

EUROMOD

COUNTRY REPORT



DENMARK (DK)

2011 - 2015

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

EUROMOD has been enlarged to cover 28 Member States and is updated to recent policy systems using data from the European Union Statistics on Income and Living Conditions (EU-SILC) as the input database, supported by DG-EMPL of the European Commission.

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

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The results presented in this report are derived using EUROMOD version G3.0. EUROMOD is continually being improved and the results presented here may not match those that would be obtained with later versions of EUROMOD.

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

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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.

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

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

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1. BASIC INFORMATION

1.1 Basic information

- Overall policies are uniform across regions and municipalities, with a few differences arising from some discretionary benefits within the social assistance area. There can be differences in access to services, but the user charges are in principle the same for all, except in the case of day care for children where they can vary among municipalities. Municipalities, but not regions, have a possibility of setting the local income and property tax.
- The Fiscal Year follows the calendar year, e.g. from the 1st of January to the 31st of December.
- The right to state pension is at the age of 65, but will gradually be increased in the years to come. It is possible to postpone the age of retirement and then acquire a higher level of state pension.
- There is no minimum school leaving age, however children are obliged to 10 years of schooling (at a public school or at an equivalent level at home, private schools etc.), typically starting in August the (calendar) year the child turns 6 years.
- Both adults and children are taxed individually, as a starting point. However, minor incomes for children from e.g. help at home or at parents' company are disregarded. Child benefits are typically paid to the mother.
- The tax system is mainly based on individual personal taxation, although there are a few possibilities for married spouses to, for instance, transfer redundant deductions in the different tax bases.
- A lone parent is defined as a person living alone (neither with a spouse nor with a partner) taking care of a child below the age of 18. The borderlines are although not always very clear. Child is always defined as being below the age of 18.
- Denmark to some degree has a dual tax system, where private capital incomes are taxed at a different rate than labour and transfer incomes. Both labour, transfer and capital incomes however are part of a comprehensive personal income tax system and enter alongside into various tax bases. Share income is taxed fully separately.
- Taxes on labour and transfer incomes are withheld at source, through third-party reporting and payment by employers etc. The tax assessment is based on a preliminary assessment of income, which can also be changed by the tax payer. After the end of an income year a final tax return has to be filled in and/or confirmed by all tax payers using a web-based solution, but most items are filled already through the third-party reporting system. Payment of taxes might now be changed during the year in order to increase the likelihood that what people actually are paying in income taxes reflects what they should pay during the year.
- Both benefits and deductions in the tax system are indexed automatically through an adjustment of rates signed into law, according to which the indexation follows wage inflation (slightly less so for benefits). However, if the average wage increase is above 2 % up to 0.3 % will be deducted to a specific pool of resources that can be used for initiatives for weaker groups within social, health and labour market policy areas.
- Means-tested benefits are typically held up against incomes from the most recent tax annual statement. However, there is an obligation to inform the authorities if there are substantial changes in income in order to change the benefit during the year.

1.2 Social Benefits

Social assistance (*Kontanthjælp*): Social Assistance is the basic income maintenance instrument in the event of unemployment, long-term illness etc. Benefit level varies with age, provider status and by whether recipient is living with parents. This is means-tested against both own and spouses' income and wealth, and is reduced after 6 month.

Unemployment benefits (*Dagpenge*): UB are insurance-based, but subsidized. Set at 90 % of previous labour income, but with an upper threshold. This is restricted to 2 out of 3 years in a running 3 years period since 2013. The full right can be re-established by 52 weeks of full-time work within a 3 years running time. The employer pays the first three days of unemployment. In 2013 unemployed not fulfilling the 3 years rule can get a specific educational grant at 60% of unemployment benefit for singles and 80% when having responsibility for a child under the condition that they participate in some kind of education. In 2014 and 2015 there is a temporary labour market benefit at 60 % of highest unemployment benefit for long term unemployed whose eligibility to the standard benefit expired (80 % when having a child). The total length can though not exceed four years.

Sickness benefits (*Sygedagpenge*): After two weeks of illness the municipality ascertains the ability to work and eligibility for sickness benefits. Benefit levels vary by number of pre-illness working hours (full time/part time), but also the option of working a reduced number of hours and receiving sickness benefits for other remaining hours. In principle benefits are available for a maximum of 52 weeks within 18 months. From 1st of July, 2014 sickness benefits can at maximum be 22 weeks after which a benefit at the level of social assistance, however in contrast to social assistance it is not dependent on spouse or cohabitant persons income and wealth, will be available and an increased effort to try to find out how to get back to the labour market will be included. If a person has a life-threatening disease sickness benefit can be prolonged.

Education grant (*Statens Uddannelsesstøtte, SU*): Given to students in validated branches of study. Benefit levels vary by age, type of education and by whether living with parents or by itself. Furthermore, students have to prove that they are active students by passing exams.

Child family grant (*Børnefamilieydelse*): Families with children below 18 are paid a tax-free child family grant, with benefit size varying with the age of the child. The grant is automatically paid to the mother if the father has not the sole custody for the child.

Child benefits (*Børnetilskud*): A number of different tax-free child benefits are paid, typically to the mother, to families/children in special circumstances, such as single parents/providers, pensioners or student parents, twins etc.

Child support (*Børnebidrag*): After divorce, separation or out-of-wedlock birth, parents are obliged to pay child support/alimony to the child (that is, in practice to the upbringing parent). The size depends on the income of the person who has to pay within certain brackets.

Housing benefit (*Boligsikring*): Tax-free benefits for tenants who are not old-age pensioners. Given as a function of the rent, excl. costs for heating etc. Phased out, based on household income and wealth.

Housing grant (*Boligydelse*): Tax-free benefits for tenants who are old-age pensioners. Given as a function of the rent, excl. costs for heating etc. Phased out, based on household income and wealth.

Disability pension (*Førtidspension*): Given to persons below retirement age with permanently reduced ability to work after all other possibilities to be or become self-supporting have discarded. The benefit is taxable. Benefit level varies with marital status. Phased out against own and spouse's income.

Early retirement pension (*Efterløn*): Full or partial retirement by choice from the age of 60 until the standard retirement age of 65. Conditional upon previous unemployment insurance and pension contributions. Higher benefit if retirement is postponed 2 years. The early retirement pension scheme will gradually, fully implemented in 2023, be reduced to three years and eligibility become dependent on the year of birth. All born before 1954 can get the benefit from the age of 60, whereas those born in the second half of 1954, for example, can get the benefit when becoming 61.¹

Old-age pension (*Folkepension*): Given from age 65. Benefit level varies with marital status. The benefit is phased out against own labour income. However a change in the pension age will gradually be phased in

Old-age pension supplement (*Pensionstillæg*): Given from age 65. Benefit level varies with marital status. The benefit is phased out against both own and a spouse's labour income.

Heating subsidy (*Varmetillæg*): Old-age and disability pensioners can apply for a heating subsidy to cover parts of their costs for heating fuel. Phased-out against income and wealth.

Survivors' benefits (*Efterlevelsespension*): Old-age or disability pensioners can for a period of 3 month receive a survivors' benefit when the partner dies. The monthly benefit is equal to the couple's combined pension payment.

Survivors' help (*Efterlevelseshjælp*): A person, whose partner (married or cohabitant) dies, can receive a lump-sum taxable benefit.

Old-age supplementary benefit (*Ældrecheck*): Annual taxable benefit paid out to all old-age pensioners with liquid financial assets below a certain threshold.

Green check (*Grøn check*): Introduced in 2010 as a tax-free lump sum benefit to compensate for the increase in environmental and energy taxes, with rates varying between adults and children.

- *Not strictly benefits*

Flex-job (*Fleksjob*): May be granted to employees with permanent disabilities below 40 years of age for a time of 5 years (removable). The recipient works an agreed number of hours which is paid by the employer. This will be supplemented with a benefit from the municipality. Also possible for unemployed having had a flex-job is a kind of unemployment benefit (*ledighedsydelse*) and for early retirees (*fleksydelse*).

1.3 Social contributions

Denmark has a number of payments which contribute to the accrual of unemployment benefits and old-age pensions. However, the major part of transfer benefits is financed through the general tax system.

Supplementary labour market pension (*Arbejdsmarkedets tillægspension, ATP*): Mandatory old-age pension contribution, paid with a fixed rate that varies with the length of employment contract (e.g. month) and the extent of work (full-/part-time). Paid by employee (one-third of rate) and employer (two-third of rate). There can be slightly different levels among sectors.

¹ The increase in early retirement pension age is currently not taken into account by EUROMOD simulation, as a relatively small amount of people is expected to be affected by the policy change in 2014 and 15.

Unemployment benefit contribution (*A-kasse-bidrag*): Required for eligibility to unemployment benefits (see above). Rates vary across unemployment insurance funds especially due to difference in the cost of administration as the payment otherwise reflect the level of unemployment benefit. Deductible in taxable income.

Early retirement pension scheme contribution (*Efterlønsbidrag*): Required for eligibility for early retirement pension scheme (see above). Conditional upon unemployment insurance membership in a number of years. Deductible in taxable income.

1.4 Taxes

Labour market contribution (*Arbejdsmarkedsbidrag*): A tax of 8 % levied upon gross labour income, with deduction of only the employee-paid part of the supplementary labour market pension contributions.

Earned income tax credit (*Beskæftigelsesfradrag*): Negative marginal tax rate on labour income, with a maximum allowance of 25,000 DKR in 2014 and 26,800 in 2015.

Municipality tax (*Kommuneskat*): The tax rate is determined individually by the 98 municipalities, but collected through the state's tax system and levied upon the taxable income base after a personal allowance.

Church tax (*Kirkeskat*): A voluntary contribution collected through the tax system, if the individual tax payer does not opt out. The rate is determined individually based upon budget from the church by the 98 municipalities on average 0.7 per cent (with a span of 0.41-1.50 % and levied upon the taxable income base after subtracting the general personal allowance.

Health contribution (*Sundhedsbidrag*): A tax of 5 per cent in 2014, levied upon the taxable income base after subtracting the general personal allowance.

Bottom-bracket tax (*Bundskat*): The lowest of the three progressive state taxes. Tax rate is 6.83 % in 2014. Levied upon the sum of the personal income tax base and positive net capital income, with the general personal allowance subtracted. Spouses can transfer negative net capital income and any unused personal allowance between them for the calculation of the bottom-bracket tax.

Top-bracket tax (*Topskat*): The highest-level of the three progressive state taxes. Tax rate of 15%. Levied upon the sum of the personal income tax base, positive net capital income and contribution to capital pension schemes, with the top-bracket tax allowance subtracted. From the tax year 2010, a basic yearly allowance in 2014 of 40,800 DKR (41,400 in 2015) for the inclusion of positive net capital income is introduced.

Tax ceiling (*Skatteloft*): A ceiling at the level of 51.95% in 2014 (51.5% in 2011) on the aggregate (nominal) tax rate is implemented by reducing the tax rate on the top-bracket tax by the difference between the tax ceiling and the sum of the municipal and state taxes, excluding the church tax.

Free telephone: All tax payers, who have an employer-provided telephone at their disposal, are taxed for 2,600 DKR in the personal income tax base in 2014.

Shares tax (*Aktieskat*): Net income from shares (share profits, dividends and premiums, minus losses) is taxed progressively below/above 49,200 DKR (in 2014) (49,900 in 2015) with 27/42 %.

Property value tax (*Ejendomsværdiskat*): A progressive state tax on the overall value of property, based on the official/public property value estimate. Both this tax base and the threshold for the progressivity have been frozen nominally since 2002.

Land value tax (*Grundskyld*): A municipal tax on the land value of residential property, with tax rates set by the municipalities varying between 1.6% and 3.4%.

Value-added tax (*Moms*): Tax rate of 25%. It is levied uniformly upon all transactions with exceptions of those areas identified by the EU directives.

Excise duties (*Punktafgifter*): Various excise taxes with varying tax rates or duties are levied upon goods such as cigarettes, energy use, and environmentally hazardous goods.

Inheritance tax (*Boafgift*): The estate is taxed with 0%, 15% or 36.25% for a spouse, near relatives or more distant relatives as heirs above a threshold of 268,900 DKR in 2014 (272,900 in 2015).

Gift tax (*Gaveafgift*): Gifts are taxed with 0%, 15% or 36.25% for a spouse, near relatives or more distant relatives as recipients.

2. SIMULATION OF TAXES AND BENEFITS IN EUROMOD

2.1 Scope of simulation

Tables 2.1 and 2.2 present an overview over the simulated benefits and taxes and social contributions, respectively.

Table 2.1 Simulation of benefits in EUROMOD

	Variable name	Treatment in EUROMOD					Why not fully simulated?
		2011	2012	2013	2014	2015	
Unemployment benefits	bunct_s	PS	PS	PS	PS	PS	No data on unemployment history; Previous earnings inferred from unemployment benefit received.
Sickness benefits	bhl	I	I	I	I	I	No data on health status.
Social Assistance	bsa_s	S	S	S	S	S	No data on length of stay in Denmark. No data on background for reduced rates for youth (<25).
Education grant	bed	I	I	I	I	I	
Child Family Grant	bfachnm_s	S	S	S	S	S	
Ordinary Child Benefit & supplement	bfach00_s	S	S	S	S	S	
Child benefit for student parents	bfached_s	S	S	S	S	S	
Child benefits for twins etc. & adoptions	-	I	I	I	I	I	Rare benefit.
Child support	-	E	E	E	E	E	No information on parents outside household.
Disability pension	pdi	I	I	I	I	I	No impartial information on ability to work.
Housing benefit	bho01_s	S	S	S	S	S	
Housing grant	bho02_s	S	S	S	S	S	
Heating benefit	-	E	E	E	E	E	No information on heating costs and benefit application.
Early retirement pension	-	E	E	E	E	E	
Old-age pension	poa00_s	S	S	S	S	S	
Old-age pension supplement	poa01_s	S	S	S	S	S	
Old-age supplementary benefit	poa02_s	S	S	S	S	S	
Survivors' benefits	-	I	I	I	I	I	No information on death of partner.
Green check	bhtuc_s	S	S	S	S	S	

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

Table 2.2 Simulation of taxes and social contributions in EUROMOD

	Variable name	Treatment in EUROMOD					Why not fully simulated?
		2011	2012	2013	2014	2015	
Labour market contribution	tscee_s, tscse_s	S	S	S	S	S	-
Supplementary labour market contribution	tscpi_s	PS	PS	PS	PS	PS	No information on length of employment contract => monthly assumed.
Contributions to unemployment insurance scheme & early retirement pension scheme	tyrui_s	PS	PS	PS	PS	PS	No individual data on contribution => randomly assigned from population data.
Earned Income Tax Credit	tintc_s	S	S	S	S	S	-
Municipality tax	tmu_s	S	S	S	S	S	-
Church tax	tcr_s	PS	PS	PS	PS	PS	No data on tax payment => randomly assigned from population data; No data on municipality of residence => average municipal tax rate.
Health contribution	thl_s	S	S	S	S	S	-
Bottom-bracket tax	tinbt_s	S	S	S	S	S	-
Top-bracket tax	tinto_s	S	S	S	S	S	-
Multimedia tax(now tax on free telephone)	-	E	E	E	E	E	No information on the tax base.
Shares tax	-	E	E	E	E	E	No isolated data on share income
Property value tax	tpr_s	PS	PS	PS	PS	PS	Tax base derived from tax payment.
Land value tax	-	I	I	I	I	I	No isolated data on the tax payment or on the land value.
Inheritance tax	-	E	E	E	E	E	No information on inheritance
Gift tax	-	E	E	E	E	E	No information on gifts
Added-value tax	-	E	E	E	E	E	No information on total consumption expenditures

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

2.2 Order of simulation and interdependencies

The following table shows the order in which the main elements of the Danish system in 2011-2015 are simulated.

The labour market contribution and the supplementary labour market pension contribution are the first instruments to be simulated, as both are functions of only gross employment incomes.

Taxable benefits such as the unemployment benefit and social assistance are simulated before the simulation of taxes, as they enter the tax bases. Likewise for the earned income tax credit, which is a function of gross employment income and both the labour market contribution and the supplementary labour market pension contribution.

Table 2.3 EUROMOD Spine: order of simulation, 2011-2015

Policy	Description	Main output
tsc_dk	Labour Market Contribution, a gross tax on all employment income	tscee_s, tscse_s, tsc_s
tscpi_dk	Supplementary labour market pension contribution, a mandatory pension contribution	tscpiee_s, tscpier_s
tyrui_dk	Unemployment benefit contribution and early retirement pension contribution, voluntary contribution to individual unemployment benefit insurance/early retirement accounts	tyrui_s
bunct_dk	Unemployment benefits and similar benefits	bunct_s
tintc_dk	Earned Income Tax Credit	tintc_s
poa_dk	Old age pension benefits(basic amount) supplement pension and old-age supplementary benefit	poa00_s, poa01_s, poa02_s
bsa_dk	Social Assistance	bsa_s
tmu_dk	Municipality Tax	tmu_s
tcr_dk	Church Tax	tcr_s
thl_dk	Health Contribution, a tax	thl_s
tinbt_dk	Bottom Bracket Tax	tinbt_s
tinto_dk	Top-bracket tax	tinto_s
tpr_dk	Property Tax	tpr_s
bfachnm_dk	Child Family Grant	bfachnm_s
bfach00_dk	Ordinary child benefit & Supplementary child benefit &	bfach00_s
bfached_dk	Child benefit for student parents	bfached_s
bho01_dk	Housing Benefit	bho1_s
bho02_dk	Housing Grant	bho2_s
bhtuc_dk	Green check	bhtuc_s

2.3. Social benefits

2.3.1. Unemployment benefit (*bunct_s*)

- *Definitions*

The unit of analysis is the individual (tu_individual_dk).

- *Eligibility conditions*

Member of an unemployment insurance fund for at least one year and experiencing a unemployment spell. Benefit can at maximum be paid for 2 years within a three years' time-period, e.g. it is constantly required that there shall be a minimum of 1924 hours' work during the last three years. Having been conscript as well as having had an education of at least 18 months also gives right to be member of an unemployment insurance fund without a one year membership.

- *Income test*

None

- *Benefit amount*

90 per cent of the previous employment income, with an upper limit of 215,020 DKR per year in 2015. The upper limit varied across years according to the table below:

Table 2.4 Upper limits for unemployment benefits

	2011	2012	2013	2014	2015
			DKR		
Upper limit	199,160	204,880	208,260	211,900	215,020

EUROMOD Notes: 1) Membership of an unemployment fund (lrg=1) is simulated through a discrete model based on national register data. 2) According to the law, the maximum amount of benefit that can be received varies according to the insurance status of the recipient, e.g. part-time insured vs. full time insured. Only full time insurance is assumed in the EUROMOD simulation. The maximum amount for part time insured people is equal to 2/3 of the full time maximum. 3) Previous employment income is not recorded by EU-SILC. For this reason, starting from the benefit amount, the previous employment income is calculated for those receiving the benefit by reversing the benefit rule. The unemployment benefit is then simulated using the simulated previous earnings.

2.3.2. Social assistance (*bsa_s*)

- *Definitions*

The unit of analysis is the individual (tu_individual_dk), although married partner's income and wealth and the presence of dependent children enter in the simulation (tu_bsa_dk). Children are those younger than 18 years.

- *Eligibility conditions*

Eligibility is conditional upon:

- The person has experienced a change (e.g unemployment, divorce, etc.) and the person is not able to maintain a living
- Economic needs cannot be fulfilled by other means, including wealth
- The person is a EU citizen or has stayed in Denmark for 7 of the previous 8 years
- No other incomes (il_bsa=0).

- **Income test**

The income test is satisfied if the recipients do not have any income and any financial wealth left. Financial assets less than 10,000 DKK (<20,000 DKK) for single (married) recipients are disregarded from the asset test.

Married persons are obliged to support each other. For this reason incomes of the married partner are withdrawn from the amount received by the person entitled. The benefit withdrawal starts when the income (il_bsa) of the partner reaches the benefit entitlement

- **Benefit amount**

The table below describes the benefit amount for entitled individuals between 2011 and 2013. Differences in amounts arise with respect to the age of the claimant, her/his provider status, whether she/he leaves with her parents. The provider status is simulated in EUROMOD by controlling for the presence of children in the family. Until January 2015, a benefit reduction of 674 DKK (in 2014) was applied if received for more than 6 months. Starting from 2011, such reduction was substituted for recipients below age 25 by a further reduced benefit. Both reductions have been abolished on the 1st of January 2015.

Table 2.5. Social assistance benefits, 2011-2013, per. month for a single person

	2011		2012		2013	
	Full Amount	Reduced amount (reduction) after 6 months	Full Amount	Reduced Amount after 6 months	Full Amount	Reduced Amount after 6 months
Provider (No age)	13,345	(-634)	13,732	(-652)	13,952	(-662)
Non provider with age>=25	10,044	(-634)	10,335	(-652)	10,500	(-662)
Non-provider younger than 25						
- living by oneself	6,472	5,486	6,660	5,662	6,767	5,753
- living with parents	3,123	2,728	3,214	2,815	3,265	2,860

In 2014 social assistance was in principle abolished for those below the age of 30 who do not provide for a child and whose highest education is primary or lower. The benefit is substitute by an education grant if they participate to a vocational training course and, under certain condition, by an activity grant. The table below illustrates benefit entitlement for the years 2014 and 2015.

Table 2.6. Social assistance benefits, 2010-2013, per. month for a single person

	2014		2015
	Full amount	Reduced benefit (reduction) after 6 months	Full amount (reductions abolished)
Provider (over 30 or under 30 and not married)	14,203	(-674)	14,416
Provider (under 30 and married)	9498	(-674)	9,640
Non provider over 30 or over 25 with more than primary education	10,689	(-674)	10,849
Non provider between 25 and 30 with primary education or less	5887	No reduction	5903
Non-provider younger than 25 with more than primary education			
- living by oneself	6,889	5857	6,992
- living with parents	3,324	2911	3,374
Non-provider younger than 25 with primary education or less (education grant)			
- living by oneself	5,887	No reduction	5,903
- living with parents	2,524	No reduction	2,544

Source: Lovbekendtgørelse nr. 190 af 24. februar 2012 om aktiv socialpolitik <http://www.retsinformation.dk/print.aspx?id=140126>; <http://bm.dk/da/Tal%20og%20tendenser/Satser%20for%202014/Kontanthjaelp.aspx> - accessed 13. August, 2014 and 2nd July, 2015, www.su.dk (accessed on the 2nd of July, 2015).

Benefit amounts received by providers are subject to a reduction if the child is not living in Denmark. This rule does not apply if the child lives in an EU/EEA country or in other countries where specific agreements are in place.

EUROMOD Notes: 1) The conditions regarding having experienced an exogenous shock and citizenship are not simulated. 2) The income test is performed using the income list *il_bsa*. Its components are: Earnings, Old age pensions, Disability Pensions, Survivor Pensions, Early Retirement Pensions, Private Pensions, and Unemployment Benefits. 3) We assume that all the individuals below age 30 qualify for the education grant if they have achieved primary education or less. We do not simulate the activation grant because of relatively small number of recipients (around 6,000 people in the whole country)

2.3.2 Child family grant (*bfachnm_s*)

- **Definitions**

The unit of analysis is a family formed by parents and dependent children (*tu_bfa_dk*).

- **Eligibility conditions**

Having child(ren) aged 0-17 years.

- **Income test**

An income test has been introduced in 2014. The concept of income used for the test is the one used for the calculation of the top-income tax. Withdrawal rate is 2% for parental income above a threshold of 723,100 in 2015 (712,600 in 2014). The income test follows the following rules:

- If parents are non-married, then mothers income is used. In absence of the mother, then father income is used.
- If parents are married, and only one parent has income above the threshold, then the income of the mother is used for the tests, while the income of any other cohabiting partner is not taken into account.
- If parents are married and both have income above the threshold, the withdrawal rate is applied to sum of the income of each partner which is above the threshold.

- **Benefit amount**

The benefit varies for 0-2 year olds, 3-6 year olds and 7-17 year old children, with annual benefits in 2014 of DKK 17,616, 13,944 DKK and 10,980 DKK, respectively, see table 2.7. Paid out quarterly, although for those between 15-17 years it is monthly.

Table 2.7. Child family grant, per child per year, 2011-2015.

Age of the child	2011	2012	2013	2014	2015
DKR					
0-2 years	16,992	17,064	17,196	17,616	17,772
3-6 years	13,452	13,500	13,608	13,944	14,076
7-17 years	10,584	10,632	10,716	10,980	11,076

Source: Lovbekendtgørelse nr. 964 af 19. september 2011 om en børne- og ungefamilieydelse.

<http://www.magnus.dk/Home/Satser/B%C3%B8rnefamilieydelse.aspx?satsID={CA1A31F3-A2C9-4B74-B79D-BA589F6EC5A9}> and <http://www.skm.dk/skattetal/satser/satser-og-beloebsgraenser/boerne-og-ungeydelsesloven/>, hentet 13. august, 2014.

EUROMOD Notes: The benefit is assigned to the mother if any.

2.3.3 Ordinary child benefit and supplement (*bfach00_s*)

- *Definitions*

The unit of analysis is a family formed by parents and own dependent children (*tu_bfa_dk*).

- *Eligibility conditions*

Lone parent, or both parents are old-age pensioners, or both parents are disability pensioners.

- *Income test*

None.

- *Benefit amount*

5,276 DKK per child in ordinary child benefit plus a supplement of 5,380 DKK per benefit unit for lone providers, see table 2.8, in 2014.

Table 2.8. Ordinary child benefit rates, pr. year, 2011-2015

	Basic	Supplement
		----- DKR -----
2011	4.960	5.052
2012	5.104	5.200
2013	5.184	5.284
2014	5.276	5.380
2015	5,356	5,460

Source: Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 and Vejledning nr. 9805 af 24/10/2014.

EUROMOD Notes: From 1 Jan 2012 full child benefits will only be paid out in cases where at least one parent/guardian have worked or had residence in Denmark for at least two years within the preceding ten years. From six months and up to the two year period, child benefits can be increased in increments of 25% to the full amount. Since it is not possible to control for this condition, this bit of the rule is not implemented in EUROMOD. It was further abolished in 2014 due to the possible conflict with EU-regulation.

2.3.4 Child benefit for student parents (*bfached_s*)

- *Definitions*

The unit of analysis is a family formed by parent and own dependent children (*tu_bfa_dk*).

- *Eligibility conditions*

Being in tertiary education and having child(ren) and being

- lone parent not receiving education grant (benefit for all children), or
- living with partner, but only one receives education grant (benefit for all children), or
- living with partner, and both receive education grant (benefit for children beyond the first)

- *Income test*

None.

- **Benefit amount**

7,032 DKK per child per year in 2015 (beyond the first if living with partner and both receive education grant). Between 2011 and 2014 the yearly benefit amount increased from 6508 DKK, 6696 DDK, 6804DK and in 2014 7,008 DKK.

2.3.5 Green check (*bhtuc_s*)

- **Definitions**

The unit of analysis is the adult individual, but the number of dependent children is relevant for the simulation (*tu_bhtuc_dk*). A child is considered as dependant if younger than 18 years.

- **Eligibility conditions**

All persons liable to pay taxes aged 18 or older.

- **Income and wealth test**

The green check is phased out with 7.5 per cent against incomes above a threshold of 369,400 in 2014 (374,800 in 2015) and 362,800 DKR (2010-level but with the same level in 2011- 2013), where the relevant income is the tax base for the top bracket tax (without taking account the deduction of contributions to capital pension schemes).

- **Benefit amount**

The annual benefit amounts to 1,300 DKR for adults in 2014, and 955 in 2015 (>18 years of age) and 300 DKR (220 in 2015) for children (for at most two children per family). Benefits for children are given to the mother. From 2013 an extra amount of 280 DKR per person for low income earners was decided and will be reduced by 7.5 % if the income exceeds 212,000 DKR (2013, in 2014 215,900, and 219,000 in 2015).

Table 2.9 Green check compensations scheme

	2011	2012	2013	2014	2015
Per person	1300	1300	1300	1300	955
Pr. child (max two children)	300	300	300	300	220
Reduction if income is above:	362.300	362.300	362.300	369.400	374.800
% reduction per 1000 kroner	7,5	7,5	7,5	7,5	7,5

Source: www.skm.dk

2.3.6 Housing Allowance

Housing allowance is the comprehensive term for the housing benefit for tenants and the housing grant for pensioners. Both forms of housing allowances are tax-free. The following only deals with the most important rules, as the housing allowance even according to official documentation is very complex.

A common term for the housing allowance is the housing cost, which is defined as the pure rent for the tenancy, excluding costs for heating, electricity etc. However, under some circumstances related both to characteristics of the dwelling and of the tenancy, the housing cost is augmented. The impossibility to fully simulate these circumstances obliged us to derive the housing cost reversing the rule for the calculation of the housing allowance. Then a regression analysis has been performed at the household level to impute a plausible value of housing cost of households not receiving housing allowances. The derived variable is called *xivhc*.

2.3.6.1 Housing Benefit (*bho01_s*)

- *Definitions*

The unit of analysis is the household (*tu_bho_dk*)

- *Eligibility conditions*

Tenants who are not pensioners (*poa00=0* at the household level).

- *Income and wealth test*

The benefit is phased-out against the total incomes of all household members, and wealth. Personal income base (*il_persinc*) and positive net capital income are taken into account. Incomes from children living with their parents are included in the relevant household income, but only after deducting 19,800 DKR in 2014, see table 2.10.

Table 2.10. Deductions in childrens incomes before deduction, 2011-2015 (boligsikring).

	-- DKR --
2011	18,400
2012	18,800
2013	19,300
2014	19,800
2015	19,900

Source: Lovbekendtgørelse nr. 663 af 14. juni 2011 om individuel boligstøtte <http://www.magnus.dk/Home/Satser/Boligst%C3%B8tte.aspx?satsID={0AB5B436-2FD4-4A4A-807A-A6D8EEBEB113}>, VEJ Nr. 81 af 12711/2012: Vejledning om regulering pr. 1. Januar 2013 af satser på Social og Integrationsministeriets område and Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 and Vejledning nr. 9805 af 24/10/2014 (2015 level).

The household income is augmented to take account of financial wealth (see table below).

Table 2.11. Income augmentation with wealth for calculation of housing benefit, 2011-2015.

Year	Per cent	Wealth thresholds
2011	0	< 686,900
	10	686,900 – 1,373,900
	20	> 1,373,900
2012	0	< 702,700
	10	702,700 – 1,405,500
	20	> 1,405,500
2013	0	< 722,000
	10	722,000- 1444.800
	20	➤ 1444.800
2014	0	<739,700
	10	739,700-1479,500
	20	>1,479,500
2015	0	<745.600
	10	745.600-1.491.400
	20	>1.491.400

Source: Lovbekendtgørelse nr. 663 af 14. juni 2011 om individuel boligstøtte <http://www.magnus.dk/Home/Satser/Boligst%C3%B8tte.aspx?satsID={0AB5B436-2FD4-4A4A-807A-A6D8EEBEB113}>, VEJ Nr. 81 af 12711/2012: Vejledning om regulering pr. 1. Januar 2013 af satser på Social og Integrationsministeriets område, Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 2014and Vejledning nr. 9805 af 24/10/2014 (2015 level).

Benefit amount to 60 per cent of the housing costs. From this 18 per cent of the income that exceeds 140,500 DKR (in 2014) is subtracted. This income threshold is augmented by 37,000 DKR (in 2014) for each child beyond the first in the household, to a maximum of 4 children, see table 2.12 below. For households without children the housing benefit can at most constitute 15 per cent of the housing cost. Regardless of the income correction etc. the recipient of the housing benefit always has to pay minimum 23,700 DKR in rents him/herself. Households with up to 3 children (with 4 children or more) can at most receive a housing grant of 41,592 DKR (51,790 DKR) per year.

Table 2.12. Various limits etc. for housing benefit, per year, 2011-2015. Max benefit for 4 or more is 25% higher than the standard max limit (§23).

Age of the child	2011	2012	2013	2014	2015
Lower income deduction	130,500	133,500	137,200	140,500	141,600
Deduction increase per child	34,400	35,200	36,100	37,000	37,300
Own minimum payment	22,000	22,500	23100	23,700	23,900
Maximum benefit, hhd.s					
With up to 3 children	38,628	39,516	40,620	41,592	41,928
With 4 or more children (25% higher level)	48,285	49,395	50,775	51,990	52,410

Source: Lovbekendtgørelse nr. 663 af 14. juni 2011 om individuel boligstøtte <http://www.magnus.dk/Home/Satser/Boligst%c3%b8tte.aspx?satsID={0AB5B436-2FD4-4A4A-807A-A6D8EEBEB113}>, Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 2014and Vejledning nr. 9805 af 24/10/2014 (2015 level).

2.3.6.2 Housing grant (*bho02_s*)

- *Definitions*

The unit of analysis is the household (*tu_bho_dk*)

- *Eligibility conditions*

Tenants who are pensioners (*poa00*>0 at the household level).

- *Income and wealth test*

The benefit is phased-out against total household income and wealth. The relevant incomes are the same as the one defined in the housing benefit section. The relevant differences are: only the part of incomes from children above 21,000 DKK per year in 2014 is included in the relevant household income (table 2.13 below).

Table 2.13. Deductions in childrens incomes before deduction, 2011-2015.

Year	Dkr per year
2011	19,700
2012	20,300
2013	20,600
2014	21,000
2015	21.300

Source: Lovbekendtgørelse nr. 663 af 14. juni 2011 om individuel boligstøtte <http://www.magnus.dk/Home/Satser/Boligst%C3%B8tte.aspx?satsID={0AB5B436-2FD4-4A4A-807A-A6D8EEBEB113}>, Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 and Vejledning nr. 9805 af 24/10/2014 (2015 level).

The household income for the calculation of the housing grant is augmented to take account of financial wealth (see table below).

Table 2.14. Income augmentation with wealth for calculation of housing grant, 2011-2015 (boligydelse)

Year	Per cent	Wealth thresholds
2011	0	< 736,200
	10	736,200 – 1,472,500
	20	> 1,472,500
2012	0	< 759,800
	10	759,800 – 1,519,600
	20	> 1,519,600
2013	0	< 771,900
	10	771,900-1.543,900
	20	> 1,543,900
2014	0	<785.800
	10	785.800-1.571.700
	20	>1.571.700
2015	0	<797.600
	10	797.600-1.593.300
	20	>1.593.300

Source: Lovbekendtgørelse nr. 663 af 14. juni 2011 om individuel boligstøtte

<http://www.magnus.dk/Home/Satser/Boligst%C3%B8tte.aspx?satsID={0AB5B436-2FD4-4A4A-807A-A6D8EEBEB113}>

- **Benefit amount**

The housing grant corresponds as a rule to 75 per cent of the housing with a supplement of 6,200 DKR (in 2013). From this 22.5 per cent of the income that exceeds 146,600 DKR (in 2013) is subtracted. This income threshold is augmented by 38,600 DKR (in 2013) for each child in the household, up to a maximum of 4 children. The recipient of the housing benefit has to pay minimum 11 per cent of the income herself, or at least 15,500 DKR (in 2013). Households with up to 3 children (with 4 children or more) can at most receive a housing grant of 43,404 DKR (54,255 DKR) per year.

Table 2.15. Various limits etc. for housing grant, per year, 2011-2015.

Age of the child	2011	2012	2013	2014	2015
DKR					
Supplement	5,900	6,100	6,200	6,300	6,400
Lower income	139,800	144,300	146,600	149,300	151,500
Deduction increase	36,800	38,000	38,600	39,300	39,900
Own minimum	14,800	15,300	15,500	15,800	16,000
Maximum benefit,					
With up to 3	41,400	42,720	43,404	44,184	44,844
With 4 or more	51,750	53,400	54,255	55,230	56,055

Source: <https://www.retsinformation.dk/Forms/r0710.aspx?id=141709>,

<http://www.magnus.dk/Home/Satser/Boligst%C3%B8tte.aspx?satsID={0AB5B436-2FD4-4A4A-807A-A6D8EEBEB113}> and

Vejledninger No. 9805, 2014, 9594 2013

2.3.7 Basic old-age pension (*poa00_s*)

- *Definitions*

The unit of analysis is the individual (*tu_individual_dk*)

- *Eligibility conditions*

All persons from the age of 65 conditional on citizenship and time of residence in Denmark.

- *Income test*

Above a threshold of 301,200 DKR per year in her/his own earnings income, the benefit is withdrawn with 30 per cent, see table 2.16 below.

- *Benefit amount*

70,896 DKK per year in 2014, see also table 2.16 below.

Table 2.16. Income threshold and benefit amount for basic old-age pension, per year, 2011-2015 (folkepension).

	2011	2012	2013	2014	2015
Benefit	66,624	68,556	69,648	70,896	71,964
Income	283,000	291,200	295,900	301,200	305,700

Source: Lovbekendtgørelse nr. 1005 af 19. august 2010 om social pension.

<http://www.magnus.dk/Home/Satser/Folkepension.aspx?satsID={03A62931-7087-4D51-8DE8-A8F250DDC8D9}>;

Sociale Ydelser 2011, Forlaget Forsikring, Hellerup, DK, Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 and Vej. Nr.9805, 24/10/2014

EUROMOD Notes: The citizenship and length of residence rules are not implemented in EUROMOD. The increase in pensionable age will be effective from 2019, when those born in 1954 will turn 65.

2.3.8 Old-age pension supplement (*poa01_s*)

- *Definitions*

The unit of analysis is the individual (*tu_individual_dk*).

- *Eligibility conditions*

All persons from the age of 65 conditional on citizenship and time of residence in Denmark.

- *Income test*

The relevant income concept for both own and spouse's income is earnings minus the labour market contribution. The rules differentiate between singles and couples and for the latter whether one or both partners are old-age pensioners. The rules do not distinguish between married and cohabitating couples.

For a single pensioner in 2015 the pension supplement is phased out against own (labour) income (after deduction of the labour market contribution, 8%) with 30.9 per cent, once the income surpasses a basic deduction of 67,500 DKK. See also table below for other years.

For couples the incomes of both partners are taken into account. The relevant income measure for own income is again labour income after labour market contribution. For the partner's (labour) income, half of the income up to 211,000 DKR is deducted beforehand.

For couples, income above a combined basic deduction of 135,400 DKR (2015) is set off against the pension supplement with 16 per cent for two pensioner-couples and with 32 percent for one-pensioner couples.

Table 2.17. Income dependence parameters for old-age pension supplement, per year, 2011-2015

	2011	2012	2013	2014	2015
Singles					
Deduction, own income (DKR)	62,500	64,300	65,300	66,500	67,500
Phase-out rate (%)	30,9	30,9	30,9	30,9	30,9
Couples					
Limit for calc. of spouse-income	195,400	201,100	204,300	208,000	211,100
Deduction, spouse' income (DKR)	125,300	128,900	131,000	133,400	135,400
Phase-out rate (per cent)					
<i>Couples, 1 old- age pensioner</i>	32	32	32	32	32
<i>Couples, 2 old- age pensioner</i>	16	16	16	16	16

Source: Lovbekendtgørelse nr. 1005 af 19. august 2010 om social pension.

<http://www.magnus.dk/Home/Satser/Folkepension.aspx?satsID=%7b03A62931-7087-4D51-8DE8-A8F250DDC8D9%7d>,

Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 and Vej. Nr.9805, 24/10/2014.

- **Benefit amount**

35,592 DKK for married/cohabitants and 73,644 DKK for singles (in 2014).

Table 2.18. Benefits for old-age pension supplement, per year, 2011-2015.

	2011	2012	2013	2014	2015
			DKR		
Married/cohabitants	33,444	34,416	34,968	35,592	36,516
Singles	69,192	71,196	72,336	73,644	75,132

Source: Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014

2.3.9 Supplementary pension (*poa02_s*)

- **Definitions**

The unit of analysis is the individual (tu_individual_dk)

- **Eligibility conditions**

All old-age pensioners (age \geq 65).

- **Income test**

The benefit is reserved for pensioners with liquid financial assets of less than 78,900DKK (see table below) and is phased-out against labour income above a basic deduction.

- **Benefit amount**

16,400 DKK per year (see table below).

Table 2.19. Benefit and asset test for supplementary pension, per year, 2011-2015.

	2011	2012	2013	2014	2015
			D.Kr.		
Benefit	10,900	11,200	15,900	16,200	16,400
Asset threshold	75,500	77,700	78,900	80,300	81,500

Source: Lovbekendtgørelse nr. 1005 af 19. august 2010 om social pension.

<http://www.magnus.dk/Home/Satser/Folkepension.aspx?satsID=%7b03A62931-7087-4D51-8DE8-A8F250DDC8D9%7d>,

Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014 and Vej. Nr.9805, 24/10/2014

2.3.10 Personal Supplement rate (*poa02_s*)

The supplementary pension is also phased-out against incomes other than old-age incomes, such as labour income, using the personal supplement rate, which is calculated for all old-age pensioners based on their own and a possible spouse's income beyond the old-age pension. For own employment income a basic deduction per first of January, 2014 of 36.000 DKR applies.

As a default the supplement rate is 100 per cent (e.g. 100% of the benefit is paid), which is reduced for incomes above 19.100 DKR (in 2014) for singles and above 37.900 DKR for married cohabitant couples by 1 percentage point for every 465 DKR (938 DKR for couples) of other income. See also table below.

Table 2.20. Benefit and asset test for personal supplement rate, per year, 2011-2015.

	2011	2012	2013	2014	2015
			D.Kr.		
Basic deduction					
Singles	18,000	18,500	18,800	19,100	19,400
Couples	35,600	36,600	37,200	37,900	38,500
Phase-out					
Singles	445	458	465	474	481
Couples	897	923	938	955	969

Source: Vej. Nr. 81 af 12/11/2012. Vejledning om regulering pr. 1.januar 2013 af satser på Social og Integrationsministeriets område, Vejledning om regulering pr. 1. januar 2014 af satser på Social, Børne og Integrationsministeriets område. VEJ nr. 9017 af 14/01/2014.

2.4 Social contributions

Most Danish transfers are financed through either the tax system, or through fully privately organized schemes. Below the three partly public social security schemes are described.

2.4.2 Supplementary labour market pension (*tscpier_s*, *tscpiee_s*)

All employees and employers pay contributions to a supplementary labour market pension scheme (ATP), with fixed contributions that vary by type of employment contract – monthly, fortnightly, weekly or hourly – and number of hours worked – full-time, part-time or less, see table 2.21 below. Employers pay two-thirds of the contribution (*tscpier_s*), while employees pay one-third (*tscpiee_s*). Self-employed can opt to pay the supplementary labour market pension as well.

Table 2.21. Supplementary labour market pension contributions, 2011-2015 (ATP-bidrag).

	2011--2015
Monthly contract	
Full time (117h-)	270
Part time (78-116h)	180
Part time (39-77h)	90
< 39 hours	0
Fortnightly contract	
Full time (54h-)	142.20
Part time (36-53h)	94.80
Part time (18-36h)	47.40
< 39 hours	0
Weekly contract	
Full time (27h-)	71.10
Part time (18-26h)	47.50
Part time (9-17h)	23.70
< 39 hours	0
Hourly paid	
Per hour	1.92

Source: https://www.atp.dk/X5/wps/wcm/connect/atp/atp.dk/erhverv/pens/ATP/Privat_virksomhed/Hvad_koster_det/Satser_for_2009 and www.atp.dk

EUROMOD note: Only monthly contracts are simulated in Euromod, as the majority of contracts in Denmark are monthly.

2.4.3 Contribution to unemployment insurance scheme and early retirement scheme (*tyrui_s*)

Unemployment insurance is voluntary and organised through typically trade-specific insurance schemes with monthly contributions, see table below. Early retirement is conditional upon long-term membership of an unemployment insurance scheme, and contribution to early retirement is therefore modelled alongside contributions to unemployment insurance schemes with a total contribution (*tyrui_s*). It is possible only to be member of unemployment insurance and not early retirement benefit scheme. This is increasingly the case.

Table 2.22. Voluntary monthly contribution to unemployment insurance and early retirement scheme, 2011-2015.

	2011	2012	2013	2014	2015
Contribution to unemployment insurance	306	315	315	326	331
Contribution to early retirement scheme	447	460	460	475	482

Source: <http://ams.dk/da/Love-og-Regler/Satser/Aktuelle%20satser.aspx>, <http://www.star.dk/da/Love-og-regler/Satser.aspx>.

EUROMOD note: Participation to unemployment insurance scheme is imputed using national register data.

2.4.4 Labour Market Contributions (*tsc_s*)

The labour market contribution (LMC) is a gross tax of 8 per cent levied upon gross labour income.

2.5 Personal income tax

The Danish tax system contains a gross flat tax levied on all labour income, municipal and county taxes levied on the taxable income base and a progressive tax rate at the national level levied on the personal income base. The tax system is mainly based on individual personal taxation, although there are a few possibilities for married couples to transfer redundant deductions in the different tax bases.

Two main income concepts used in this context are the Personal Income and Taxable Income, which are calculated as shown in the table below.

Table 2.23 Calculation of the Personal Income and Taxable Income tax bases

<p>(1) Gross labour income</p> <ul style="list-style-type: none"> - Contributions to occupational based agreed obligatory supplementary pension scheme (<i>Arbejdsmarkedspension</i>) + Transfers <ul style="list-style-type: none"> Education grant (<i>Statens Uddannelsesstøtte</i>) Unemployment benefits (<i>Dagpenge</i>), Early retirement pensions (<i>Efterløn og Engangsydelse</i>), Social assistance (<i>Kontanthjælp og integrationsydelse</i>), Severance pay (<i>Fratrædelsesgodtgørelse</i>) Sickness benefits (<i>Sygedagpenge mv.</i>) Benefits to pensioners, including old-age pension (<i>Folkepension</i>); heating subsidy (<i>varmehjælp</i>); pensions from the labour market contribution scheme (<i>ATP-pensioner</i>); civil servant pensions, incl. pensions to wife and children (<i>tjenestemandspensioner</i>); pension payments from privately held pension plans in pension funds, banks or insurance companies with regular payments; capital pensions; pension payments from previous employers; foreign pensions Survivors' benefits (<i>Efterladtepension</i>) Disability pension (<i>Revalideringsydelse mv.</i>) + Other incomes + Gifts + Alimony received + Life insurance premiums, fringe benefits + Multi media tax base (3.000 DKR; from 2010, (2.500 in 2014)) - Labour market contribution - Contribution to private pension schemes with a ceiling
<p>(2) Personal income</p> <ul style="list-style-type: none"> + Net capital income - Work-related deductions <ul style="list-style-type: none"> Earned income tax credit Transport allowance Payments to unemployment funds, unions & early retirement scheme Alimony/payments to divorcee's children and ex-partner Special occupational deductions (fishermen, etc.) Deposit on (company) start-up account Gift deductions Other employee expenses (over 5.600 kr in 2014)
<p>(3) Taxable income</p>

EUROMOD Notes: 1) It has not been possible to identify some of the components of these income concepts. Please have a look at the component of the income lists *il_persinc* and *il_taxinc* for more information. 2) The Danish tax system uses a concept of capital income, which incorporates interest payments on loans, mortgages etc. No fully comparable variable is found in the SILC-data, where the closest variable – investment income *iyi* – also includes a long range of positive incomes. For this reason, only negative investment incomes are included in the tax base. This option can be switched off in the model. 3) For commuting distances (forth and back) above 24km, tax payers can deduct standardized expenses (per km and work day). This is not implemented.

Another important feature of the tax system is the General Personal Allowance, used for the simulation of several of the instrument described below.

Table 2.24 General Personal Allowance, 2011-2015.

	2011	2012	2013	2014	2015
			D.KR:		
General personal allowance					
- For persons below 18 years	32.200	32.200	31.500	32.100	32.600
- For all other tax payers	42.900	42.900	42.000	42.800	43.400

Source: Lovbekendtgørelse nr. 143 af 8. februar 2011 om indkomstskat for personer mv.
<http://www.skm.dk/skatteomraadet/talogstatistik/skatteberegning/9757.html>, www.skm.dk

EUROMOD Notes: Due to the scarce practical relevance, the distinction between younger and older than 18 years old is not implemented in the current version of EUROMOD.

2.5.2 Earned Income Tax Credit:

- *Tax unit*

Tax unit is the individual

- *Tax Allowances*

Contribution to private pension schemes and contribution to supplementary labour market pensions needs to be deducted from the tax base

- *Tax Base*

The tax base is the gross labour income after the deduction of the tax allowances

- *Tax Schedule*

In 2014 the earned income tax credit rate was 7.65 %. The maximum value of tax credit was of 25,000 DKK per year. In 2014 an extra earned income tax-credit for single providers has been introduced. The definition of single provider is the same as the one used for the simulation of the child benefit supplement. Rate and maximum amount for supplementary earned income tax credit are reported in the table below.

Table 2.25. Earned income tax-credit, per year, 2011-2015 (*Beskæftigelsesfradrag*)

	2011	2012	2013	2014	2015
Rate	4.25	4.40	6,95	7,65	8,05
Maximum value	13,600	14,100	22.300	25,000	26,800
Sup. Rate				5.4	5.4
Sup. Max				17,700	17,900

Source: Forårspakke 2.0 <http://www.magnus.dk/Home/Satser/For%C3%A5rspakke%202.0.aspx?satsID={E8790D81-C617-408E-9702-C1052490623F}>, www.skm.dk/skattetal/beregning.

2.5.3 Municipality Tax:

- *Tax unit*

The tax unit is individual

- *Tax Base*

The tax base is the taxable income base after the deduction of the general personal allowance. Unused allowance can be transferred between spouses.

- *Tax Schedule*

Tax rates vary across municipalities, see table below.

Table 2.26. Distribution of municipality tax rates, 2011-2015 (kommuneskat)

	2011	2012	2013	2014	2015
			Per cent		
Average	25.0	25.0	24.9	24,9	24,9
Minimum			22,7	22,5	22,5
Maximum			27,8	27,8	27,8

Source: Skatteministeriet. http://www.skm.dk/tal_statistik/tidsserieoversigter/7794.html, <http://www.skm.dk/skattetal/satser/kommunal-beskatning/kommuneskatter-gennemsnitsprocenter-2007-2014/> Accessed the 1st December, 2014.

EUROMOD note: Since it is not possible to distinguish among municipalities in the SILC, the average tax rate is applied

2.5.4 Church Tax:

- *Tax unit*

The tax unit is individual

- *Tax Base*

The tax base is the taxable income base after the deduction of the general personal allowance. Unused allowance can be transferred between spouses.

- *Tax Schedule*

Tax rates vary across counties, see table below.

Table 2.27. Distribution of church tax rates, 2011-2015 (kirkeskat).

	2011	2012	2013	2014	2015
			Per cent		
Average	.7	.7	0.7	0,7	0,7

Source: Danish Ministry of Taxation http://www.skm.dk/tal_statistik/tidsserieoversigter/7794.html, <http://www.skm.dk/skattetal/satser/kommunal-beskatning/kommuneskatter-gennemsnitsprocenter-2007-2014/>, hentet 13. August, 2014.

EUROMOD note: The church tax is a voluntary contribution. In EUROMOD entitlement is randomly assigned to 80.4% of the municipality tax payers. Since it is not possible to distinguish among municipalities in the SILC, the average tax rate is applied.

2.5.5 Health Contribution:

- *Tax unit*

The tax unit is individual.

- *Tax Base*

The tax base is the taxable income base after the deduction of the general personal allowance. Unused allowance can be transferred between spouses.

- *Tax Schedule*

The tax rate was 8% in 2011, 7% for 2012, 6 % for 2013 and 5 % for 2014. For 2015 it will be 4 %.

2.5.6 Bottom Bracket Income Tax:

- *Tax unit*

The tax unit is individual.

- *Tax Base*

The tax base is the personal income base and positive net capital income, with the general personal allowance subtracted. Spouses can transfer negative net capital income and any unused personal allowance between them for the calculation of the bottom bracket tax.

- *Tax Schedule*

The tax rates in 2014 was 6.83 per cent, see table 2.28.

Table 2.28. Bottom bracket tax rates, 2011-2015 (bundskat).

	2011	2012	2013	2014	2015
			Per cent		
Bottom bracket tax rate	3.64	4.64	5.83	6.83	8.08

Source: Danish Ministry of Taxation http://www.skm.dk/tal_statistik/tidsserieoversigter/7794.html

2.5.7 Top Bracket Tax:

- *Tax unit*

The tax unit is individual.

- *Tax Base*

The top-bracket tax is the highest-level of the three progressive state taxes and is levied upon the sum of the personal income tax base, positive net capital income and contribution to capital pension schemes, with the top-bracket tax allowance subtracted.

The net capital income for spouses for the calculation of the top-bracket tax is computed jointly and taxed for the spouse with the highest basis of calculation, i.e. the spouse with the highest sum of the personal income base and the contributions to private capital pensions.

From the tax year 2010, a basic yearly allowance of 40,000 DKR is introduced for the inclusion of positive net capital income in the tax base for the top-bracket tax. The allowance can be transferred between spouses.

This means that for two spouses' only positive capital incomes above 80.000 DKR (in 2013) are taxed with the top-bracket tax rate.

- *Tax Schedule*

Table 2.28. Top bracket tax rates and allowances, 2011-2015 (topskat).

	2011	2012	2013	2014	2015
Top bracket tax rate	15.0	15.0	15.0	15,0	15,0
Top bracket tax allowance	409,100	409,100	421.000	449,100	459,200
Allowance in positive net capital income	40,000	40,000	40.000	40,800	41,400

Source: Danish Ministry of Taxation. <http://www.skm.dk/skatteomraadet/talogstatistik/skatteberegning/9796.html?rel>
 Allowance in positive net is for unmarried (double for married couple).

The sum of municipal, health, bottom, middle and top tax could not exceed 51.5% 2011-2012. In 2013-2014 the level is 51.7 %. In 2015 it is 51.95 %. If this happens, the top bracket income tax is reduced accordingly in the average municipality this is with 0.03% to 14.97%.

2.6 Property tax (tpr_s)

- *Tax unit*

The tax unit is the household.

- *Tax Base*

The Tax base is the property value.

- *Tax Schedule*

The tax rate is 1% up to a property value of 3,040,000 DKR and a tax rate of 3 percent above that threshold. The threshold has been frozen nominally since 2002.

EUROMOD Notes: In order to simulate this instrument, the tax rule has been reversed and the property value derived. This has then been used in the simulation.

3. DATA

3.1 General description

The Danish module of EUROMOD uses data from the European Union Statistics on Income and Living Conditions (EU-SILC) provided by Eurostat and contains almost 15,000 individuals from almost 6,000 households. The sampling is representative of all private households in Denmark.

Table 3.1 EUROMOD database description

EUROMOD database	
Original name	DK_2012_a2
Provider	Statistics Denmark
Year of collection	2012
Period of collection	March-July (interview part)
Income reference period	2011 (calendar year)
Sampling	Random probability sampling
Unit of assessment	Households
Coverage	Private households
Sample size	5,355 households (13,319 individuals)
Response rate	69,2%

The data sample is a representative sample of persons aged 16 years or older. From this sample the households are defined as persons who share expenses for daily living or share meals regularly. The data contains information on both the households and its members.

The data are compiled by Statistics Denmark. While information on the composition of the households, their living conditions, their view on their economic stance, their labour market status and their health status is collected through an interview survey (conducted between March and July), further information on income, education and housing are added from official registry data.

The sampling is managed as a rotating panel, where 25 per cent of the sample is replaced each year. A given household is thus part of the sample for four consecutive years.

While incomes in the EU-SILC are recorded in EUR and yearly, the derived EUROMOD data are stated in Danish kroner (DKK) in (mostly) monthly terms.

3.2 Sample quality and weights

3.2.1 Weights

The dataset includes four types of cross-sectional survey weights, which all have been modified to reproduce population characteristics from the sample:

- The household cross-sectional weights (variable **DB090** in EU-SILC) form the background for the EUROMOD weight variable **dwt**. The weights have been corrected for household non-response in order to calibrate the sample to the population, taking account of the population distribution in the following categories:
 - Sex
 - Age (5 classes 0-15, 16-24, 25-49, 50-64, 65+)
 - Family type.
 - Income mass and income groups (12 intervals; 1, 5, 10 ..., 90, 95, 99th percentile).
 - Risk of poverty
 - Equivalised disposable income
 - The size of the household
 - Education level of the person with the highest professional status in the household
 - Socio-economic status of main income holder in the household.
- 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 (which has responded to the interview) are surveyed, the personal weights RB050 are equal to the household weights DB090.
- The personal cross-sectional weights (variable **PB040**) for all household members who were interviewed individually (aged 16 and over) is used to draw inference on the variables included in the personal questionnaire. These weights had to be corrected for individual non-response.
- The personal cross-sectional weights for the selected respondents (variable **PB060**) are equal to PB040 for the selected respondents.

Table 3.2 Descriptive Statistics of weights

	DB090	RB050	PB040	PB060
Number	13352	13352	10868	5342
Mean	417.18	417.18	416.28	846.89
Median	309.16	309.16	300.79	765.96
Maximum	4946.80	4946.80	4946.80	5050.91
Minimum	1.41	1.41	0	8.45
Max/Min	3513.15	3513.15	.	597.85
Decile 1	144.55	144.55	142.41	406.99
Decile 9	856.06	856.06	919.28	1293.44
Deci 9 / Deci 1	5.92	5.92	6.45	3.18

Notes: The weight **dwt** in the EUROMOD data is equal to DB090.

3.3 Data adjustment

To accommodate the modelling of tax and benefit rules using the EU-SILC data, a few variables had to be adjusted.

3.3.1 Labour market activities, months per year

EU-SILC UDB does not provide information on the number of months different incomes are paid during the year. By default, it is imputed based on the main economic status during the year. This affects the following variables (unit is months per year):

yemmy:	Employment
kfbmy:	Fringe Benefits
ysemy:	Self-employment
bunmy:	Unemployment
pdimy:	Pension, disability (invalidity)
poamy:	Pension, old age
psumy:	Pension, survivors.

3.3.2 Income Tax and SIC - *tis*

7964 observations were missing and all were recoded to 0 (zero).

3.4 Imputations and assumptions

3.4.1 Time period

The used EU-SILC data for 2012 is based on survey data from interviews conducted March-April 2012 combined with registry data from the calendar year 2011 on incomes, dwelling information and educational information.

The input registry data on incomes are aggregated annual numbers, but are for use in EUROMOD converted into monthly figures, thus implicitly assuming a regular flow of income throughout the year. However, a number of variables in the data that record the number of months with different income types, such as yemmy = “Months with employment (income)” or bunmy = “Months with unemployment benefit income”, do not exist in EU-SILC and are therefore imputed see section 3.3.

3.4.2 Gross incomes

The income variables in the Danish SILC-data only contain gross incomes. Net-to-gross conversions have therefore not been necessary.

3.4.3 Disaggregation of harmonised variables

The aggregated construction of a number of especially income variables in the EU-SILC UDB-data have necessitated the splitting of UDB-variables and/or the imputation of individual benefits. Some key examples are given below.

Unemployment benefits, social assistance and early retirement benefits are recorded in the UDB-variable PY090G (bun):

- In order to disaggregate these three benefits we relied on external individual level register data from the national statistical bureau (Statistics Denmark) via the Researcher Scheme (Forskerordningen). In

the registers we had access to almost comparable variables in the form of 'qeftlona' (retirement benefit), 'arblhu' (unemployment benefit) and 'qbistyd' (social assistance) for 2011. In addition, bun contains severance payment, which we don't have access to in the specific registry. Total benefits were thus equal to $bun_r = qeftlona + arblhu + qbistyd$. since only about 2½ percent had two or all three benefits, we applied the following strategy to people who only received one of the three benefits during the calendar year.

- Using register data, a multinomial model was estimated for people aged 59-64 years with all three possible outcomes (retirement=1, unemployment=2 and 3=social assistance). For individuals aged 16-58 years a logit model was estimated modelling the outcome unemployment (1) and social assistance (0). In both models the RHS variables are gender, age (single year dummies in the multinomial version, and age intervals in the logit model), and bun_r fractile (and it's square, cubic and quartic).
- The estimated coefficients from these regressions were applied to the EU-SILC data in order to predict the probability of a given state (three states for 59-64 years old and two states for 18-58 years old). The estimated coefficients based on 2011 data were applied both to 2007 and 2011 EU-SILC data.
- People with the greatest probabilities of a given state were assigned that state such that the number of recipients matched the number receiving the benefit in the external register.
- After deciding the final state the benefit level was assumed to equal bun.

Various forms of public pension transfers as well as income from private pension schemes are recorded in the UDB-variable PY100G.

- The basic old-age pension (poa00) is imputed from age, other incomes and numbers of years lived in Denmark.
- The pension supplement (poa01) is imputed from age and own as well as spouse income.
- The supplementary pension benefit (poa02) is imputed from income and wealth.
- The supplementary labour market pension (poa03) is imputed from external information on average incomes of this type and assumptions on lifetime work history.
- The remaining part of PY100G is recorded as payments from private pension schemes. It will however be an amalgam of a heating subsidy, civil servant pensions, income from private pension plans, pensions from previous employers, capital pension disbursements and foreign pensions.

A tax free child family grant varying by age of child (bfachnm) is imputed based on age of child and isolated from other child benefits (bfach00 and bfached) in the family/children related allowances (HY050G/bfa). Residual child-related benefits are saved in bfachot.

Housing allowances (HY070G) are split by the age of the recipient into a housing benefit (bho01) for recipient below the age of 65 and a housing grant (bho02) for pensioners.

The receipt of housing allowances is based on the concept of housing costs, including rent, but not heating etc. Under some circumstances related both to characteristics of the dwelling and of the tenancy that cannot be simulated, the housing cost is augmented. To establish this base for the computation of the housing allowances, the housing costs is imputed hence by reversing the rules for the housing allowances, creating the housing cost base for housing benefits (xhc01) and for housing grants (xhc02). The variable xivhc is then imputed for all the households in sample using predictions of xhc01 on and xhc02 on the basis of household characteristics and SILC reported housing cost.

To simulate the receipt of unemployment benefit (see also section 2.3.1), the participation in the unemployment insurance scheme is simulated as the binary 0/1-variable lrg, based on a discrete choice logit

model established from Danish registry data. People with the highest probabilities of UI membership are selected such that their number matches the proportion of the population with UI membership.

As SILC does not contain information on the value of owned property, the value of property owned (aiv) is imputed from the paid property taxes.

The previous earnings (yempv) on which the level of unemployment benefit is based is calculated by reversing the rules for the unemployment benefit.

3.5 Updating factors

To account for any time inconsistencies between the input dataset and the policy year, updating factors are used. Each monetary variable (i.e. each income component) is updated so as to account for changes in the non-simulated variables that have taken place between the year of the data and the year of the simulated tax-benefit system. Updating factors are generally based on changes in the average value of an income component between the year of the data and the policy year. For detailed information about the construction of each updating factor as well as the sources that have been used, see Annex 1.

As a rule, updating factors are provided both for simulated and non-simulated income components present in the input dataset. Note however that in the case of simulated variables, the actual simulated amounts are used in the baseline rather than the updated original variables in the dataset. Updating factors for simulated variables are provided so as to facilitate the use of the model in cases when the user wishes to turn off the simulation of a particular variable. The list of updating factors as well as the sources used to derive them can be found in Annex 1.

4. VALIDATION

4.1 Aggregate Validation

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

4.1.1 Components of disposable income

Table 4.1 Components of disposable income

	EUROMOD	EU-SILC
	ils_dispy	HY020
Employee cash or near cash income	+	+
Employer's social insurance contribution	0	0
Company car	0	+
Contributions to individual private pension plans	0	0
Cash benefits or losses from self-employment	+	+
Pension from individual private plans	+	0
Unemployment benefits	+	+
Old-age benefits	+	+
Survivor' benefits	+	+
Sickness benefits	+	+
Disability benefits	+	+
Education-related allowances	+	+
Income from rental of a property or land	+	+
Family/children related allowances	+	+
Social exclusion not elsewhere classified	+	+
Housing allowances	+	+
Regular inter-household cash transfer received	+	+
Interests, dividends, etc.	+	+
Income received by people aged under 16	+	+
Regular taxes on wealth1	-	-
Regular inter-household cash transfer paid	-	-
Tax on income and social contributions	-	-
Repayments/receipts for tax adjustment	+	+

Notes: Contents of HY020 are based on EUROSTAT (2010).

4.1.2 Validation of incomes inputted into the simulation

The number of employed as well as unemployed in the SILC-data compares quite well with external information, see table 4.2 in Annex 2, and is close to equal in 2014. Differences might be due to EM-figures being number of employed and unemployed based on months in employment/unemployment. Numbers are computed as averages of monthly data over the year. In contrast, the external figures are an inventory as of end of November. As employment typically spans over longer periods than unemployment, the inventory in

Number of employed and unemployed will match the computation of months spend in employment/unemployment better for employment than for unemployment.

Tables 4.3 and 4.4 compare with external statistics the number of people and the aggregated amount of a number of market income components. Employment income is well captured by SILC data both in terms of number of recipients and aggregated amount. Both the number of people receiving income from self-employment and the aggregated amount of self-employment income appear to be over-reported in SILC when compared with external statistics, although the amount matches the external statistics more precisely. A reason might be that people in principle can have several types of income (wages, benefits, self-employed income) and thus the numbers counting as self-employed will vary more than the precise income as this comes from income in the tax registers. Discrepancies arise also with respect to the aggregated amount of investment income, which is severely under-reported in SILC when compared to external statistics. Both under-reporting of investment income as well as a discrepancy in the concept of investment income used in SILC and in the external statistics are likely to be the main causes of poor

The comparisons between the number of recipients of various types of non-simulated benefits/number of payers of non-simulated taxes in the input dataset and external statistics (see Table 4.5 in Annex 2) are generally satisfactory with the exception of support to survivors (heavily underestimated) and disability benefits (overestimated). In both cases EUROMOD counts as a recipient all the individuals receiving these benefits at least once during the year, while external statistics on disability benefits are full time equivalents. This, together with a relatively modest size of the benefit, might explain partly the overestimation. Similar to the case of the number of recipients, there are generally small differences between the aggregate yearly amounts of various types of non-simulated benefits/non-simulated taxes in the input dataset and external statistics (see Table 4.6 in Annex 2).

4.1.3 Validation of outputted (simulated) incomes

For the benefits, taxes and social contributions that are simulated by EUROMOD cf. Table 4.7 and 4.8 in Annex 2, there is a relatively good fit. The most important exceptions are listed below.

A change in the eligibility rules for housing benefit and grant may accommodate for the divergence between the external statistics and the EUROMOD simulations. According to the rules applicable in 2011-2015 – and thus in the EUROMOD simulations – the housing grant applies to old-age pensioner-tenants, while the housing benefit applies to tenants under 65 years of age. However, in the external statistics the housing grant also encompasses disability pensioners (i.e. non-pensioners) who are entitled to it. This means that the external numbers for the housing grant are inflated by these 'old' disability pensioners relative to the simulations based on the age-dependent imputation from the 2012-input data. Likewise, the external data for the housing benefit are 'deflated' by these 'old-rule' disability pensioners, compared to the simulations.

While the amount of people receiving unemployment benefit fit acceptably with external statistics, the aggregate amount of disbursed unemployment benefit is severely underestimated.

The overestimation both in the number of recipients and in the aggregate amount of social assistance is likely to be driven both by limitations in our simulation, which cannot control for the requirement of experiencing particularly stressful events, as well as by issues such as benefit non take up.

4.2 Income distribution

All income distribution results presented here are computed for individuals according to their household disposable income (HDI) equalised by the “modified OECD” equivalence scale. HDI are calculated as the sum of incomes from all 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

A comparison of distributional indicators derived from EUROMOD-generated household disposable income with external statistics shows that overall the EUROMOD estimates fits rather well with the income distribution, and thus also the GINI and 80/20 ratio, although the fit for the first decile is less precise.

4.2.2 Poverty rates

A computation of poverty rates by gender and age using EUROMOD shows that EUROMOD estimates the incidence of poverty in Denmark according to EUROSTAT database rather well with a few exceptions (table 4.10). There is an underestimation especially for women using the 40 % median HDI and for 65+ years of age in the 60 % of median HDI. The discrepancy can be due to the relatively small amount of people falling in these categories. For those above the age of 65 a possible explanation might be that there has been an increase in the number of elderly having occupational based pension, which raises some old people just above the HDI 60 % poverty line. Quite a proportion of pensioners are located just below this poverty threshold.

4.3 Summary of “health warnings”

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

Take-up rates in Denmark are generally high so that the level of take-up should not have any specific impact on calculations. There is tax-evasion in Denmark, but this is also at a relatively low level compared to other countries, and, should therefore only marginally impact the overall level of calculation, however with a possible impact on distribution.

The land value tax is recorded as part of the total housing costs and not simulated as there is no information on the land value or the tax payment. The land value tax is recorded as a housing cost to make it comparable to tenants, who (indirectly) pay the land value tax as a part of their rent. Approximately 40 per cent of all potential tax payers paid the property tax in 2007, according to external statistics from Statistics Denmark. The tax rate is on average 0.25% of the land value – with a land value of, on average 300,000 (rough calculation from combination of various statistics), this makes a negligible amount of 750 DKK per year.

The transferability of tax allowances between spouses in various simulated taxes (i.e. health contribution, etc.) is implemented by reducing the tax base of the spouse whose taxable income is above the allowance by an amount equal to the unused allowance of the other spouse. As it is the case for the Danish tax-benefit system, reducing the tax base is equivalent to increase the tax allowance in case the applicable tax is flat (e.g. there is only one tax rate above the allowance). However, the user should be aware of the current behaviour of the model if s(he) want to introduce a reform which makes taxation (i.e. health contribution) progressive by adding a new tax band for incomes above a given threshold.

For simplicity, assume we have two spouses, one with no taxable income ($Y1=0$) and the other with taxable income above his/her allowance plus the unused personal allowance of the spouse ($Y2>A2+A1$). In a flat tax setting, the poorest spouse will pay no tax since s(he) has income below the allowance ($T1=0$). The richest spouse tax liability will be equal to $(Y2-A2-A1)*t1$, where $t1$ is the flat tax rate. In this setting, which is the one currently in place in Denmark, reducing the tax base of the second spouse is equivalent to increase his/her tax allowance.

In case a reform would make the tax progressive by introducing a new tax rate $t2$ for income above a threshold C (for simplicity we assume $C<Y2-A1$), under the current implementation the “rich” spouse would pay $(Y2-A1-C)*t2+(C-A2)*t1$. Alternatively, the user might want to increase the personal allowance of the “rich” spouse instead of decreasing his/her tax base. In this case s(he) would pay $(Y2-C)*t2+(C-A1-A2)*t1$. In the first scenario the gain from the transfer of the unused allowance would hence be $A1*t2$, while it would be equal to $A1*t1$ in the second scenario.

5. REFERENCES

EUROSTAT (2010): *EU-SILC 065 (2008-operation) - Description of Target Variables: Cross-sectional and Longitudinal*. Version: January 2010.

StatBank (2015) www.statistikbanken.dk. StatistikBanken is the Danish National Statistical Office's (Statistics Denmark) online statistical service.

- *Sources for tax-benefit descriptions/rules*

The description and the derived modeling of the Danish tax and benefit system build on various sources, mostly only in the Danish language:

- The Ministry of Taxation, www.skm.dk/foreign/
- The central legal information: <https://www.retsinformation.dk/>
- The Ministry of Social Affairs, Children and Integration: <http://www.sm.dk/Sider/Start.aspx>
- The Ministry for Employment: <http://bm.dk/>
- The citizens' entry point for information on public benefits etc., www.borger.dk
- Wolters Kluwer information gateway to Danish law statutes: www.magnus.dk.

ANNEX 1 - UPRATING FACTORS

Table A1.1-Uprating factors values and sources

Index	Reference	2007	2008	2009	2010	2011	2012	2013	2014	2015	Source
Harmonised CPI (2005=100)	\$HICP	103.6	107.9	108.9	110.7	113.9	116.4	117.1	117.6	118.1	Source: EUROSTAT - June values
Indices of average earnings in Corporations and Organizations	\$f_earnings	106.2	110.8	115.4	118.2	120.3	122.5	124.1	125.4	127.2	Source: STATBANK (ILON12- Quarter 1)
Lagged indices of average earnings in Corporations and Organizations	\$f_earningsLag	102.9	106.2	110.8	115.4	118.2	120.3	122.5	124.1	125.4	Source: STATBANK (ILON12- Quarter 1)
Share index	\$f_share	476	395	259	344	367	366	424	610	737	Source: STATBANK (MPK13-June values)
Consumer Price Index (2000=100)	\$f_cpi	114.4	118.8	120.2	122.3	126	128.8	130	130.7	131.6	Source: STATBANK (PRIS6 - June values)
No uprating (used for variable yds)	\$f_none	1	1	1	1	1	1	1	1	1	
Adjustment of rates index (Satsreguleringsprocenten 2007=100)	\$f_index	100	102.9	106.0899	110.0152	112.1055	115.3566	117.2023	119.3119	121.1016	Own calculation based on http://www.modst.dk/OEAV/2-Bevillingslove/25-Indeks/251-Fastprisberegninger
Rent Index from CPI (2000=100)	\$f_rent	118.8	121.8	125.4	129	132.9	136.4	139.5	142	144.7	Source: STATBANK (PRIS6 - June values)

Table A1.2-Uprating indexes usage

Harmonised CPI (2005=100)	\$hicp	
Indices of average earnings in Corporations and Organizations	\$f_earnings	kfb, yot, ypt, yse, yem, yivwg, kfbcc
Lagged indices of average earnings in Corporations and Organizations	\$f_earningslag	yempv
Share index	\$f_share	aiv, afc, yiy
Consumer Price Index (2000=100)	\$f_cpi	xhc, xpp, xmp, kivho, ypp, xhc02, xhc01, xivhc, xhcot, xhcmomi, ydses_o
No uprating	\$f_none	tis, tpr, yds
Adjustment of rates index (Satsreguleringsprocenten 2007=100)	\$f_index	psu, poa03, poa02, poa01, poa00, pdi, bho02, bho01, bfachot, bfachnm, bfached, bfach00, bhl, pyr, bsa, bunot, bunct, bed
Rent Index from CPI (2000=100)	\$f_rent	ypr, xhcr

ANNEX 2 - VALIDATION TABLES

Table 4.2 -Number of employed and unemployed

	EUROMOD		External				Ratio				
	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
N of employed	2528.244	2645	2623	2624	2641	N/A	0.96	0.96	0.96	0.96	N/A
N of unemployed	190.1704	221	218	202	191	N/A	0.86	0.87	0.94	1.00	N/A

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

	EUROMOD		External				Ratio				
	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Employment income	2954	2893	2888	2914	N/A	N/A	1.02	1.02	1.01	N/A	N/A
Self-employment income	1221	386	412	419	N/A	N/A	3.16	2.96	2.91	N/A	N/A
Investment income	3999	3262	3195	3159	N/A	N/A	1.23	1.25	1.27	N/A	N/A
Private Pensions	590	524	552	579	N/A	N/A	1.13	1.07	1.02	N/A	N/A
Rent income	86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Incomes	161	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private Transfers	153	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

	EUROMOD					External					Ratio			
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014
Employment income	832,548	847,774	858,847	867,843	880,301	838,068	852,510	866,156	N/A	N/A	0.99	0.99	0.99	N/A
Self-employment income	69,689	70,963	71,890	72,643	73,686	49,229	56,229	61,783	N/A	N/A	1.42	1.26	1.16	N/A
Investment income	4,653	4,640	5,375	7,734	9,344	38,839	41,621	45,518	N/A	N/A	0.12	0.11	0.12	N/A
Private Pensions	55,787	57,027	57,558	57,868	58,267	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rent income	1,177	1,208	1,236	1,258	1,282	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Incomes	1,200	1,222	1,238	1,251	1,269	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Privat Transfers	3,061	3,117	3,158	3,191	3,236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average employment income	281,836	286,990	290,739	293,785	298,002	289,688	295,190	297,240	N/A	N/A	0.97	0.97	0.98	N/A

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

	EUROMOD						External					Ratio				
	2011	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Benefits																
Supplementary labour market pension	843.4521	811	851	887	N/A	N/A	1.04	0.99	0.95	N/A	N/A	1.04	0.99	0.95	N/A	N/A
Disability pension	347.2612	238	238	233	223	N/A	1.46	1.46	1.49	1.56	N/A	1.46	1.46	1.49	1.56	N/A
Education benefit	484.7904	388	412	439	N/A	N/A	1.25	1.18	1.10	N/A	N/A	1.25	1.18	1.10	N/A	N/A
Survivors' help	46.99086	383	271	N/A	N/A	N/A	0.12	0.17	N/A	N/A	N/A	0.12	0.17	N/A	N/A	N/A
Sickness benefit	382.3334	445	413	398	N/A	N/A	0.86	0.93	0.96	N/A	N/A	0.86	0.93	0.96	N/A	N/A
Early retirement benefit	141.29	163	150	141	N/A	N/A	0.87	0.94	1.00	N/A	N/A	0.87	0.94	1.00	N/A	N/A

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

	EUROMOD					External					Ratio					
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	
Benefits																
Supplementary labour market pension	9813.32	10097.87	10259.45	10444.13	10600.81	9804	10653	11445	N/A	N/A	1.00	0.95	0.90	N/A	N/A	
Disability pension	55945.92	57568.35	58489.45	59542.26	60435.39	42418	43130	42794	42050	N/A	1.32	1.33	1.37	1.42	N/A	
Education benefit	19891.18	20468.03	20795.52	21169.83	21487.38	14940	16542	18026	N/A	N/A	1.33	1.24	1.15	N/A	N/A	
Survivors' help	2217.51	2281.82	2318.33	2360.06	2395.46	3649	2800	N/A	N/A	N/A	0.61	0.81	N/A	N/A	N/A	
Sickness benefit	13272.60	13657.50	13876.03	14125.79	14337.68	14711	14088	12830	12484	N/A	0.90	0.97	1.08	1.13	N/A	
Early retirement benefit	22718.34	23377.17	23751.20	24178.72	24541.40	19825	18705	17818	N/A	N/A	1.15	1.25	1.33	N/A	N/A	

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

	EUROMOD					External					Ratio				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Benefits															
Ord. & suppl. child benefit	227	227	227	227	227	198	198	194	198	N/A	1.14	1.14	1.17	1.14	N/A
Benefit for student parents	6.34	6.34	6.34	6.34	6.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Child family grant	1112	1112	1112	1101	1101	1207	1192	1197	1191	N/A	0.92	0.93	0.93	0.92	N/A
Housing benefit	726	730	726	713	695	208	217	222	238	N/A	3.49	3.36	3.27	3.00	N/A
Housing grant	241	242	238	226	221	295	292	288	285	N/A	0.82	0.83	0.83	0.79	N/A
Green check	3665	3621	3579	3600	3562	3562	3551	3590	N/A	N/A	1.03	1.02	1.00	N/A	N/A
Social assistance	281	281	281	276	276	227	233	244	N/A	N/A	1.24	1.20	1.15	N/A	N/A
Unemployment benefit	303	303	303	303	303	319	322	319	N/A	N/A	0.95	0.94	0.95	N/A	N/A
Old-age pension	961	961	961	961	961	953	989	1021	1047	N/A	1.01	0.97	0.94	0.92	N/A
old age pension supplement	934	934	934	934	934	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary pension benefit	306	307	304	297	294	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Taxes and Social Insurance contributions															
Church tax	3369	3372	3375	3361	3355	3395	3402	3384	N/A	N/A	0.99	0.99	1.00	N/A	N/A
Health contribution	4213	4216	4224	4202	4194	4194	4231	4253	N/A	N/A	1.00	1.00	0.99	N/A	N/A
Earned income tax credit	3162	3162	3163	3163	3163	2645	2623	2624	N/A	N/A	1.20	1.21	1.21	N/A	N/A
Bottom-bracket tax	4268	4274	4289	4284	4286	4209	4231	4253	N/A	N/A	1.01	1.01	1.01	N/A	N/A
Top-bracket tax	582	621	587	481	466	682	732	566	N/A	N/A	0.85	0.85	1.04	N/A	N/A
Municipality tax	4213	4216	4224	4202	4194	4169	4203	4228	N/A	N/A	1.01	1.00	1.00	N/A	N/A
Property value tax	1595	1595	1595	1595	1595	2080	2083	2077	N/A	N/A	0.77	0.77	0.77	N/A	N/A
Labour market contribution	3187	3187	3187	3187	3187	3014	3010	3018	N/A	N/A	1.06	1.06	1.06	N/A	N/A
Suppl. lab. market contrib.	2681	2681	2681	2681	2681	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Contr. to unempl.insurance and early retirement scheme	1869	1869	1869	1868	1868	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4.8-Tax benefit instruments simulated in EUROMOD -Amounts (in Mil of DKK)

	EUROMOD					External					Ratio				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Benefits															
Ord. & suppl. child benefit	1925	1981	2012	2045	2085	2146	2171	2214	2272	N/A	0.89	0.91	0.90	0.89	N/A
Benefit for student parents	41	42	43	44	45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Child family grant	13563	13621	13728	13784	13907	14376	14392	14492	14489	N/A	0.94	0.95	0.95	0.95	N/A
Housing benefit	8166	8427	8411	8352	8246	2960	3156	3344	3663	N/A	2.76	2.67	2.52	2.28	N/A
Housing grant	6280	6460	6265	5944	5840	9197	9423	9556	9699	N/A	0.68	0.69	0.66	0.61	N/A
Green check	4926	4850	5189	5220	3920	4908	4875	5519	N/A	N/A	1.00	0.99	0.94	N/A	N/A
Social assistance	21169	21687	22165	22138	23252	11153	12635	14533	13934	N/A	1.90	1.72	1.53	1.59	N/A
Unemployment benefit	11325	11526	11737	11890	12015	20263	20510	19731	18651	N/A	0.56	0.56	0.59	0.64	N/A
Old-age pension	63651	65515	66564	67770	68792	97613	103638	112626	117927	N/A	1.12	1.08	1.01	0.99	N/A
old age pension supplement	45422	46767	47524	48400	49489					N/A					N/A
Supplementary pension benefit	2871	2957	4176	4138	4146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Taxes and Social Insurance contributions															
Church tax	4753	4872	4871	4824	4854	5689	5819	5930	N/A	N/A	0.84	0.84	0.82	N/A	N/A
Health contribution	67752	60765	52064	42942	34559	63736	57570	50823	N/A	N/A	1.06	1.06	1.02	N/A	N/A
Earned income tax credit	29156	30436	48362	56471	59240	29056	30124	48081	N/A	N/A	1.00	1.01	1.01	N/A	N/A
Bottom-bracket tax	35067	45816	58805	69605	83607	34381	44439	57576	N/A	N/A	1.02	1.03	1.02	N/A	N/A
Top-bracket tax	18513	19578	19391	17719	17696	16575	17781	15864	N/A	N/A	1.12	1.10	1.22	N/A	N/A
Municipality tax	211726	217018	216066	213849	215127	197557	203910	209858	N/A	N/A	1.07	1.07	1.03	N/A	N/A
Property value tax	13405	13367	15627	23935	30669	12826	13025	13227	N/A	N/A	1.05	1.03	1.18	N/A	N/A
Labour market contribution	72179	73499	74459	75239	76319	72939	73847	74829	N/A	N/A	0.99	1.00	1.00	N/A	N/A
Suppl. lab. market contrib.	7996	7996	7996	7996	7997	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Contr. to unempl.insurance and early retirement scheme	16884	17377	17377	17957	18226	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 4.9-Distribution of equivalised disposable income

	EUROMOD					External					Ratio				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
D1	3.44	3.45	3.34	2.89	2.61	2.30	2.70	3.20	N/A	N/A	1.50	1.28	1.04	N/A	N/A
D2	5.95	5.97	5.96	5.89	5.81	5.70	5.70	5.70	N/A	N/A	1.04	1.05	1.05	N/A	N/A
D3	6.97	6.99	6.95	6.87	6.83	6.80	6.80	6.70	N/A	N/A	1.02	1.03	1.04	N/A	N/A
D4	7.77	7.81	7.79	7.71	7.66	7.80	7.70	7.60	N/A	N/A	1.00	1.01	1.02	N/A	N/A
D5	8.78	8.76	8.73	8.62	8.52	8.70	8.70	8.50	N/A	N/A	1.01	1.01	1.03	N/A	N/A
D6	9.61	9.63	9.60	9.51	9.42	9.70	9.60	9.40	N/A	N/A	0.99	1.00	1.02	N/A	N/A
D7	10.62	10.63	10.60	10.47	10.40	10.80	10.70	10.50	N/A	N/A	0.98	0.99	1.01	N/A	N/A
D8	11.85	11.86	11.81	11.72	11.66	12.10	12.00	11.80	N/A	N/A	0.98	0.99	1.00	N/A	N/A
D9	13.64	13.60	13.61	13.52	13.46	13.90	13.90	13.70	N/A	N/A	0.98	0.98	0.99	N/A	N/A
D10	21.37	21.31	21.62	22.80	23.62	22.20	22.20	22.70	N/A	N/A	0.96	0.96	0.95	N/A	N/A
Median	194533.80	197879.00	200401.30	199963.30	198551.80	198037.00	200216.00	207183.00	N/A	N/A	0.98	0.99	0.97	N/A	N/A
Mean	211828.60	215306.10	218690.40	221174.70	222386.40	215055.00	219126.00	230539.00	N/A	N/A	0.98	0.98	0.95	N/A	N/A
Gini	25.62	25.49	25.91	27.48	28.57	28.10	27.50	27.50	N/A	N/A	0.91	0.93	0.94	N/A	N/A
S80/S20	3.73	3.70	3.79	4.14	4.40	4.50	4.30	4.10	N/A	N/A	0.83	0.86	0.92	N/A	N/A

Table 4.10-Poverty rates by gender and age

	EUROMOD					External					Ratio				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
40% median HDI															
Total	3.59	3.47	3.52	3.63	3.92	5.00	4.80	4.40	#N/A	#N/A	0.72	0.72	0.80	#N/A	#N/A
Males	4.06	3.92	4.02	3.96	4.42	5.40	5.20	5.20	#N/A	#N/A	0.75	0.75	0.77	#N/A	#N/A
Females	3.12	3.02	3.04	3.31	3.44	4.60	4.30	3.60	#N/A	#N/A	0.68	0.70	0.84	#N/A	#N/A
50% median HDI															
Total	6.70	6.66	6.66	6.82	6.92	7.70	7.10	6.60	#N/A	#N/A	0.87	0.94	1.01	#N/A	#N/A
Males	7.14	7.14	7.14	7.33	7.49	8.20	7.80	7.10	#N/A	#N/A	0.87	0.91	1.01	#N/A	#N/A
Females	6.28	6.19	6.19	6.33	6.37	7.10	6.40	6.00	#N/A	#N/A	0.88	0.97	1.03	#N/A	#N/A
60% median HDI															
Total	11.44	11.50	11.33	11.30	11.24	13.10	12.30	11.90	#N/A	#N/A	0.87	0.94	0.95	#N/A	#N/A
Males	11.62	11.78	11.56	11.62	11.65	13.30	12.60	12.20	#N/A	#N/A	0.87	0.93	0.95	#N/A	#N/A
Females	11.26	11.24	11.12	10.98	10.83	12.90	12.10	11.70	#N/A	#N/A	0.87	0.93	0.95	#N/A	#N/A
70% median HDI															
Total	18.84	18.78	18.63	18.81	18.47	21.40	20.70	20.40	#N/A	#N/A	0.88	0.91	0.91	#N/A	#N/A
Males	18.75	18.63	18.46	19.06	18.75	21.10	20.50	20.10	#N/A	#N/A	0.89	0.91	0.92	#N/A	#N/A
Females	18.93	18.92	18.80	18.57	18.20	21.70	20.90	20.60	#N/A	#N/A	0.87	0.91	0.91	#N/A	#N/A
60% median HDI															
0-15 years	8.31	8.39	8.35	8.83	9.29	10.00	9.20	9.50	#N/A	#N/A	0.83	0.91	0.88	#N/A	#N/A
16-24 years	29.60	30.07	29.07	28.82	27.18	33.00	33.10	32.00	#N/A	#N/A	0.90	0.91	0.91	#N/A	#N/A
25-49 years	11.98	12.13	12.30	12.47	12.93	12.20	11.90	11.80	#N/A	#N/A	0.98	1.02	1.04	#N/A	#N/A
50-64 years	5.83	5.83	5.81	6.11	6.25	5.10	5.10	4.70	#N/A	#N/A	1.14	1.14	1.24	#N/A	#N/A
65+ years	7.98	7.68	7.08	5.89	5.08	14.10	10.60	9.50	#N/A	#N/A	0.57	0.72	0.75	#N/A	#N/A

ANNEX 3: POLICY EFFECTS IN 2013-14 AND 2014-15

Table 1 and Figure 1 show the effect of 2014 policies on mean equivalised household disposable income by income component and income decile group. The effect is estimated as a difference between simulated household net income under the 2014 tax-benefit policies (deflating monetary parameters by Eurostat's Harmonized Index of Consumer Prices, HICP) and net incomes simulated under 2013 policies, as a percentage of mean equivalised household disposable income in 2013.

In comparison to 2013 policies, (deflated) 2014 policies increase mean household income by 0.66%. The increase is uniform across deciles of household disposable income.

Gains in household disposable income are driven by increases in means tested benefits, while reductions are mainly driven by a reduction in non means tested benefits. The introduction in 2014 of an income test in the child family grant is likely to explain such a pattern, since the benefit was classified as a non means tested until 2013 and as means tested since 2014. As expected, the net effect of the change is progressive.

Table 2 and Figure 2 show the effect of 2015 policies on mean equivalised household disposable income by income component and income decile group. The total effect is small (close to 0.1%), although the distribution of the change show a progressive pattern with households at the bottom of the income distribution experiencing an (small) increase in disposable income and households at the top experiencing a (small) reduction.

Analysing changes by income component, it emerges that households at the bottom of the income distribution experienced an 1% increase in income from means tested benefits and a similar reduction due to increases in direct taxes. The findings are likely to be driven by a reform in social assistance implemented in 2015, with the abolition of the rule which would reduce benefit entitlement after 6 months, and by an increase in the tax rate of the bottom bracket income tax.

Table 1: Policy effects in 2013-2014, using the HCPI-indexation, %

Decile	Original income	Public pensions	Means-tested Benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.27	4.79	-4.08	-0.07	0.00	-0.13	0.79
2	0.00	0.80	2.90	-2.74	-0.03	0.00	0.00	0.92
3	0.00	0.72	2.60	-2.63	-0.05	0.00	0.08	0.72
4	0.00	0.60	2.87	-2.73	-0.06	0.00	0.13	0.81
5	0.00	0.32	3.02	-2.84	-0.07	0.00	0.28	0.72
6	0.00	0.24	2.87	-2.72	-0.08	0.00	0.29	0.61
7	0.00	0.20	2.45	-2.36	-0.08	0.00	0.38	0.58
8	0.00	0.17	1.86	-1.81	-0.07	0.00	0.48	0.62
9	0.00	0.14	1.33	-1.30	-0.07	0.00	0.57	0.66
10	0.00	0.14	0.55	-0.69	-0.05	0.00	0.60	0.55
Total	0.00	0.29	2.06	-2.00	-0.06	0.00	0.37	0.66

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2013, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2014 policies by Eurostat’s Harmonized Index of Consumer Prices (HICP).

Figure 1: Policy effects in 2013-2014, using the CPI-indexation, %

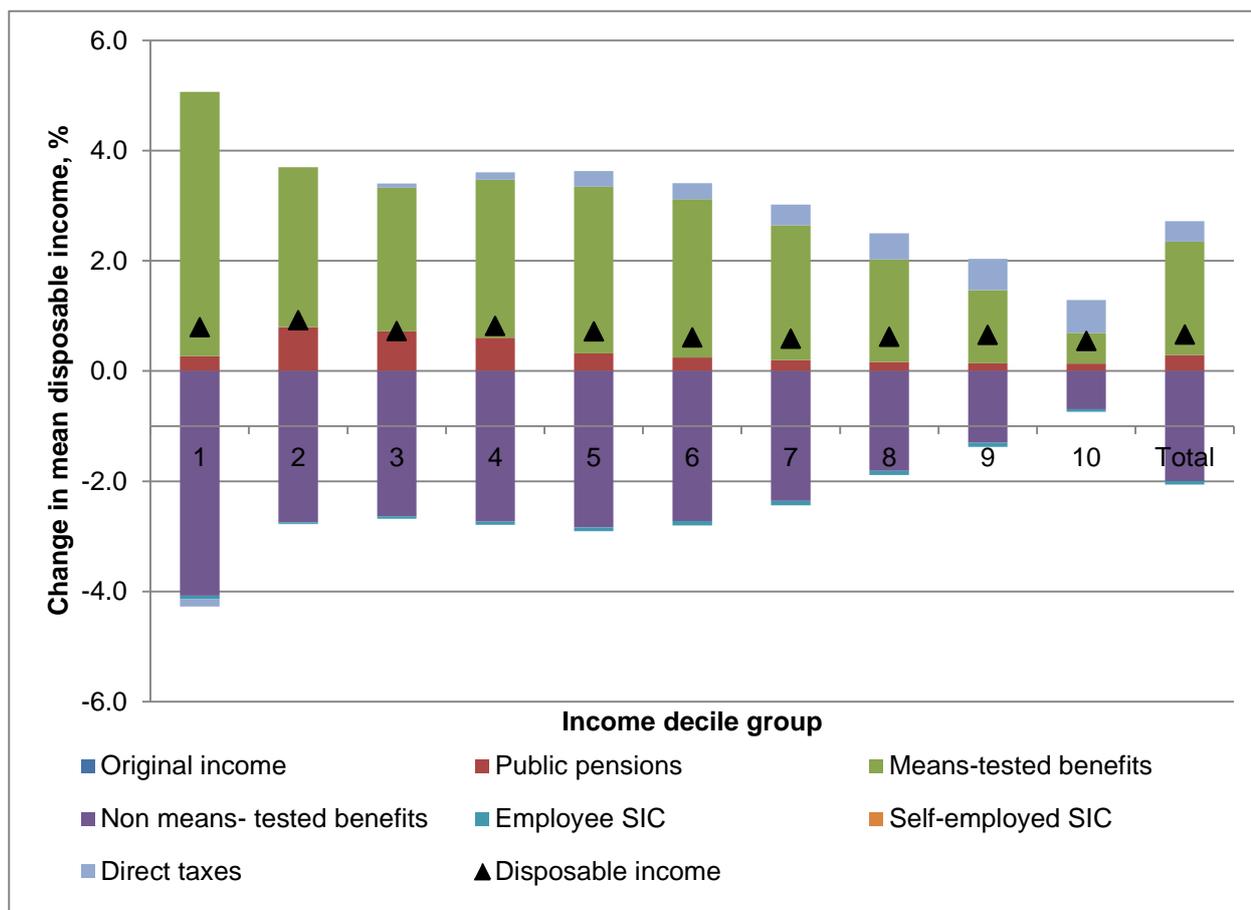


Table 2: Policy effects in 2014-2015, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income
1	0.00	0.26	1.12	0.38	-0.03	0.00	-1.18	0.55
2	0.00	0.73	0.03	0.12	-0.01	0.00	-0.64	0.23
3	0.00	0.63	-0.12	0.10	-0.02	0.00	-0.56	0.02
4	0.00	0.59	-0.12	0.07	-0.02	0.00	-0.53	-0.01
5	0.00	0.29	-0.09	0.07	-0.03	0.00	-0.47	-0.23
6	0.00	0.24	-0.11	0.06	-0.03	0.00	-0.45	-0.29
7	0.00	0.17	-0.08	0.05	-0.03	0.00	-0.41	-0.30
8	0.00	0.15	-0.06	0.04	-0.03	0.00	-0.38	-0.28
9	0.00	0.13	-0.06	0.02	-0.03	0.00	-0.33	-0.26
10	0.00	0.11	-0.02	0.01	-0.02	0.00	-0.26	-0.16
Total	0.00	0.27	-0.03	0.06	-0.02	0.00	-0.43	-0.15

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2014, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2015 policies by Eurostat’s Harmonized Index of Consumer Prices (HICP).

Figure 2: Policy effects in 2014-2015, using the CPI-indexation, %

