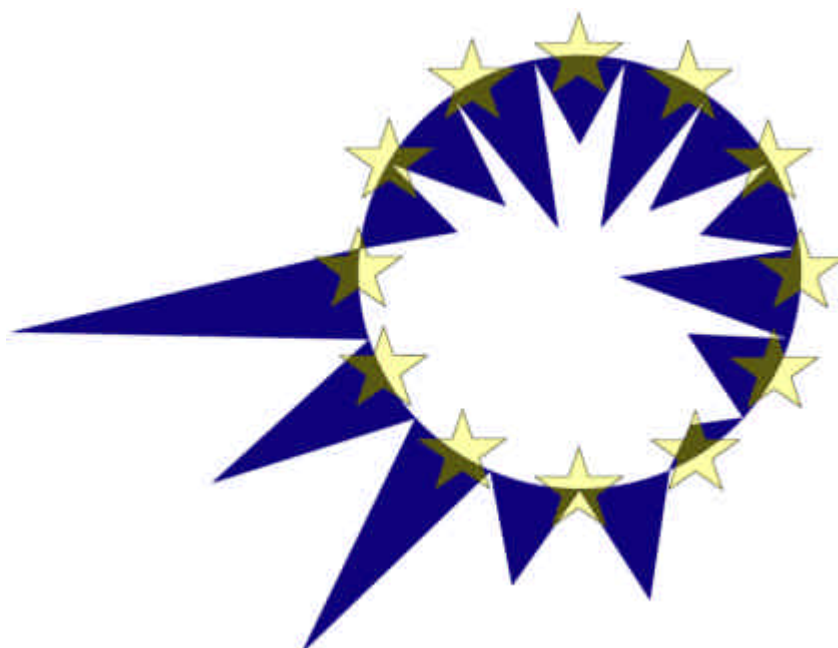


EUROMOD

COUNTRY REPORT



EUROMOD Country Report

THE NETHERLANDS

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Euromod Country report - The Netherlands

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1. Tax-benefit system - outline

The purpose of this report is to document the tax-benefit model Euromod as it has been developed to model the tax-benefit system of the Netherlands. Put extremely briefly, Euromod, using as data the income components as discussed in chapter 3, adds simulated benefits (section 2.1) and deducts social insurance contributions (section 2.2) and income tax (section 2.3) to compute disposable income.

In this introductory chapter we summarize the dutch tax benefit system in a few paragraphs. In these paragraphs, entries in *italics* refer to benefits and contributions simulated by Euromod.

1.1 Income components, benefits

Next to, or, usually, instead of earned income (wages, profits, property income) persons in the Netherlands may be entitled to earnings-replacing benefits, such as unemployment and disability benefits. Unemployment benefits are paid to employees when they lose their job, disability benefits are paid to employees when they lose their ability to work, after one year of sickness. (Employers are obliged to pay their employees at least 70% of their wage during the first year of sickness). Upon retirement before the age of 65 most employees are entitled to employer provided early retirement pensions, after the age of 65 all residents are entitled to a (flat rate) *State pension*. In addition to state pensions, most retired employees receive additional occupational pensions.

Couples and single parents with dependent children aged below 18 are entitled to *Child benefit*. Above 18, students receive scholarships as well as student loans. Widow(er)s aged below 65 may be entitled to *Survivors' benefits*. Single persons, couples and single parents with low or no other means of existence may be entitled to *Social Assistance Benefits*. Tenant households who pay a relatively high rent (within limits) given their (net) income can be eligible for *Rent Subsidy*.

1.2 Taxes and contributions

To pay for all these benefits taxes and social insurance contributions have to be paid. Unemployment benefits and disability benefits are paid out of *employee and employer contributions to unemployment insurance*, and *employer contributions to disability insurance*. Self-employed pay the *self-employed contribution to disability insurance*. In addition, employees and persons receiving benefits may have to pay *employee contributions to health insurance* while their employer or benefit agency may be paying *employer contributions to health insurance*.

For historic reasons, employees and persons in receipt of most benefits, aged below 65, receive an *earnings transfer allowance* to compensate them for increases in *employee contributions to peoples' insurance contributions*. The basis for calculating these contributions is the same as the basis for the calculation of *income tax*. Taxable income is calculated taking into account most of the above mentioned income components (except child benefit and rent subsidy), deducting employee contributions to unemployment insurance and self-employed contributions to disability insurance,

but adding employer contributions to health insurance, as well as the earnings transfer allowance. There are other *income tax deductions* (*mortgage interest, professional deductions*) and moreover, depending on the circumstances of the tax-payer, a part of taxable income (*income tax free allowance*) is not taxed. The remainder of taxable income is subject to a three-bracket *income tax schedule*.

In table 1.1 and 1.2 we include information on the size of the simulated instruments and on the number of recipients/payers. Both in terms of total amounts as in terms of number of beneficiaries, the largest benefit is the state pension. As a part of the peoples' insurances, it also requires an important part of the social insurance contributions.

Table 1.1 Total amounts and number of recipients of benefits to be simulated in Euromod (1998)

Type of benefit	Total amounts (x 10 ⁹ NLG)	Source	Number of benefit recipients (x 10 ⁶)	Source
Child benefits	6.32 (1)		1.82(hh) (2)	
State pension	38.74 (2)		2.28(pers) (2)	
Survivor benefits	3.58 (2)		0.18(pers) (2)	
Social assistance				
General (ABW)	9.98 (1)		0.41(hh) (2)	
Elderly or partly disabled unemployed (IOAW)	0.58 (1)		0.02(hh) (2)	
Rent subsidy	2.93 (2)		1.05(hh) (2)	

(1) Sociale nota 2000, Tweede Kamer der Staten Generaal 1999-2000, 26802.

(2) Statistical yearbook 2000, Statistics Netherlands, Voorburg

hh: households, pers: persons

Table 1.2. Total amounts and number of persons paying the contributions to be simulated in Euromod (1998)

	Total amounts (x 10 ⁹ NLG)	Source	Number of persons contributing (x 10 ⁶)
Social insurance contributions:			
Unemployment insurance			
employee contributions	?		4.7 ¹ (4)
employer contributions	?		
	13.5 (6)		
Disability insurance			
employer contributions	23.8 (6)		5.6 ¹ (4)
self-employed contr.	1.13 (2)		
	0.80 (3)		0.4 ² (3)
Health insurance			
employee contributions	6.1 (7)		9.9 ³ (5)
employer contributions	10.1 (7)		
Peoples insurances			
employee contributions	68.45 (2)		n.a.
	69.08 (3)		
Income taxation	48.07 (3)		9.3 ⁴ (3)

(2) Statistical yearbook 2000, Statistics Netherlands, Voorburg

(3) Belastingdienst, Jaarverslag 1999 (Tax service, yearly report)

(4) LISV, Kroniek van de Sociale Verzekeringen 1999

(5) Statistics Netherlands, Statweb, <http://statline.cbs.nl>

(6) LISV, Kerncijfers werknemersverzekeringen t/m oktober 2000, <http://www.lisv.nl>

(7) EIM, 'Inventarisatie beslissingen...', <http://www.eim.nl>, estimate based on household survey

¹Number of person-years insured

²Preliminary assessments

³Total number of persons insured

⁴Includes double counting

2. Tax-benefit system - Detailed description

In this chapter, we provide a description of relevant details of the tax-benefit system in the Netherlands, focusing on the way it has been modeled by Euromod. All entries in *italic* refer to the names of policy modules, parameters and conditions in the various Euromod parameter sheets, in particular *pol_NL.xls*. In a number of instances, we mention where we make simplifying assumptions for Euromod. All amounts pertain to the system valid on 30 June 1998 and are monthly unless otherwise noted. Table 2.1 lists the relevant policy sheets in *pol_NL.xls*, and refers to the sections in which the various policies are described.

Table 2.1. Policies included in *pol_NL.xls*

section	Policy	Description
2.1.1	<i>SBEN_CB_NL</i>	child benefit
2.2.7	<i>ITeta_NL</i>	earnings transfer
2.1.2	<i>SBEN_survben_NL</i>	survivors' benefit
2.1.3	<i>SBEN_statepen_NL</i>	State Pension
2.1.4	<i>SBEN_IOAWch_NL</i>	SAB for unemployed aged 50-64 and disabled unemployed younger than 64 with children
2.1.4	<i>SBEN_SABch_NL</i>	sab for fam with children
2.1.4	<i>SBEN_IOAWnoch_NL</i>	SAB for unemployed aged 50-64 and disabled unemployed younger than 64 without children
2.1.4	<i>SBEN_SABnoch_NL</i>	sab for fam w/o children
2.2.1	<i>EESICui_NL</i>	employee contributions to unemployment insurance
2.2.3	<i>SESICdi_NL</i>	self employed contributions to disability insurance
2.2.6	<i>ERSIChi_NL</i>	employer contributions to health insurance
2.3.2	<i>ITded_NL</i>	income tax deductions
2.3.2	<i>ITintYattrib_NL</i>	Attribution of Interest Y to person with the highest earnings in tax unit
2.3.2	<i>ITdivYattrib_NL</i>	Attribution of Dividend Y to person with the highest earnings in tax unit
2.1.5	<i>SBEN_HB_NL</i>	Rent Subsidy
2.3.3	<i>ITtfa_NL</i>	income tax free allowances
2.3.4	<i>ITschedule_NL</i>	income tax (schedule)
2.2.8	<i>EESICpi_NL</i>	employee contributions to (peoples) pensions insurance
2.2.5	<i>EESIChi_NL</i>	employee contributions to health insurance
2.2.4	<i>ERSICdi_NL</i>	employer contributions to disability insurance
2.2.2	<i>ERSICui_NL</i>	employer contributions to unemployment insurance
2.1.4	<i>SBEN_NetCorr_NL</i>	Net Correction Amount - to be subtracted to get to 'exact' disposable income
2.1.4	<i>EESICui_NL_SAmeans</i>	Used for computing SA means: employee contributions to unemployment insurance
2.1.4	<i>SESICdi_NL_SAmeans</i>	Used for computing SA means: self employed contributions to disability insurance
2.1.4	<i>ERSIChi_NL_SAmeans</i>	Used for computing SA means: employer contributions to health insurance
2.1.4	<i>ITded_NL_SAmeans</i>	Used for computing SA means: income tax deductions
2.1.4	<i>ITintYattrib_NL_SAmeans</i>	Used for computing SA means: Attribution of Interest Y to person with the highest earnings in tax unit
2.1.4	<i>ITdivYattrib_NL_SAmeans</i>	Used for computing SA means: Attribution of Dividend Y to person with the highest earnings in tax unit
2.1.4	<i>ITtfa_NL_SAmeans</i>	Used for computing SA means: income tax free allowances
2.1.4	<i>ITschedule_NL_SAmeans</i>	Used for computing SA means: income tax (schedule)
2.1.4	<i>EESICpi_NL_SAmeans</i>	Used for computing SA means: employee contributions to (peoples) pensions insurance
2.1.4	<i>EESIChi_NL_SAmeans</i>	Used for computing SA means: employee contributions to health insurance

2.1 Benefits simulated by Euromod

2.1.1 Child benefits (policy *SBEN_CB_NL*)

Eligibility:

Parents (including foster-parents) are eligible for child benefits for children aged less than 18 but eligibility for children aged above 15 (*cd_agelow*) but less than or equal to 17 (*cd_agehigh*) requires that they are in education (*cd_InFTed*) (at least 213 hours per quarter), or unemployed (*cd_Unemp*), or at least 45% disabled (*cd_Disabled*). Moreover, the parents should contribute to the sustenance of the children to an important extent, which translates to the condition that the income of the children in this age group should be less than NLG 2291 net per quarter or NLG 763.67 per month (*cd_ge_Inc_lt*).

Calculation of payment:

The base amount is 314.66 NLG per quarter (*SingPay*). Different multipliers apply depending on whether the child was born before or after (and including) 1994. If born before October 1st, 1994, the multiplier depends on both parity and age:

AGE	Number of Children									
	1	2	3	4	5	6	7	8	9	10+
<6	1	1.148287	1.197705	1.301722	1.364107	1.405708	1.435422	1.489512	1.531558	1.565181
6 to 11	1.565181	1.797278	1.874626	2.037432	2.135075	2.200188	2.246696	2.331357	2.397166	2.449793
<18	1.857116	2.132502	2.224278	2.417449	2.533305	2.610562	2.665745	2.766197	2.84428	2.906723

If born after October 1st, 1994, the amount depends only on age:

AGE	
<6	1
6 to 11	1.214263
<18	1.4285578

Since this new regime is currently in the process of being phased in, there is an intermediate table valid for children who turned 6 or 12 after 1 October 1994 (and for children born between 1 October 1994 and 1 January 1995):

AGE	Number of Children									
	1	2	3	4	5	6	7	8	9	10+
<6	1	1.148287	1.197705	1.301722	1.364107	1.405708	1.435422	1.489512	1.531558	1.565181
6 to 11	1.214263	1.394330	1.454332	1.580658	1.656423	1.706954	1.742992	1.808682	1.859658	1.900559
<18	1.565181	1.797278	1.874626	2.037432	2.135075	2.200188	2.246696	2.331357	2.397166	2.449793

The resulting multiplier table valid for 1998 is as follows:

	1	2	3	4	5	6	7	8	9	10+
<=3	1	1	1	1	1	1	1	1	1	1
4 to 5	1	1.148287	1.197705	1.301722	1.364107	1.405708	1.435422	1.489512	1.531558	1.565181

6 to 9	1.214263	1.394330	1.454332	1.580658	1.656423	1.706954	1.742992	1.808682	1.859658	1.900559
10 to 15	1.565181	1.797278	1.874626	2.037432	2.135075	2.200188	2.246696	2.331357	2.397166	2.449793
16 to 17	1.857116	2.132502	2.224278	2.417449	2.533305	2.610562	2.665745	2.766197	2.84428	2.906723

In Euromod, the entries of for the second to fifth row of this table are approximated by multiplying the parameters of the first column:

<i>es_nl_age_2</i>	1
<i>es_nl_age_3</i>	1.214263
<i>es_nl_age_4</i>	1.565181
<i>es_nl_age_5</i>	1.857116

with those of the second row:

<i>es_nl_parity_a1</i>	1
<i>es_nl_parity_a2</i>	1.14828704
<i>es_nl_parity_a3</i>	1.19770546
<i>es_nl_parity_a4</i>	1.30172249
<i>es_nl_parity_a5</i>	1.36410729
<i>es_nl_parity_a6</i>	1.40570775
<i>es_nl_parity_a7</i>	1.43542236
<i>es_nl_parity_a8</i>	1.48951249
<i>es_nl_parity_a9</i>	1.53155787
<i>es_nl_parity_a10</i>	1.56518147

and separately as 1 for children aged less than 4.

In Euromod, if both parents are present in the household, the child benefit is assumed to be shared among the parents (*co_sharing*).

No taxes/contributions are payable on child benefit. It is not included in the means test for the calculation of social assistance, rent subsidy and other benefits.

2.1.2 Survivor benefit (*SBEN_survben_NL*)

Eligibility:

Entitlement to the survivor benefit exists for the survivor (*NotWidowed*= -1) younger than 65 (*ge_age2_lt*) who:

- has an unmarried child younger than 18 who does not belong to somebody else's household (*ge_nOwnCh_inHH_lt* = 1) or
- is disabled for work for at least 45% (*IsDisabled1*) or
- was born before 1 january 1950 (*ge_age1_lt*)

The person who in his household takes care of a child of whom one parent has died is entitled to a 'half-orphan'-benefit (which is not calculated in Euromod)

Means test:

The survivor benefit is income dependent: income received 'in relation with' work (i.e. social insurance benefits) is deducted entirely (*widben_means*), but a part of income received from work (earnings, profits, private pensions: *widben_workY*) is exempt ($0.5 (=min_wage_ratio) * \text{the minimum wage including transfer allowance of}$

2316.22 NLG per month(= min_wage), plus a third (= $disreg_ratio$) of the remainder). In other words, the disregard equals: $\max(0, disreg_ratio*(workY - min_wage_ratio*min_wage))$. As a result, the benefit is paid in full if income from work (including transfer allowance) is below NLG 1158.11, and zero if income from work is above NLG 3817.37. Notably, all these amounts are net of holiday allowance. In Euromod, it is assumed that in income from work and benefit income a holiday allowance of 8% (= ha_pct) is already included. The holiday allowance added to the survivor benefit is reduced by the same percentage by which the survivor benefit is reduced as a result of the means test.

In Euromod, private pensions received by males younger than 60 and females younger than 65 are assumed to be private survivor pensions, and, as such, counted as income 'in relation with' work ($widben_means < 60$). Private pensions received by males aged between 60 and 65 are assumed to be old-age pensions, and counted as income received from work ($widben_workY < 60$). The earnings transfer allowance (see section 2.2.7) received on income from or 'in relation with' work is to be included with the relevant income component. No earnings transfer allowance is paid on the survivor benefit itself.

Amounts:

survivor benefit: 1887.75 NLG ($SingPay$) = 1772.84 NLG ($max_benefit$) + 114.91 holiday allowance ($holiday_allowance$);

'half-orphan' benefit: 423.68 NLG per month.

Notably, the current survivor benefit act ('Algemene Nabestaandenwet', ANW) was introduced on 1 July 1996. Special rules apply for persons who were already survivor before that date, and for persons born between 1 January 1950 and 1 July 1956 who lost their partner before 1 July 1999. These special cases are not taken into account in Euromod.

2.1.3 State pension ($SBEN_StatePen_NL$)

Eligibility:

All residents aged 65 (ge_age1_lt) or above are entitled to the flat rate State Pension (AOW). If both spouses are above 65 they both receive (in net terms) slightly more than half the (net) minimum wage, whilst single persons receive about 70% of the minimum wage. Persons with a spouse younger than 65 ($le_age1_lt = 64$) receive 50% of the minimum wage with a supplement of at most 50% of the minimum wage. The supplement depends on the means of the younger spouse.

For every year between age 15 and 65 the pensioner lived abroad the State Pension is reduced by 2% (however, reductions are not taken into account in Euromod).

Means test:

The means to be taken into account in the calculation of the State Pension are the means of the younger spouse (aged ≤ 64 , le_age1_lt).

Means ($statepen_means$) = $\max(0, \text{Income 'in relation with' work (i.e. benefits) including earnings transfer allowance, sec. 2.2.7})$

+ max(0, 2/3 * max (0, Income from work - 0.15*gross minimum wage including earnings transfer allowance)).

In other words, there is a disregard of

max (0, 1/3 (= *disreg_ratio*) * (Income from work (=statepen_workY) - 0.15 (=min_wage_ratio)* gross minimum wage incl. e.t.a)

Gross minimum wage including e.t.a. (=min_wage) = NLG 2316.22

Notably, these amounts are net of holiday allowance. In Euromod, it is assumed that in income from work and benefit income a holiday allowance of 8% (= *ha_pct*) is included. The holiday allowance added to the supplement of the state pension is to be reduced by the same percentage as the supplement.

Private pensions are counted as income in relation with work

Amounts:

Amounts for the state pension NLG/ month:

Single, 65+ : 1623.31 + 89.31 holiday allowance = 1712.62 (*SingPay*)

Married/cohabiting, 65+ 1118.92 + 63.80 = 1182.72 (*SingPay*)

Supplement if spouse < 65: at most 1118.92 (*max_benefit*) + 63.80 (*holiday_allowance*)

Supplement = max (0, maximum supplement - means of younger spouse)

The latter amounts are valid for pensions started from 1 July 1996. For pensions started earlier, rules for persons with a spouse aged < 65 differ to some extent (not taken into account in Euromod). If the pension started between 1-2-1994 and 1-6-1996, the person with a spouse < 65 receives 1623.31 + 89.31 hol. all + a supplement of max. 614.53 + 38.29. If the pension started before 1-2-1994 these amounts are also valid, but no distinction between income from work and other means of the younger spouse is made in the calculation of the supplement: all income is counted as income from work.

2.1.4 Social Assistance Benefits (*SBEN_IOAWch_NL*, *SBEN_SABch_NL*, *SBEN_IOAWnoch_NL*, *SBEN_SABnoch_NL*)

1. Social assistance (*SBEN_SABch_NL*, *SBEN_SABnoch_NL*)

Eligibility:

A benefit unit (couple, single person, lone parent) is eligible for social assistance if

a. they are not a student (*InEd* = -1) and

b. if single, assets are less than single asset limit of NLG 9700 (*le_capital_lt*)

c. if married/cohabiting/lone parent, assets are less than married asset limit of NLG 19400 (*ge_capital2_lt*)

d. aged 18 or over (*ge_age2_lt*) or

e. a parent (Note: Even if a parent, persons below 18 are not generally entitled)

Self-employed persons (*IsSelfemployed1*, *IsFarmer1*) with (temporary) low incomes (which includes those in receipt of the separate social assistance benefit for selfemployed (variable *nIBENUBZ*)) are not entitled to the regular SAB.

Amounts:

a. Couples with children

NLG 1024.67 + 1024.67 (if both aged 21-64) :

NLG 2134.34 (if both 65+)

NLG 2079 (if one 65+, one 21-64)

NLG 1118.05 (if both 18-20)

NLG 1788.63 (if one 18-20, one 21+)

polSBEN_SABch_NL:

SingPay * (*es_head_age1* if head aged between 18 (*es_head_age1_min*)
and 20 (*es_head_age1_max*)

+ *es_head_age2* if head aged between 21 and 64

+ *es_head_age3* if head aged above 65

+ *es_spouse_age1* if spouse aged between 18 and 20

+ *es_spouse_age2* if spouse aged between 21 and 64

+ *es_spouse_age3* if spouse aged above 65

+ *es_both_age1* if both aged between 18 and 20

+ *es_both_age3* if both aged above 65)

b. Couples without children

NLG 1024.67 + 1024.67 (if both aged 21-64) :

NLG 2134.34 (if both 65+)

NLG 2079 (if one 65+, one 21-64)

NLG 708.18 (if both 18-20)

NLG 1378.76 (if one 18-20, one 21+)

polSBEN_SABnoch_NL:

SingPay * (*es_head_age1* if head aged between 18 (*es_head_age1_min*) and 20
(*es_head_age1_max*)

+ *es_head_age2* if head aged between 21 and 64

+ *es_head_age3* if head aged above 65

+ *es_spouse_age1* if spouse aged between 18 and 20

+ *es_spouse_age2* if spouse aged between 21 and 64

+ *es_spouse_age3* if spouse aged above 65

+ *es_both_age3* if both aged above 65)

c. Lone Parent

NLG 1434.54 + 409.87 (if 21-64)

NLG 1917.49 (if 65+)

NLG 763.96 (if 18-20)

polSBEN_SABch_NL:

SingPay * (*es_head_age1* if head aged between 18 and 20

+ *es_head_age2* if head aged between 21 and 64

+ *es_head_age3* if head aged above 65

- + *es_lp_age1* if head aged between 18 and 20
- + *es_lp_age2* if head aged between 21 and 64
- + *es_lp_age3* if head aged above 65)

d. Single person

NLG 1024.67 + 409.87 (if really living alone) (21-64)

NLG 1507.63 (if 65+)

NLG 354.09 (if 18-20)

polSBEN_SABnoch_NL:

SingPay * (*es_head_age1* if head aged between 18 and 20

+ *es_head_age2* if head aged between 21 and 64

+ *es_head_age3* if head aged above 65

+ *es_livealone_age2* if living alone, aged between 21 and 64

+ *es_livealone_age3* if living alone, aged above 65)

Means Test:

The income base for the means test (*sben_means*) consists of all other employment income, benefits and pensions except child benefits and rent subsidy. Because the benefit is calculated as a net (after tax) amount, this requires the calculation of the taxes (*out_inctax*) and s.i.c.'s (*out_eesic*) on all other income components before the entitlement to Social Assistance can be calculated. Notably, Social Assistance is subject to s.i.c.'s and income tax as well. It is paid out as a net amount, on top of which the municipalities pay taxes and social insurance contributions directly to the relevant authorities.

So, to obtain net means, income taxation and social insurance contributions payable on gross means have to be calculated. In Euromod, this is done by a preliminary run through the policy modules designed to compute income taxation and social insurance contributions, specifically for the purpose of calculating the means taken into account for the calculation of social assistance (*EESICui_NL_SAmans* ... *EESIChi_NL_SAmans*). The withdrawal rate is 100%¹.

In the case of a couple, the resulting net S.A. amount is supposed to be shared equally among both spouses (module *co_sharing*).

Next, gross social assistance is approximated, by applying grossing-up factors to net S.A. (module *nl_SBEN_SAnet2gross*): gross S.A. = $factor2 * (factor1 * (net.S.A. - remaining\ tfa) + remaining\ tfa)$, where 'remaining tfa' represents that part of the tax

¹ In exceptional cases (not taken into account in Euromod) (persons 57.5 - 64, single parents with child younger than 5, persons who are deemed to be dependent on part-time jobs for medical or social reasons) municipalities may allow that $\min(\text{inc}, 158) + (\text{if } \text{inc} > 158): (50\% \text{ of } \min(293, \text{inc}) - 158)$ per month can be earned without consequences for the SAB. Furthermore the interest received on assets below the asset-limit is not taken into account. Some lumpsum benefits for necessary education and for accepting a job are not taken into account.

free allowance (see section 2.3.3) which exceeds taxable income from non-SA sources.

Finally, as described in the sections 2.2 and 2.3., total income taxation and social insurance contributions are calculated (payable on income including gross social assistance). Because of the approximation of gross SA, in addition to deducting income taxation and s.i.c.'s, a correction to the resulting amount of net social assistance as calculated by Euromod has to be applied so that the resulting disposable income is correct (policy *SBEN_NetCorr_NL*).

2. IOAW (*polSBEN_IOAWch*, *polSBEN_IOAWnoch*)

Persons aged below 65 who became unemployed after age 50 and exhausted their entitlement to (earnings related) unemployment benefits are entitled to a separate social assistance benefit: IOAW². The difference with the general SAB (ABW) is that no asset test is applied to calculate the entitlement for IOAW. The IOAW also applies to persons partially disabled for work, younger than 50, who were already disabled for work at age 17 and who are receiving a disability benefit (Wajong) based on their partial disability (< 80%). In Euromod, IOAW is calculated in *polSBEN_IOAWch* and *polSBEN_IOAWnoch*.

2.1.5 Rent subsidy (*SBEN_HB_NL*)

Tenant households with high (but not too high) rents given their income are entitled to rent subsidy. For the subsidy year running from 1-7-1997 to 30-6-1998 the income basis is the taxable income for the year 1996. There is also an asset test (no rent subsidy if household assets on 1-1-1998 above certain amounts). Assets comprise of: bank accounts and savings accounts, cars, caravans, motorcycles, other possessions, minus debts.

Computation of rent subsidy (amounts in NLG per month):

If the actual rent is between 330 (*lo_rent_lt*) and 1085 (*up_rent_lt*) per month, the norm rent depends on the age and the number of persons in the household and the taxable income. It can be derived from table 2.2 below. The monthly rent subsidy is then calculated as follows:

a. norm rent < actual rent < 575(*rent1_lt*): subsidy = actual rent - norm rent

b. norm rent < actual rent &

575 < actual rent < B.

B=823(1,2pers), (*rent21_lt*)

B=882 (3+ pers) (*rent22_lt*)

subsidy = 0.75(*subsidy2_rt*)*(actual rent

- max (norm rent, 575))

+ max (0, 575- norm rent)

² Since the eligibility for IOAW can only be approximated (in particular the age at which one became unemployed is not registered in the data) Euromod probably overestimates the number of persons receiving IOAW and underestimates ordinary SAB.

c. norm rent < actual rent
& Actual rent > B.

$$\begin{aligned} \text{subsidy} &= 0.5(=\text{subsidy3_rt}) * (\text{actual} \\ &\text{rent} - \max(\text{B}, \text{norm rent})) \\ &+ 0.75 * \max(0, \text{B} - \max(\text{norm rent}, 575)) \\ &+ \max(0, 575 - \text{norm rent}) \end{aligned}$$

No subsidy if income higher than highest amounts in table or if actual rent above 1085 (*up_rent_lt*) or below 330 (*lo_rent_lt*).

There are four regimes depending on age and number of persons in the household:

A. 1-person hh. (<66 on 1-1-1997) (*age1* <=66(=*le_Age1_lt*)) and not (*nPersInTu* >=2(=*ge_nPersInTu_lt*))

C. multiperson hh. (*nPersInTu* >=2) in which more than half of income received by persons < 66 on 1-1-1997. The latter condition is assumed to be satisfied if the head is aged <= 66 in 1998. (*age1*(head) <= 66)

E. 1-person elderly hh. (66+ on 1-1-1997) (*age2* >=67) and not (*nPersInTu* >=2)

G. multiperson elderly hh. (*nPersInTu* >=2) in which more than half of income received by persons 66+ on 1-1-1997 (*age1* >=67)

Table 2.2. Norm rent given taxable income by regime

A		C		E		G	
inc. (year)	norm.rent (month)	inc. (year)	norm.rent (month)	inc. (year)	norm.rent (month)	inc. (year)	norm.rent (month)
<i>y_1 - y_20</i>	<i>norm_rent_1 - norm_rent_20</i>	<i>y_1 - y_25</i>	<i>norm_rent_1 - norm_rent_25</i>	<i>y_1 - y_16</i>	<i>norm_rent_1 - norm_rent_16</i>	<i>y_1 - y_20</i>	<i>norm_rent_1 - norm_rent_20</i>
23300	330	30050	330	21750	330	27200	330
23500	334	30500	336	22000	335	27500	335
24000	346	31000	349	22500	351	28000	347
24500	364	31500	363	23000	373	28500	362
25000	383	32000	377	23500	396	29000	378
25500	402	32500	392	24000	419	29500	394
26000	421	33000	407	24500	443	30000	411
26500	441	33500	422	25000	468	30500	428
27000	462	34000	437	25500	493	31000	445
27500	483	34500	452	26000	518	31500	463
28000	504	35000	468	26500	545	32000	481
28500	526	35500	484	27000	572	32500	499
29000	548	36000	501	27500	599	33000	517
30000	582	37000	526	28500	642	34000	546
31000	630	38000	560	29500	701	35000	585
32000	678	39000	595	30050	748	36000	625
33000	729	40000	632			37000	667
34000	782	41000	669			38000	710
35000	836	42000	708			39000	754
35700	884	43000	747			39600	791
		44000	788				
		45000	830				
		46000	872				
		47000	916				
		47550	951				

Asset test (no rent subsidy if household assets greater than or equal to these amounts):
Assets on 1-1-1998.

1-person hh. (<65 on 30-6-1998)

38001 NLG (*ge_inc2_lt*)

multiperson hh. (all < 65 on 30-6-1998)	56001 NLG
1-person hh. (65+ on 30-6-1998)	65001 NLG
multiperson hh. (1 or more > 65 on 30-6-1998)	90001 NLG

Asset disregard:

For children below 23 (*IsDepCh_of_HH*) up to NLG 2000 (*disregard_amt*) of their assets are not taken into account (module: *co_SBEN_CapDisregard*).

Income disregard:

For children below 23 up to NLG 9000 (*disregard_amt*) of their income is not taken into account (module: *coSBEN_Disregard*).

Supplement:

Households entitled to rent subsidy receive a supplement depending on the household composition (amounts in NLG per month):

4 (*supp1_amt*) if alone,

8 (*supp2_amt*) if multiperson but no children aged < 18

40 (*supp3_amt*) if one or two children aged < 18

51 (*supp4_amt*) if three or more children aged < 18.

2.2 Social insurance contributions

2.2.1 Employee contributions to unemployment insurance (*EESICui_NL*)

Employees in the private sector aged below 65 (*age_thresh*) are insured against (loss of income as a result of) unemployment, and pay, on average, a total contribution of 6.45% (*rate*) on wages between 2262 (*lower_lt*) and 6546.75 (*maxbase*) NLG per month. For public sector employees rules, in particular with respect to the consequences of changes in the contribution rates, used to be rather similar. In Euromod, public sector employees are not identified separately.

The basis for the calculation of unemployment insurance contributions (*UIeesic_Base*) includes next to gross wages net of (occupational) pension contributions and ‘spaarloon’, also wage replacing benefits such as unemployment and disability benefits. The relevant tax unit is the *individual*.

2.2.2 Employer contributions to unemployment insurance (*ERSICui_NL*)

Employers of employees in the private sector aged below 65 (*age_thresh*) pay, on average, a total contribution of 6.35% (*rate2*) on wages between 2262 (*maxbase1*) and 6546.75 (*maxbase2*) NLG per month. For public sector employees rules are assumed to be similar.

The income basis for the employer contribution to unemployment insurance (*UIersic_Base*) is the same as for the employee contribution to unemployment insurance.

2.2.3 Self-employed contributions to disability insurance (*SESICdi_NL*)

The disability insurance for the self-employed (WAZ) is only relevant for persons aged below 65 (*age_thresh*). All self-employment income as well as income from work other than as an employee (e.g. free-lance income) is taken into account (“waz inc”: *DIsesic_base*) but there are complications if the person also has “other earnings” from paid employment, including earnings related benefits for which di-contributions are payable (*DIsesic_empY*).

In general, the contribution = $0.079 (= rate2) * \max(0, (\min(\text{upper threshold}, \text{waz inc}) - \text{lower threshold}))$.

If gross other earnings < 2416.67 (*maxbase1*): other earnings not taken into account, lower threshold = 2416.67, upper threshold = 7000 (*maxbase2*)

If gross other earnings > 2416.67 & < 6546.75 (*empY_upper_lt*): no waz-contribution if waz income < gross other earnings;
lower threshold = gross other earnings if waz inc > gross other earnings (upper thr remains 7000)

If gross other earnings > 6546.75: lower threshold = 6546.75 (upper thr: 7000)
(Amounts in NLG/month)

The contribution is tax-deductible: it has to be subtracted like other subtractions. It is not relevant for the earnings transfer allowance, since this is not received on self-employment income.

2.2.4 Employer contributions to disability insurance (*ERSICdi_NL*)

Employers of employees in the private sector aged below 65 (*age_thresh*) pay, on average, a total contribution of 7.85% (*rate2*) on wages with a wage limit 6546.75 (*maxbase2*) NLG per month. For public sector employees rules are rather similar. The income basis for the employer contribution to disability insurance (*DIersic_base*) is the same as for the employer contribution to unemployment insurance.

2.2.5 Employee contributions to health insurance (*EESIChi_NL*)

Employees in the private sector with earnings below a threshold pay contributions to the statutory health insurance. The same holds for persons with earnings replacing benefits and pensioners. For employees in the public sector there are several health insurance systems which are fairly comparable to the statutory health insurance for the private sector. In contrast to the employer contributions to unemployment insurance these contributions are not income tax deductible.

Employees with earnings (gross, but net of occupational pension contributions and 'spaarloon') below NLG 5183.33 (*limit*) per month pay a contribution of 1.2% (*rate*) over earnings up to 4415.25 (*maxbase*) per month. The same contribution is due over earnings replacing social insurance benefits (*ZFWeesic_Base*).

It should be noted that people with incomes above *limit* generally take out private health insurance. In contrast to the simulated public health insurance contribution *co_hi_eesic* discussed in this section, private health insurance contributions are not taken into account in the calculation of disposable income in EUROMOD.

Persons aged 65 or over (*age_thresh*) may be insured if their total earnings are below NLG 3295.83 (*oldage_limit*) per month or if they were insured before reaching the age of 65. They pay 6.8% (*rate_statepen*) over the state pension (*statepen*) and 4.8% (*rate_prvpen*) over other income from or in relation with work (i.e. supplementary occupational pensions).

Persons younger than 65 receiving an early retirement pension can remain insured if they were insured while at work³.

In addition, insured persons pay a fixed amount of NLG 18 (36 if their spouse has no earnings) per month (*zfwamount*)

2.2.6 Employer contributions to health insurance (*ERSIChi_NL*)

³ They pay both employer and employee contribution: in total 6.8% of their pension. However, to compensate for this high contribution rate they receive a higher earnings transfer allowance (section 2.2.7) than employed persons. This difference is not taken into account in Euromod.

Employers whose employees aged less than 65 (*age_thresh*) are insured via the statutory health insurance pay the employer contribution to health insurance. The same holds for the agencies paying earnings replacing benefits. Employer contributions to health insurance are taxable.

The employer contribution rate is 5.6% (*rate*). It applies to the same earnings (*ZFWersic_base*) as the employee contribution, with the same limits (*limit, maxbase*).

2.2.7 Earnings transfer allowance (*ITeta_NL*)

The earnings transfer allowance (‘overhevelings toeslag’) was devised to compensate employees for the fact that certain social insurance contributions were transferred from the employer to the employee (as of 1990). It can be viewed as a negative social insurance contribution. It is paid by the employer to the employee.

The e.t.a. amounts to 1.7% (*eta_rt*) of the e.t.a. basis up to 6716.67 (*eta_max_base*) NLG per month (i.e. at most 114.18 NLG per month); it is only paid to persons aged less than 65 (*age_thresh*).

The e.t.a. basis equals the basis for the income taxation and peoples’ insurance contributions as observed by the employer, i.e. without taking into account employee specific deductions. In other words it includes gross wages/benefits minus pension contributions, wage savings, employee contributions to unemployment insurance plus employer contributions to health insurance. This amount is reduced by a (preliminary) ‘virtual’ work/benefit deduction, amounting to 86.08 NLG (*benefit_ded*) in the case of benefits and 12% (*prof_ded_rt*) with a minimum of 21 NLG (*prof_ded_min*) and a maximum of 259 NLG (*prof_ded_max*) in the case of earnings (*eta_workY*). The benefits giving rise to an e.t.a. include most earnings replacing benefits for persons younger than 65, including early retirement pensions, but excluding survivor benefits (*eta_benY*).

2.2.8 Peoples’ insurances (*EESICpi_NL*)

The so-called peoples’ insurances or national insurances include the State pension insurance (AOW), the Survivor benefit insurance (ANW) and the General act on special health care costs (AWBZ). All income tax payers also contribute to these insurances and the taxable income net of tax free allowances (see par. 2.3) also acts as the basis for the calculation of these contributions (*PIeesic_Base*).

The contribution rates are:

AOW	18.25%
ANW	1.4%
AWBZ	9.6%

Hence, the total contribution amounts to 29.25% (*pi_rt*). Persons aged 65 (*pi_age_thresh*) or older do not pay AOW contributions, so their contribution rate is 11% (*pi_age_rt*).

The maximum base for the calculation of these contributions is 47184 NLG/year or 3932 NLG per month (*pi_maxbase*).

2.3 Income taxation

In general, the tax unit for income taxation is the individual. Income of other members in the household is taken into account in the calculation of the income tax free allowances (section 2.3.3). It is also important for the decision who is paying taxes on components of household income such as imputed income from owner-occupied housing, interest and dividend income, and for the decision who can deduct expenditures such as mortgage interest, gifts etc. In the latter case, there is a difference between the treatment of married couples and other persons living together. In the case of married couples all non-personal income components and deductions are attributed to the individual with the highest personal income. Unmarried persons living together each add/deduct their own share in these components. Registered partnerships are counted as married couples.

2.3.1 Income components subject to income tax

Included in the income tax base are personal income components such as earnings from labour, (earnings replacing) benefits and pensions. If an employee drives a car provided by the employer, 20% of the catalogue value of the car is to be added (24% if the distance between home and work is more than 30 km). This component of taxable income is not modeled within Euromod, but read directly from the data (variable *nlfcarinc*).

Income from abroad is also included in the tax base, but usually to the extent that it had not been taxed abroad.

Alimony received from the ex-spouse (not: alimony paid for the maintenance of children) is taxable as well.

Next to these personal income components, the tax base also includes interest income and dividend income, imputed income from owner occupied housing, income from letting or sub-letting one's owned or rented house and other income from immovable property, other property income and some categories of allowances from life insurances. If income from property, dividends and interest income is received by children aged below 18, it is also included in the tax base of the parent (in the case of a married couple: the parent with the highest personal income).

Imputed income from owner occupied housing (per year) is calculated as a percentage of the value of the house as determined by the Act on Immovable Objects (WOZ).

The following percentages are used:

0% if the WOZ-value is not higher than 25,000 NLG

0.5% if the WOZ-value is higher than 25,000 but not higher than 50,000 NLG

0.75% if the WOZ-value is higher than 50,000 but not higher than 100,000 NLG

1% if the WOZ-value is higher than 100,000 but not higher than 150,000 NLG

1.25% if the WOZ-value is higher than 150,000.

The maximum amount of imputed income from owner occupied housing is 16,800 NLG. This component of taxable income is not modeled within Euromod but read directly from the data (variable *nlimprnt*).

2.3.2 Income tax deductions (*ITded_NL*)

From personal income (earnings, benefits, pensions) the amounts to be paid as occupational pension contributions, tax-exempt savings, and employee contributions to unemployment insurance are deducted. However, employer contributions to health insurance are taxable and should be added. The earnings transfer allowance is also part of personal taxable income.

From the resulting amount (if applicable: including income from employer provided car) employees can deduct a fixed percentage as professional deductions: 12% (*prof_ded_rt*) with a minimum of 21 (*prof_ded_min*) and a maximum of 259 (*prof_ded_max*) NLG per month. Next to earnings, these percentages are valid for wage replacing benefits in the case of sickness (*workben_ded_workY*). For (other) benefits arising from previous earnings and pensions (*workben_ded_benY*), a fixed deduction (overall, not per benefit) of 86.08 (*bnft_ded_amt*) NLG applies. If the taxpayer has income from both current and previous earnings, the maximum of both deductions is applied.

Self-employment income, including profit from own enterprise (*selfempY*) does not qualify for the professional deduction but is subject to the following deduction schedule:

	if higher than (NLG/year)	up to	deduction
<i>lower_lt1</i>	0	92610	<i>ded_amt1</i> 11085
	92610	96530	10035
	96530	100450	8985
	100450	104370	7935
<i>lower_lt5</i>	104370		<i>ded_amt5</i> 6885

Mortgage interest payments (*coMORINT*) for (all) owned dwellings are fully tax deductible.

Of interest income the first 1000 (*tfa_interestY*) NLG are not taxed (Euromod policy: *pollTfa_NL*). For married couples, the tax free amount is 2000 NLG. The interest income of children below 18 is not taxed to the extent that it is lower than 500 NLG per child. The remainder is still untaxed to the extent that, added to the interest income of the parent(s) the amount of 1000 NLG (married couples: 2000 NLG) is not exceeded.

For dividend income, tax free amounts (*tfa_dividendY*) and arrangements are the same as those for interest income. Notably, for married couples, interest and dividend income are attributed to the individual with the highest (individual) income (*tfa_base*, Policies: *ITintYattrib_NL*, *ITdivYattrib_NL*).

Alimony paid to the former spouse (not: alimony paid for the maintenance of children) is fully tax deductible.

Deductions not taken into account in Euromod:

Several types of life-insurance premiums can be deducted; in most cases the deduction is limited to a total of 5950 NLG (11900 NLG for the higher earning spouse in a couple)

Gifts to charity are tax-deductible within certain limits, as are exceptional expenses related to health care, adoption, child birth, death etc. Separate limits determine the tax deduction for child care costs and expenses for studies for a profession. In addition, expenditures for the cost of living of children and other relatives may under specific conditions (a.o. no entitlement to child benefits) be tax deductible.

2.3.3 Income tax free allowances (*ITtfa_NL*)

The amount resulting from adding all taxable income components and subtracting all deductions and tax free amounts described in the previous section is called taxable income. However, no taxes (and peoples' insurance contributions, 2.2.9) are levied on part of taxable income, the so-called tax free allowance.

The tax-free allowance depends on the "tariff group" to which the tax payer belongs.

"Tariff groups":

1: tax free allowance 410 NLG per year (34.17 NLG per month, *basic_tfa_amt*) if basic tax free allowance is transferred to spouse or housemate (who is classified in tariff group 3).

2: tax free allowance $410 + 8207 = 8617$ NLG per year (this is the 'default' tariff group): 34.17 (*basic_tfa_amt*) + 683.19 (*sing_tfa_amt*) NLG per month.

3: tax free allowance $410 + 8207 + 8207 = 16824$ NLG per year if spouse or housemate transfers his/her basic allowance of 8207.

The basic allowance can be transferred to spouse/housemate if the person has a taxable income below 8207 and the couple was married for more than 6 months during the tax year. In the case of unmarried couples/housemates additional conditions apply (In Euromod, currently these conditions are not assumed to be fulfilled, only married couples are assumed to be eligible: tax unit *marrcouple*):

they lived in a common household for more than six months in 1998

they were registered at the same address during that period for more than six months

they were 18 years or older at 31 12 1997

the person with the lowest income was 27 years or older at 31 12 1997 or

the person with the lowest income was 18 years or older but younger than 27 at 31 12 1997, and did not depend to an important extent on his parents for more than six months in 1998 (depend to an important extent: parents contributed at least NLG 56 per month in his cost of living)

If the couple was married for less than 6 months the basic allowance of the person earning less than 8207 NLG can still be transferred if the total period of being married and living together was more than 6 months and if the couple was registered at the same address during that period.

4: tax free allowance $410 + 8207$ (basic allowance) + 6566 (single parent allowance) = 15183 NLG per year or 1265.25 NLG per month (*tfa_LP*)

Conditions:

the tax payer was unmarried or lived separated for more than 6 months in 1998.

the tax payer lived in a household with only his own children (including step-children, foster-children) who were all younger than 27 on 31 12 1998.

the tax payer contributed to an important extent (at least NLG 56 per week) to the cost of living of at least one of these children and/or was entitled to child benefit.

the tax payer did not have income from work outside the household or none of the children was younger than 12 (*lp_crit_chage*) on 31 12 1997.

5: tax free allowance 15183 NLG + supplementary single parent allowance: 12% (*tfa_LP12*) of (taxable) income from work (*lp_tfa_Y*) outside the household (including income from employer provided car). The supplementary single parent allowance is not higher than 6566 NLG per year or 547.17 NLG per month (*tfa_LP12_max*)

Conditions:

the tax payer was unmarried or lived separated for more than 6 months in 1998.

the tax payer lived in a household with only his own children (including step-children, foster-children) who were all younger than 27 on 31 12 1998.

the tax payer contributed to an important extent (at least NLG 56 per week) to the cost of living of at least one of these children and/or was entitled to child benefit.

one of the children was younger than 12 (*lp_crit_chage*) on 31 12 1997.

the tax payer had income from work outside the household.

Old age deductions:

Tax payers aged 65 or over (*age_thresh*) on 31 12 1998 are entitled to an additional tax free allowance: 500 NLG per year or 41.67 NLG per month (*ded_high_inc*). The old age deduction is 1965 NLG per year or 163.75 NLG per month (*ded_low_inc*) if taxable income (*taxableYI*) is lower than 55801 NLG per year or 4650.08 NLG per month (*inc_threshold*).

Tax payers entitled to an old age deduction and to the state pension for single persons (section 2.1.3) obtain the supplementary old age deduction of 41.67 NLG per month (*sing_ded_high_inc*) next to the old age deduction. The supplementary old age deduction is 240.08 NLG per month (*sing_ded_low_inc*) if taxable income is below 4650.08 NLG per month (*inc_threshold*).

2.3.4 Income tax schedule (*ITschedule_NL*)

The income tax schedule, applied to taxable income minus all tax free allowances (*taxableY*) is as follows:

tax band			tax-rate
1	0	47184 per year, 3932 per month, <i>tax_band1</i>	<i>tax_rate1</i> : 7.1%
2	47184	103774 per year, 8647.83 per month, <i>tax_band2</i>	<i>tax_rate2</i> : 50.0%
<i>nbands</i> : 3	103774	<i>tax_band3</i>	<i>tax_rate3</i> : 60.0%

The income in the first tax band (up to 3932 NLG per month) is also subject to peoples' insurance contributions (see section 2.2.8).

3. Data

3.1 General description

The data used are from the 1996 wave of the Socio-economic Panel Survey (SEP), collected by Statistics Netherlands. The datafile used is the public use data-set (PGL196.POR) made available through mediation of the Scientific Statistical Agency of the Netherlands Organisation for Scientific Research (WSA/NWO).

SEP, started in 1984, collects information on the social and economic situation of the respondents, including income, assets, labour market status etc. SEP follows about 5000 households containing about 13000 individuals. All household members aged 16 or over fill out a questionnaire. SEP also serves as the dutch part of the European Community Household Panel Survey, of which the questionnaire is partly based on the one used by SEP.

3.2 Sample selection, weighting

The variables from SEP included in the Euromod-database are described in the Data Requirements Document (DRD). The data were collected in april 1996, and the income data mostly pertain to the calendar year 1995.

As has been documented in the DRD, from the original data households with unit missings (persons aged 16 or more who did not fill out a questionnaire) and households with persons with missing income information have been deleted. As a result, the dataset used contains 11035 persons in 4568 households, compared to 12897 persons in 5179 households in the original data.

The weights provided by Statistics Netherlands (variable *SWEEGLGN*) are person weights, aiming to correct for selective non-response and panel attrition.⁴ The weighted sample should be representative in the dimensions: size of municipality, age, sex and marital status. For Euromod, household weights have been calculated as the average of the person weights within each household. These household weights have been multiplied by a grossing-up factor (1375) to obtain the total number of households on 30 june 1998. As yet, no reweighting has been applied to take into account that the deletion of households with missing information may be selective. In fact, the grossed-up number of households (6.7 million) is correct, but the grossed-up number of persons (15.1 million) is about 350,000 lower than the actual number of persons living in households in the Netherlands in 1998.⁵

3.3 Variable adjustment

Most of the income variables refer to the calendar year 1995. However, the employment status variables refer to the situation in april 1996. To improve consistency with the income variables, the employment status variables have been

⁴ SEP is reported to have a high initial non-response ('currently about 70%', as reported on the web-site of the Scientific Statistical Agency <http://129.125.158.28/Data/CBS/SEP/design.htm>). Panel attrition is about 5% per year.

⁵ Statistics Netherlands, 'Annual Household Statistics 1998', *Maandstatistiek bevolking*, 1999, no. 11.

adjusted in accordance with income components received for 6 months or more in 1995, as documented in the DRD. If the adjusted employment status (*coempst*) differs from the original employment status, variables such as branch of industry (*coindust*), size of firm (*cofirmesz*), number of hours worked (*cohours*) have been adjusted as well, if relevant making use of information about previous or last employment.

In table 3.1 the results of this adjustment procedure are summarized. Note that in the actual employment status variable we distinguish several subcategories.

Table 3.1 Cross-tabulation of original and adjusted (dominant) employment status (unweighted)

Adjusted empl. status	Original empl. status		Total
	working	non-working	
working	5887	369	6256
non-working	159	4620	4779
Total	6046	4989	11035

3.4 'Net-to-gross' conversion

The income variables available in SEP are the amounts provided in the so-called annual statement of the employer. These are the amounts to be reported to the tax authorities, which implies that they are net of occupational pension contributions, tax-free savings and employee contributions to unemployment and disability insurance, but include employer contributions to health insurance and earnings transfer allowance. In the procedure applied to obtain gross amounts, it has been assumed that all employees pay the same average rates of unemployment, disability insurance and pension contributions, within the relevant limits, and that all employees with earnings below the public health insurance limit pay public health insurance contributions.

3.5 Summary statistics in data year

In table 3.2 we compare summary statistics on employment status/activity in the data year with statistics from external data sources. For more information we refer to the Data Robustness Assessment report.

Table 3.2 Employed and unemployed in data year.

Employment status/activity	Base dataset (weighted)	Independent data source (eg LFS)
(I) % of population aged 15-64 who are:		
In employment(12+ hpw)	60.3	58.7
Retired, sick, students or unoccupied	35.9	36.6
Unemployed (looking for 12+ hpw)	3.9	4.7
(should add to 100)	All 15 year old are assumed to be students. <i>Unit missings dropped without changing weights</i>	Source: survey of employed and unemployed population (EBB)

(II) proportion of employed or unemployed (12+ hpw, 15-64) who are:		
Male	58.3	61.3
Female	41.7	38.7
female and married		(Src: EBB)
(III) proportion of employed who are:		
Male	55.2	59.2
Female	44.8	40.8
female and married		(Src: labour accounts)
(IV) proportion of self-employed who are:		
Male	65.1	71.7
Female	34.9	28.3
female and married		(Src: labour accounts)

3.6 Updating

To update the data to the common base year 1998, the following updating factors have been used:

- P_ind 1.059 *(june 1998; 1995 =100; source Statistisch Bulletin 41 (Statistics Netherlands) 14/10/99) may deviate from earlier figures. June figure chosen because rent is increased on july 1 in NL.*
- E_ind 1.062 *(june 1998; 1995 = 100), derived from Statistisch Bulletin 30 (29/7/99) and 04 (29/1/1998): 'cao-lonen per maand inclusief bijzondere beloningen'*
- I_ind 1.188 *(1998; 1995 = 100), National Accounts of the Netherlands 1998 (Statistics Netherlands): property income of households (excluding income imputed to 'policy holders': profits of pension funds etc)*
- R_ind 1.078 *(april 1996 - june 1998); derived from Statistisch Bulletin 41 (Statistics Netherlands) 14/10/99) (RENT information in SEP96: april 1996)*
- P_indh 1.19 *(1996 - 1998), median house prices have increased by about 19% between 1996 and 1998⁶ (Source: nvm dutch association of real estate agents, www.nvm.nl).*
- S_ind 1.057 *(the (maximum) allowable value of nlsploon increased by 5.7% between 1995 and 1998).*
- P_indc 1.02 *average car-prices decreased by 2% between 1996 and 1998 (Source Statistics Netherlands, Maandstatistiek van de Prijzen)*
- P_indi 1.197 *index to be used for private health insurance 1995-1998: (Source Kluwer, sociaal Memo 2, 1998)*
- B_ind 1.052 *the benefits involved (aaw, ubz) can be assumed to follow the (net) minimum wage. In gross terms the index is 1.052 (Source Kluwer, sociaal Memo 2, 1998)*

⁶ This increase is not likely to have impact on the value of the owned house taken into account to compute imputed rent (coimprnt) to be added to taxable income. In fact it is more likely that the 1996 price is taken as the basis.

4. Validation of Aggregates

In this chapter we compare some basic preliminary results from the Euromod baseline run with national statistics, in order to validate the aggregates produced by Euromod.

4.1 Benefits and benefit recipients

Table 4.1 compares total amounts of benefits and benefit recipients for the benefits simulated in Euromod.

Table 4.1 Benefits and benefit recipients
- comparison of Euromod base line run with National Statistics

	National statistics		Euromod	difference	
	1998	Source		abs.	%
Total amounts (x 10 ⁹ NLG)					
Child benefits	6.32 (1)		6.35	0.03	0
State pension	38.74 (2)		36.05	-2.69	-7
Survivor benefits	3.58 (2)		2.07	-1.51	-42
Social assistance					
General (ABW)	9.98 (1)		6.55	-3.43	-34
Elderly or partly disabled unemployed (IOAW)	0.58 (1)		0.96	0.38	+66
Rent subsidy	2.93 (2)		2.33	-0.60	-20
Numbers of benefit recipients (x 10 ⁶)					
Child benefits (<i>households</i>)	1.82 (2)		1.85	0.03	2
State pension (<i>persons</i>)	2.28 (2)		1.98	-0.30	-13
Survivor benefits (<i>persons</i>)	0.18 (2)		0.11	-0.07	-39
Social assistance (<i>households</i>)					
General (ABW)	0.41 (2)		0.46	0.05	+12
Elderly or partly disabled unemployed (IOAW)	0.02 (2)		0.04	0.02	+50
Rent subsidy	1.05 (2)		1.15	0.10	+10

(1) Sociale nota 2000, Tweede Kamer der Staten Generaal 1999-2000, 26802.

(2) Statistical yearbook 2000, Statistics Netherlands, Voorburg

With respect to *child benefits*, the Euromod results are quite close to the national statistics. In fact, both the total amounts and the numbers of beneficiaries in Euromod are slightly above the actual numbers. This is probably mainly due to the fact that the number of children aged less than 18 in the reweighted data is overestimated.

By contrast, the total amounts and numbers of beneficiaries of the *state pension* are underestimated by about 7, respectively 13%. Part of the underestimation is due to the fact that the SEP data do not include persons living in institutions. About 8% of the population aged above 65 is living in institutions. These persons would still be eligible to the state pension.

Euromod does clearly less well in the simulation of the total amounts and numbers of *survivor benefits*: both end up about 40% below the actual figures. One cause of this

discrepancy may be that the survivor benefit as simulated in Euromod was introduced in 1996. Euromod does not take into account the fact that for survivors whose spouses died before 1 July 1996, more generous entitlement rules apply. Furthermore, in the data, the total number of survivors aged below 65 is underestimated, as can be implied from the fact that it is below the actual number of persons receiving survivor benefits.

With respect to *social assistance benefits*, we find that Euromod somewhat overestimates the total number of recipients, whilst it clearly underestimates the amounts of benefits involved. Moreover, as expected (see section 2.1.4), in particular IOAW benefits, as well as number of recipients, are overestimated.

The fact that the total simulated number of recipients of social assistance is too high while total amounts are too low implies that, in particular, the number of recipients of a partial social assistance benefit, next to other sources of income, is overrepresented. In Euromod, we find that 60% of social assistance recipients has other sources of income, whilst in actual fact this holds for less than 20%⁷. Upon closer inspection, it turns out that the Euromod population of social assistance recipients includes a number of recipients of education grants (who have not been classified as students because they also have income from employment). Still, about half of the other recipients of social assistance also have other sources of income in Euromod. To some extent, this may be due to the fact that the data measure income over a whole year, whilst social assistance is awarded on the basis of income during a month (or, in some cases, even a shorter period). Another possible explanation is that some recipients of social assistance may not report all their income to the relevant authorities. However, it seems likely that households with no income except social assistance (and possibly, child benefits and rent subsidy) are underrepresented in the data.

The results with respect to rent subsidy are more or less consistent with the previous findings. Euromod overestimates the number of beneficiaries, but underestimates the total amount of rent subsidy. The latter result supports the conclusion that households with very low incomes are underrepresented in the SEP data: they would be entitled to relatively high amounts of rent subsidy, thus increasing the total amount. The fact that Euromod finds a large number of households entitled to relatively small amounts of rent subsidy may also be consistent with a relatively high level of non-takeup of rent subsidy (estimated to be between about 15 and 25% of all households entitled to rent subsidy)⁸. It should also be noted that Euromod applies the rules for the subsidy year 1997-1998 (ending on 30-6-1998), but uses income received in 1998. In fact, the income received in 1996 was used to determine the amounts of rent subsidy.

⁷ Ministerie van Sociale Zaken en Werkgelegenheid (2000), *Lijnen naar de toekomst. Evaluatie Algemene Bijstandswet 1996-1999*.

⁸ Tweede Kamer der Staten Generaal (1999-2000), *Niet-gebruik van de individuele huursubsidie*, vergaderjaar 1999-2000, 25831.

4.2 Social insurance contributions and taxes

Table 4.2 compares total amounts of social insurance contributions and income taxation with the amounts produced by the Euromod baseline run.

Table 4.2 Social insurance contributions and income taxation
- comparison of Euromod base line run with National Statistics

Total amounts (x 10 ⁹ NLG)	National	Euromod	difference	
	statistics		abs.	%
	1998	Source		
Social insurance contributions				
Unemployment insurance				
employee contributions	?	8.98	?	?
employer contributions	?	8.84	?	?
	13.50 (6)	17.82	+4.32	+32
Disability insurance				
employer contributions	23.8 (6)	24.83	+1.03	+4
self-employed contr.	1.13 (2)	0.46	-0.67	-59
	0.80 (3)		-0.34	-42
Health insurance				
employee contributions	6.1 (7)	5.79	-0.31	-5
employer contributions	10.1 (7)	10.60	+0.5	+5
Peoples insurances				
employee contributions	68.45 (2)	69.60	1.15	2
	69.08 (3)		0.52	1
Income taxation	48.07 (3)	57.65	9.58	20

(2) Statistical yearbook 2000, Statistics Netherlands, Voorburg

(3) Belastingdienst, Jaarverslag 1999 (Tax service, yearly report)

(6) LISV, Kerncijfers werknemersverzekeringen t/m oktober 2000, <http://www.lisv.nl>

(7) EIM, 'Inventarisatie beslissingen...', <http://www.eim.nl>, estimate based on household survey

As can be seen, Euromod overestimates the total amount of *employee and employer contributions to unemployment insurance* by about 32%. This is partly due to the fact that in Euromod public sector employees are also assumed to pay these contributions. The public sector consists of about 20% of the total number of employees, and if it is assumed that 20% of the total amount of contributions in Euromod can be ascribed to public sector employees, we are left with an overestimation of about 6% of the total unemployment insurance contribution. Given the fact that these contributions are only paid over earnings above a certain minimum threshold, this could be consistent with an overestimation of total earnings of less than 4%. The results with respect to *employee contributions to disability insurance* (the latter also covers the public sector) suggest a similar degree of overestimation. One possible source of this overestimation may be that these contributions are levied on daily wage up to a limit, and in Euromod it is implicitly assumed that persons work full-time during the whole year. For persons working part-time or only part of the year, the contributions are overestimated if their daily wage exceeds the contribution limit.

The *self-employed contribution to disability insurance* is clearly underestimated, which is consistent with an underestimation of self-employment income. Notably, the

underestimation may largely be due to an underestimation of the number of self-employed persons in the Euromod-data, partly caused by the fact that income information is missing for relatively many self-employed persons in the underlying SEP-data.

The accuracy of the total amounts of *health insurance contributions* is also limited by the fact that most public sector employees are covered by other arrangements. In view of this, the total amounts of employee contributions in Euromod appear to be underestimations, which may partly be consistent with an overestimation of the number of employees with earnings above the public health insurance limit. Further research is needed to explain the fact that employer contributions are overestimated by Euromod – as expected – but employee contributions are not.

The total amounts of *peoples' insurance contributions* appear to be only slightly overestimated by Euromod. Given that Euromod considerably overestimates the amount of *income taxation* this also points to an overrepresentation of persons with high incomes in the Euromod data, in particular since the amount of income taxation from the national statistics includes 4270 million NLG of dividend tax, which is only partially borne by private households⁹.

However, there are some other reasons why the total amounts of income taxation from the Euromod simulations are too high.

1. Income tax deductions not taken into account in Euromod: private life insurance contributions (within bounds), gifts to charity, exceptional expenses (e.g. health care), child care (see section 2.3.2.). Although the basis for income taxation and peoples' insurance contributions is the same, it can be expected that these deductions mainly affect the higher income brackets, which implies that peoples' insurance contributions can be simulated relatively accurately.

2. Reductions of tax and contribution payments by the employer. A large part of income tax and peoples' insurance contributions is paid through withholding by the employer. There are several arrangements which give employers a discount on the amounts to be paid to the tax authorities. In particular, discounts are awarded for employees with low wages, hiring long term unemployed, and for certain categories of employees in specific sectors (education, child care, shipping, research and development). In 1998, the total amount of reductions is estimated as about 2,800 million NLG in 'wage taxation' (= withheld income taxation) and 600 million NLG in peoples' insurance contributions¹⁰. Notably, these reductions do *not* affect the net incomes of the employees.

⁹ In fact, the total amount of dividend income reported in Euromod is less than 1,500 million NLG.

¹⁰ Tweede Kamer der Staten Generaal, 1998-1999, *Miljoenennota 1999*, vergaderjaar 1998-1999, 26200.

4.3 Poverty incidence

Table 4.3 compares the poverty incidence of the Euromod baseline run with the most comparable independent source (poverty threshold: 60% of median equivalent disposable income, using the modified OECD equivalence scale¹¹).

Table 4.3 Poverty incidence in Euromod compared with national results

Poverty incidence households	Euromod baseline	IPO'97 ¹²
< 75% of poverty line	3.2	2.8
< 90% of poverty line	5.3	4.9
< poverty line	10.7	8
< 110% of poverty line	18.2	12.7
< 125% of poverty line	29.1	21.6
< 200% of poverty line	64.2	
< 300% of poverty line	89.6	

persons

< 75% of poverty line	2.6	3.1
< 90% of poverty line	5.1	5.9
< poverty line	9.9	9.1
< 110% of poverty line	16.1	13.7
< 125% of poverty line	26.2	22.2
< 200% of poverty line	66.1	
< 300% of poverty line	91.0	

A notable result from this comparison is that in the Euromod baseline run, the number of households with incomes between 100 and 125% of the poverty line is considerably higher than according to IPO(1997). It should however be noted that the comparability of the results is adversely affected by differences in the definition of disposable income, in particular with respect to the treatment of the owned accommodation. Moreover, households mainly dependent on education grants were not included in the IPO results.

Table 4.4 presents additional information on the distribution of equivalent disposable income in the Euromod baseline run: decile points and average equivalent income in every decile.

¹¹ The modified OECD equivalence scale assigns 1 to the first person in the household, 0.3 to children aged below 14 and 0.5 to every other person.

¹² CBS/SCP (1999), *Het meten van armoede (the measurement of poverty)*, Statistics Netherlands / Sociaal en Cultureel Planbureau, Voorburg / Den Haag. Statistics on the basis of the IPO (income panel survey) which uses register data of about 75,000 households.

Table 4.4 Deciles of equivalent income in Euromod

Decile	Threshold	Average eq. income	Average hh.size
1	1506	1177	2.1
2	1739	1622	2.0
3	1965	1851	2.1
4	2237	2100	2.5
5	2496	2360	2.6
6	2787	2636	2.7
7	3159	2958	2.6
8	3608	3384	2.2
9	4334	3945	2.2
10		5698	1.9
Total		2772	2.3

4.4 Conclusion

The validation exercise on the Euromod baseline run for the Netherlands has shown that Euromod is not (yet) perfect for the simulation of the consequences of tax and/or benefit policy measures in the Netherlands. In particular, with respect to some earnings related contributions and benefits, the degree of accuracy of the baseline appears to be fairly poor. On the other hand, for child benefits and state pension benefits the simulations are reasonably accurate.

To some extent, the lack of precision can be ascribed to simplifying assumptions made in Euromod. Obviously, the quality of the underlying data also plays a role here. A better understanding of Euromod's pluses and minuses could possibly be gained by a more detailed comparison of distributional statistics of simulated instruments from the baseline run with external sources. This is one of the priorities for an extended validation exercise.