at the start of the school year.

2.3.4 Family support benefit (Allocation de soutien familial ASF)

- **Definitions**

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage.

- **Eligibility conditions**

Must be a lone parent or other (e.g. grandparent) where the other parent (or both) is deceased or has abandoned the child and does not pay alimony.



- **Income test**

This benefit is not means tested

- **Benefit amount**

The monthly amount is::

Benefit amount	2006	2007	2008	2009	2010	2011	2012
Child living with lone parent	82,36	83,76	85,02	87,14	87,14	88,44	89,34
Child living with no parents	109,81	111,68	113,36	116,18	116,18	117,92	119,11

- **Compatibilities**

This benefit is compatible with national or regional lump-sum child benefits.

- **Taxation and income testing**

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- **EUROMOD notes**

The benefit is simulated only for children of widows/widowers. It is not possible to identify children whose parents have abandoned them. Likewise it is not possible to identify children whose both parents are deceased.

2.3.5 Family Complement (Complément familial):

- **Definitions**

Children are considered as dependent persons if they are aged under 21 and earning less than 55% of the minimum wage. Children under 21 who are themselves parents may be considered dependent if not receiving family allowances.

- **Eligibility conditions**

Have at least 3 children all aged 3 years or more. The amount is the same for all families regardless of the number of dependent children.

The child must not earn more than 55% of the SMIC.

- **Income test**

The income test depends on the number of parents who work:

Yearly income	2009	2010	2011	2012
One earner couples	34,489	35,457	35,493	35,848
Increase for each dependent child	5,748	5,909	5,915	5,975
Two earner couples or lone parent	42,191	43,375	43,419	43,853
Increase for each dependent child	5,748	5,909	5,915	5,975

The income used here is the net taxable income.



- **Benefit amount**

The monthly amount is per household:

	2009	2010	2011	2012
Monthly amount of CF	162.1	162.1	164.53	165.35

- **Compatibilities**

This benefit is compatible with national or regional lump-sum child benefits except with the APE and PAJE (basic allowance). If the household is eligible to PAJE or APE, the CF is not paid.

- **Taxation and income testing**

Not taxable and not included in the income test of other benefits, but subjected to CRDS.

- **EUROMOD notes**

The simulation of the income test is based on current rather than previous net taxable income. The age condition relating to the definition of a child is implemented using the age at the end of the income reference period, i.e. children who turn 21 during the year are not considered to be dependent children. Thus, any partial year entitlements on account of such children are not simulated.

2.3.6 Disabled benefit (Allocation aux adultes handicapés AAH)

- **Definitions**

Adult: To be aged over 20 and less than 60.

Dependent children: aged under 20 and earning less than 55% of the minimum wage

- **Eligibility conditions**

The beneficiary must be disabled with a permanent disability of at least 80%, or a disability between 50 and 80% and be unemployable (for medical reasons). The income test is carried out using total couple's income, the limit of income test includes dependent children.

- **Income test**

Annual income	2009	2010	2011	2012
Single	8,003.52	8,179.56	8,543.40	9,119.76
Couple	16,007.04	16,359.12	17,086.80	18,239.52
for each child	4,001.00	4,089.78	4,271.70	4,559.88

There is a 100% withdrawal rate if the $(\text{threshold} - \text{benefit}) < \text{income} < \text{threshold}$

- **Benefit amount**

The benefit is differential:

AAH = $\text{Min}(\text{Threshold} - \text{Income}, \text{Maximum Benefit})$



Family income is defined as the monthly net taxable income, used for the establishment the income tax.

The monthly maximum benefit is:

	2009	2010	2011	2012
Monthly benefit	681.63	681.63	711.95	759.98
Supplement for those disabled for at least one year	179.31	179.31	179.31	179.31

There are additional amounts which are allowed with an increasing level of disability. All cannot be simulated.

But there is the increase for independent living (Majoration pour la vie autonome) which is for the disabled who receive AAH at a full rate or AAH as a complement to old age or invalidity (i.e. who do not work). The monthly lump-sum is:

	2009	2010	2011	2012
Increase for independent living	104.8	104.77	104.77	104.77

Those who are eligible for the supplement and for the increase for independent living must choose between the two.

- *Compatibilities*

This benefit is compatible with national or regional lump-sum child benefits excepted with AEEH.

- *Taxation and income testing*

Not taxable and not included in the income test of other benefits. **Not subjected** to CRDS.

- *EUROMOD notes*

No information on the degree of disability exists in the data. The benefit is simulated for all individuals who fulfil the income criterion and report themselves as being disabled (pl030=6). The income test is simulated on current rather than previous taxable income. The increase for independent living is simulated for individuals receiving AAH at the full rate, as well as for individual reporting zero earnings. No other additional amounts are simulated.

2.3.7 Survivor Minimum Pension (Allocation veuvage - AV)

- *Eligibility conditions*

Widow/er not remarried aged under 51 (55 after 2009). This pension is paid for 2 years.



- *Income test*

The monthly widow/er's income must be below:

	2009	2010	2011	2012
Monthly income	706.41	712.76	712.76	743

The income taken into account includes the net taxable income of the widow/er (ie earned income, pensions, unemployment benefit, self-employment and capital income, all in gross term) excluding family benefits and AAH.

- *Benefit amount*

The monthly benefit given is:

2009	2010	2011	2012
565.13	570.21	570.21	594.4

- *Compatibilities*

This benefit is compatible with national or regional benefits.

- *Taxation and income testing*

Taxable like pension income for personal income tax but **not subjected** to CRDS and CSG.

- *EUROMOD notes*

The simulation of this benefit is turned off and the original variable in the dataset used instead in the baseline. There is no information in the input dataset about the year a person has become widowed. As a result, the benefit is simulated for all widows/widowers who pass the income test. The income test is simulated using current rather than past taxable income. Since this benefit is part of taxable income, the original rather than the simulated AAH is used in the income test (As AAH depends on taxable income).

2.3.7.1 Solidarity Labour Income (RSA) from 2009

From 2009, this benefit was created to replace the RMI and API.

The RSA aims to ensure a minimum income per month. The amount of the benefit is equal to the difference between the maximum RSA (lump sum + 62% of gross household income from work) and resources (including the package of housing assistance).

The lump-sum is determined by the household composition, the number of dependent children. The RSA is increased for those who meet the previous conditions for Mean-tested lone parents benefits (API).

$$\text{RSA} = \text{RMI} + \text{API}$$



- *Definitions*

Dependent Children: Children under 20. Children over 20 years and under 25 living at home may be considered dependent in the RSA sense provided their own income is very low (< 55% of SMIC).

- *Eligibility conditions*

B over 25, or less than 25 with a dependent child and be aged under 65 (or be exempt from the Minimum Pension for Elderly). Youths under 25 years of age are eligible if they have worked for at least two out of the last three years.

- *Benefit amount*

$$\text{RSA} = (\text{Minimum income} + 62\% \text{ Gross family quarterly working income}/3) - (\text{Gross family quarterly income}/3 + \text{housing package})$$

Family working income includes income from work, net of social security contributions (i.e. employment and self-employment income before taxes and transfers). The housing package is a lump-sum subtracted **only for people who received the AL**. As with the RMI, the Family quarterly income includes:

- the quarterly net taxable income
- all quarterly social minima (RSA), and family benefits (AF and CF only)

The minimum incomes are:



	2009		2010		2011		2012	
	Minimum income	Housing package						
Lone parent with children under 3								
Pregnant without child	583.8	54.56	590.81	55.21	599.67	56.04	609.87	56.99
One dependent child	778.4	109.11	787.75	110.42	799.56	112.08	813.16	113.98
Two dependent children	913.43	135.03	984.69	136.65	999.45	138.7	1016.45	141.06
Each child after the 3 rd	135.03		184.04		186.8		203.29	
End of year bonus *								
Pregnant without child							152.45	
One dependent child							228.67	
Two dependent children							274.41	
Each child after the third							60.98	
Everyone else								
Single								
Without dependent child	454.63	54.56	460.09	55.21	466.99	56.04	474.93	56.99
One dependent child	681.85	109.11	690.14	110.42	700.49	112.08	712.4	113.98
Two dependent children	818.34	135.03	828.17	136.65	840.59	138.7	854.88	141.06
Each child after 2 nd	181.85	135.03	184.04	136.65	186.8	138.7	189.97	141.06
Couple								
Without dependent child	681.85	109.11	690.14	110.42	700.49	112.08	712.4	113.98
One dependent child	818.34	135.03	828.17	136.65	840.59	138.7	854.88	141.06
Two dependent children	954.73	135.03	966.2	136.65	980.69	138.7	997.36	141.06
Each child after 2 nd	181.85	135.03	184.04	136.65	186.8		189.97	141.06
End of year bonus*								113.98
Single							152.45	
Without dependent child							228.67	
One dependent child							274.41	
Two dependent children							60.98	
Each child after 2 nd								
Couple								
Without dependent child							228.67	
One dependent child							274.41	
Two dependent children							320.14	
Each child after 2 nd							60.98	

* The end of year bonus was introduced in 2012 and it consists of a yearly lump sum paid to RSA recipients who are entitled to the benefit in November or December 2011.

- **Compatibilities**

This benefit is compatible with national or regional lump-sum child benefits.



- *Taxation and income testing*

The RSA is not taxable and not included in the income test of other benefits. However, if the household cumulates employment income and RSA, the amount of RSA is deducted from the following year's PPE (Prime pour l'emploi), negative tax-income.

- *EUROMOD notes*

No benefit is simulated for pregnant women. To simulate the benefit, age at the end of the income reference period is used. As a result, no benefit is simulated for children who turn three during the income reference period and who thus may be entitled to the benefit for part of the year. Lone parents are identified as parents of dependent children without a partner in the dataset. Children aged less than 25, earning less than 55% of SMIC and living with other adults are always considered as dependent. The income test is simulated using current yearly taxable income rather than previous quarterly income. Thus, shorter periods of eligibility may be missed. RMI is simulated in 2006, 2007 and 2008. Only RSA (see below) is simulated in 2009. When a household receives housing benefits, the lower between the actual benefits and the housing package is deducted. A random non-take up of approximately 40% is also simulated.

2.3.8 Solidarity allowance for the elderly (Allocation de solidarité aux personnes âgées ASPA)

- *Eligibility conditions*

Persons aged 65 and over with limited resources and retired (not working).

- *Benefit amount*

The benefit is differential at the level of the couple:

ASPA= Monthly Maximum amount – Quarterly Family income/3

Family quarterly income does not include family benefits or housing benefits (ie the quarterly net taxable income + AAH)

The maximum income depends on the family situation:

	2009	2010	2011	2012
Single	677.13	708.95	742.27	777.16
Couple	1147.14	1147.14	1181.77	1206.59

The couple amount is applied if at least one person is aged 65 or over.

Compatibilities

This benefit is compatible with national or regional benefits.

- *Taxation and income testing*

Not taxable and not included in the income test of other benefits and **not subjected** to CRDS.

- *EUROMOD notes*



Eligibility for this benefit is restricted to individuals reporting receipt in the data. While it is technically possible to fully simulate the benefit, doing so results in substantial overstimulation of both number of recipients and amounts. The income test is carried out using current yearly income rather than previous quarterly income. The age condition is simulated using age at the end of the income reference period. Thus, a full year worth of benefits is simulated for individuals turning 65 during the income reference period who in reality, would have been entitled only during part of the reference year.

2.3.9 Housing Benefits (Allocation Logement APL and AL)

- *Definitions*

Children are considered as dependent persons if they are aged under 20 and earning less than 55% of the minimum wage.

Dependent persons : all the dependent children and disabled close family (parents, grandparents, sisters, brothers...) or parents and grandparents over 65 living in the household who earned less than 55% of the minimum wage.

The unit of assessment is the entire household.

- *Eligibility conditions*

Be a renter of subsidized housing, sub-renter or first time buyer.

- *Benefit amount*

The general formula giving the amount of housing benefit is as follows (it is the same for APL and AL):

$$\mathbf{AL\ or\ APL = L+C-Pp}$$

L: real rent up to the limit of a certain ceiling

C: lump-sum charge

Pp: minimal personal participation

The system presented here is the more “general” system relating to the rental sector. We do not take into account the specificities of the calculation on residential homes (“Logement-foyer”), roommates or specific loans.



(1) Real Rent (L):

The real rent is taken into account up to a limit of a monthly ceiling, depending on the number of dependent persons and on the geographical zone. Older children are not considered dependent persons but their incomes are included in the assessed household income.

Year	2009			2010		
Geographical Zone	I	II	III	I	II	III
Single	278.06	242.33	227.13	278.95	243.11	227.86
Couple without dependent person	335.36	296.62	275.35	336.43	297.57	276.23
Lone parent/couple with one dependent person	379.03	333.77	308.72	380.24	334.84	309.71
Lone parent/couple with two dependent people	434	382.34	352.97	435.39	383.57	354.1
Increase for each dependent person	54.97	48.47	44.25	55.15	48.73	44.39
Year	2011			2012		
Geographical Zone	I	II	III	I	II	III
Single	282.02	245.78	230.37	284.84	248.24	232.67
Couple without dependent person	340.13	300.84	279.27	343.53	303.85	282.06
Lone parent/couple with one dependent person	384.42	338.52	313.12	388.26	341.91	316.25
Lone parent/couple with two dependent people	440.18	387.79	358	444.58	391.67	361.58
Increase for each dependent person	55.76	49.27	44.88	56.32	49.76	45.33

The zone depends on the geographical area:

Zone I : Paris region “Ile de France”

Zone II: cities with more than 100 000 inhabitants and Corsica

Zone III: all others cities.

(2) Lump-sum charge (C):

The monthly amount depends on the number of dependent persons :

	2009	2010	2011	2012
Single person/couple without dependent person	50.59	50.75	51.3	51.82
Single person/couple with one dependent person	62.04	62.24	62.92	63.56
Increase for each dependent person	11.45	11.49	11.62	11.74

(3) Minimal personal participation (Pp):

Pp is computed as follow:

$$Pp = P0 + Tp * Rp$$

P0 : minimal participation

Tp: Personal participation rate

Rp : Resources

- P0 minimal participation:

$$P0 = [8.5% * (L + C)]$$

The P0 amount is capped at 33.80 euros in 2012 and 33.47 euros in 2011



- *Tp Personal participation rate:*

Tp is computed as:

$$T_p = T_f + T_l$$

Tf is given by:

	2009	2010	2011	2012
Single	2.83%	2.83%	2.83%	2.83%
Couple without dependents	3.15%	3.15%	3.15%	3.15%
Lone parent/couple with one dependent person	2.70%	2.70%	2.70%	2.70%
Lone parent/couple with two dependent persons	2.38%	2.38%	2.38%	2.38%
Lone parent/couple with three dependent persons	2.01%	2.01%	2.01%	2.01%
Lone parent/couple with four dependent persons	1.85%	1.85%	1.85%	1.85%
Lone parent/couple with five dependent persons	1.79%	1.79%	1.79%	1.79%
Increase for each dependent person	-0.06%	-0.06%	-0.06%	-0.06%

Tl:

Tl is computed as follow:

$$T_l = L / \text{Rent Baseline.}$$

The rent Baseline is:

	2009	2010	2011	2012
Single	242.33	243.11	245.78	248.24
Couple without dependent	296.62	297.57	300.84	303.85
Lone parent/couple with one dependent	333.77	334.84	338.52	341.91
Lone parent/couple with two dependents	382.34	383.57	387.79	391.67
Increase for each dependent	48.47	48.73	49.27	49.76

Finally, Tl is obtained by the value of Rl as follow:

$$T_l = \text{Rate} * R_l - \text{Rate Min}$$

With :

RL	2009		2010		2011		2012	
	Rate	Rate Min						
0-45%	0%	0%	0%	0%	0%	0%	0%	0%
45-75%	45%	20.25%	45%	20.25%	45%	20.25%	45%	20.25%
>75%	68%	37.50%	68%	37.50%	68%	37.50%	68%	37.50%

- *Rp Resources:*

Rp is defined as the difference between the family income and a lump-sum R0.

R0 is given by (yearly amounts):



	2009	2010	2011	2012
Single	4,190	4,257	4,321	4,373
Couple without dependent person	5,999	6,095	6,187	6,261
Lone parent/couple with one dependent person	7,156	7,171	7,380	7,468
Lone parent/couple with two dependent persons	7,292	7,416	7,508	7,614
Increase for each dependent child	247	262	241	265

The family income is the “**Revenu Brut global**” used in the income tax.

- *Compatibilities*

This benefit is compatible with national or regional benefits.

- *Taxation and income testing*

Not taxable and not included in the income test of other benefits but subjected to CRDS.

- *EUROMOD notes:*

Only the general benefit for tenants paying rent is simulated. Benefits for home owners/ tenants in free accommodation are not simulated due to absence of required information in the dataset. The three zones upon which the benefit depends are imputed based on geographical region (db040) and population density (db100). The income used in the income test is yearly rather than quarterly. Also rent paid is calculated using a monthly average of rent paid throughout the entire year.

2.3.10 Unemployment Benefit (Allocation de retour à l’emploi ARE)

- *Eligibility conditions*

People who have been in activity at least 6 months during the last 22 months before 2009 and at least 4 months during the last 28 months after 2009 are eligible to receive unemployment benefits if they did not leave their job voluntarily and are actively looking for work.

- *Income test*

There is no income test for this benefit. The benefit amount depends on the salary earned during the last 12 months.

- *Benefit amount*

The benefit amount depends on:

- the sum of gross earned income received during the last 12 months before the last day worked
- the mode of activity : full-time, part-time.

The calculation of this amount is based on the gross daily reference wage (“Salaire journalier de référence” SJR) with:

SJR= sum of gross earned income during the last 12 months before the last day worked /

(365- days of absence or without a contract)



For part-time workers, we compute the reduction factor as:

$$RF = (\text{number of hours worked in part-time work}) / (\text{legal number of hours})$$

Parameters	2009	2010	2011	2012
Fixed allocation	11.04*RF	11.17*RF	11.34*RF	11.57*RF
Minimum Benefit	26.93*RF	27.25*RF	27.25*RF	28.21*RF

The daily benefit cannot be lower than the minimum benefit mentioned in the table above (27.66*RF euros for 2012) and cannot be higher than 75% of the SJR.

The monthly benefit is the daily benefit multiplied by the number of days in the month.

Since 2009, the benefit duration is based on the rule “one day worked, one day of compensation”. The only condition is to have worked at least 4 months in the last 28 months. The maximum duration is 24 months for people under 50 and 36 over 50.

- ***Taxation and income testing***

Taxable and included in the income test of other benefits, subjected to CRDS and CSG.

- ***EUROMOD notes:***

No information exists in the dataset on contribution history. As a result, simulation of eligibility approximates to a large extent observed receipt in the data. The age condition is simulated using age at the end of the income reference period. Thus, individuals who have turned 65 during the period and might have been entitled to the benefit for part of the year are considered ineligible. Previous earnings have been imputed from the observed amount of the received benefit by inverting the benefit rules. The difference between full-time and part-time workers is not simulated as the number of hours worked in the previous year is not observable in the data. All entitled individuals are considered to have worked full time. If the upper limit of the benefit (75% of SJR) is lower than the minimum benefit, the upper limit is enforced based on the assumption that such a situation may arise only for part-time workers for whom the minimum benefit is not properly simulated (i.e. it is oversimulated). Duration of the benefit is simulated assuming the same number of months has been worked in each year as in the current year. Duration of benefit receipt is simulated to be at least the number of months in receipt observed in the data.

2.3.11 Unemployment assistance Benefit (Allocation de solidarité spécifique ASS)

- ***Eligibility conditions***

People who have exhausted their rights to unemployment insurance, who have been in activity for at least 5 years during the last 10 years who aged under 60 and actively looking for a job are eligible for unemployment assistance.

- ***Income test***

The income taken into account for the income test is the couple's taxable income except the unemployment benefit previously earned, but including the ASS itself.



The monthly income should be under :

Monthly income	
Single	70 times the daily amount
Couple	110 times the daily amount

The computation method also depends on the same couple's income. The benefit is either a lump-sum (full rate) or calculated differentially. The thresholds for receiving the full rate are:

Monthly income	Full rate
Single	Under 40 times the daily amount
Couple	Under 80 times the daily amount

- **Benefit amount**

The daily benefit amount is :

	2009	2010	2011	2012
Daily amount	14.96	15.14	15.37	15.63

The monthly amount is obtained by multiplying the daily amount by 30.

If the couple's income is below the full rate threshold (i.e. 40 times the daily amount for a single person, 80 times for a couple), the monthly benefit is the daily amount multiplied by 30.

If the couple income is above the threshold for the full rate amount, the benefit will be

$$30 * \text{daily amount} - (\text{Couple's income} - \text{Full rate threshold})$$

- **Compatibilities**

This benefit is not compatible with unemployment benefit ARE and RSA.

- **Taxation and income testing**

Taxable and included in the income test of other benefits. Subjected to CRDS.¹

- **EUROMOD notes:**

This benefit is simulated but turned off in the baseline. There is no detailed information about contribution history in the data. The condition of 5 years worked in the last 10 is approximated by checking that the individual has worked at least 5 years throughout his entire work career. It is assumed that all potential recipients are actively looking for work. The exhaustion of contributory unemployment benefits (ARE) is checked by comparing months in unemployment with the imputed/ simulated number of months receiving ARE. The income test is simulated based on current yearly income. Due to time period mismatched, the simulated benefit does not approximate well observed receipt in the data. As such, its simulation is turned off in the baseline.

2.4 Social contributions

Discrepancies exist in regimes of social security depending on the employment status of individuals and sometimes on the sector they work in.

¹ **Simulation assumption:** ASS is taxable and at the same time its income test depends on taxes. In order to deal with this circularity, taxes (including income tax and CRDS) are calculated using the data variable and not the simulated variable. The simulated variable is calculated after taxes are computed.



There are 4 main social systems in France:

- The general regime for employees
- The regime for the self-employed (TNS) run by independent groups (RAM – CAMPI)
- The agricultural system managed by Mutuelle Sociale Agricole (MSA)
- The local Alsace Moselle plan
- Some more specific schemes (SNCF, EDF...)

The most important regime (“régime général”) covers employees against the financial consequences of different risks (illness, accident) or situations (family, old age, widowhood).

These systems are financed by contributions from both employees and employers (sometimes either one or the other) on wages and related income.

2.4.1 Employee social contributions

Employee social contributions are mainly aimed at financing the Social Security system (Sécurité Sociale). Different types of contributions are paid by employees on their whole gross income:

- Employee contributions to health insurance and widowhood
- Employee contributions to old age
- Employee contributions to unemployment insurance

The tax base depends on the income category:

The different rates depend on the employment status and on the regime. The different employee social

	Base	2009	2010	2011	2012
Sickness	Whole income	0.75%	0.75%	0.75%	0.75%
Old age	Income group A	6.65%	6.65%	6.65%	6.75%
	Whole income	0.10%	0.10%	0.10%	0.10%
Complementary pension for non white collars	Income group 1	3%	3%	3%	3%
	Income group 2	8%	8%	8%	8%
Complementary pension for white collars	Income group A	3%	3%	3%	3%
	Income group B	7.70%	7.70%	7.70%	7.70%
	Income group C	7.70%	7.70%	7.70%	7.70%
AGFF (Old age)	Income group 1/A	0.80%	0.80%	0.80%	0.80%
	Income group 2/B	0.90%	0.90%	0.90%	0.90%
Unemployment insurance	Income group A/B	2.40%	2.40%	2.40%	2.40%
White collar (APEC)	Income group B	0.02%	0.02%		
	Income group A+B			0.02%	0.02%
	Annual lump-sum (euros)	8.23	8.31	N/A	N/A
Outstanding contribution (CET)	Income group A/B/C	0.13%	0.13%	0.13%	0.13%

contributions are summarised below:



The income considered in the base column is the gross income on the payroll for all jobs, part time or full-time, occasional or not. The monthly ceilings are

- *EUROMOD notes*

The monthly different ceilings of income groups are:	2009	2010	2011	2012
Income group A	0 to 2859	0 to 2946	0 to 2946	0 to 3031
Income group B	2859 to 11436	2946 to 11784	2946 to 11784	3031 to 12124
	11436 to	11784 to	11784 to	12124 to
Income group C	22872	23568	23568	24248
Income group 1	0 to 2859	0 to 2946	0 to 2946	0 to 3031
Income group 2	2859 to 8577	2946 to 8838	2946 to 8838	3031 to 9093

There is not enough information in the dataset to identify to which specific contribution regime an individual contributes. As a result, only the ‘regime general’ is simulated for all employees. The simulation of the contributions takes into account the number of months an individual has been working during the income reference period recorded in the data but does not take into account any variation in earnings that may have occurred throughout the year. White collar workers have been approximated based on occupation (senior officials and managers and professionals).

2.4.2 Employer social contributions

Like employees, employers are liable for social contributions on medical insurance, pensions, unemployment insurance and additional contributions such as family contributions and housing.

	Base	2009	2010	2011	2012
Sickness	whole income	12.80%	12.80%	12.80%	13.1%
Family benefits	whole income	5.40%	5.40%	5.40%	5.40%
Housing	Income group A	0.10%	0.10%	0.10%	0.10%
Old age	Income group A	8.30%	8.30%	8.30%	8.40%
	whole income	1.60%	1.60%	1.60%	1.60%
	whole income	0.40%	0.40%	0.30%	0.30%
Complementary pension for non white collars	Income group 1	4.50%	4.50%	4.50%	4.50%
	Income group 2	12%	12%	12%	12.00%
Complementary pension for white collars	Income group A	4.50%	4.50%	4.50%	4.50%
	Income group B	12.60%	12.60%	12.60%	12.60%
	Income group C	12.60%	12.60%	12.60%	12.60%
AGFF (old age)	Income group A/1	1.20%	1.20%	1.20%	1.20%
	Income group 2/B	1.30%	1.30%	1.30%	1.30%
White collars contingency	Income group A	1.50%	1.50%	1.50%	1.50%
Unemployment insurance	Income group A+B	4%	4%	4%	4%
APEC (white collars unemployment)	Income group B	0.04%	0.04%		
	Income group A+B			0.04%	0.04%
	Annual lump-sum (euros)	12.35	12.46	n/a	n/a
Outstanding contribution (CET)	Income group A/B/C	0.22%	0.22%	0.22%	0.22%
Apprenticeship tax	whole income	0.68%	0.68%	0.68%	0.68%



The definitions of income groups are the same as those for employee social contributions mentioned in the previous section. Likewise, the income base refers to gross employment income.

- **EUROMOD notes**

There is not enough information in the dataset to identify to which specific contribution regime an individual contributes. As a result, only the ‘regime general’ is simulated for all employees. The simulation of the contributions takes into account the number of months an individual has been working during the income reference period recorded in the data but does not take into account any variation in earnings that may have occurred throughout the year. White collar workers have been approximated based on occupation (senior officials and managers and professionals).

2.4.3 Self-employed social contributions

For self-employment, the social contributions rates are (depending on the type of self-employment):

	Artisan		Industry and trader	Farmer
	2009	2010-2012	2009-2012	2009-2012
Family benefits	5,40%		5,40%	5,40%
Sickness	0.6% of $r < PSS$ + 5.9% of $r < 5 * PSS$, minimum payment calculated on $0.4 * PSS$		0.6% of $r < PSS$ + 5.9% of $r < 5 * PSS$, minimum payment calculated on $0.4 * PSS$	10,84%
Supplementary sickness	0.7% of $r < 5 * PSS$, minimum payment calculated on $0.4 * PSS$		0.7% of $r < 5 * PSS$, calculated on $0.4 * PSS$	
Pension	16.65% if $r < PSS$		16.65% if $r < PSS$	14.37% if $r < PSS$; 1.64% if $r > PSS$
Complementary pension	7.1% if $r < PSS$ 7.5% if $PSS < r < 4 * PSS$	7.2% if $r < PSS$ 7.6% if $PSS < r < 4 * PSS$	6.5% if $r < 3 * PSS$	3%
Professional training contribution	0.29% of PSS		0.15% of PSS	
Invalidity + death insurance	1.8% if $r < PSS$		1.3% if $r < PSS$	

Note: r =gross self-employment income

PSS is the annual Social Security ceiling (“plafond de la sécurité sociale”) :

	2009	2010	2011	2012
Annual PSS	34,308	34,620	35,352	36,372

The rates for professionals are not reported here because there are many professional categories, not subjected to the same system. We can assume that it is the same system as Industry and Trader (the



only difference is the pension and complementary pension, which is a lump sum depending on the professional class).

The base is the gross self-employment income i.e. gross profit.

- **EUROMOD notes**

The three types of self-employment have been approximated based on industry (Agriculture vs. non agriculture) and occupation (non –agricultural craft and trade workers are assumed to be artisans; the rest are assumed to be contribute to the industry & trade regime). Contributions are simulated based on the current yearly self-employment income.

2.4.4 General Social contribution (Contribution Sociale Généralisée CSG)

CSG applies to :

- Employment income
- Self-employment income
- Pension Income
- Unemployment Benefit (ARE)
- Capital income
- Sickness Benefit (only the daily allowances but not the reimbursement for medical procedures)

The tax base is gross income after a reduction of 3% for professional expenses (on Employment Income, Pension Income and Unemployment Benefit but not on Capital Income and Sickness benefits).

Benefits like ASPA or RMI (RSA) and, more generally, minimum incomes (AAH and AV), all the family benefits and housing benefits are excluded from the tax base.

The tax rate depends on the income category as follow:

	2009 & 2010		2011		2012	
	CSG	Deductible CSG	CSG	Deductible CSG	CSG	Deductible CSG
Employment income	7.50%	5.10%	7.50%	5.10%	7.50%	5.10%
Pension Income	6.60%	4.20%	6.60%	4.20%	6.60%	4.20%
Unemployment benefit	6.20%	3.80%	6.20%	3.80%	6.20%	3.80%
Sickness benefit	6.20%	3.80%	6.20%	3.80%	6.20%	3.80%
Capital Income	8.20%	5.80%	8.20%	5.80%	8.20%	5.80%

A fraction of the CSG can be removed from the tax base before income tax.

Pensioners with low incomes are exempted from CSG. The income threshold depends on the tax unit (Quotient Familial). The income here is the household net taxable income:



Annual Tax Base	2009	2010	2011	2012
1 share	9,560	9,837	9,876	10,024
Each 0.5 share	2,553	2,627	2,637	2,676

If pensioners exceed the ceiling above but income tax is less than 61 Euros, the CSG rate is decreased to 3.8% and totally deductible from income for the tax calculation. Otherwise the CSG is paid at a rate of 6.6%. If a pensioner has several types of income, only the pension incomes are exempted from CSG but the income threshold takes into account all his types of income

- **EUROMOD notes**

CSG is simulated on current yearly incomes. The full exception from CSG for pensioners with low incomes is simulated. However, entitlement to the lower CSG rate that is fully deductible for income tax purposes is not simulated.

2.4.5 Social security debt repayment contribution (CRDS)

Like CSG, CRDS is levied on different income categories:

- Employment income
- Self Employment income
- Pension income
- RSA
- Unemployment income
- Family benefits (AF, ARS, CF, PAJE)
- Capital income.
- Housing benefits
- Sickness Benefits (only the daily allowances but not the reimbursement for medical procedures)

Unlike CSG, Family benefits are subjected to CRDS . The rate applied is the same for all these categories and amounts to 0.5%. CRDS applies globally on the same basis as CSG, paid on gross income after a reduction of 3% (except for capital income and sickness benefits). The CRDS is not deductible for tax purposes.

- **EUROMOD notes**

CRDS is simulated using observed incomes (where they are not simulated in the model) and simulated benefits. The simulation is done using current yearly incomes.



2.4.6 Social contribution on capital income

Others additional social contributions apply on capital (investment & property) incomes as follows:

	2009	2010	2011	2012
Social contribution	2%	2%	3.40%	5.40%
Additional contribution	0.30%	0.30%	0.30%	0.30%
RSA contribution	1.10%	1.10%	1.10%	1.10%

These contributions are not deductible for tax purposes.

- **EUROMOD notes**

These contributions are simulated using observed investment and property income. Current yearly income is used.

2.5 Personal income tax

2.5.1 Tax unit

Personal income tax (IRPP):

The tax unit for income taxation is neither individual nor based on the household. It is known as “Foyer fiscal” which is a sub-group of the household. It consists of one taxpayer plus the persons who fiscally depend on him.

Spouses (if they are married or have signed a contract of civil partnership (PACS)) and all dependent children / persons are grouped in a same unit.

Dependent children are:

- Children under 18 (automatically)
- Children strictly under 21 (and they agree to be declared with their parents)
- Children strictly under 25 and student (and they agree to be declared with their parents)
- Disabled Children (automatically whatever their age).

Other adults can be dependent if they are disabled.

2.5.2 Exemptions

All the Family benefits, social minima (RMI, RSA) and social assistance benefits (AAH) are exempted from taxation.

The only allowance taxable is the survivor’s pension (AV) which has to be considered as pension.

As mentioned in the social contribution part, a share of the CSG can be deducted from income before taxation.

Not all the sickness benefits are taxable. These benefits are composed of cash benefits for the maintenance of an earned income called daily allowances (in case of sick leave, injury on duty leave or maternity leave) and of the reimbursement of medical, surgical or maternity procedures.



Only the daily allowances are taxable except in the case of workplace accidents and benefits paid to people with a disease with prolonged treatment and therapy particularly costly. This amount is added to the earned income.

Between 2009 and 2012, overtime payments are not subject to tax or to employee/employer contributions. Overtime is paid at a standard rate in France (25% extra for the first 8 hours after 25 hours and 50% extra for the next hours of overtime).

In 2009, there was an income tax holiday for low earners in France. Those whose incomes did not exceed the first tax band per households unit (i.e. EUR11,893 in 2012) were given relief on two thirds of their income tax bill (*les deux derniers tiers provisionnels*).

2.5.3 Tax base

To calculate the tax base called Net taxable income (“Revenu net imposable”), intermediate incomes have to be calculated.

« Revenu Brut global »

The tax base differs according to the income category.

The existing classes are:

- Earned income, pensions (with the exception of ASPA, AAH) and unemployment benefit (C1)
- Self-employment (C2)
- Capital income (C3)

For each class, the non deductible CSG is added to gross income minus the social insurance contributions (as mentioned in the previous section on social contribution).

There are deductions (“*abattement*”) for certain categories of income such as category C1 (earned income, pension and unemployment). The reduction amounts to 10% with ceiling deductions (for each earner/ pensioner/ UB recipient):

Yearly amounts		Income 2008	Income 2009	Income 2010	Income 2011
		Taxation 2009	Taxation 2010	Taxation 2011	Taxation 2012
Earned income	Minimum	413	415	421	421
	Maximum	13,893	13,948	14,157	14,157
Unemployment benefit	Minimum	906	910	924	924
	Maximum	13,893	13,948	14,157	14,157
Pension	Minimum	367	368	374	374
	Maximum	3,592	3,606	3,660	3,660

In category C3, property income (rent) can also be deducted by 30% if the annual property income < EUR15,000 annually. There are more complicated deductions for property income > EUR 15,000 annually (not simulated).

There is a deduction for private pension contributions per person which is equal to 10% of earned income from the previous years (less the deduction for professional expenses) within the following limits:



	2009	2010	2011	2012
Maximum	26624	27448	27696	29096
Minimum	3 328	3431	3462	3637

The « **Revenu Brut global** » is equal to the sum of all the income classes for all the persons of the tax unit:

SUM (

C1-deduction

+ C2

+ C3

+ Non deductible CSG and CRDS (on C1, C2 et C3))

« Revenu Net global RNG »

From the « Revenu Brut global », we obtain the “Revenu Net global” by removing certain charges (such as alimony, investments in particular sector, hospitality expenditures for people over 75, etc.)

Revenu Net global = Revenu Brut Global - Particular charges (cannot be simulated)

For alimony paid for minor children or ascendants, the deductible amount is not limited and totally deductible.

For alimony paid for adult children (who are declared with their parent), the deductible amount is capped at :

	Income 2008 Taxation 2009	Income 2009 Taxation 2010	Income 2010 Taxation 2011	Income 2011 Taxation 2012
Complementary reduction	5,729	5,753	5,698	5,817

A fixed amount can be deducted as a payment in kind for ascendants or major children living in the household (tax unit) :

Income 2008 Taxation 2009	Income 2009 Taxation 2010	Income 2010 Taxation 2011	Income 2011 Taxation 2012
3296	3309	3359	3409

Net taxable Income (“Revenu net imposable”)

Net taxable income = “Revenu Net global” – special deductions (disabled people...)



Special Deductions:

For each person 65 and over or disabled in the tax unit, the amount deduction depends on “Revenu Net Global” (RNG) threshold as follow:

2009		2010		2011		2012	
Deduction	RNG	Deduction	RNG	Deduction	RNG	Deduction	RNG
2,276	<14,010	2,312	<14,220	2,311	<14,220	2,311	<14,220
1,138	<22,590	1,156	<22,930	1,156	14,220<r<22,930	1,156	14,220<r<22,930

Family ratio:

To take into account the family size, the taxation system gives a weight to each member of the family, and adds them together to compute the Family Ratio (“Quotient Familial” QF).

Person in the tax unit	Weight
Taxpayer	1
Partner (if married)	1
First child	0.5
Second child	0.5
Each child after the second	1

Supplementary weights can be added in specific cases:

- Widow/er with at least one dependent child : +1 (from 2008 onwards)
- Each Disabled adult / Child: +0.5
- Lone parent : +0.5 (if not a widow/er)

QF is the total weight obtained for each tax unit.

Tax Base

The amount which is submitted to the tax schedule is the net taxable income divided by the QF.

Tax Base = Net Taxable Income / QF.

Capital Income:

The prélèvement forfaitaire libératoire (PFL) is a levy that a taxpayer may choose to pay instead of a progressive tax on income from its investments. Its rate does not depend on taxpayer's total income. It is determined by type of investment.

	2009	2010	2011	2012
All capital income	18%	18%	19%	
Fixed rate investment income				24%
Dividends				21%



Dividends are subject to a particular treatment if the PFL is not chosen. They are subject to a 40% deduction in addition to a fixed deduction of EUR1,525 for singles and EUR3,050 for couples before taxation. The fixed portion of the deduction was abolished in 2012.

2.5.4 Tax schedule

The tax schedule is progressive, as shown in the table below. Income brackets apply to annual income.

2009		2010	
Income bracket	Marginal Tax Rate	Income bracket	Marginal Tax Rate
0 to 5875	0%	0 to 5963	0%
5875 to 11720	5.50%	5963 to 11896	5.50%
11720 to 26030	14%	11896 to 26420	14%
26030 to 69783	30%	26420 to 70830	30%
Over 69783	40%	Over 70930	41%
2011		2012	
Income bracket	Marginal Tax Rate	Income bracket	Marginal Tax Rate
0 to 5963	0%	0 to 5963	0%
5963 to 11896	5.50%	5963 to 11893	5.50%
11896 to 26420	14%	11896 to 26420	14%
26420 to 70830	30%	26420 to 70830	30%
Over 70830	41%	70830-150,000	41%
		>150,000	45%

The tax amount obtained is then multiplied by QF to give the total tax for the tax unit.

Limit on Tax reduction due to Family Ratio (“Plafonnement du quotient familial):

There are corrections to make on the “gross tax” above. The aim is to limit the benefits of dependent children’s weight (or dependent adults).

Tax cuts for these additional weights are capped at:

	2009	2010	2011	2012
The two first 0.5 for lone parent	3,980	4,040	4,040	4,040
Each 0.5 after the second for lone parent	2,301	2,336	2,336	2,336
Each 0.5	2,301	2,336	2,336	2,336

For this, we must recalculate the tax with a new QF:

- 1 for single
- 2 for couples (married or who have signed a PACS)

and subtracting the caps from the table above:

Imax= “new tax” calculated - ceiling

The tax to pay is therefore the maximum between the “normal” tax liability and “Imax”.



Complementary reduction (reduction complémentaire):

If the tax to pay was corrected because of Limit on Tax reduction due to Family Ratio, the income tax is reduced for disabled people. The amount of tax is reduced by the following amounts for each disabled person:

	Income 2008	Income 2009	Income 2010	Income 2011
Yearly amounts	Taxation 2009	Taxation 2010	Taxation 2011	Taxation 2012
Complementary reduction	622	630	651	661

Tax rebate (“Décote”):

A (non-refundable) tax rebate is given to any tax unit whose tax to pay is under:

	Income 2008	Income 2009	Income 2010	Income 2011
	Taxation 2009	Taxation 2010	Taxation 2011	Taxation 2012
Tax rebate	862	866	878	878

This rebate is the difference between this amount divided by 2 and the tax to pay divided by 2.

After all of this, we obtain the gross tax to pay.

2.5.5 Tax credits

The final tax payable is the gross tax minus:

- Tax reductions
- Tax credits
- Employment Bonus (Prime pour l’emploi PPE)

Tax reductions:

Reductions are allowed for charitable spending, school fees for dependent children, specific investments.

There is also a reduction for families who have children at school. This deduction has not changed between 2009 and 2012:

- 61 EUR per child in junior highschool (11-14)
- 153 EUR per child in upper highschool (15-18)
- 183 EUR per child in third level education

Tax credits:

The main tax credits are:

- Tax credits allowed for green investments (purchase of a clean vehicle, solar panels, etc.).



- Tax credit for interest paid on the loan for the acquisition of housing. Since May 2007, people who bought their principal residence can deduct approximately 40% of the interest on their mortgage for 5 years.
- Tax credit for childcare fees. Households employing people for the custody of their child can deduct 50% of the amount paid up to a ceiling of EUR 2300 per child per year.
- Tax credit for home service employment (tutoring, homemaker...)
- PPE

The PPE is an individual tax credit established in order to encourage the return to employment and improve earnings from working.

The amount depends on:

- The earned income (employee and self-employment)
- The tax unit income
- The number of hours worked

To be eligible for the PPE, the household “Revenu Brut Global”, must be under:

PPE	Income 2008	Income 2009	Income 2010	Income 2011
Yearly amounts	Taxation 2009	Taxation 2010	Taxation 2011	Taxation 2012
Single person	16,251	16,251	16,251	16,251
Couple	32,498	32,498	32,498	32,498
Increase for each dependent child	4,490	4,490	4,490	4,490

The PPE is also based on the individual earned income, corresponding to employment income and self-employment income.

For part-time workers, this earned income is converted to full-time equivalent.

The conversion coefficient is defined as: 1820/ yearly number of hours worked for employees or 365/yearly number of days worked for self-employees.

We obtain the earned income full-time equivalent as earned income * conversion coefficient.

To be compared, the self-employment income is multiplied by 1.1111.

The individual earned income threshold is:

Individual earned income threshold	Income 2008	Income 2009	Income 2010	Income 2011
Yearly amounts	Taxation 2009	Taxation 2010	Taxation 2011	Taxation 2012
Minimum income	3,743	3,743	3,743	3,743
Single person/couple with two earned revenues	17,451	17,451	17,451	17,451
Couple with one earned revenue/lone parent	26,572	26,572	26,572	26,572

Note that to be considered as in activity, the earned income has to be higher than the minimum income above.



The PPE is measured by the following formulas, where R is revenue in full-time equivalent:

Single or couple with two revenues	$M \leq R \leq P0$	$R * 7.7\%$	ME*number of dependent children
	$P0 < R \leq P1$	$(P1 - R) * 19.3\%$	ME*number of dependent children
Couple with one revenue	$M \leq R \leq P0$	$R * 7.7\% + MF$	ME*number of dependent children
	$P0 < R \leq P1$	$(P1 - R) * 19.3\% + MF$	ME*number of dependent children
	$P1 < R \leq P2$	MF	ME
	$P2 < R \leq P3$	$(P3 - R) * 5.1\%$	ME
Lone parent	$M \leq R \leq P0$	$R * 7.7\%$	ML*first dependent child + ME*number of children after first
	$P0 < R \leq P1$	$(P1 - R) * 19.3\%$	ML*first dependent child + ME*number of children after first
	$P1 < R \leq P3$	0	ME

With:

Parameters	Income 2008	Income 2009	Income 2010	Income 2011
	Taxation 2009	Taxation 2010	Taxation 2011	Taxation 2012
M	3,743	3,743	3,743	3,743
P0	12,475	12,475	12,475	12,475
P1	17,451	17,451	17,451	17,451
P2	24,950	24,950	24,950	24,950
P3	26,572	26,572	26,572	26,572
ML	36	36	36	36
MF	83	83	83	83
ME	72	72	72	72

We obtain here the individual **PPE in full-time equivalent**.

To compute the final individual PPE for part-time workers, the PPE in full-time equivalent is divided by the conversion coefficient.

There are two cases for part-time workers:

- If the conversion coefficient is higher than 2, the PPE is increased by 85% :

*Individual PPE = the PPE in full-time equivalent / conversion coefficient *1.85*

- If the conversion coefficient between 1 and 2, the PPE is computed as:

*Individual PPE = the PPE in full-time equivalent / conversion coefficient *0.15*

*+the PPE in full-time equivalent*0.85*

The household PPE is the sum of all the individual PPE increased by the amounts allowed as mentioned in the previous table. The PPE is not payable below 30 Euros.

The income tax may be negative because of various tax credits. Indeed, if the amount of tax credits is greater than the amount of tax due, the difference is refunded to the taxpayer from EUR8.

Tax is not payable if less than 61 Euros.



Cap on Direct Taxes (Bouclier Fiscal) :

This "tax shield" is a device to cap direct taxes. Since 2007, direct taxes paid by a taxpayer may not exceed 50 % of its revenues. The tax is reduced sequentially on the ISF (wealth tax), the taxes d'habitation & foncière (housing taxes) and CSG.

The 50% relates to:

- Income tax
- ISF
- Housing Tax
- Land tax payable for principal residence
- Employee contributions including CSG and CRDS

This tax cap was abolished in July 2011.

• *EUROMOD notes*

All children under 21 and all students under 25 co-residing with their parents are assumed to be declared on their parents' tax return. No account can be taken of children under 21 /students under 25 who are not co-residing with their parents, as they are not observed in the data. All alimonies paid are assumed to be paid for underage children and thus, they are considered to be fully deductible from the tax base. All children aged 18 and above and dependent adults are assumed to entitle the taxpayer to the specific allowance that may be claimed on their behalf. Disability is based on observed status in the data (pl030=6). In the case of capital income, an optimization is simulated. Both flat rate taxation and inclusion into total income subject to progressive taxation are simulated and the option which yields the lower tax liability is chosen. No information exists on the source of investment income. Consequently, the tax deduction for dividends when not applying the PFL regime is simulated for all types of investment income.

The following tax credits have been simulated- tax credit for child care fees, tax credit for mortgage interest expenditure, tax credit for children of school age and the refundable employment credit (PPE). Tax credits for child care expenses are simulated for all families where both parents are in work and there is a child younger than 6. The maximum yearly deduction is simulated in all cases. The tax credit on mortgage interest expenditure is approximated based on the age of the head. Households paying mortgage interests with a head under 45 are assumed to be eligible for this credit.

The employment bonus (PPE) is simulated based on current rather than previous year's income. If an individual has both employment and self-employment income, the conversion factor is calculated by summing the partial income source specific factors. In calculating the conversion coefficient, account is taken only on the number of months worked and not on the number of hours. Persons who are married but whose partner is missing from the data are considered to be part of a two earner couple.

The cap on direct taxes is not simulated due to absence of information on the tax liability under the wealth tax (ISF).

3. DATA

3.1 General description

The French database corresponds to the French part of the European Union Statistics on Income and Living Conditions (EU-SILC) provided by Eurostat. This is a rotating panel survey (9 rotational groups), representative of the French population in private households (all persons aged 16 and over



within the household are eligible), excluding French Overseas Departments and territories (DOM). The French survey used to build the French EU-SILC is conducted by INSEE and is named Statistiques sur les ressources et les conditions de vie (SRCV).

The reference population is estimated from the 1999 population census and the dwellings built since then. Around 12,000 households are surveyed each year, of which approximately 10,000 have been surveyed the previous year. The sample is stratified to be representative of the French population at the national level. Data collection is annual. The survey is conducted over a period of six weeks in May and June. The unit of assessment is the sociological household, defined as persons living at the same dwelling.

Since 2008, statistical matching is performed with tax sources and the amount of (taxable) income and social benefits actually received by the households over the reference year is collected directly from the public finance body, the DGFIP and the three main Benefit funds in France: the national family allowances fund (CNAF), the national old-age insurance fund (CNAV) and the central agricultural social insurance fund (CCMSA).

For more information on technical issues:

<http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-dispositif-srcv.htm>



EUROMOD database description

EUROMOD database	FR_2010_a1
Original name	EU-SILC 2010
Provider	Eurostat
Year of collection	2010
Period of collection	May to June 2010
Income reference period	Year 2009
Sampling	Three stage random sampling
Unit of assessment	HH[1]
Coverage	Private households[2]
Sample size	26,387 IND 11,042 HH

Notes:

[1] One person living alone or a group of people living at the same apartment (address) and sharing expenditures (housekeeping concept). If more than one household was found in a dwelling unit, all hh in selected dwellings were included as eligible for the survey (2% of households in EU-SILC are concerned).

[2] Households living at private residential addresses excluding French Overseas Departments and territories.

- The French database is a sample of household created by three stage random sampling.
- Sampling unit was the dwelling, i.e. all persons with usual residence in that dwelling (their only place of residence or their main place of residence) were included in the survey. This includes also foreign nationals and sub-tenants living in the selected dwelling.

Number of household members at the date of the interview, including persons temporarily away if the period of actual or foreseen absence is shorter than 6 months and the person has no other private address. For persons studying away from home, the period of absence may be longer than 6 months, provided that the person has no private address and retains financial ties to other household members.

3.2 Sample quality and weights

3.2.1 Non-response

The total household response rate was 81.5% (respectively 71%, 91% and 85% for new households, households with compulsory further interviews and households with non-compulsory further interviews, respectively). Participation in this survey is obligatory for four consecutive years.

3.2.2 Weights

The dataset uses a few types of cross-sectional survey weights, such as (UDB description):

- the household cross-sectional weights (variable DB090) – these weight have been calibrated with the target population of private households and corrected for household non-response.
- the personal cross-sectional weights for all household members of all ages (variable RB050) is used to draw inference on individual basic demographic variables for the population of all individuals living in private households. Because all the current members of any selected household are surveyed, the personal weights RB050 are equal to the corresponding household cross-sectional weight DB090.
- the personal cross-sectional weights for all household members aged 16 and over (target variable PB040) is used to draw inference on the variables included in the personal questionnaire. These weights had to be corrected for individual non-response.



Table 1. Descriptive Statistics of the Grossing-up weight

Number	23387
Mean	3015
Maximum	29292
Minimum	304
Max/Min	96.38

French EU-SILC sample statistics project to a reference population of 60,579,788 individuals.

3.2.3 Item non-response and under-reporting

Item non-response is treated by means of a re-weighting procedure for the first period and by re-interrogation for the following periods in the original SRCV data.

The following variables are used to compute the new weight: age, population density home, household type, number of men and women by age category, reference person's education, profession of reference person.

The mean annual gross employment income in France in 2010 was 33,509 EUR according to OECD statistics. The EU-SILC estimate of employee cash or near cash gross monthly (weighted) income is 23,339 EUR. This indicates a large discrepancy although these income definitions may not be strictly comparable. The OECD definition divides the total wage bill from the national accounts by the number of employees in the total economy and multiplies by the ratio of average usual weekly hours worked for full-time dependent employees in their main job to average usual weekly hours worked for all dependent employees in their main job. Performing a comparable calculation in EU-SILC, we have an average gross income of 22,757, multiplied by 42/35 (the average full-time hours divided by the average hours from EU-SILC), to give a figure of 27,302 which is more comparable with the official data.

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 young children are not living alone or family relations are coherent).

In order to guarantee consistency between demographic variables and income variables which refer to the previous year (and on which EUROMOD simulation are based), all children born between the end of the income reference period and the data of interview have been dropped from the sample (132 observations deleted).

3.4 Imputations and assumptions

3.4.1 Time period

The EU-SILC information on demographic variables refers to the time of data collection (May-June, 2010).

However, some information also indicates the status quo at the end of the income reference period (2009). For example, there are two age variables: one of them indicating age at the time of the survey implementation and one at the end of 2009. A similar situation is observed for some socio-economic and labour variables.

For example, variable rb210 (basic activity status) refers to the data collection time, while variable pl070 indicates number of month in full time work during the income reference period (the calendar year of 2009). If possible, the corresponding demographic, labour and socio-economic information in the EUROMOD dataset was based on the EU-SILC variables referring to the income reference period.

The EU-SILC UDB information on incomes refers to the calendar year of 2009, based on a 12-month receipt period. All monetary incomes in the EUROMOD database are converted into monthly terms. In



the EUROMOD calculations it is implicitly assumed that income is received at the same rate throughout the year.

3.4.2 Gross incomes

The EU-SILC survey contains information on both gross and net monetary incomes, if applicable. The survey also contains flag variables, which indicate if the observation has been collected either in gross or net form. In most of cases, the incomes are collected in net terms (excepted for work income which is collected net of CSG and non-deductible CRDS). The gross incomes were recalculated by INSEE by adding the social contributions CSG, CRDS and employee social contributions (if applicable for work income). These contributions are estimated using inversion of the tax rules. More information in the Country Quality Report:

[http://circa.europa.eu/Public/irc/dsis/eusilc/library?!=/quality_assessment/quality_reports/fr/2007_intermediate/ EN 1.0 &a=d](http://circa.europa.eu/Public/irc/dsis/eusilc/library?!=/quality_assessment/quality_reports/fr/2007_intermediate/EN_1.0_&a=d)

3.4.3 Other imputed variables

A number of variables necessary for the simulation of tax-benefit system in France are not available in the EU-SILC UDB and, as such, have been fully imputed in the EUROMOD dataset. A list of these variables and the way they have been derived follows:

- 1) The unemployment benefit in the UDB has been disaggregated into a contributory unemployment benefit (corresponding to ARE) and a means-tested unemployment benefit (corresponding to ASS). The disaggregation has been performed based on benefit rules and average daily benefit amounts derived from the National SILC (SRCV)
- 2) The aggregate family benefits variable existing in the UDB has been split into several components. The universal child benefit (AF) has been separated from the aggregate variable based on benefit rules. Similarly, means-tested child benefits (CF, ARS, PAJE) have been disaggregated based on benefit rules and based on the relationship between gross incomes and net taxable incomes derived from SRCV. Residual amounts have been included in a separate variable-other child benefits.
- 3) Means-tested disability benefits (AAH) have been separated from contributory disability pensions based on the observed amounts of the aggregate variable and policy rules.
- 4) Means-tested survivor minimum pension (AV) has been separated from contributory survivor benefits by applying benefit rules.
- 5) Social exclusion benefits have been split into the main social assistance benefit (RSA) and the rest by simulating benefit rules. Any residual amounts are saved in a separate variable-other social assistance benefits.
- 6) Old-age pensions have been split into contributory pensions and a means-tested benefit for the elderly (ASPA). The splitting has been done based on benefit eligibility rules relating to age and income as well as on the observed amount in the dataset.
- 7) Employment income during the previous year –for individuals receiving unemployment insurance benefits- has been imputed by inverting benefit rules.
- 8) The geographical zone variable used in the calculation of the housing benefit (AL) has been imputed based in the region (NUTS 2 level db040) and urbanization (DB100).
- 9) The housing benefit in SILC has been disaggregated in two variables-benefits received by tenants and benefits received by the rest based on tenure status.
- 10) Employment income has been split into pay on account of ‘regular hours’ and overtime pay. The split has been based on the current number of hours paid reported in SILC. ‘Regular hours’ are assumed to be 35 hours per week for every employee (i.e. including part-time). An



average hourly pay has been calculated based in yearly employment pay, number of months spent in employment and hours worked per week. The disaggregation takes into account the statutory rules on overtime pay (i.e. extra 25% pay for the first 8 hours per week and 50% 4extra thereafter). Overtime pay is assumed to be zero for employees working less than 35 hours per week and for employees observed to be working less than 12 months in the income reference period (the information on number of hours worked is considered too unreliable to perform the split for the latter category).

3.5 Updating

EUROMOD currently permits the simulation of 5 policy years, i.e. 2006-2012. Currently, all the simulations are done using two datasets, namely FR-SILC 2007 and FR-SILC 2010, which contain 2006 and 2009 incomes. Thus the data year and policy years are aligned only in 2006 and 2009. To correct for the time inconsistency between data and the other policy years, a set of updating factors is used. These factors typically correct for changes in the average incomes between the data year and the policy year. Separate factors are used for most income components. Where a factor for a particular type of income could not be computed, the average change in the harmonized consumer price index (provided by EUROSTAT) was used. No attempt has been made to correct for demographic and other population changes between the data year and the policy year. For updating factors for pertaining for the 2007 dataset, please see the 2006-2010 Country Report. The updating factors for the 2010 dataset are listed below.

Income component	2009/2010	2009/2011	2009/2012	Source
default	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Employment income(yem)	1.0256	1.0493	1.0699	OECD/ Labour / Earnings / - Average Annual Wages : Current prices in NCU http://stats.oecd.org/Index.aspx?lang=en
Self-employment income (yse)	1.0256	1.0493	1.0699	OECD/ Labour / Earnings / - Average Annual Wages : Current prices in NCU http://stats.oecd.org/Index.aspx?lang=en
Investment income (yiy)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012)



				(prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Property income (ypr)	1.0080	1.0265	1.0436	Source: INSEE: Indicateurs de conjoncture/ Indice de référence des loyers http://www.insee.fr/fr/themes/info-rapide.asp?id=35&date=20110114 http://www.insee.fr/fr/indicateurs/ind35/archives/Irl_2009.pdf ***Based on the first 6 months of 2012***
Private pensions (ypp)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Income received by children under 16 (yot)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Household transfers received (ypt)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Educational allowances (bed)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Imputed previous wage (yivwg)	1.0310	1.0351	1.0587	Eurostat / Labour market / Labour costs - Labour cost index - Annual data - UNIT: PCH_PRE - Percentage change on previous period http://epp.eurostat.ec.europa.eu/portal/page/portal



/labour_market/labour_costs/database

Old-age pensions (poa)	1.0191	1.0424	1.0629	Source: INSEE / Revenus et Salaires / Retraites; - Montants des pensions moyennes brutes : Average Gross Pension; http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF04571
Contributory unemployment benefit (bunct)	1.0091	1.0304	1.0507	DARES / Pole Emploi DARES / Pole Emploi
Means-tested unemployment benefit (bunmt)	1.0091	1.0304	1.0507	OECD/ Labour / Earnings / - Average Annual Wages : Current prices in NCU http://stats.oecd.org/Index.aspx?lang=en
Universal child benefit (bch00)	1.0000	1.0150	1.0201	Based on the change in the PAJE/AF monthly amount
Means-tested benefit for young children (bchyc)	1.0000	1.0150	1.0201	Based on the change in the PAJE/AF monthly amount
Means-tested education benefit (bched)	1.0000	1.0100	1.0201	based on the change in the max ARS for 6-10 year olds
Means-tested benefit for large families (bchlg)	1.0000	1.0150	1.0201	Based on the change in the CF monthly amount
Other child benefits (bchot)	1.0000	1.0150	1.0201	Based on the change in the PAJE/AF monthly amount



Rent expenditures (xhcrt)	1.0080	1.0265	1.0436	Source: INSEE: Indicateurs de conjoncture/ Indice de référence des loyers http://www.insee.fr/fr/themes/info-rapide.asp?id=35&date=20110114 http://www.insee.fr/fr/indicateurs/ind35/archives/Irl_2009.pdf ***Based on the first 6 months of 2012***
Mortgage interest expenses (xhcmomi)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Household disposable income (yds)	1.0049	1.0278	1.0481	Source: INSEE: Revenus-Niveau de vie-Patrimoine-Revenu disponible par ménage: http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATSOS04202
Tax on properties (tpr)	1.0552	1.1034	1.1252	Change in "taxe d'habitation" receipts. http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF08328
Minimum guaranteed income (bsa00)	1.0120	1.0274	1.0448	Source: Based on the change in the maximum amount for a single person
Other means-tested benefits (bsaot)	1.0120	1.0274	1.0448	Source: Based on the change in the maximum amount for a single person
Means tested disability benefit (bdi)	1.0000	1.0445	1.1149	Based on maximum amount of AAH
Means-tested survivor benefit (bsuwd)	1.0090	1.0090	1.0518	Based on monthly amount of AV
Sickness benefit (bhl)	1.0172	1.0431	1.0673	Based on change in average annual earnings (2008 base); Source: OECD/ Labour / Earnings / - Average Annual Wages : Current prices in NCU http://stats.oecd.org/Index.aspx?QueryId=25148
Survivor pensions (psu)	1.0191	1.0424	1.0629	Source: INSEE / Revenus et Salaires / Retraites; - Montants des pensions moyennes brutes : Average Gross Pension; http://www.insee.fr/fr/themes/tableau.asp?reg_id



=0&ref_id=NATTEF04571

Disability pensions (pdi00)	1.0191	1.0424	1.0629	Source: INSEE / Revenus et Salaires / Retraites; - Montants des pensions moyennes brutes : Average Gross Pension; http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF04571
Housing benefits for tenants (bhotn)	1.0032	1.0142	1.0244	Source: Based on change in the base rent for single person
Other housing benefits (bhoot)	1.0032	1.0142	1.0244	Source: Based on change in the base rent for single person
Maintenance payments (xmp)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
In-kind fringe benefits (kfb)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Imputed rent (kivho)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Financial capital (afc)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database



Contributions to private pension plans (xpp)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Tax adjustments (tad)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Taxes and social insurance contributions (tis)	1.0174	1.0407	1.0612	Eurostat / Harmonized Indices of Consumer Prices (HICP) - HICP (2005=100) - Monthly data (based on monthly average for first 6 months of 2012) (prc_hicp_midx) http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
Previous employment income (yempv)	1.0172	1.0431	1.0673	Based on change in average annual earnings (2008 base); Source: OECD/ Labour / Earnings / - Average Annual Wages : Current prices in NCU http://stats.oecd.org/Index.aspx?QueryId=25148
Means-tested old-age benefit (bsaoa)	1.0470	1.0962	1.1477	Increase in benefit for a single person

4. VALIDATION

4.1 Aggregate Validation

The definition of disposable income used in EUROMOD differs slightly from the concept of disposable income calculated in SILC. More specifically, in EUROMOD we add income from private pension plans and since all taxes and benefits are calculated ‘exactly’ via simulation we disregard tax adjustment repayments. We also do not add the value of the company car to the final household disposable income.



Table 4.1 Definitions of disposable income in EU-SILC and EUROMOD

	EUROMOD [2011/2012] ils_dispy	EU-SILC [2010] HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	0
Contributions to individual private pension plans	0	0
Cash benefits or losses from self-employment	+	+
Pension from individual private plans	+	0
<i>Unemployment benefits</i>	+	+
<i>Old-age benefits</i>	+	+
<i>Survivor' benefits</i>	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
<i>Family/children related allowances</i>	+	+
Social exclusion not elsewhere classified	+	+
Housing allowances	+	+
Regular inter-household cash transfer received	+	+
Interests, dividends, etc.	+	+
Income received by people aged under 16	+	+
Regular taxes on wealth	-	-
<i>Regular inter-household cash transfer paid</i>	-	-
<i>Tax on income and social contributions</i>	-	-
<i>Repayments/receipts for tax adjustment</i>	0	+
<i>Company car</i>	0	+

Notes: a value of 0 is used to denote that the respective income concept does not enter the calculation of household disposable income;

4.1.1 Validation of incomes inputted into the simulation

A comparison of the number of employed and unemployed derived from the underlying EUROMOD microdata compared to an external benchmark is presented in Table 4.2. The match is reasonably good during 2009, the year of the data, and remains so in the following years, with unemployment figures actually improving in 2012. No adjustments are made in EUROMOD to population characteristics other than income and so employment and unemployment changes taking place after 2009 are not reflected in EUROMOD data.



Table 4.2 Number of employed & unemployed (in thousands)

	Input dataset (I)	External dataset (II)				Ratio (I/II)			
	2009	2009	2010	2011	2012	2009	2010	2011	2012
Number of employed	24,644	25,652	25,692	25,764	25,615	0.96	0.96	0.96	0.96
Number of registered unemployed	3,091	2,746	2,828	2,806	2,934	1.13	1.09	1.10	1.05

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

Sources: EUROMOD 7.0+; external statistics- LFS, Eurostat Database, http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

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

	Input database (I)	External Source (III)				Ratio (I/III)			
	2009	2009	2010	2011	2012	2009	2010	2011	2012
Original income									
Employment income	28,573	24,031	23,886			1.19	1.20		
Self-employment income	2,491	2,390	2,379			1.04	1.05		

Notes: In EUROMOD-number of employees and self-employed are computed as total number of individual who have received any employment /respectively self-employment over the year; the external statistics represent the number of individuals in employment/self-employment on the 31st of December of the corresponding year.

Sources: EUROMOD 7.0+ and INSEE-Emploi salarié et non salarié au 31 décembre

http://www.insee.fr/fr/themes/tableau.asp?ref_id=natnon03146

Table 4.3 displays the number of recipients of employment and self-employment income both in EUROMOD and in external administrative data. Note that the concepts used in EUROMOD and in external statistics are slightly different. In EUROMOD, the number of employees/ self-employed is computed as the sum of all individuals who receive some employment/ self-employment income over the year. Instead, the external data refer to the numbers recorded at a given point in time, i.e. on the 31st of December of the corresponding year. As such, one should expect slightly higher figures in EUROMOD compared to administrative statistics. Indeed, this is the case with employment income. The number of recipients is recorded to be approximately 20% higher for employment income and 5% higher for self-employment income in EUROMOD than the external benchmark.

Table 4.4 repeats the same comparisons, but using amounts instead of number of recipients. Input in this table refers to what we observe in EU-SILC, while uprated input refers to the post-simulation number, uprated to control for inflation where necessary. Average gross employment income in EUROMOD is about a third lower compared to the external benchmark. One possible explanation is the fact that the external data refers to average wages computed on a full-time basis whereas EUROMOD uses all employees (both part-time and full-time as well as persons with partial spells of non-employment) to determine the average. Nonetheless, not only average employment income but also total employment income is underestimated in SILC compared to external statistics, suggesting, possibly, the inability of SILC to capture high income earners. Total self-employment income in SILC is underestimated compared to the external figure as is investment income.



Table 4.4: Market Income-Aggregate amounts (in million Euros)

	Input (I)				External (II)				Ratio (I/II)			
	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012
Original income												
Employment income -Average gross yearly earnings*	22758	23339	23879	23879	32674	33509	34284	34965	0.70	0.70	0.70	0.70
Average net earnings (not in FTE)	17568	n/a	n/a	n/a	19270	n/a	n/a	n/a	0.91		n/a	n/a
Employment income –total	650262	666880	682304	682304	749732	767381	790300	n/a	0.87	0.87	0.87	0.87
Self-employment income-total	60086	61621	63046	63046	115934	118300	121100	n/a	0.52	0.52	0.52	0.52
Investment income-total (Income from capital)	106540	108393	110874	113058	124208	123100	127700	n/a	0.86	0.86	0.86	n/a

Notes: Average employment income is calculated on a yearly basis ; Average employment income in EUROMOD is calculated using all employees, irrespective of the number of months/ or hours worked during the year ; average employment income in external sources is calculated on a full-time basis. n/a- not available
 Net income in external sources is not calculated on a FTE basis (Insee: Fiches thematiques, Qualite des emplois)

Sources: Insee fiches thematiques Revenus, EUROMOD 7.0+



Table 4.5 Non-simulated taxes and benefits-Number of recipients/payers (in thousands)

	Input database		External Source (III)			Ratio (I/III)				
	2009	2009	2010	2011	2012	2009	2010	2011	2012	
Pensions										
Contributory old-age pensions	14,703	14,740	15,080	n/a	n/a	0.997	0.975	n/a	n/a	

Sources: EUROMOD 7.0+; INSEE, statistics on incomes and wages, http://www.insee.fr/fr/themes/document.asp?ref_id=T13F056

Table 4.6 Non-simulated taxes and benefits-Aggregate amounts (in million Euros)

	Input (I)		Uprated input (I)		External source (III)				Ratio(I/III)			
	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012
Pensions												
Contributory old-age pensions	260,941	265,919	271,557	276,905	211,137	220,128	n/a	n/a	1.24	1.21	n/a	n/a
Disability pensions/benefits	5,840	5,951	6,077	6,197	8,795	8,918	n/a	n/a	0.66	0.67	n/a	n/a
Survivor pensions/benefits	1,691	1,724	1,760	1,795	37,969	37,148	n/a	n/a	0.04	0.05	n/a	n/a
Benefits												
Sickness benefit & Injury benefit	6,539	6,652	6,822	6,979	10,783	11,560	n/a	n/a	0.61	0.58	n/a	n/a
Other child benefits (regional benefits?)	8,455	8,455	8,582	8,625	6,257	6,437	n/a	n/a	1.35	1.31	n/a	n/a
Taxes												
Property taxes	1,376	1,452	1,519	1,519	1,873	1,933	n/a	n/a	0.73	0.75	n/a	n/a

Notes: Other child benefits are a residual variable after simulated child benefits have been separated from the harmonized SILC variable; they include less widespread benefits as parental education allowance, allowances for specialised education, adoption allowances etc. external data refer to regional child benefits; property taxes in external data refer to the 'Taxe Foncière'.

Sources: EUROMOD 7.0+; INSEE, statistics on incomes and wages, <http://www.insee.fr/en/themes/theme.asp?theme=4&nivgeo=0&type=2>, DGFIP, Statistics on regional taxes, http://www.impots.gouv.fr/portal/dgi/public/statistiques.donnees_detaillees?espId=-4&pageId=stat_donnees_synthetiques&sfid=4502



Not all benefits and taxes are simulated in EUROMOD. Instead, when enough information to carry out a credible simulation is lacking, these income components are taken directly from the underlying micro-data.

Table 4.5 compares the number of recipients of non-simulated benefits in SILC to external administrative information. Unfortunately, only the total number of pension recipients could be retrieved from administrative statistics. It is clear from the figures presented in the table that SILC approximates the existing number of pensioners very well, until 2010 at least (after which point, external figures are unavailable).

Table 4.6 displays information on the amounts of non-simulated policy instruments, both in EUROMOD and in national administrative data. Whereas old-age pensions are slightly overestimated in EUROMOD, disability and survivor pensions are clearly well underestimated. This pattern is probably explained by SILC aggregating all benefits received by people over 65, irrespective of their nature, into old-age pensions. Thus, disabled people and widows over 65 receiving disability and survivor benefits respectively appear to be receiving old-age pensions in EUROMOD. In later years, the overestimation of old-age pensions in EUROMOD drops. Arguably this is because EUROMOD does not take into account increases in the number of pensioners.

Sickness benefits are also strongly underestimated in EUROMOD. It is not entirely clear what the reason is. The underestimation closely resembles that of employment income. Finally, non-simulated child benefits appear to be overestimated in EUROMOD. However, note that the EUROMOD variable contains more benefits than the external benchmarks (related to child disability, adoption, parental care etc.). It has not been possible to reconstitute exactly the EUROMOD variable using external administrative data.

The total amount of property taxes paid is underestimated in EUROMOD compared to administrative statistics by around 25ppt. It is possible that the SILC variable does not capture both the land tax and the housing tax accurately or under-samples people who are liable for both.

4.1.2 Validation of outputted (simulated) incomes

Numbers of recipients / payers of simulated taxes and benefits are shown in Table 4.7. Figures in the table indicate that beneficiaries of the family allowance, the back to school allowance, the family complement, the young children allowance, the baby bonus, the housing allowance and the number of people eligible for income tax and the working tax credit are well simulated.

The number of people eligible for the allowance for handicapped adults is undersimulated as is the number of people eligible for the elderly minimum income. In all likelihood, the disability status variable in Euromod fails to capture a large share of individuals entitled to disability benefits. For the minimum income for the elderly, eligibility is conditioned by observed receipt in the data, *in addition* to all applicable eligibility conditions. This substantially reduces the number of simulated eligible individuals. Note also that there is an interaction between ASPA and the RSA. More specifically, some individuals who in practice are entitled to ASPA but whose entitlement is not simulated, will be perceived to be entitled to receive the RSA. Thus, the underestimation of benefit recipients in the case of ASPA will lead to an overestimation of beneficiaries of the RSA.

Even when simulating random non-take-up, the number of recipients of the RSA is overestimated and this is entirely due to oversimulation of the number of people entitled to the



in-work benefit component of the RSA, the RSA activite. A potential explanation relates to the fact that net earnings in the input data are lower than external statistics suggest by about 10% (see Table 4.4). Additionally, as SILC only has information about annual incomes, it is not possible to split correctly between the RSA socle and RSA activite. Those who work for a part of the year and receive the RSA socle for the rest of the year cannot be distinguished from those who work at low pay for the entire year and are entitled to the RSA activite. Furthermore, households entitled to small amounts are less likely to claim and this is not taken into account in the take-up simulation.

Finally, the number of recipients of the contributory unemployment benefit in EUROMOD is simulated to be almost twice that reported in external administrative statistics. This is entirely due to observed receipt in SILC (eligibility in EUROMOD is so constructed as to reproduce observed receipt in the data). This can clearly be seen by the fact that simulated numbers and those derived from the original data are indeed very close. Since, in SILC, the contributory unemployment benefit is aggregated together with the means-tested one, it is possible that errors stemming from the disaggregation process are responsible for the overestimation.



Table 4.7 Simulated taxes and benefits-Number of recipients (in thousands)

	Input database (I)				Original data (II)	Ratio (I/II)	External source (III)				Ratio (I/III)			
	2009	2010	2011	2012			2009	2009	2010	2011	2012	2009	2010	2011
Benefits														
AF	4,399	4,399	4,397	4,397	4,292	1.03	4,413	4,438	4,461	n/a	1.00	0.99	0.99	n/a
ARS	2,351	2,363	2,302	2,319	2,217	1.06	2,694	2,693	2,661	n/a	0.87	0.88	0.87	n/a
CF	798	798	792	790	827	0.97	789	789	786	n/a	1.01	1.01	1.01	n/a
PAJE	1,790	1,793	1,763	1,753	1,820	0.98	1,795	1,810	1,800	n/a	1.00	0.99	0.98	n/a
PN	626	626	609	602	n/a	0.00	620	607	604	n/a	1.01	1.03	1.01	n/a
CLCA	1,498	1,498	1,496	1,496	n/a	0.00	548	532	n/a	n/a	2.73	2.82	n/a	n/a
AAH	364	364	364	369	1,132	0.32	822	853	893	n/a	0.44	0.43	0.41	n/a
AL	4,763	4,662	4,578	4,552	n/a	n/a	5,870	5,840	5,923	n/a	0.81	0.80	0.77	n/a
RSA	2,246	2,231	2,172	2,161	1,878	1.20	1,697	1,798	1,835	n/a	1.32	1.24	1.18	n/a
<i>socle</i>	681	686	664	659	n/a	0.00	1,293	1,352	1,390	n/a	0.53	0.51	0.48	n/a
<i>active</i>	1,564	1,546	1,508	1,502	n/a	0.00	404	446	445	n/a	3.87	3.47	3.39	n/a
ASPA	159	159	159	159	198	0.80	517	511	n/a	n/a	0.31	0.31	n/a	n/a
ARE	3,772	3,772	3,772	3,772	3,865	0.98	2,107	2,101	n/a	n/a	1.79	1.80	n/a	n/a
Taxes														
PPE	7,380	6,923	6,545	6,211	n/a	0.00	n/a	7,200	n/a	n/a	n/a	0.96	n/a	n/a
IRPP	17,699	17,935	18,392	18,799	n/a	0.00	19,449	19,596	n/a	n/a	0.91	0.92	n/a	n/a

Notes: N/A information not available; - not applicable

Sources: EUROMOD 7.0+; INSEE, statistics on wages and income- social protection and welfare- http://www.insee.fr/en/themes/theme.asp?theme=4&sous_theme=6&nivgeo=0&type=2; DGFIP, Statistics on national taxes- statistics on the income tax- http://www.impots.gouv.fr/portal/dgi/public/statistiques.impot?espId=-4&pageId=stat_donnees_detaillees&sfid=4503



Table 4.8 Simulated taxes and benefits- Aggregate amounts

	Input database (I)				Original data (II)		External source (III)				Ratio (I/III)			
	2009	2010	2011	2012	2009	2009	2009	2010	2011	2012	2009	2010	2011	2012
Benefits														
AF	11,443	11,443	11,820	12,235	10,888	1	12,535	12,354	11,385	n/a	0.91	0.93	1.04	n/a
ARS	1,195	1,200	1,180	1,183	n/a	n/a	1,495	1,510	1,345	n/a	0.80	0.79	0.88	n/a
CF	1,553	1,553	1,563	1,568	n/a	n/a	1,512	1,517	1,536	n/a	1.03	1.02	1.02	n/a
PAJE	3,842	3,849	3,840	3,858	3,840	1	3,930	3,944	3,998	n/a	0.98	0.98	0.96	n/a
PN	560	560	552	552	n/a	n/a	611	615	611	n/a	0.92	0.91	0.90	n/a
CLCA	6,942	6,942	7,040	7,074	n/a	n/a	6,180	6,610	6,762	n/a	1.12	1.05	1.04	n/a
AAH	2,982	3,017	3,139	3,377	n/a	n/a	5,795	5,908	6,453	n/a	0.51	0.51	0.49	n/a
AL	10,206	9,979	9,972	9,981	n/a	n/a	14,478	14,704	15,132	n/a	0.70	0.68	0.66	n/a
RSA	8,048	8,071	8,071	8,812	n/a	n/a	7,005	8,118	8,421	n/a	1.15	0.99	0.96	n/a
<i>socle</i>	2,854	2,891	2,868	2,916	n/a	n/a	3,540	6,523	7,052	n/a	0.81	0.44	0.41	n/a
<i>activite</i>	5,194	5,180	5,202	5,897	n/a	n/a	606	1,281	1,369	n/a	8.57	4.04	3.80	n/a
ASPA	1,513	1,541	1,597	1,646	1,996	1	2,596	2,711	n/a	n/a	0.58	0.57	n/a	n/a
ARE	28,900	29,364	30,032	30,607	n/a	n/a	24,082	25,407	n/a	n/a	1.20	1.16	n/a	n/a
Taxes														
Taxable income	763,635	780,948	799,775	815,881	n/a	n/a	681,706	n/a	n/a	n/a	1.12	n/a	n/a	n/a
IRPP	51,925	53,904	57,216	61,016	n/a	n/a	46,075	47,009	50,628	n/a	1.13	1.15	1.13	n/a
PPE	3,035	2,843	2,679	2,548	n/a	n/a	3,900	n/a	3,000	n/a	0.78	n/a	0.89	n/a
CSG	81,131	82,939	84,907	86,588	n/a	n/a	80,800	82,300	87,400	n/a	1.00	1.01	0.97	n/a
CRDS	5,769	5,894	6,028	6,145	n/a	n/a	6,000	6,000	6,300	n/a	0.96	0.98	0.96	n/a
ISF	4,681	4,752	6,856	9,897	n/a	n/a	3,600	4,500	4,300	n/a	1.30	1.06	1.59	n/a
SIC														
Employee contributions	75,072	77,003	78,717	80,283	n/a	n/a	77,473	78,710	81,415	n/a	0.97	0.98	0.97	n/a
Self-employed contributions	13,982	14,307	14,633	14,710	n/a	n/a	24,230	26,900	27,700	n/a	0.58	0.53	0.53	n/a
Employer contributions	217,501	223,077	227,598	232,085	n/a	n/a	249,860	253,610	287,300	n/a	0.87	0.88	0.79	n/a

Notes: N/A information not available; - not applicable



Sources: EUROMOD 7.0+; INSEE, statistics on wages and income- social protection and welfare-
http://www.insee.fr/en/themes/theme.asp?theme=4&sous_theme=6&nivgeo=0&type=2; INSEE, Main taxes by category-
http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF08328; DGFIP, Statistics on national taxes- statistics on the income tax-
http://www.impots.gouv.fr/portal/dgi/public/statistiques.impot?espId=-4&pageId=stat_donnees_detaillees&sfid=4503;



Table 4.8 displays information on overall aggregate expenditure corresponding to the various tax and benefit instruments. Most simulated child and family benefits are slightly underestimated. A potential explanation relates to the use of current instead of previous income when simulating entitlement to all income-tested benefits.

Aggregate means-tested disability allowances are underestimated, again due to not capturing the recipient population properly. This shortcoming is due to the disability status variable in SILC which is more restrictive than disability requirements associated with this benefit. Means-tested total housing benefits are somewhat underestimated in SILC, to the same degree that the number of beneficiaries of this benefit is underestimated. Again, keep in mind that the EUROMOD and external figures are not entirely comparable due to the existing aggregations of external information. In the case of the main means-tested benefit RMI/RSA, total simulated amounts (including a random take-up simulation) are slightly overestimated. This is entirely due to the oversimulation of the amount of RSA activite (the in-work benefit component). The number of households eligible for this component of the RSA is five times larger in the EUROMOD simulation than in external statistics (see Table 4.7). Because the RSA was only introduced in place of the RMI in June 2009, the total amount of the RSA activite is overestimated by twice this amount in 2009. In 2010, the first year that the RSA was in place for the entire year, our simulation does better although the split between RSA socle and RSA activite is still not accurate. Households entitled to small amounts are less likely to claim. To the extent that EUROMOD simulated non-take-up to be random, this introduces errors in the final results. Total ASPA outlays are somewhat underestimated in EUROMOD while total ARE outlays are overestimated. In the latter case, the overestimation is partly due to the fact that it is difficult to correctly identify recipients of ARE in SILC.

Simulated total receipts of the personal income tax are overestimated compared to administrative sources. This is due to two reasons. Firstly, we overestimate the number of people with employment income by 20% (see table 4.3). This broadens our simulated tax base, leading to an overestimation of the total amount of taxable income by 12%. In addition, there are a range of complex tax deductions and credits in France that we are unable to simulate. We simulate the most important ones relating to rental income, dividends, overtime pay and childcare but it is likely that we miss some deductions that are particularly important for those with high income. The total amount of the refundable tax credit for low earners is also slightly underestimated. The two taxes specific to the French system, CSG and CRDS, are fairly accurately simulated in EUROMOD.

Employer social insurance contributions simulated in EUROMOD closely correspond to figures obtained from external sources. On the other hand, social insurance contributions paid by employees and, particularly, by the self-employed are underestimated. This pattern is in line with the under-estimation of employment and self-employment income in SILC relative to external information (see Table 4.4).

4.2 Income distribution

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



4.2.1 Income inequality

Several inequality indicators as obtained in EUROMOD are compared with external benchmarks in table 4.9. The external figures come from EUROSTAT's statistics database. They show that median and mean disposable income are well aligned. Overall inequality- as expressed by the Gini coefficient and the S80/S20 ratio are slightly underestimated in EUROMOD in all years. Finally the comparison of decile shares indicates that income at the bottom is overestimated in EUROMOD while incomes in the middle of the distribution and at the top are relatively well aligned. There may be several possible explanations for the noted discrepancies. First, note that no data adjustments are made in EUROMOD in situations where the policy year does not correspond to the data year. In particular, no adjustment is made for changes in employment and unemployment that have taken place between 2009 and the policy year. It is possible that losses in employment may be driving some of the increases in inequality observed in the external data (but not showing up in EUROMOD). Second, it is possible that the uprating factors used to account for changes in incomes are not capturing changes in the income distribution. More specifically, uprating factors are based on changes in average income components. If however incomes are rising faster at the top compared to the bottom, this would both increase inequality and not be captured in the change in averages. Finally, it is possible that structural policy changes between 2009 and the policy year are less well simulated and thus producing errors. Nevertheless, given the observed patterns of increasing inequality in the external figures but constant inequality in EUROMOD this is probably the least likely explanation.

4.2.2 Poverty rates

At-risk of poverty rates using various poverty thresholds are shown in Table 4.10, separately by gender. Poverty is substantially underestimated in EUROMOD, both for men and for women, when using lower poverty thresholds. At higher poverty thresholds, poverty rates estimated by EUROMOD are closer to external benchmarks. This suggests that non take up of some means-tested benefits or administrative errors in the implementation of these benefits may play a role which EUROMOD cannot adequately capture. Only the non take-up of general social assistance (RMI/ RSA) is simulated in EUROMOD. Moreover, non-take up is simulated to be random. If marginalized, peripheral groups are less likely to claim benefits to which they are theoretically entitled, incomes at the bottom will be inflated in EUROMOD. Finally, child poverty and to a lesser extent working-age are underestimated in EUROMOD. It is possible that no-take up of some means-tested family benefits accounts for this pattern, although child benefits are usually slightly underestimated in EUROMOD compared to administrative data (but overestimated compared to SILC on which the poverty external statistics rely).



Table 4.9 Income distribution

Indicator	EUROMOD (I)				External (II)		Ratio (I/II)	
	2009	2010	2011	2012	2009	2010	2009	2010
Decile shares								
1	3.884	3.856	3.864	3.864	3.4	3.5	1.14	1.10
2	5.544	5.521	5.527	5.547	5.3	5.1	1.05	1.08
3	6.416	6.395	6.408	6.424	6.3	6.2	1.02	1.03
4	7.211	7.202	7.206	7.251	7.1	7.0	1.02	1.03
5	8.066	8.064	8.073	8.095	8.1	7.9	1.00	1.02
6	8.99	8.995	9.02	9.037	9.0	8.8	1.00	1.02
7	10.105	10.114	10.122	10.16	10.2	10.0	0.99	1.01
8	11.627	11.631	11.635	11.661	11.6	11.5	1.00	1.01
9	14.058	14.1	14.11	14.088	14.2	14.0	0.99	1.01
10	24.099	24.121	24.036	23.873	24.8	25.9	0.97	0.93
Median	19945.32	20329.091	20747.301	21094.255	20,046.0	19,683.0	0.99	1.03
Mean	23438.594	23902.277	24339.354	24695.162	23,517.0	23,472.0	1.00	1.02
Gini	28.451	28.552	28.468	28.293	29.9	30.8	0.95	0.93
S80/S20	4.048	4.076	4.062	4.034	4.5	4.6	0.90	0.89

Notes: Based on household disposable income (HDI) equivalised by the “modified OECD” equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions; computed at the individual level.

Sources: EUROMOD 7.0+; EUROSTAT Statistics Database
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.



Table 4.10 At risk of poverty rates by gender and age

Indicator	EUROMOD (I)				External (II)	Ratio (I/II)
	2009	2010	2011	2012	2009	2009
40% median HDI						
Total	2.60	2.31	2.30	2.19	3.70	0.70
Males	2.47	2.27	2.25	2.17	3.60	0.68
Females	2.72	2.35	2.34	2.20	3.90	0.70
50% median HDI	0.00				0.00	0.00
Total	5.56	5.13	4.96	4.67	7.40	0.75
Males	5.35	4.99	4.77	4.43	7.10	0.75
Females	5.76	5.26	5.14	4.90	7.70	0.75
60% median HDI	0.00				0.00	0.00
Total	10.73	10.12	10.00	9.73	13.50	0.79
Males	10.10	9.60	9.43	9.21	12.80	0.79
Females	11.32	10.60	10.54	10.21	14.10	0.80
70% median HDI	0.00				0.00	0.00
Total	19.24	18.57	18.69	18.39	21.60	0.89
Males	18.14	17.55	17.59	17.37	20.60	0.88
Females	20.27	19.52	19.73	19.34	22.60	0.90
60% median HDI						
0-15 years	11.94	11.68	11.44	11.11	18.40	0.65
16-24 years	16.83	16.40	15.94	16.02	23.10	0.73
25-49 years	9.28	9.35	9.32	9.07	12.30	0.75
50-64 years	8.40	8.03	8.00	7.80	8.40	1.00
65+ years	9.11	8.21	8.21	7.60	9.70	0.94

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.

Sources: EUROMOD 7.0+; EUROSTAT Statistics Database
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.



Table 4.11 Impact of minimum wage

	Baseline (I)				Minimum wage included (II)				Ratio (I/II)			
	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012
Disposable income (total)	983,032	1,002,460	1,020,504	1,035,074	993,902	1,013,310	1,030,790	1,044,895	0.99	0.99	0.99	0.99
Gross employee earnings (total)	650,262	666,909	682,320	695,715	650,262	666,909	682,320	695,715	1.00	1.00	1.00	1.00
Income tax (total)	51,925	53,904	57,216	61,016	52,482	54,469	57,766	61,566	0.99	0.99	0.99	0.99
Employee SICs (total)	75,072	77,003	78,717	80,283	77,338	79,264	80,864	82,340	0.97	0.97	0.97	0.98
Social assistance (total)	8,048	8,071	8,071	8,812	7,803	7,830	7,805	8,511	1.03	1.03	1.03	1.04
Gini (Eq HDI)	28.45	28.55	28.47	28.29	28.00	28.11	28.06	27.90	1.02	1.02	1.01	1.01
At poverty risk (60% median HDI)	10.73	10.97	10.99	10.81	10.30	10.57	10.56	10.53	1.04	1.04	1.04	1.03

Source: EUROMOD 7.0+



4.2.3 Validation of minimum wage

EUROMOD also allows for the simulation of the minimum wage (SMIC), although this policy is tuned off in the baseline and thus its effects are not included in the previous tables. In Table 11, baseline results (in which minimum wage is not simulated) are compared to results obtained when the minimum wage is simulated. As expected, total employment income, disposable income, income tax and employee social insurance contributions are slightly higher when minimum wage is simulated. On the contrary, the amount of social assistance is lower. Overall however, changes are very small as the number of persons affected by the simulation of the minimum wage is not very large (the minimum wage is simulated on an hourly basis-to take account of part time work and spells of non-employment during the income reference period).

4.3 Summary of “health warnings”

Several things should be kept in mind when interpreting EUROMOD results:

- Total employment income appears to be underreported in SILC compared to external benchmarks
- Similarly, some other types of incomes such as sickness benefits, investment and property incomes are lower in SILC compared to external information
- Accurate simulation of the parental leave benefit (CLCA) was not possible given available information in SILC; approximations used to simulate the benefit have led to a substantial overestimation of this benefit
- Non-take-up of the main social assistance benefit (RMI/RSA) is simulated to be random; non-take-up however is most likely to be non-random; comparisons between results obtained in EUROMOD and external benchmarks suggest that households entitled to lower amounts are less likely to claim
- Simulation of eligibility for the contributory unemployment benefit (ARE) is inaccurate due to the quality of data in SILC
- Eligibility for the means-tested social assistance for the elderly (ASPA) is simulated based on observed receipt in the data
- Income tax is overestimated in Euromod, partly due to the overestimation of the number of people receiving employment income and partly due to our inability to simulate all the complex tax deductions and credits that exist in the French system.
- Overall, EUROMOD simulated incomes are more equal; poverty rates-especially when calculated using low poverty thresholds are underestimated
- Child poverty is also underestimated

5. REFERENCES

EUROSTAT Statistics Database (2013),
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.



National Institute of Statistics and Economic Studies (INSEE) (2013), Statistics on incomes and wages, <http://www.insee.fr/en/themes/theme.asp?theme=4>.

Direction générale des finances publiques (DGFIP) (2013), Statistics, http://www.impots.gouv.fr/portal/dgi/public/statistiques;jsessionid=231Y1F05VAMKXQFIEIP_SFEY?espId=-4&pageId=statistiques&sfid=450.

OECD Statistics (2013), <http://www.oecd.org/statistics/>.

Verbist, G. (2004) “Redistributive effect and progressivity of taxes An International Comparison across the EU using EUROMOD”, EUROMOD Working Paper No. EM5/04.

Le site officiel de l’administration française (2013), Déclaration des revenus, <http://vosdroits.service-public.fr/R1281.xhtml>