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Working Paper Social Security

MIMOSIS: MICROsimulation MODEL for Belgian  
Social Insurance Systems  
**Modelling rules for the module on social  
security contributions**

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## **Abstract**

This note discusses the rules, used to simulate the social security contributions in MIMOSIS.<sup>1</sup> The subset of MIMOSIS that covers the social security contribution computation rules, is called the CONTRIB module.

The rules, discussed in this note, and implemented in the CONTRIB module, are an interpretation of the social security contribution legislation of the year 2001. In appendix 1 we discuss the changes, necessary to simulate changes in the legislation of benefit years until 2005.

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<sup>1</sup> The development of the MIMOSIS model was supported by Federal Science Policy within the framework of the AGORA programme, on the request of the F.P.S. Social Security, who is responsible for the management and the maintenance of the MIMOSIS model. The model is based on administrative data from the Datawarehouse Labour market and Social protection, managed and maintained by the CrossRoads Bank for Social Security.

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## Introduction

In order to compute the social security contributions we use a number of exogenous variables, obtained from an administrative data source. Next to this we also need to construct a number of endogenous variables. Some elements of the legislation are integrated in the module in a parametric form.

In the remainder of the text we point out which are the exogenous and endogenous variables and the parameters of the CONTRIBUT module. Names of variables and parameters will appear with capital letters. The names of endogenous variables and parameters start with the string CONTRIBUT\_. Unless indicated otherwise, the default value of an endogenous variable is 0.

Throughout we assume that the model runs on quarterly data. If a variable or parameter name ends with the string \_QT this refers to registrations for the quarter that is being processed. A quarterly registration can either be an amount received during the given quarter, or a status that is assumed to apply throughout the quarter. Variables or parameters that contain registrations for preceding quarters are referred to with ending strings \_QTMIN1, \_QTMIN2, \_QTMIN3 ... referring respectively to the preceding quarter, two quarters ago and three quarters ago. Variables or parameters that contain registrations for a day, month or year, end with the string \_DAY, \_MONTH or \_ANN respectively. In appendix 2 we provide a list of all variables and parameters used in this note.

The social security contributions of a) wage earners on the private labour market, b) civil servants and c) self employed are determined differently. Therefore we explain in section 1 of this note how we identify these different labour market statuses. In section 2 we identify how the labour market income for each of these statuses is constructed. Social security contributions also have to be paid on certain income sources, not obtained on the labour market. In section 3 we explain how we construct these additional income sources. In sections 4 to 7 we then respectively explain how the social security contributions paid by a) wage earners on the private labour market, b) civil servants, c) self employed and d) people with non labour market income are determined.

## 1 IDENTIFICATION OF LABOUR MARKET STATUS

Social security contributions are computed differently for individuals classified as either wage earner on the private labour market, civil servant or self employed. Since some individuals might mix different labour market statuses, we will capture each of these three statuses in a different variable.

The labour market status of a wage earner on the private labour will be captured by the variable CONTRIBUT\_LABMSTAT\_PRIV\_QT. This variable can take two values

apart from the default value 0. It will be equal to 1 if the individual is a blue collar worker and equal to 2 if it is a white collar worker.

**Construction rule for CONTRIB\_LABMSTAT\_PRIV\_QT:**

In order to distinguish between blue and white collar workers on the private labour market, we use the variables CLATRA\_QT and SECEMP\_QT. The variable CLATRA\_QT covers a classification of employees constructed by the RSZ and the variable SECEMP\_QT identifies whether the employee is in the public or the private sector. Both variables are provided by the RSZ. We list the values of CLATRA\_QT and SECEMP\_QT and the corresponding values of the variable CONTRIB\_LABMSTAT\_PRIV\_QT in Table 1.

Table 1: Variable values used to determine the values of CONTRIB\_LABMSTAT\_PRIV\_QT

Value of CONTRIB_LABMSTAT_PRIV_QT	Label of CONTRIB_LABMSTAT_PRIV_QT	Value of CLATRA_QT	Value of SECEMP_QT
1	Blue collar worker	1	1
2	White collar worker	2	1

The labour market status of a wage earner on the public labour market will be captured by the variable CONTRIB\_LABMSTAT\_PUB\_QT. This variable can take four values apart from the default value 0. It will be equal to 1 if the individual is a blue collar worker without statutory service, 2 if the individual is a white collar worker without statutory service, 3 if it is a blue collar worker with statutory service and 4 if it is a white collar worker with statutory service.

**Construction rule for CONTRIB\_LABMSTAT\_PUB\_QT:**

In order to distinguish the different statuses on the public labour market, we will use variables from different sources. We will start the identification with the variables CLATRA\_QT, SECEMP\_QT and CODTRA\_QT both provided by the RSZ. With the variables CLATRA\_QT and SECEMP\_QT we can identify civil servants working for the federal government or for organisms of public interest that depend on the federal government. In order to distinguish between federal civil servants with or without statutory service, we need the additional variable CODTRA\_QT. We list the values of CLATRA\_QT, SECEMP\_QT and CODTRA\_QT and the corresponding values of the variable CONTRIB\_LABMSTAT\_PUB\_QT in Table 2.



Table 2: Variable values used to determine the values of CONTRIB\_LABMSTAT\_PUB\_QT

Value of CONTRIB_LABMSTAT_PUB_Q T	Label of CONTRIB_LABMSTAT_PUB_Q T	Value of CLATRA_QT	Value of SECEMP_QT	Value of CODTRA_QT
1	Blue collar worker without statutory service	3	2	10, 11, 12, 13, 14, 15, 16, 22, 24, 25, 27, 35, 41, 45
2	White collar worker without statutory service	3	2	439, 484, 485, 487, 492, 493, 494, 495, 673, 840, 876, 877, 879
3	Blue collar worker with statutory service			
4	White collar worker with statutory service	3	2	671, 675

Remark that we assume that all civil servants, identified as civil servants with statutory service by the RSZ, are white collar workers. We make this assumption by lack of additional information on the precise activity of these civil servants.

We further refine the variable CONTRIB\_LABMSTAT\_PUB\_QT, by exploiting the variable WCATCD\_QT, provided by the RSZPPO. This variable allows us to identify civil servants working for local public services. If, after the above manipulations the variable CONTRIB\_LABMSTAT\_PUB\_QT is still equal to 0, but the variable WCATCD\_QT is not missing, we change the value of CONTRIB\_LABMSTAT\_PUB\_QT as identified in Table 3.

Table 3: Variable values used to determine the values of CONTRIB\_LABMSTAT\_PUB\_QT

Value of CONTRIB_LABMSTAT_PUB_QT	Label of CONTRIB_LABMSTAT_PUB_QT	Value of WCATCD_QT
1	Blue collar worker without statutory service	102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 126, 127, 128, 129, 132, 133, 134, 135, 136, 138, 140, 142, 143, 144, 145, 146, 147, 148, 149, 150, 152, 153, 154, 155, 156, 157, 158, 159, 162, 163, 164, 165, 166, 167, 168, 181, 182, 183, 184, 191, 192, 193, 194, 195, 196, 197, 198
2	White collar worker without statutory service	202, 203, 204, 205, 206, 207, 208, 209, 210, 212, 213, 214, 215, 217, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 232, 233, 234, 235, 236, 237, 238, 240, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 270, 271, 273, 274, 275, 276, 277, 278, 281, 282, 283, 284, 285, 286, 287, 288, 291, 292, 293, 294, 295, 296, 297, 298
3	Blue collar worker with statutory service	601, 602, 605, 606, 607, 608, 610, 611, 615, 616, 617, 618, 773, 774, 775, 776, 777, 778, 790, 795
4	White collar worker with statutory service	620, 621, 622, 623, 625, 626, 630, 631, 632, 633, 635, 636, 649, 650, 651, 652, 659, 660, 671, 672, 673, 674, 675, 681, 682, 683, 684, 685, 700, 710, 720, 731, 732, 733, 734, 735, 736, 737, 738, 740, 771, 772, 781, 782, 783, 784, 785, 786, 787, 788

Remark that we give priority to the RSZ data to determine the labour market status of an individual on the public labour market because there are more civil servants in the RSZ data than there are in the RSZPPO data.

The labour market status of self employed will be captured by the variable CONTRIB\_LABMSTAT\_SELF\_QT. This variable will be set equal to 1 if the individual is identified as a self employed.

#### **Construction rule for CONTRIB\_LABMSTAT\_SELF\_QT:**

In order to identify this variable we use the variable HOEDRSVZ\_QT, provided by the RSVZ. This variable captures the status of the self employed as known by the RSVZ. We list the values of HOEDRSVZ\_QT and the corresponding values of the variable CONTRIB\_LABMSTAT\_SELF\_QT in Table 4.

Table 4: Variable values used to determine the values of CONTRIB\_LABMSTAT\_SELF\_QT

Value of CONTRIB_LABMSTAT_SELF_Q T	Label of CONTRIB_LABMSTAT_SELF_Q T	Value of HOEDRSVZ_QT
1	Individual has a self employed activity	1, 2, 3, 4

## 2 IDENTIFICATION OF LABOUR MARKET INCOME

A user of the CONTRIB module has two possibilities to determine the labour market income of an individual. Either he can opt to determine the labour market income with observed quarterly income figures or he can determine the labour income as the product of a gross hourly wage and an assumed number of hours worked. If he wants the first option to be executed, the parameter CONTRIB\_HOURSIM should be put equal to 0, for the second option he should set this parameter CONTRIB\_HOURSIM equal to 1 or 2.

### 2.1 IDENTIFICATION OF LABOUR MARKET INCOME WITH OBSERVED INCOME FIGURES

For wage earners on the private labour market, social security contributions are paid on a quarterly basis and are computed on total gross earnings, without an income ceiling and before income tax deductions. The notion of remuneration is particularly wide. It denotes any advantage in money, or an advantage that can be expressed in money, granted by the employer to the employee as a counterpart for labour, and to which the employee is directly or indirectly entitled through his contract with the employer.<sup>2</sup>

In general, this remuneration concept is an aggregate of real earned income. However, for some categories of workers (sportsmen, deep-sea fisherman and some wage earners partially or totally paid with tips), social security contributions are calculated as a percentage of a lump-sum income concept.

Both, blue and white collar workers receive single and double holiday earnings. The single holiday earnings of white collar workers coincide with the wage these workers would have received if they would have worked. Double holiday earnings are computed as 92% of 1/12 of the gross wage earned in the month of holiday times the number of months worked in the year of holiday.<sup>3</sup>

The holiday earnings of white collar workers are paid directly by the employer. Blue collar workers do not receive holiday earnings from their employer, but are

<sup>2</sup> FOD Sociale Zekerheid (2002), p. 30-36.

<sup>3</sup> See Van Eeckhoutte, W. (2001), p. 278-279.

paid by a vacation fund. In order to collect funds for this vacation fund, employers pay a special social security contribution on the gross earnings of their blue collar employees. The single and double holiday earnings of blue collar workers are computed as respectively 8% and 7,38% of 108% of the gross wages that have been used to compute the contributions of the employer, i.e. the gross earnings of the employee in the year preceding the holiday.<sup>4</sup>

Next to the real earned income and the holiday earnings, it might also be that blue or white collar workers receive other supplements, such as a supplement paid at the end of the year.

We will reconstruct the real earned income variable for wage earners and refer to it later on as CONTRIB\_INCPRIV\_QT. Next to this variable we will also construct variables that cover the payments for single and double holiday earnings and other supplements. We store the computed values for the latter three concepts in the variables CONTRIB\_SHPRIV\_QT, CONTRIB\_DHPRIV\_QT and CONTRIB\_INCSPRIV\_QT respectively.

**Construction rule for CONTRIB\_INCPRIV\_QT, CONTRIB\_SHPRIV\_QT, CONTRIB\_DHPRIV\_QT and CONTRIB\_INCSPRIV\_QT:**

For blue collar workers:

If an individual is identified as a blue collar worker on the private labour market, i.e. CONTRIB\_LABMSTAT\_PRIV\_QT is equal to 1, we will identify the value of CONTRIB\_INCPRIV\_QT by taking the sum of five observed income variables, provided by the RSZ. The variable CONTRIB\_INCPRIV\_QT is identified as:

$$\text{CONTRIB\_INCPRIV\_QT} = \text{SAL100\_QT} + \text{PRIMES\_QT} + \text{PREAVI\_QT} + \text{SALATT\_QT} + \text{SALFOR\_QT}.$$

We will determine his single holiday earnings as 8% of 108% of this observed quarterly income. We include these percentages in the module as the parameters CONTRIB\_SHBLUE\_QT and CONTRIB\_PERSALB\_QT respectively. The variable CONTRIB\_SHPRIV\_QT in case of a blue collar worker is therefore identified as:

$$\text{CONTRIB\_SHPRIV\_QT} = \text{CONTRIB\_SHBLUE\_QT} * (\text{CONTRIB\_PERSALB\_QT} * \text{CONTRIB\_INCPRIV\_QT}).$$

We determine the double holiday earnings of blue collar workers as 7,38% of 108% of the observed quarterly income. The percentage used to compute double holiday earnings is included in the module in the form of the parameter CONTRIB\_DHBLUE\_QT. The variable CONTRIB\_DHPRIV\_QT of a blue collar worker is therefore identified as:

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<sup>4</sup> FOD Sociale Zekerheid (2002), p. 476.

$CONTRIB\_DHPRIV\_QT = CONTRIB\_DHBLUE\_QT * (CONTRIB\_PERSALB\_QT * CONTRIB\_INCPRIV\_QT).$

The additional supplement for blue collar workers is set equal to 0, assuming that all relevant supplements, such as the supplement paid at the end of the year, are already included in the exogenous variables used to construct  $CONTRIB\_INCPRIV\_QT$ . Hence:

$CONTRIB\_INCSPRIV\_QT = 0.$

For white collar workers:

If an individual is identified as a white collar worker on the private labour market, i.e.  $CONTRIB\_LABMSTAT\_PRIV\_QT$  is equal to 2, we will identify the value of  $CONTRIB\_INCPRIV\_QT$  by taking the sum of five observed income variables, provided by the RSZ. The variable  $CONTRIB\_INCPRIV\_QT$  is identified as:

$CONTRIB\_INCPRIV\_QT = SAL100\_QT + PRIMES\_QT + PREAVI\_QT + SALATT\_QT + SALFOR\_QT.$

Single holiday earnings are set equal to 0, assuming that these single holiday earnings are part of  $SAL100\_QT$ .

Their double holiday earnings are set equal to the value observed in the variable  $PECVAC\_QT$ , i.e.:

$CONTRIB\_DHPRIV\_QT = PECVAC\_QT.$

The additional supplement for white collar workers is set equal to 0, assuming that all relevant supplements, such as the supplement paid at the end of the year, are already included in the exogenous variables used to construct  $CONTRIB\_INCPRIV\_QT$ . Hence:

$CONTRIB\_INCSPRIV\_QT = 0.$

Remark that a) we do not distinguish lump sum income from other income sources and b) all the income concepts are determined conditional on the predefined and fixed labour market status. If simulations with people entering or leaving the labour market are to be carried out, the identification of the preceding concepts should be adapted.

For civil servants, social security contributions are paid on a quarterly basis and are computed on gross remunerations. The remuneration concept that serves as the basis to calculate the social security contributions of civil servants denotes any advantage in money, or an advantage that can be expressed in money, granted to the civil servant as a counterpart for labour.<sup>5</sup>

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<sup>5</sup> FOD Sociale Zekerheid (2002), p. 99-101.

Single holiday earnings of civil servants replace the wage that would have been earned without being on holiday. Double holiday earnings are determined as the sum of a lump sum amount of € 892,76 and 1,1% of gross annual wages.<sup>6</sup>

Next to the real earned income and the holiday earnings, it might also be that civil servants receive other supplements, such as a supplement paid at the end of the year.

We refer to this remuneration concept as CONTRIB\_INCPUB\_QT. Next to this remuneration variable we will also construct single and double holiday payments and additional supplements for civil servants, and store results for these in CONTRIB\_SHPUB\_QT, CONTRIB\_DHPUB\_QT and CONTRIB\_INCSPUB\_QT respectively.

**Construction rule for CONTRIB\_INCPUB\_QT, CONTRIB\_SHPUB\_QT, CONTRIB\_DHPUB\_QT and CONTRIB\_INCSPUB\_QT:**

For civil servants without statutory service:

We construct the quarterly income concept of civil servants with statutory service, i.e. CONTRIB\_LABMSTAT\_PUB\_QT is equal to 1 or 2, as the sum of the five observed income variables provided by the RSZ and one income variable provided by the RSZPPO. The variable CONTRIB\_INCPUB\_QT in these cases is identified as:

$$\text{CONTRIB\_INCPUB\_QT} = \text{SAL100\_QT} + \text{PRIMES\_QT} + \text{PREAVI\_QT} + \text{SALATT\_QT} + \text{SALFOR\_QT} + \text{LMASAMT\_QT}.$$

Single and double holiday earnings of civil servants without statutory service are computed in the same way as is done for wage earners on the private labour market.

The additional supplement for civil servants without statutory service is set equal to 0, assuming that all relevant supplements, such as the supplement paid at the end of the year, are already included in the exogenous variables used to construct CONTRIB\_INCPUB\_QT. Hence:

$$\text{CONTRIB\_INCSPUB\_QT} = 0.$$

For civil servants with statutory service:

We construct the quarterly income concept of civil servants with statutory service, i.e. CONTRIB\_LABMSTAT\_PUB\_QT is equal to 3 or 4, as the sum of the five observed income variables provided by the RSZ and one income variable provided by the RSZPPO. The variable CONTRIB\_INCPUB\_QT in these cases is identified as:

$$\text{CONTRIB\_INCPUB\_QT} = \text{SAL100\_QT} + \text{PRIMES\_QT} + \text{PREAVI\_QT} + \text{SALATT\_QT} + \text{SALFOR\_QT} + \text{LMASAMT\_QT}.$$

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<sup>6</sup> FOD Sociale Zekerheid (2002), p. 482-483.

The single holiday earnings, i.e. `CONTRIB_SHPUB_QT`, in case of civil servants with statutory service are set equal to 0, assuming that these single holiday earnings are included in the variable `CONTRIB_INCPUB_QT`.

The double holiday earnings of civil servants with statutory service are determined as a combination of a quarterly lump sum amount of € 223,19 and 1,1% of the quarterly income. The latter two figures are included in the module in the form of the parameters `CONTRIB_DHCSFIX_QT` and `CONTRIB_DHCSVAR_QT`. The variable `CONTRIB_DHPUB_QT` is thus identified as:

$$\text{CONTRIB\_DHPUB\_QT} = \text{CONTRIB\_DHCSFIX\_QT} + \text{CONTRIB\_DHCSVAR\_QT} * \text{CONTRIB\_INCPUB\_QT}.$$

The additional supplement for civil servants with statutory service is set equal to 0, assuming that all relevant supplements, such as the supplement paid at the end of the year, are already included in the exogenous variables used to construct `CONTRIB_INCPUB_QT`. Hence:

$$\text{CONTRIB\_INCSPUB\_QT} = 0.$$

Remark that we do not make a distinction between civil servants with statutory service employed by federal services or those employed by local and provincial authorities to compute their income and holiday earnings.

For self-employed, social security contributions are paid on a quarterly basis and are computed on net indexed earnings. The net indexed earnings correspond to the gross professional earnings reduced by professional costs and if the need arises, by professional losses. The remunerations, relevant for the computation of social security contributions, are the net indexed earnings corresponding to the 3<sup>rd</sup> complete civil year (reference year) preceding the year during which the contributions are paid. The professional earnings, on the basis of which contributions are computed, are adapted to the cost of living fluctuations. For self employed not active for more than three years yet, the social security contributions are not determined on the basis of their income.

The reconstructed income concept with self employed income will be stored in the variable `CONTRIB_INCSELF_QT`.<sup>7</sup>

#### **Construction rule for `CONTRIB_INCSELF_QT`:**

From the RSVZ we obtain the variable `JAARINKOMEN`, which contains the self employed income concept that serves as the basis to compute their contributions. This income concept is a tax declared concept which, in principle, goes back to the tax declaration year  $t-3$  if  $t$  is the year for which the social security contributions are computed. Next to this we also obtain the variable `JAAR` which contains the year for which the value in `JAARINKOMEN` is

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<sup>7</sup> FOD Sociale Zekerheid (2002), p. 83-84.

registered (i.e. in general 1998 for the 2001 data, but some other years of registration appear as well. Starting from both variables we can construct the variable INCSELF\_QT, which covers the self employed income on a quarterly basis. The construction of INCSELF\_QT is done outside the module CONTRIB. The value of CONTRIB\_INCSELF\_QT is then simply set equal to INCSELF\_QT by reading in this exogenous variable.

## **2.2 IDENTIFICATION OF LABOUR MARKET INCOME WITH GROSS HOURLY INCOME AND HOURS WORKED**

If a user wants to determine the quarterly income of an individual as the product of a gross hourly wage and hours worked, he should switch the parameter CONTRIB\_HOURSIM equal to 1 or 2.

If the value of CONTRIB\_HOURSIM is set equal to 1, the number of hours worked per week by spouse 1 of a couple or by a single can be set by the parameter WORKHOUR\_SPOUSE1. The number of hours worked by the second spouse can be set by the parameter WORKHOUR\_SPOUSE2. The first spouse of a couple is, in general, the man, and the second spouse is in general the woman.<sup>8</sup>

The basic amount of income of private or public labour market workers, i.e. CONTRIB\_INCPRIV\_QT or CONTRIB\_INCPUB\_QT is then determined as the product of the number of hours worked per week times 13 times the gross hourly income observed in MIMOSIS\_GRINC\_HOUR.<sup>9</sup>

If necessary, single holiday earnings are determined in a similar way as described above (i.e. with the same parameters applied on the basic income amount).

Double holiday earnings per quarter of white collar workers are determined here as 92% times 3/12 times the basic income divided by 3. We thus assume that an individual works three months in each quarter. The value of 92% is integrated in the module in the form of the parameter CONTRIB\_DHWHITE\_QT.

If income is simulated as a combination of hours and wages, the user also has the option to change the wage of either man or woman by a percentage amount. The percentage amount to change the hourly wage is set by the parameter CONTRIB\_WAGEINC, while the option to increase the wages of men is selected by setting CONTRIB\_SEXINCR equal to 1 and that of women by setting CONTRIB\_SEXINCR equal to 2.

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<sup>8</sup> See Decoster, De Swerdt, Orsini and Van Camp (2007).

<sup>9</sup> If the value of MIMOSIS\_GRINC\_HOUR is smaller than 6.92, this value is set equal to 6.92. This is the minimum hourly wage that corresponds with 38 hours of work per week and the minimum monthly income that applied in 2001 (See Eiroline (2006)).



If CONTRIBUTION\_HOURSIM is set equal to 2, the real observed hours are used to compute the part of labour income that is directly linked to hours worked.

If the variable CONTRIBUTION\_HOURSIM is set equal to 1 or 2, the variable CONTRIBUTION\_FULLPART\_QT is set equal to the fraction of the hours the individual is assumed to work, divided by 38. This variable is constructed to compute the structural deduction of employers and the personal deduction of employees (see sections 4.2.1 and 4.3.1).

The user also has the option to compute a labour market income for unemployed conditional on the number of months they are in unemployment, thus assuming that they leave the unemployment system and enter the labour market. To launch this computation the parameter CONTRIBUTION\_SIMUNEM should be set equal to 1. The parameter CONTRIBUTION\_DUURP captures the number of months that the unemployed is assumed to stay in unemployment. The value of CONTRIBUTION\_DUURP is compared with the one of the variable UNEM\_NUMMINU\_QT. For unemployed who are more months in unemployment than the threshold set by CONTRIBUTION\_DUURP and who are in full time unemployment in search of work (i.e. who have a value of UNEM\_STATUS\_QT equal to 1 or 2), the labour market income is computed as the product of an assumed number of hours worked and the assumed wage that the individual will gain, if he enters the labour market. The number of hours that the unemployed is assumed to work if he enters the labour market, is set by the parameter CONTRIBUTION\_HOURUNEM, thus assuming that all unemployed who enter the labour market will work the same fixed number of hours.

### **3 IDENTIFICATION OF NON LABOUR MARKET INCOME ON WHICH SOCIAL SECURITY CONTRIBUTIONS ARE PAID**

Social security contributions are also due on certain incomes not obtained on the labour market.<sup>10</sup>

Contributions have to be paid on retirement and survival pensions.<sup>11</sup> The pension income that will serve as the basis for the computation of these contributions will be stored in the variable CONTRIBUTION\_PENS\_QT.

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<sup>10</sup> Legally one distinguishes the contributions paid on earned income from those paid on social benefits. One therefore labels the "contributions" paid on social benefits as withholdings (inhoudingen) (see Put (2001), p. 932). Throughout this note we will not make this terminological distinction and label all payments for the financing of the social benefit system, as contributions.

<sup>11</sup> FOD Sociale Zekerheid (2002), p. 277-278.

### **Construction rule for CONTRIB\_PENS\_QT:**

From the PENSWELF module, i.e. the module that computes the pension benefits, we can recover two variables covering the retirement and survival benefits respectively, i.e. PENSWELF\_RETPENS\_QT and PENSWELF\_SURPENS\_QT. The variable CONTRIB\_PENS\_QT is then identified as:

$$\text{CONTRIB\_PENS\_QT} = \text{PENSWELF\_RETPENS\_QT} + \text{PENSWELF\_SURPENS\_QT}.$$

People receiving conventional early retirement benefits, also have to pay social security contributions. The amount of the contribution is computed on the total amount of the early retirement benefit which consists of the unemployment allowance and a possible additional supplement.<sup>12</sup> We will store the sum of these early retirement benefits of full time and part time early retired in the variables CONTRIB\_UNEMFT\_QT and CONTRIB\_UNEMPT\_QT respectively.

### **Construction rule for CONTRIB\_UNEMFT\_QT and CONTRIB\_UNEMPT\_QT:**

From the UNEM module, i.e. the module that computes the unemployment benefits, we can recover the unemployment allowance and the additional supplement of those that are full time early retired and those that are part time early retired. These concepts are covered by the following variables respectively: UNEM\_BENUNS1\_QT, UNEM\_ADDUNS\_QT, UNEM\_BENEMP1\_QT, UNEM\_ADDEMP\_QT. The variable CONTRIB\_UNEMFT\_QT and CONTRIB\_UNEMPT\_QT are then identified as follows:

$$\text{CONTRIB\_UNEMFT\_QT} = \text{UNEM\_BENUNS1\_QT} + \text{UNEM\_ADDUNS\_QT},$$

$$\text{CONTRIB\_UNEMPT\_QT} = \text{UNEM\_BENEMP1\_QT} + \text{UNEM\_ADDEMP\_QT}.$$

Social security contributions are also due on disability benefits obtained by wage earners, either active on the private or the public labour market, but not on allowances for primary disablement.<sup>13</sup> We will store the disability benefits that will form the basis for the relevant contribution computations in the variable CONTRIB\_DISABWEA\_QT.

### **Construction rule for CONTRIB\_DISABWEA\_QT:**

From the SICK module, i.e. the module that computes the sickness and disability benefits, we can recover the disability benefits. These benefits are covered there by the variable SICK\_DISABWEA\_QT. The variable CONTRIB\_DISABWEA\_QT is set equal to this recovered disability benefit, i.e.

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<sup>12</sup> FOD Sociale Zekerheid (2002), p. 364-365.

<sup>13</sup> FOD Sociale Zekerheid (2002), p. 213 and Put (2001), item 510. Remark that with wage earners on the public labour market we only refer to civil servants without statutory service here. Those with statutory service enter the system of non disposability for work after their period of sickness and start to receive a pension from that point on.

$CONTRIB\_DISABWEA\_QT = SICK\_DISABWEA\_QT.$

Remark that for none of these non labour market incomes we introduce any adaptation conditional on the income earned on the labour market. Nonetheless such adaptation rules exist in the tax benefit legislation. For example in the case of pension benefits.<sup>14</sup>

Social security contributions are also due on benefits in case of industrial accidents or occupational diseases. The contributions are due on benefits because of temporary or permanent disablement, but not on the possible benefits for help of a third person.<sup>15</sup> We will store the sum of the benefits, in case of industrial accidents or occupational diseases, on which contributions have to be paid, in the variable  $CONTRIB\_INDOCC\_QT$ .

**Construction rule for  $CONTRIB\_INDOCC\_QT$ :**

From the SICK module, i.e. the module that computes the sickness and disability benefits, we can recover the benefits in case of industrial accidents or occupational diseases, paid in case of temporary or permanent disablement. These benefits are there covered by  $SICK\_IND\_QT$  and  $SICK\_OCC\_QT$ , respectively.

The variable  $CONTRIB\_INDOCC\_QT$  is set equal to the sum of these benefits, i.e.

$CONTRIB\_INDOCC\_QT = SICK\_IND\_QT + SICK\_OCC\_QT.$

## **4 SOCIAL SECURITY CONTRIBUTIONS FOR WAGE EARNERS ON THE PRIVATE LABOUR MARKET**

The social security contributions are computed first as those due in principle. Conditional on either properties of the employee or the employer these contributions might then be reduced.

In the next section we first explain which contributions are due in principle. In the two sections that then follows we discuss the deductions that could be permitted on these basic contributions. In the fourth section we illustrate how we compute the contributions net of deductions.

### **4.1 SOCIAL SECURITY CONTRIBUTIONS BEFORE DEDUCTIONS**

The common social security contributions of wage earners on the private labour market are determined as a fraction of the common remunerations. For white

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<sup>14</sup> FOD Sociale Zekerheid (2002), p. 261-262.

<sup>15</sup> See Put (2001), items 674 and 722.

collar workers these fractions are applied on their gross remunerations obtained while working and their gross single holiday earnings. For blue collar workers these fractions are applied on 108% of their gross remunerations obtained while working. In case of blue collar workers neither single nor double holiday earnings are part of the remuneration concept used to compute these common social security contributions.<sup>16</sup>

The policy maker distinguishes between contributions to be paid by the employer and contributions to be paid by the employee. Within the set of contributions to be paid by either the employer or employee one can distinguish general contributions from those that are more specific because they a) depend on the size of the employer or b) are levied for a particular fund.

If relevant, the legislator also distinguishes between the regular contribution and the percentage due to application of the wage moderation contribution. The wage moderation contribution was introduced after the three index jumps of the period 1984-1987. The wage moderation contribution was set equal to the percentage wage increase if the indexing of wages would have been applied throughout the whole period.<sup>17</sup>

The percentages that are considered as the relevant social security contribution percentages for wage earners on the private labour market and civil servants with non statutory service in 2001 are listed in Table 5.<sup>18</sup>

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<sup>16</sup> FOD Sociale Zekerheid (2002), p. 476, footnote 2.

<sup>17</sup> FOD Sociale Zekerheid (2004) p. 157.

<sup>18</sup> Remark that no other percentages than those listed in Table 5 will be considered further, although some exist (see RSZ (2006), kwart 04/2001, Deel 3, Titel 2).

Table 5: Percentage applied for common social contributions paid by employees and employers in 2001<sup>19</sup>

Sectors	Blue-Collar Workers			White-Collar Workers			
	Employee (%)	Employer (%)	Total (%)	Employee (%)	Employer (%)	Total (%)	
	(1)	(2)	(3)	(4)	(5)	(6)	
<b>General Contributions</b>							
1	Pensions	7,50	8,86	16,3	7,50	8,86	16,36
	Sickness and disability						
2	Medical care	3,55	3,80	7,35	3,55	3,80	7,35
3	disability benefits	1,15	2,35	3,50	1,15	2,35	3,50
4	Unemployment	0,87	1,46	2,33	0,87	1,46	2,33
5	Family benefits	0,00	7,00	7,00	0,00	7,00	7,00
6	Accidents at work	0,00	0,30	0,30	0,00	0,30	0,30
7	Professional disease	0,00	1,10	1,10	0,00	1,10	1,10
8	Annual Vacation <sup>20</sup>	0,00	6,00	6,00	0,00	0,00	0,00
9	Paid education	0,00	0,04	0,04	0,00	0,04	0,04
10	Work integration	0,00	0,10	0,10	0,00	0,10	0,10
11	Children attendance	0,00	0,05	0,05	0,00	0,05	0,05
12	Temporary	0,00	0,10	0,10	0,00	0,10	0,10
13	Wage moderation <sup>22</sup>	0,00	7,48	7,48	0,00	7,48	7,48
<b>Additional</b>							
14	General	0,00	1,60	1,60	0,00	1,60	1,60
15	wage moderation	0,00	0,09	0,09	0,00	0,09	0,09
<b>Closing company fund:</b>							
Company size 1 to 19							
16	General	0,00	0,14	0,14	0,00	0,14	0,14
17	wage moderation	0,00	0,01	0,01	0,00	0,01	0,01
Company size 20							
18	General	0,00	0,16	0,16	0,00	0,16	0,16
19	wage moderation	0,00	0,01	0,01	0,00	0,01	0,01
<b>Closing company fund:</b>							
20	General	0,00	0,16	0,16	0,00	0,16	0,16
21	wage moderation	0,00	0,01	0,01	0,00	0,01	0,01

In order to apply the relevant percentages, listed in Table 5, we need to know the size of the company the employee is working in. We will store the size of the company here in the variable CONTRIB\_SIZECOMP\_QT.

<sup>19</sup> FOD Sociale Zekerheid (2002), p. 43.

<sup>20</sup> Next to the quarterly contribution for annual vacation of blue collar workers, there is also an annual contribution. This contribution will be treated later on in the text.

<sup>21</sup> These are activities developed by local employment agencies to integrate young unemployed (see Van Eeckhoutte, W. (2001), p. 172).

<sup>22</sup> The wage moderation percentage of 7,48% consists of three components. A basic percentage of 5,67%, increased with 1,41% (which is 5,67% applied on 24,87% of employers contributions and on the 0,04 of the paid education vacation) and increased with 0,40% (a lump sum increase for annual vacation) (see Put (2001), p 110).

**Construction rule for CONTRIB\_SIZECOMP\_QT:**

The values of CONTRIB\_SIZECOMP\_QT are determined by aid of the exogenous variable CODIRSZ\_QT, that we receive from the RSZ. This exogenous variable covers the size of the firm in classes.

We also need to reconstruct the appropriate remuneration concept, on which the percentages are applied. We will store this remuneration concept in the variable CONTRIB\_REMBPRIV\_QT.

**Construction rule for CONTRIB\_REMBPRIV\_QT:**

For blue collar workers:

If an individual is identified as a blue collar worker on the private labour market, i.e. CONTRIB\_LABMSTAT\_PRIV\_QT is equal to 1, we will identify the value of CONTRIB\_REMBPRIV\_QT as 108% of the sum of the variables CONTRIB\_INCPRIV\_QT and CONTRIB\_INCSPRIV\_QT.

For white collar workers:

If an individual is identified as a blue collar worker on the private labour market, i.e. CONTRIB\_LABMSTAT\_PRIV\_QT is equal to 2, we will identify the value of CONTRIB\_REMBPRIV\_QT as the sum of CONTRIB\_INCPRIV\_QT, CONTRIB\_SHPRIV\_QT and CONTRIB\_INCSPRIV\_QT.

If we then use the company size variable CONTRIB\_SIZECOMP\_QT, the percentages listed in Table 5 and the relevant remuneration concept, we can compute the contributions paid by the employee and the employer. For each individual the computed social security contributions will be stored in the matrixes CONTRIB\_WEARCOM\_EMEE\_QT and CONTRIB\_WEARCOM\_EMER\_QT respectively.

**Construction rule for CONTRIB\_WEARCOM\_EMEE\_QT, CONTRIB\_WEARCOM\_EMER\_QT:**

We apply the percentages, listed in Table 5, on the remuneration concept CONTRIB\_REMBPRIV\_QT and conditional on the value of CONTRIB\_SIZECOMP\_QT, if necessary (see lines 14 to 19 in Table 5).

The results are stored in the vectors CONTRIB\_WEARCOM\_EMEE\_QT and CONTRIB\_WEARCOM\_EMER\_QT, which are matrixes with 21 columns and a line per individual that is treated.

The percentages, listed in line 1 to 21 of Table 5 are included in the module in the form of the parameter CONTRIB\_WEARCOM\_QT, which is a matrix of 21 lines and 6 columns.

Next to the social security contributions that are based on the normal remuneration concept, wage earners on the private labour market also have to pay two other contributions for which alternative computation bases are used.

For blue collar workers, the employer pays a contribution of 10,27% on 108% of the annual income of the previous year to cover their holiday payments.<sup>23</sup> We will reconstruct this variable and store the result in the variable CONTRIB\_WEARHOLA\_EMER\_QT.

**Construction rule for CONTRIB\_WEARHOLA\_EMER\_QT:**

In order to compute this contribution we need the past annual income of blue collar workers. Instead of using the real past income of the blue collar workers we will use the observed quarterly income as proxy. For blue collar workers, i.e. CONTRIB\_LABMSTAT\_PRIV\_QT is equal to 1, we multiply 108% of CONTRIB\_INCPRIV\_QT with 4 and deflate this result with a price index that covers the price increase over the last year. This result is divided by 4 to obtain the quarterly amount.

This price index is incorporated in the model in the form of the parameter MIMOSIS\_PRIINDEX\_ANN. The percentage, applied on the annual remunerations, is incorporated in the model in the form of the parameter CONTRIB\_WEARHOLA\_QT.

In sum, we compute CONTRIB\_WEARHOLA\_EMER\_QT as follows:

$$\text{CONTRIB\_WEARHOLA\_EMER\_QT} = \text{CONTRIB\_WEARHOLA\_QT} * ((4 * \text{CONTRIB\_PERSALB\_QT} * \text{CONTRIB\_INCPRIV\_QT}) / \text{MIMOSIS\_PRIINDEX\_ANN}) / 4$$

Remark that we assume here that a blue collar worker in a given quarter has been blue collar worker in the previous four quarters as well.

White collar workers on the private labour market also pay a social security contribution of 13,07% on their double holiday earnings. Blue collar workers pay this contribution of 13,07% only on a part of their double holiday earnings. The relevant base to compute this contribution of blue collar workers is 6,8% of 108% of the gross earnings of the employee in the year preceding the holiday.<sup>24</sup>

We will reconstruct this contribution on double holiday earnings and store the result in the variable CONTRIB\_WEARHOLD\_EMEE\_QT.

**Construction rule for CONTRIB\_WEARHOLD\_EMEE\_QT:**

In case of white collar workers, i.e. CONTRIB\_LABMSTAT\_PRIV\_QT is equal to 2, we compute this quarterly contribution on double holiday earnings as 13,07% of their observed double holiday earnings, i.e. CONTRIB\_DHPRIV\_QT.

The 13,07% is not set as a separate parameter in the model but derived by taking the sum of the values in line 1 to 7 of column 4 of the parameter CONTRIB\_WEARCOM\_QT (see column 4 in Table 5).

<sup>23</sup> FOD Sociale Zekerheid (2002), p. 43.

<sup>24</sup> FOD Sociale Zekerheid (2002), p. 477-478.

In case of blue collar workers, i.e. CONTRIB\_LABMSTAT\_PRIV\_QT is equal to 1, we compute their quarterly contributions as 13,07% of 6,8% of 108% of their quarterly labour income, i.e. CONTRIB\_INCPRIV\_QT.

The value of 6,8% is included in the model in the form of the parameter CONTRIB\_WEARHOLD\_QT. The 13,07% in this case is derived by taking the sum of the values in line 1 to 7 of column 1 of the parameter CONTRIB\_WEARCOM\_QT (see column 1 in Table 5).

## **4.2 DEDUCTIONS ON EMPLOYER SOCIAL SECURITY CONTRIBUTIONS**

Different types of employer deductions can be distinguished. Some are lump-sum deductions and others are deductions in percentage of the remuneration. One can also distinguish the “structural deductions” that can be applied to all companies from the “target-group deductions” for the occupation of some categories of workers.

The deductions on employer contributions, discussed in what follows, will be stored in the matrix CONTRIB\_WEARDEDU\_EMER\_QT. This matrix has as many rows as there are individuals and 21 columns since we distinguish 21 different deductions for employers that might be reconstructed.

### **4.2.1 THE STRUCTURAL DEDUCTION OF EMPLOYER’S CONTRIBUTIONS: GENERAL CASE**

The structural deduction replaces the Maribel 4 deduction and the deduction on low wages since April 1<sup>st</sup> 1999.

The deduction is applied for all workers except for domestic workers, registered and industrial workers, young people who are subject to part-time school obligation, trainees who follow a company director’s training, remunerated sportsmen, doctors who follow a specialist doctor’s training and occasional workers in the horticulture sector.<sup>25</sup>

For those individuals that can claim the deduction, the deduction is applied in a lump-sum way, but the lump sum amount is differentiated according to:

- the remuneration of the individual,
- the period of occupation of the individual,
- the workers category.

The remuneration concept that is used to compute this deduction is the full time equivalent income. For full time workers this is the same as the income concept that serves as the basis to compute the social security contributions, for part

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<sup>25</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 2.



time workers this income concept can be approached by dividing the real remuneration concept divided by a fraction that captures the time performed by an individual as a fraction of the time that has to be performed by a full time worker.

The period of occupation refers to the difference between part-time and full-time. For part-time workers, the deduction is reduced proportional to the period of occupation, but a minimum and maximum threshold is applied to compute the deduction. If the worker was employed less than 1/3<sup>th</sup> of the time of a full time employee in the same job, no deduction is applied. If the worker was employed more than 4/5<sup>th</sup> of the time of a full time employee, the deduction is not reduced.

Four types of workers categories should be distinguished:

- Type 1: Blue-collar workers which are employed by employers who pay social security contributions for company closure and those who are concerned by joint commission n°318 but those with joint commission n°117, 305, 306, 307, 308, 309, 310 and 326 are excluded,
- Type 2: Workers which are employed by sheltered workplaces,
- Type 3: Workers which are employed by employers in the non-market sector, except those who are concerned by joint commission n°318 and n°327 (i.e. entitled to social maribel),
- Type 4: Workers who are subject to all social security regimes for wage earner workers and who are not concerned by the three paragraphs above.

The amounts of the structural deduction for full time workers are listed in Table 6, Table 7, Table 8 and Table 9.

Table 6: Structural deduction for workers of type 1 on December 31<sup>st</sup> 2001<sup>26</sup>

Quarterly remuneration in EUR (S)	Structural deduction
< 2.565,18	381,33
2.565,18 – 3.332,31	736,39
3.332,31 – 5.205,76	$736,39 - \{0,1895 * (S - 3.332,31)\}$
> 5.205,76	381,33

Table 7: Structural deduction for workers of type 2 on December 31<sup>st</sup> 2001<sup>27</sup>

Quarterly remuneration in EUR (S)	Structural deduction
< 2.565,18	471,00
2.565,18 – 3.332,31	736,39
3.332,31 – 4.212,28	$736,39 - \{0,3016 * (S - 3.332,31)\}$
> 4.212,28	471,00

<sup>26</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 2, item 3.4.208.

<sup>27</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 3.

Table 8: Structural deduction for workers of type 3 on December 31<sup>st</sup> 2001<sup>28</sup>

Quarterly remuneration in EUR (S)	Structural deduction
< 2.565,18	0
2.565,18 – 3.332,31	525,68
3.332,31 – 4.015,58	$525,68 - \{0,5509 * (S - 3.332,31)\}$
4.015,58 – 4.614,79	149,28
> 4.614,79	0

Table 9: Structural deduction for workers of type 4 on December 31<sup>st</sup> 2001<sup>29</sup>

Quarterly remuneration in EUR (S)	Structural deduction
< 2.565,18	280,09
2.565,18 – 3.332,31	736,39
3.332,31 – 4.614,79	$736,39 - \{0,3558 * (S - 3.332,31)\}$
> 4.614,79	280,09

This structural deduction can be cumulated with other deductions but it should not be higher than the contributions due. If the deduction is higher than the contribution, it is reduced up to the amount of the contribution.

In order to reconstruct these deductions, we have to answer four questions: a) Can the employer claim the deduction yes or no?, b) Is it a full time or part time worker?, c) What is the remuneration of the employee? and d) What is the workers category that generates the precise deduction?.

We will store an identification of the fact that the employer can claim the structural deduction yes or no in the variable CONTRIB\_STRUCDED\_QT. If the employer can claim the structural deduction, this variable will be set equal to 1 and 0 otherwise.

#### **Construction rule for CONTRIB\_STRUCDED\_QT:**

In order to identify the values of the variable CONTRIB\_STRUCDED\_QT, we use the exogenous variable CODRED\_QT which is provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_STRUCDED\_QT, are listed in Table 10.

<sup>28</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 2, item 3.4.210.

<sup>29</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 2, item 3.4.209.

Table 10: Variable values used to determine the values of CONTRIB\_STRUCDED\_QT

Value of CONTRIB_STRUCDED_Q T	Label of CONTRIB_STRUCDED_QT	Value of CODRED_QT
1	Employer is entitled to structural deduction of social security contribution	08, 49, 50, 51, 52, 53, 55, 63, 64, 70, 74, 93, S0

The period of occupation will be stored in the variable CONTRIB\_TAUXPT\_QT. This variable will contain the fraction of time performed as a part time worker compared to the time performed by a full time worker.

#### **Construction rule for CONTRIB\_TAUXPT\_QT and CONTRIB\_FULLPART\_QT:**

In order to identify the values of the variable CONTRIB\_TAUXPT\_QT, we use the exogenous variable TAUXRSZ\_QT which is also provided by the RSZ. In a first stage CONTRIB\_TAUXPT\_QT is set equal to the value of TAUXRSZ\_QT divided by 100. If this value would be negative, we set CONTRIB\_TAUXPT\_QT equal to 0.

In a second step, we set CONTRIB\_TAUXPT\_QT equal to 1, if a worker is not working part time, i.e. if the exogenous variable T\_PRERSZ\_QT provided by the RSZ is not equal to P.

If the parameter CONTRIB\_HOURSIM is set equal to 0, the value of CONTRIB\_FULLPART\_QT is set equal to the one observed in CONTRIB\_TAUXPT\_QT.

The relevant remuneration is covered by the variable CONTRIB\_REMBPRIV\_QT divided by the value of CONTRIB\_FULLPART\_QT, hence providing the full time equivalent income.

The workers category for the structural deductions will be stored in the variable CONTRIB\_STRUCCAT\_QT.

#### **Construction rule for CONTRIB\_STRUCCAT\_QT:**

In order to identify the values of the variable CONTRIB\_STRUCCAT\_QT, we will use three exogenous variables, provided by the RSZ. The variables we will use are CODFFE\_QT, which contains and identification of payments to the company closure fund, the variable NR\_CP\_QT which contains the number of the joint industrial committee (paritair comité) and CODRED\_QT which contains an identifier of the type of deduction applied for the given worker.

The values of these different variables and the corresponding values of CONTRIB\_STRUCCAT\_QT are listed in Table 11.

Table 11: Variable values used to determine the values of CONTRIB\_STRUCCAT\_QT

Value of CONTRIB_STRUCCAT_QT	Label of CONTRIB_STRUCCAT_QT	Values of exogenous variables
1	Blue-collar workers which are employed by employers who pay social security contributions for company closure	(CODFFE_QT = 1 and NR_CP_QT <> 117, 305, 306, 307, 308, 309, 310, 326) or NR_CP_QT = 318
2	Workers which are employed by employers of adapted work company	NR_CP_QT = 327
3	Workers which are employed by employers in the non-market sector	CODRED = 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 43, 44, 46, 49, 50, 54, MS and NR_CP_QT <> 318 or 327
4	Other wage earners	CONTRIB_LABMSTAT_PRIV_QT <> 0 CONTRIB_STRUCCAT_QT <> 1,2 or 3

We can now exploit these reconstructed variables to compute the general structural deduction of social security contributions. We store this result in the first column of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

#### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(1):**

If the value of CONTRIB\_STRUCDED\_QT is equal to 1, we can select the appropriate table out of the 4 possible ones (see Table 6, Table 7, Table 8 and Table 9) with the value of CONTRIB\_STRUCCAT\_QT.

Having selected the appropriate table, we can compute the basic deduction by applying the scheme in the table on the variable CONTRIB\_REMBPRIV\_QT divided by CONTRIB\_FULLPART\_QT.

If the employee is working less than 33% of a full time worker, i.e.  $CONTRIB\_FULLPART\_QT < 0,33$  the deduction is set equal to 0. If the employee is working 33% or more, but less than 81%, we multiply the reconstructed deduction with the value of CONTRIB\_FULLPART\_QT to take into account the possible reduction of the deduction for part time workers.

Table 6, Table 7, Table 8 and Table 9 are integrated in the model in the form of the parameters CONTRIB\_SD1\_QT, CONTRIB\_SD2\_QT, CONTRIB\_SD3\_QT and CONTRIB\_SD4\_QT, which are matrixes with 4 or 5 lines and 4 columns.

#### **4.2.2 THE DEDUCTION OF EMPLOYER'S CONTRIBUTIONS TO STIMULATE EMPLOYMENT FOR NON MARKET ACTIVITIES**

This deduction is awarded to employers who are active in the non market sector and who focus attention on the employment of groups that are disadvantaged on the labour market, especially handicapped. Not all employers can claim this

deduction. Among others, the public sector and subsidised education institutions are excluded.<sup>30</sup>

This deduction is not reconstructed. Column 2 of CONTRIBUTEDU\_EMER\_QT is therefore set equal to 0 for all individuals.

#### 4.2.3 TARGET-GROUP DEDUCTION: PLANS +1, +2 AND +3 DEDUCTIONS

Employers who hire a first worker (plan +1) on a permanent basis (full-time or part-time) can obtain a deduction of certain employer contributions. The employer has an exemption of the employer contributions computed on a percentage of the remunerations of the employee, except for the contributions for a) annual vacation, b) paid education vacation, c) company closure and d) existence security fund.

There are also deductions for employers who hire second and third workers (Plans +2 and +3) on a permanent basis. The principles are the same, but different percentages are applied in case of second and third workers.

The percentages applied on the remunerations depend on the number of quarters the employee is employed. We list the percentages applied in the 2001 in Table 12.

Table 12: Percentage applied on the employee remuneration to compute the deductions for Plans+1, +2, +3<sup>31</sup>

Plan	Quarters being employed		Percentage
	Starting quarter	Ending quarter	
(1)	(2)	(3)	(4)
1 1 <sup>32</sup>	1	5	100
2	6	9	75
3	10	13	50
4 2 <sup>33</sup>	1	5	75
5	6	9	50
6	10	13	25
7 3	1	5	50
8	6	9	25

In order to reconstruct this deduction we need to identify whether an employed individual is in one of these plans. We will store an indication of this in the variable CONTRIBUTEDU\_PLUSPLAN\_QT.

<sup>30</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 4.

<sup>31</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 7 for an exposition on the different types that are distinguished.

<sup>32</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 5.

<sup>33</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 6.

### **Construction rule for CONTRIB\_PLUSPLAN\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT and the corresponding values of CONTRIB\_PLUSPLAN\_QT, are listed in Table 13.

Table 13: Variable values used to determine the values of CONTRIB\_PLUSPLAN\_QT

Value of CONTRIB_PLUSPLAN_QT	Label of CONTRIB_PLUSPLAN_QT	Value of CODRED_QT
1	Employee Plan+1	P1, P4
2	Employee Plan+2	P2, P5
3	Employee Plan+3	01, 78, 88, P3, P6

We also need to know the number of quarters an employee has been employed. We will store an indication of this in the variable CONTRIB\_WORKTIME\_QT.

### **Construction rule for CONTRIB\_WORKTIME\_QT:**

We do not have sufficient information to reconstruct the number of months an employee is employed. We therefore assume that by default an employee is in his first quarter of employment.

The reconstructed result of this Plusplan deduction will be stored in column 3 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(3):**

The percentages, listed in Table 12, are integrated in the model in the form of the parameter CONTRIB\_PLUSDEDU\_QT which is a matrix with 4 columns and 8 lines. We first select the appropriate percentage from Table 11 conditional on the number of quarters being employed, i.e. the value of CONTRIB\_WORKTIME\_QT and the plus plan program the employee is in, i.e. the value of CONTRIB\_PLUSPLAN\_QT.

Remark that we will always select the highest possible percentage, i.e. 100, 75 or 50.

This percentage is applied then on the remunerations of the employee, i.e. CONTRIB\_REMBPRIV\_QT.

The deduction of the employer contributions is then computed as the sum of all possible employer contributions that would have to be paid on this reduced remuneration concept. In order to obtain this deduction we apply the percentages in column 2 or 5 and line 1 to 15 of CONTRIB\_WEARCOM\_QT except those in line 8 and 9 on the reduced remuneration concept.

#### **4.2.4 TARGET-GROUP DEDUCTION: PLAN FOR JOB-SEEKERS**

Employers who hire job-seekers with a full time contract or part-time contract with at least 50% of a full time, can obtain a partial deduction of the social security contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation for these employees.<sup>34</sup>

The deduction the employer can obtain is a percentage of the employer contributions due for the employed employee. The percentage varies with a) the type of job seeker that is employed, b) the number of months this job seeker is in the given status and c) the number of quarters the job seeker is employed. We do not elaborate further on the different types of job seekers that can be distinguished, but simply list the different percentages in Table 14 by type (column 1), number of months in the type status if relevant (column 2) and number of quarters hired (column 3 and 4).

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<sup>34</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 7.

Table 14: Percentage applied on employer contributions to compute deductions for job seekers<sup>35</sup>

	Type of job seeker <sup>36</sup>	Number of months in specified category of job seeker	Quarters being employed		Percentage
			Starting quarter	Ending quarter	
	(1)	(2)	(3)	(4)	(5)
1	1	12	1	4	75
2			5	8	50
3		24	1	4	100
4			5	8	75
5	2		1	4	100
6			5	8	75
7			9	12	50
8			13	16	25
9	3		1	4	50
10			5	9999999	25
11	4	12	1	4	75
12			5	24	50
13		24	1	4	100
14			5	24	75
15	5		1	4	75
16			5	8	50

To apply this deduction we need to identify what type of job seeker the employee is. We will store an indication of this in the variable CONTRIB\_JOBSDED\_QT.

**Construction rule for CONTRIB\_JOBSDED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT only allow us to identify whether an individual is a job seeker or not. Since we do not have sufficient information to discriminate further, we will identify all individuals that generate the contribution deduction for job seekers as job seekers of type 1. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_JOBSDED\_QT, are listed in Table 15.

<sup>35</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 7 for an exposition on the different types that are distinguished.

<sup>36</sup> Types 1, 2, 3, 4 and 5 correspond with the following job seeker types respectively: 1: C1,C2; 2: C9; 3: C13, 4: C18 and 5: all other (See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 7).



Table 15: Variable values used to determine the values of CONTRIB\_JOBSDED\_QT

Value of CONTRIB_JOBSDED_QT	Label of CONTRIB_JOBSDED_QT	Value of CODRED_QT
1	The employee is employed as a job seeker	79, 89, B1, B2, B3, B4

To apply this deduction we also need to know how many months the job seeker was in the given status before he became employed. We will store the number of months in the variable CONTRIB\_JOBSMONT\_QT.

#### **Construction rule for CONTRIB\_JOBSMONT\_QT:**

We do not have exogenous variable to identify this variable. Therefore we set the default value equal to 12.

The reconstructed result of this deduction will be stored in column 4 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

#### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(4):**

We include the matrix, given in Table 14 in the model in the form of the parameter CONTRIB\_JOBSDEDA\_QT, which is a matrix of 16 lines and 5 columns.

We first select a percentage from this matrix conditional on the values of CONTRIB\_JOBSDED\_QT (to correspond with column 1 of Table 14), the value of CONTRIB\_JOBSMONT\_QT (to correspond with column 2 of Table 14) and the value of CONTRIB\_WORKTIME\_QT (to be compared with the values in column 3 and 4 of Table 14).

Remark that we as a consequence of the information limitations we will always select the percentage in the first line of Table 14, i.e. 75.

For all these cases we compute the reduction of the employer as 75% of the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

### **4.2.5 TARGET-GROUP DEDUCTION: JOB-TRAINING DEDUCTIONS (AR. 495)**

Job training deductions are deductions for employers who hire a young worker (between 18 and 25 years old) in a work and training system. Employers can claim an exemption of employer's contributions during the period of the job-training agreement. The exemption is only applied on contributions for a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more),

d) family benefits, e) accidents at work, f) professional disease and g) wage moderation.<sup>37</sup>

In order to reconstruct this deduction we need to identify whether an individual is a young worker in job training program yes or no. In case an employee is considered as a young worker in such a job training program we will set the variable `CONTRIB_YOUNGJTR_QT` equal to 1.

#### **Construction rule for `CONTRIB_YOUNGJTR_QT`:**

To construct this variable we will use the exogenous variable `CODRED_QT`, provided by the RSZ. The values of `CODRED_QT` that result in a value of 1 for the variable `CONTRIB_YOUNGJTR_QT`, are listed in Table 16.

Table 16: Variable values used to determine the values of `CONTRIB_YOUNGJTR_QT`

Value of <code>CONTRIB_YOUNGJTR_QT</code>	Label of <code>CONTRIB_YOUNGJTR_QT</code>	Value of <code>CODRED_QT</code>
1	Young worker in a job training program	15, 36, U1, U2, U3

The reconstructed result of this job training deduction will be stored in column 5 of the matrix `CONTRIB_WEARDEDU_EMER_QT`.

#### **Construction rule for `CONTRIB_WEARDEDU_EMER_QT(5)`:**

If the employee is a young worker in a job training program, i.e. `CONTRIB_YOUNGJTR_QT` is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. `CONTRIB_WEARCOM_EMER_QT`, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix `CONTRIB_WEARCOM_EMER_QT`.

### **4.2.6 TARGET-GROUP DEDUCTION: SUBSIDIZED CONTRACT WORKER**

Employers who employ subsidised contract workers can obtain deductions of the social security contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work and f) professional disease.<sup>38</sup>

If the employer is allowed to reduce his social security contributions because he employs a subsidised contract worker we set the variable `CONTRIB_SUBCDED_QT` equal to 1.

<sup>37</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 8.

<sup>38</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 9.

### **Construction rule for CONTRIB\_SUBCDED\_QT:**

To construct this variable we will use the exogenous variable CLATR2\_QT, provided by the RSZ. The values of CLATR2\_QT that result in a value of 1 for the variable CONTRIB\_SUBCDED\_QT, are listed in Table 17.

Table 17: Variable values used to determine the values of CONTRIB\_SUBCDED\_QT

Value of CONTRIB_SUBCDED_QT	Label of CONTRIB_SUBCDED_QT	Value of CLATR2_QT
1	Employee is a subsidised contract worker	ES, OS

The reconstructed result of this deduction will be stored in column 6 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(6):**

If the employee is a subsidised contract worker, i.e. CONTRIB\_SUBCDED\_QT is equal to 1, we compute the reduction of the employer contributions as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12 and 14 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

## **4.2.7 TARGET-GROUP DEDUCTION: DEDUCTION FOR JOB REDISTRIBUTION IN THE PUBLIC SECTOR**

If an employer hires civil servants with non statutory service to replace civil servants who reduced their work time to 4/5<sup>th</sup> of a full time they are entitled to deductions on the social security contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work and f) professional disease.<sup>39</sup>

If the employer is allowed to reduce his social security contributions because he hired an additional civil servant with non statutory service that replaces other civil servants that reduced their work time to 4/5<sup>th</sup> we set the variable CONTRIB\_PUBSEDED\_QT equal to 1.

### **Construction rule for CONTRIB\_PUBSEDED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_PUBSEDED\_QT, are listed in Table 18

<sup>39</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 10.

Table 18: Variable values used to determine the values of CONTRIB\_PUBSEDED\_QT

Value of CONTRIB_PUBSEDED_Q T	Label of CONTRIB_PUBSEDED_QT	Value of CODRED_QT
1	Employee replaces civil servant that reduced employment activity to 4/5 <sup>th</sup> of full time employment	A1

The reconstructed result of this deduction will be stored in column 7 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

#### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(7):**

If the employee replaces a civil servant that reduced employment activity to 4/5<sup>th</sup> of full time employment, i.e. CONTRIB\_PUBSEDED\_QT is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7 and 14 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

#### **4.2.8 TARGET-GROUP DEDUCTION: (AR. 230)**

This deduction was granted to employers who employed apprentices (stagairs).<sup>40</sup> Since we do not reconstruct this deduction, column 9 of CONTRIB\_WEARDEDU\_EMER\_QT is set equal to 0 for all individuals.

#### **4.2.9 TARGET-GROUP DEDUCTION: THE DEDUCTION FOR HIRING DISADVANTAGED YOUNG PEOPLE (AR. 499)**

There is an exemption of employer contributions for sickness and disability insurance and for family allowances if the employer is an A.S.B.L/VZW who hires disadvantaged (kansarme) young people who:<sup>41</sup>

- are between 18 and 30 years old
- can not have unemployment allowances or waiting allowances as involuntary unemployed
- are not entitled to the professional training

The reconstructed result of this job training deduction will be stored in column 9 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

<sup>40</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 11 and kwart 01/2000, Deel 3, Titel 4, Hoofdstuk 11.

<sup>41</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 12.

### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(9):**

We can not identify whether a young one is disadvantaged yes or no and therefore set this deduction equal to 0 for everybody.

#### **4.2.10 TARGET-GROUP DEDUCTION: THE DOMESTIC PERSON DEDUCTION (AR. 483)**

There is an exoneration of employer's contributions for hiring a domestic person. This deduction is applied on contributions for a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation.<sup>42</sup>

In order to reconstruct this deduction we need to identify whether an individual is a domestic worker yes or no. In case an employee is considered as a domestic worker, we set the variable CONTRIB\_DOMESDED\_QT equal to 1.

### **Construction rule for CONTRIB\_DOMESDED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_DOMESDED\_QT, are listed in Table 19.

Table 19: Variable values used to determine the values of CONTRIB\_DOMESDED\_QT

Value of CONTRIB_DOMESDED_QT	Label of CONTRIB_DOMESDED_QT	Value of CODRED_QT
1	Employee is a domestic worker	X0

The reconstructed result of this deduction will be stored in column 10 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(10):**

If the employee is a domestic worker, i.e. CONTRIB\_DOMESDED\_QT is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

#### **4.2.11 TARGET-GROUP DEDUCTION: THE DEDUCTION FOR PROFESSIONAL CAREER INTERRUPTION**

There are employer contributions deductions for hiring full time unemployed in replacement of an individual who takes a professional career interruption.

<sup>42</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 13.

The social security contributions for a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation are reduced with a certain percentage.<sup>43</sup>

The deduction percentages, applied in 2001, for part time and full time workers are listed in Table 20 and Table 21 respectively below.

Table 20: Percentage of deductions for professional career interruption applied in case of part time employment

	Quarters being employed		Hiring after December 31 <sup>st</sup> 1996 in a company < 50 workers	Other companies
	Starting quarter (1)	Ending quarter (2)		
1	1	5	75%	50%
2	6	9	50%	25%

Table 21: Percentage of deductions for professional career interruption applied in case of full time employment

	Quarters being employed		Hiring after December 31 <sup>st</sup> 1996 in a company < 50 workers	Other companies
	Starting quarter (1)	Ending quarter (2)		
1	1	5	25%	25%

In order to reconstruct this deduction we need to identify whether a) an individual is an unemployed that replaces a person that is in career interruption, b) whether this unemployed is either full or part time unemployed, c) whether he is employed by a small or a large company and d) how many quarters he is employed already. We will store an indication of the first three points in the variable CONTRIB\_UNPROFC\_QT.

#### **Construction rule for CONTRIB\_UNPROFC\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT and the corresponding values of CONTRIB\_UNPROFC\_QT, are listed in Table 22.

<sup>43</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 14.

Table 22: Variable values used to determine the values of CONTRIB\_UNPROFC\_QT

Value of CONTRIB_UNPROFC_QT	Label of CONTRIB_UNPROFC_QT	Value of CODRED_QT
1	Individual is part time employed by other than small company	D1
2	Individual is full time employed by other than small company	D2, 80, 51
3	Individual is full time employed by a small company	D3

The reconstructed result of this deduction will be stored in column 11 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

#### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(11):**

We include the values in Table 20 and Table 21 in the model in the form of the parameters CONTRIB\_UNPROFDP\_QT and CONTRIB\_UNPROFDF\_QT respectively.

Conditional on the type of employment, covered by the variable CONTRIB\_UNPROFC\_QT and the number of moths being employed, covered by the variable CONTRIB\_WORKTIME\_QT, we select a fraction from these parameters. Due to data limitations, we select a percentage of 50% for all part time workers and 25% for all full time workers.

We apply this selected percentage on the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

#### **4.2.12 TARGET-GROUP DEDUCTION: THE DEDUCTION FOR HALF-TIME PRE-RETIREMENT**

There are employer contributions deductions for hiring full time unemployed in replacement of an individual who is on half-time pre-retirement.

The social security contributions for a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation are reduced with a certain percentage.<sup>44</sup>

The deduction percentages, applied in 2001, for part time and full time workers are listed in Table 23 and Table 24 respectively below.

<sup>44</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 15.

Table 23: Percentage of deductions for half-time pre-retirement applied in case of part time employment

	Quarters being employed		Hiring after December 31 <sup>st</sup> 1996 in a company < 50 workers	Other companies
	Starting quarter (1)	Ending quarter (2)		
1	1	5	75%	50%
2	6	9	50%	25%

Table 24: Percentage of deductions for half-time pre-retirement applied in case of full time employment

	Quarters being employed		Hiring after December 31 <sup>st</sup> 1996 in a company < 50 workers	Other companies
	Starting quarter (1)	Ending quarter (2)		
1	1	5	25%	25%

In order to reconstruct this deduction we need to identify whether a) an individual is an unemployed that replaces a person that is half time pre retired, b) whether this unemployed is either full or part time unemployed, c) whether he is employed by a small or a large company and d) how many quarters he is employed already. We will store an indication of the first three points in the variable CONTRIB\_UNPRERET\_QT.

#### **Construction rule for CONTRIB\_UNPRERET\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT and the corresponding values of CONTRIB\_UNPRERET\_QT, are listed in Table 25.

Table 25: Variable values used to determine the values of CONTRIB\_UNPRERET\_QT

Value of CONTRIB_UNPRERET_QT	Label of CONTRIB_UNPRERET_QT	Value of CODRED_QT
1	Individual is part time employed by other than small company	G1
2	Individual is full time employed by other than small company	G2, 52
3	Individual is full time employed by a small company	G3

The reconstructed result of this deduction will be stored in column 12 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.



### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(12):**

We include the values in Table 23 and Table 24 in the model in the form of the parameters CONTRIB\_UNPRERDP\_QT and CONTRIB\_UNPRERDF\_QT respectively.

Conditional on the type of employment, covered by the variable CONTRIB\_UNPRERET\_QT and the number of months being employed, covered by the variable CONTRIB\_WORKTIME\_QT, we select a fraction from these parameters. Due to data limitations, we select a percentage of 50% for all part time workers and 25% for all full time workers.

We apply this selected percentage on the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

#### **4.2.13 THE STRUCTURAL DEDUCTION OF EMPLOYER'S CONTRIBUTIONS: STIMULATION OF EMPLOYMENT FOR NON MARKET ACTIVITIES (SOCIAL MARIBEL)**

On top of the general structural deduction, one also grants the social Maribel in some occasions. This is a deduction for each individual that is working at least half-time in a non-market activity (for example health, family assistance,...) and is linked to a particular joint commission. The amount of the social Maribel deduction is € 288,18 per quarter on December 31<sup>st</sup> 2001.<sup>45</sup>

In order to reconstruct this deduction we need to identify whether an individual generates the right on this social Maribel yes or no. If the individual generates this right, we set the variable CONTRIB\_SOCMARDE\_QT equal to 1.

#### **Construction rule for CONTRIB\_SOCMARDE\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_SOCMARDE\_QT, are listed in Table 26.

Table 26: Variable values used to determine the values of CONTRIB\_SOCMARDE\_QT

Value of CONTRIB_SOCMARDE_Q T	Label of CONTRIB_SOCMARDE_QT	Value of CODRED_QT
1	The individual generates the right on the social Maribel	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 43, 44, 46, MS

The reconstructed result of this deduction will be stored in column 13 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

<sup>45</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 16.

### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(13):**

If an individual generates the right on the social Maribel, i.e. if CONTRIB\_SOCMARDE\_QT is equal to 1, the value of CONTRIB\_WEARDEDU\_EMER\_QT(13) is set equal to 288,18.

We include this value into the module in the form of the parameter CONTRIB\_SOCMAR\_QT.

#### **4.2.14 TARGET-GROUP DEDUCTION: THE SCIENTIFIC RESEARCH DEDUCTION**

Universities and other establishments managed and subsidized by the federal government, communities or regions are entitled to an exemption of employer contributions related to a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation if they employ additional scientific researchers under some conditions.<sup>46</sup>

If the employer is allowed to reduce his social security contributions because he hired additional scientific researchers we set the variable CONTRIB\_SCREADED\_QT equal to 1.

### **Construction rule for CONTRIB\_SCREADED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_SCREADED\_QT, are listed in Table 27.

Table 27: Variable values used to determine the values of CONTRIB\_SCREADED\_QT

Value of CONTRIB_SCREADED_Q T	Label of CONTRIB_SCREADED_QT	Value of CODRED_QT
1	Employee is a scientific researcher for which the employer can deduct social security contributions	W0

The reconstructed result of this deduction will be stored in column 14 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(14):**

If the employee is a scientific researcher for which the employer can deduct social security contributions, i.e. CONTRIB\_SCREADED\_QT is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

<sup>46</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 17.

#### 4.2.15 TARGET-GROUP DEDUCTION: LABOUR TIME REDUCTIONS BY COLLECTIVE AGREEMENT GRANTED BY THE MINISTER OF EMPLOYMENT AND LABOUR

Certain employers might obtain a deduction of their employer contributions when they are restructuring the company or have difficulties to pay for other reasons. Whether such a deduction is granted yes or no, is decided by the minister of employment and labour on a discretionary basis.<sup>47</sup> We do not reconstruct this deduction and therefore set column 15 of CONTRIB\_WEARDEDU\_EMER\_QT equal to 0 for all individuals.

#### 4.2.16 TARGET-GROUP DEDUCTION: DRAGGING AND TUGGING SECTOR DEDUCTION

Employers active in the dragging sector in plain sea or in the tugging sector can obtain deductions of the social security contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation for employees active on the boat.<sup>48</sup>

If the employer is allowed to reduce his social security contributions because he is active in this sector we set the variable CONTRIB\_DRTUGDED\_QT equal to 1.

##### Construction rule for CONTRIB\_DRTUGDED\_QT:

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_DRTUGDED\_QT, are listed in Table 28.

Table 28: Variable values used to determine the values of CONTRIB\_DRTUGDED\_QT

Value of CONTRIB_DRTUGDED_QT	Label of CONTRIB_DRTUGDED_QT	Value of CODRED_QT
1	Employee works on boat in the dragging or tugging sector	42, 70, BA

The reconstructed result of this deduction will be stored in column 16 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

##### Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(16):

If the employee works on boat in the dragging or tugging sector, i.e. CONTRIB\_DRTUGDED\_QT is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

<sup>47</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 18.

<sup>48</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 19.

#### 4.2.17 TARGET-GROUP DEDUCTION: THE DEDUCTION FOR ACTIVATION OF UNEMPLOYMENT ALLOWANCES

If an employer participates in an insertion project by employing unemployed that are difficult to allocate on the job market and if he offers the employee at least a half time contract he is entitled to deductions on the social security contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease, g) annual vacation (except the 10,27% paid on annual income) and h) wage moderation.<sup>49</sup>

If the employer is allowed to reduce his social security contributions because he hired such an unemployed we set the variable CONTRIB\_UNACTDED\_QT equal to 1.

##### Construction rule for CONTRIB\_UNACTDED\_QT:

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_UNACTDED\_QT, are listed in Table 29.

Table 29: Variable values used to determine the values of CONTRIB\_UNACTDED\_QT

Value of CONTRIB_UNACTDED_QT	Label of CONTRIB_UNACTDED_QT	Value of CODRED_QT
1	Unemployed activated by an insertion program with half time or more employment	SB

The reconstructed result of this deduction will be stored in column 17 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

##### Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(17):

If the employer employs an unemployed that is difficult to allocate on the job market, i.e. CONTRIB\_UNACTDED\_QT is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

#### 4.2.18 TARGET-GROUP DEDUCTION: THE 4-DAYS WEEK DEDUCTION

The goal of this deduction is to create supplementary jobs by stimulating the number of workers in the 4-days a week regime. In order to receive the deduction, the employer must conclude a collective work convention or an agreement with the goal to establish the 4-days week. The employer also has to

<sup>49</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 20.

prove that the volume of work of the concerned quarter has increased by at least 10% in comparison with the corresponding quarter of 1997.

For each worker hired following the establishment of the 4-days week, the employer receives a digressive deduction of employer contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10 workers or more), d) family benefits, e) accidents at work, f) professional disease, and g) wage moderation during the 28 quarters that follow the employment.<sup>50</sup>

The digressive percentages, applied for this deduction in 2001, are listed in Table 30.

Table 30: Percentage of deductions for 4-days week deduction

	Quarters being employed		Percentage
	Starting quarter (1)	Ending quarter (2)	
1	1	8	100
2	9	12	85
3	13	16	70
4	17	20	55
5	21	24	40
6	25	28	25

For a full time worker, this deduction has a maximum of € 1.239,47 per quarter.<sup>51</sup> For part time workers this maximum amount is proportional to the number of worked hours per worked as compared to those performed by a full time worker. This deduction can be applied at maximum on 25% of all workers who turn to a 4-days week scheme during the corresponding quarter.

If the employee entitles the employer to a reduction of his social security contributions because of the 4-day week program, we set the variable CONTRIB\_4DAYDED\_QT equal to 1.

#### **Construction rule for CONTRIB\_4DAYDED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_4DAYDED\_QT, are listed in Table 31.

<sup>50</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 21.

<sup>51</sup> FOD Sociale Zekerheid (2002), p. 51.

Table 31: Variable values used to determine the values of CONTRIB\_4DAYDED\_QT

Value of CONTRIB_4DAYDED_QT	Label of CONTRIB_4DAYDED_QT	Value of CODRED_QT
1	the employee entitles the employer to a reduction of his social security contributions because of the 4-day week program	64, S4

The reconstructed result of this deduction will be stored in column 18 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

#### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(18):**

We incorporate the percentages, listed in Table 30, and the maximal amount of € 1.239,47, in the model by aid of the parameters CONTRIB\_4DAYDEDA\_QT and CONTRIB\_4DAYDEDB\_QT respectively. The parameter CONTRIB\_4DAYDEDA\_QT is a vector with 6 lines and 3 columns. CONTRIB\_4DAYDEDB\_QT is a scalar.

Conditional on the number of months the employee is employed, i.e. the value of CONTRIB\_WORKTIME\_QT, we select a percentage from the parameter CONTRIB\_4DAYDEDA\_QT. Due to data limitations we will always select a percentage of 100%.

If the employee entitles the employer to a reduction of his social security contributions because of the 4-day week program, i.e. CONTRIB\_4DAYDED\_QT is equal to 1, we compute the reduction of the employer as 100% of the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

We use the same percentage for all employees that generate this reduction right because we lack information on the number of quarters the employee is employed in this program.

If the total deduction per quarter would exceed the level of € 1.239,47, we limit the total deduction to this amount.

#### **4.2.19 TARGET-GROUP DEDUCTION: THE DEDUCTION FOR UNEMPLOYED PERSONS DIFFICULT TO PLACE(SMET JOB)**

If an employer participates in an insertion project by employing unemployed that are unemployed for more than 60 months and/or only have a certificate of lower secondary school at maximum, he is entitled to deductions on the social security contributions on a) pensions, b) sickness and disability, c) unemployment (including the additional unemployment contribution for companies with 10

workers or more), d) family benefits, e) accidents at work, f) professional disease and g) wage moderation.<sup>52</sup>

If the employer is allowed to reduce his social security contributions because he hired such an unemployed we set the variable CONTRIB\_UNSMEDDED\_QT equal to 1.

#### **Construction rule for CONTRIB\_UNSMEDDED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_UNSMEDDED\_QT, are listed in Table 32.

Table 32: Variable values used to determine the values of CONTRIB\_UNSMEDDED\_QT

Value of CONTRIB_UNSMEDDED_QT	Label of CONTRIB_UNSMEDDED_QT	Value of CODRED_QT
1	Employee was long term unemployed and/or low educated	BC

The reconstructed result of this deduction will be stored in column 19 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

#### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(19):**

If the employer employs an unemployed that is long term unemployed and/or is low educated, i.e. CONTRIB\_UNSMEDDED\_QT is equal to 1, we compute the reduction of the employer as the sum of the elements in the matrix with employer contributions, i.e. CONTRIB\_WEARCOM\_EMER\_QT, for the items that the employer can deduct. These items correspond with columns 1 to 7, 12, 13, 14 and 15 in the matrix CONTRIB\_WEARCOM\_EMER\_QT.

### **4.2.20 TARGET-GROUP DEDUCTION: JOB STARTERS (ROSETTA PLAN)**

Two possible deductions can be distinguished here. There exist a) deductions for young low skilled workers and b) deductions for all job starters.

During the first job agreement: only the hiring of young workers with low qualifications in a first job agreement opens the right to quarterly employer's deductions. The amount of the deduction depends on the percentage of job starters as a percentage of the whole set of employees and on the duration of work of the young worker (more than half time).

This deduction is applied on the employer's contributions of all workers of the employer and it can be applied simultaneously with the structural deduction.

The size of the deduction depends, among other things on the size of the contributions paid the employer for all his employees.<sup>53</sup> The reconstructed result

<sup>52</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 22.

<sup>53</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 24.

of this deduction will be stored in column 20 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

**Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(20):**

This deduction is set equal to 0 because we don't know the amount of contributions paid for all workers by an employer.

During the year following the first job agreement, each employer who continues to employ young workers after their first job agreement should receive an employer's deduction. This deduction is equal to 10% of the gross remuneration of the young worker if it's a permanent contract and if the employer respects the first job agreement measures. This deduction can not be applied simultaneously with the structural deduction or the Social Maribel deduction.<sup>54</sup>

In order to reconstruct this deduction we need to identify whether an individual is a young worker after his first job agreement yes or no. In case an employee is considered as a young worker after his first job agreement we will set the variable CONTRIB\_YOUNGW\_QT equal to 1.

**Construction rule for CONTRIB\_YOUNGW\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_YOUNGW\_QT, are listed in Table 33.

Table 33: Variable values used to determine the values of CONTRIB\_YOUNGW\_QT

Value of CONTRIB_YOUNGW_QT	Label of CONTRIB_YOUNGW_QT	Value of CODRED_QT
1	Young worker after his first job agreement	10, 55, 74, 86, F0, F1, F2, K0, K1, K2, Y0

The reconstructed result of this deduction will be stored in column 20 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT as well.

**Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(20):**

If the individual is a young worker after his first job agreement, i.e. CONTRIB\_YOUNGW\_QT is equal to 1, we check whether the first two columns of CONTRIB\_WEARDEDU\_EMER\_QT are still equal to 0.

If this is the case, the young workers deduction is computed as 10% of the employees remunerations, i.e. CONTRIB\_REMBPRIV\_QT.

This 10% deduction is integrated in the model in the form of the parameter CONTRIB\_YWDED\_QT.

<sup>54</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 24.



#### 4.2.21 TARGET-GROUP DEDUCTION: THE DEDUCTION FOR TIME WORKING REDUCTION TO 38 HOURS PER WEEK

If an employee reduced his working time from 39 hours a week to 38 the employer is entitled to a reduction of his employer contributions with € 123,95 on December 31<sup>st</sup> 2001.<sup>55</sup> This reduction of social security contributions can be cumulated with all other deductions, but the total amount can not exceed the amount of social security contributions, to be paid by the employer.

If the employee generates this reduction in social security contributions for the employer, we set the variable CONTRIB\_38HDED\_QT equal to 1.

##### **Construction rule for CONTRIB\_38HDED\_QT:**

To construct this variable we will use the exogenous variable CODRED\_QT, provided by the RSZ. The values of CODRED\_QT that result in a value of 1 for the variable CONTRIB\_38HDED\_QT, are listed in Table 34.

Table 34: Variable values used to determine the values of CONTRIB\_38HDED\_QT

Value of CONTRIB_38HDED_QT	Label of CONTRIB_38HDED_QT	Value of CODRED_QT
1	The employee generates a reduction in social security contributions of the employer because of a switch from 39 hours a week to 38	R1

The reconstructed result of this deduction will be stored in column 21 of the matrix CONTRIB\_WEARDEDU\_EMER\_QT.

##### **Construction rule for CONTRIB\_WEARDEDU\_EMER\_QT(21):**

If the employee generates a reduction in social security contributions of the employer because of a switch from 39 hours a week to 38, i.e. CONTRIB\_38HDED\_QT is equal to 1, we set the value of CONTRIB\_WEARDEDU\_EMER\_QT in column 21 equal to € 123,95. If the sum of all employer contributions, i.e. column 1 to 21 in CONTRIB\_WEARCOM\_EMER\_QT, would be lower than this deduction, then we limit this deduction to the sum of these employer contributions.

The amount of € 123,95 is integrated in the model in the form of the parameter CONTRIB\_38HDEDA\_QT.

<sup>55</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 21.

### 4.3 DEDUCTIONS ON EMPLOYEE SOCIAL SECURITY CONTRIBUTIONS

The deductions on employee contributions, discussed in what follows, will be stored in the vector `CONTRIB_WEARDEDU_EMEE_QT`, since there is only one deduction on the employee contributions.

#### 4.3.1 THE PERSONAL DEDUCTION FOR WORKERS WITH LOW WAGES

In 2001 there existed a deduction on the employee contributions in order to guarantee a higher net wage for workers with low wages, without any increase of the gross wages. The deduction is a lump sum amount which is progressively reduced with the height of the full time equivalent wage. The employer deducts the amount of the deduction from the amount of the personal contributions at the time of the payment.<sup>56</sup>

The deduction is different for blue-collar and white-collar workers and is proportional to the period of occupation of the worker. The deduction of both blue and white collar workers is computed on their full time equivalent income of a given month (not inflated to 108% for blue collar workers).

The amounts of the personal deductions for full time workers are listed in Table 35.

Table 35: Personal deduction for low wages at December 31<sup>st</sup> 2001

Monthly remuneration in EUR (S)	White-collar workers	Blue-collar workers
< 876,90	0	0
876,90 – 1.147,70	81,80	88,35
1.147,70 – 1.366,91	$81,80 - \{0,3732 * (S - 1.147,70)\}$	$88,35 - \{0,4030 * (S - 1.147,70)\}$
> 1.366,91	0	0

The reconstructed result of this deduction will be stored in the vector `CONTRIB_WEARDEDU_EMEE_QT`.

#### **Construction rule for `CONTRIB_WEARDEDU_EMEE_QT`:**

Conditional on the value of `CONTRIB_LABMSTAT_PRIV_QT`, we select the appropriate income concept, i.e. either `CONTRIB_INCPRIV_QT` plus `CONTRIB_SHPRIV_QT` in case of white collar workers or `CONTRIB_INCPRIV_QT` in case of blue collar workers. In both cases we divide this income concept then by `CONTRIB_FULLPART_QT`, if not equal to 0, to obtain the full time equivalent income of the individual.

<sup>56</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 4, Hoofdstuk 23.

Conditional on the observed full time equivalent income per quarter, divided by 3, the appropriate value is selected, given the values in Table 35.

If a worker is working part time, i.e. if the value of `CONTRIB_FULLPART_QT` is less than 1, we multiply the obtained deduction times 3, with the value of `CONTRIB_FULLPART_QT`.

The values in Table 35 are integrated in the model in the form of the parameters `CONTRIB_PDEDBL_MONTH` and `CONTRIB_PDEDWI_MONTH` for blue and white collar workers respectively.

#### **4.4 SOCIAL SECURITY CONTRIBUTIONS NET OF DEDUCTIONS**

After the above operations we can reconstruct the employee and the employer contributions net of deductions. This total sum of social security contributions, paid by the employee and employer will be stored in the variables `CONTRIB_SSPRIV_EMEE_QT` and `CONTRIB_SSPRIV_EMER_QT` respectively.

##### **Construction rule for `CONTRIB_SSPRIV_EMEE_QT` and `CONTRIB_SSPRIV_EMER_QT`:**

We compute the social security contributions of the employee, i.e. `CONTRIB_SSPRIV_EMEE_QT`, first as the sum of the employee social security contributions stored in `CONTRIB_WEARCOM_EMEE_QT`, i.e. the sum of columns 1 to 21. To this we add the contributions paid on double holiday earnings, i.e. the value of `CONTRIB_WEARHOLD_EMEE_QT`.

The value of `CONTRIB_SSPRIV_EMEE_QT` is then compared with the employee deductions, stored in the variable `CONTRIB_WEARDEDU_EMEE_QT`. If the employee deductions are larger than the contributions, we set the result in `CONTRIB_WEARDEDU_EMEE_QT` first equal to the amount of the contributions.

After this operation the adapted employee deductions are subtracted from the 21 columns with employee contributions in `CONTRIB_WEARCOM_EMEE_QT` and of `CONTRIB_WEARHOLD_EMEE_QT` in proportion to the contributions observed in `CONTRIB_WEARCOM_EMEE_QT` and `CONTRIB_WEARHOLD_EMEE_QT` before the deduction.

Then we recompute the social security contributions of the employee, i.e. `CONTRIB_SSPRIV_EMEE_QT`, as the sum of the adapted employee social security contributions stored in `CONTRIB_WEARCOM_EMEE_QT`, i.e. the sum of columns 1 to 21 and the contributions net of deductions paid on double holiday earnings, i.e. the value of `CONTRIB_WEARHOLD_EMEE_QT`.

We compute the social security contributions of the employer, i.e. `CONTRIB_SSPRIV_EMER_QT`, first as the sum of the employer social security contributions stored in `CONTRIB_WEARCOM_EMER_QT`, i.e. the sum of

columns 1 to 21. To this value we add the employer contributions paid for annual vacation of blue collar workers, i.e. `CONTRIB_WEARHOLA_EMER_QT`.

The value of `CONTRIB_SSPRIV_EMER_QT` is then compared with the sum of all employer deductions, stored in the matrix `CONTRIB_WEARDEDU_EMER_QT`. If the sum of the employer deductions would be greater than the sum of the contributions, we first multiply the 21 possible deductions with the fraction of the total amount of contributions divided by the total amount of deductions.

After this operation the adapted employer deductions are subtracted from the 21 columns with employer contributions in `CONTRIB_WEARCOM_EMER_QT` and of `CONTRIB_WEARHOLA_EMER_QT` in proportion to the contributions observed in `CONTRIB_WEARCOM_EMER_QT` and `CONTRIB_WEARHOLA_EMER_QT` before the deduction.

Then we recompute the social security contributions of the employer, i.e. `CONTRIB_SSPRIV_EMER_QT`, as the sum of the adapted employer social security contributions stored in `CONTRIB_WEARCOM_EMER_QT`, i.e. the sum of columns 1 to 21 and the contributions net of deductions paid for holiday earnings of blue collar workers, i.e. the value of `CONTRIB_WEARHOLA_EMER_QT`.

## **5 SOCIAL SECURITY CONTRIBUTIONS FOR CIVIL SERVANTS**

As is the case for wage earners on the private labour market, the social security contributions are computed first as those due in principle. Conditional on either properties of the employee or the employer, these contributions might then be reduced.

One applies different rules for civil servants with statutory service and those without. We first explain the rules, applied on those without statutory service and then those with.

### **5.1 SOCIAL SECURITY CONTRIBUTIONS OF CIVIL SERVANTS WITHOUT STATUTORY SERVICE**

The social security contributions of civil servants without statutory service are computed in the same way as those of wage earners on the private labour market except that public services, either active at the federal or local level, do not pay contributions to the company closure fund.<sup>57</sup>

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<sup>57</sup> See RSZ (2006), kwart 04/2001, Deel 3, Titel 3, Hoofdstuk 2.

### **5.1.1 SOCIAL SECURITY CONTRIBUTIONS BEFORE DEDUCTIONS**

If the individual is a wage earner on the public labour market without statutory service, i.e. `CONTRIB_LABMSTAT_PUB_QT` is equal to 1 or 2, we first apply the principles, discussed in section 4 on the income concepts `CONTRIB_INCPUB_QT`, `CONTRIB_SHPUB_QT`, `CONTRIB_DHPUB_QT` and `CONTRIB_INCSPUB_QT`. The only exception as compared to the discussion in section 4, is that we switch the rates from line 16 to 21 in Table 5 (i.e. those that correspond with contributions to the company closure fund) to 0 for this application.

The reconstructed common contributions before application of the deductions will be stored in the variables `CONTRIB_PUBNSCOM_EMEE` and `CONTRIB_PUBNSCOM_EMER`. Both variables are matrixes with a line per individual and 21 columns (i.e. one column for each rate listed in Table 5). The contributions paid by the employer for holiday earnings of blue collar workers will be stored in the variable `CONTRIB_PUBNSHOL_EMER` and those paid on double holiday earnings by the employee in the variable `CONTRIB_PUBNSHOL_EMEE`.

### **5.1.2 DEDUCTIONS ON EMPLOYER CONTRIBUTIONS**

To compute the different social security deductions, discussed in sections 4.2, for civil servants without statutory service, we first have to identify for which of the deductions the civil servant without statutory service is eligible.

For civil servants working at the federal level, the identification principles are the same as those explained in sections 4.2, since information on these civil servants is registered by the RSZ and thus included in the variables provided by the RSZ.

For civil servants working at the local level, we need additional variables for the identification of the eligibility for these deductions. The variable we will use for this is the variable `STFNCD_QT` provided by the RSZPPO. This variable covers the contribution category of civil servants working for local public services. The variable `STFNCD_QT` allows us to identify some of the deductions discussed in section 4.2.

The identification of the deduction an employer is entitled to for the employee will be stored in the same variables as those already constructed in section 4.2.<sup>58</sup> In columns 1, 2 and 3 of Table 37 we list the value, the name and the label of the variable value that we reconstruct and in column 4 of Table 37 we list the values of `STFNCD_QT` used to reconstruct this variable value.

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<sup>58</sup> Remark that we assume here that individuals that work both as private labour market wage earner and public labour market wage earner without statutory service, are entitled to the identified deduction in both labour market statuses.

Table 36: Variable values of STFNCQD\_QT used to determine different deduction variables

Value of the reconstructed variable	Name of the reconstructed variable	Label of the reconstructed variable value	Value of STFNCQD_QT
1	CONTRIB_STRUCDED_QT	Employer is entitled to structural deduction of social security contribution	M, N, P
1	CONTRIB_PUBSEDED_QT	Employee replaces civil servant that reduced employment activity to 4/5 <sup>th</sup> of full time employment	6
2	CONTRIB_UNPROFC_QT	Individual is full time employed by other than small company	V
2	CONTRIB_UNPRERET_QT	Individual is full time employed by other than small company	4, 5, N
1	CONTRIB_4DAYDED_QT	the employee entitles the employer to a reduction of his social security contributions because of the 4-day week program	3, P
1	CONTRIB_YOUNGW_QT	Young worker after his first job agreement	7

For those entitled to a structural deduction, we do not have additional information to identify the type of structural deduction they are entitled to. We therefore assume that their type of deduction is the default one. This implies that we set the variable CONTRIB\_STRUCCAT\_QT equal to 4 for these wage earners on the public labour market.

Since we do not have sufficient information to reconstruct any of the other possible deductions for non statutory civil servants, we have to rely on the default values in these other cases.<sup>59</sup> This means that none of the other deductions discussed in section 4.2 above can be applied on the contributions of civil servants without statutory service and working for a local authority because of lack of data.

These reconstructed employer deductions that can be deducted from the contributions will be stored in the variable CONTRIB\_PUBNSDED\_EMER, which is again a matrix with a line per individual and 21 columns (i.e. one column for each of the reconstructed deductions).

### 5.1.3 DEDUCTIONS ON EMPLOYEE CONTRIBUTIONS

The personal deduction of employee contributions, discussed in section 4.3, can be reconstructed for wage earners on the public labour market without statutory

<sup>59</sup> FOD Sociale Zekerheid (2002), p. 94.

service, since for the computation of this we only need to know the monthly income earned as wage earner on the public labour market.

The employee deduction for low wage deductions will be stored in the variable `CONTRIB_PUBNSDED_EMEE`.

#### **5.1.4 SOCIAL SECURITY CONTRIBUTIONS NET OF DEDUCTIONS**

After the above operations we can reconstruct the employee and the employer contributions net of deductions for wage earners on the public labour market without statutory service. This total sum of social security contributions, paid by the employee and employer will be stored in the variables `CONTRIB_SSPUB_EMEE_QT` and `CONTRIB_SSPUB_EMER_QT` respectively.

To reconstruct these variables we use the principles, discussed in section 4.4. As input for the application of these principles, we use the variables `CONTRIB_PUBNSCOM_EMEE`, `CONTRIB_PUBNSCOM_EMER`, `CONTRIB_PUBNSHOL_EMER`, `CONTRIB_PUBNSHOL_EMEE`, `CONTRIB_PUBNSDED_EMEE` and `CONTRIB_PUBNSDED_EMER`.

## **5.2 SOCIAL SECURITY CONTRIBUTIONS OF CIVIL SERVANTS WITH STATUTORY SERVICE**

### **5.2.1 SOCIAL SECURITY CONTRIBUTIONS BEFORE DEDUCTIONS**

The social security contributions of civil servants are determined as a fraction of the common remunerations. These common remunerations comprise the earnings that correspond with labour activity, i.e. `CONTRIB_INCPUB_QT`, and the single holiday earnings, i.e. `CONTRIB_SHPUB_QT`.

The policy maker also distinguishes between contributions to be paid by the employer and contributions to be paid by the employee. The contributions to be paid by local civil servants differ from those to be paid by civil servants working at the federal level.

The percentages applied on the remunerations of local civil servants, are listed in Table 37.

Table 37: Social security contributions of civil servants working for provincial and local administration<sup>60</sup>

Types of contributions	Employee's contributions (%)	Employer's contributions (%)
1 Pensions	7,50%	20,00%
2 sickness and disability insurance	3,55%	3,80%
3 family benefits	0,00%	5,25%
4 professional sickness	0,00%	0,17%
5 wage moderation <sup>61</sup>	0,00%	7,48%
6 children attendance	0,00%	0,05%

The percentages applied on the remunerations of civil servants at the federal level, are listed in Table 38.

Table 38: Social security contributions of other than provincial and local administration

Types of contributions	Employee's contributions (%)	Employer's contributions (%)
1 Survival pension <sup>62</sup>	7,50%	0,00%
2 Health care <sup>63</sup>	3,55%	3,80%
3 family benefits	0,00%	0,00%
4 professional sickness	0,00%	0,00%
5 wage moderation	0,00%	0,00%
6 children attendance	0,00%	0,00%

In order to apply these different percentages, we need to distinguish between civil servants working for a local authority yes or no. If we identify a civil servant as working for a local authority, we will set the variable CONTRIB\_CSLOCFED\_QT equal to 1. For civil servants working at the federal level, this variable will be set equal to 2.

#### **Construction rule for CONTRIB\_CSLOCFED\_QT:**

To construct this variable we will use the exogenous variable TB2\_QT, provided by the RSZPPO and the values of the variable CONTRIB\_LABMSTAT\_PUB\_QT. The values of TB2\_QT and CONTRIB\_LABMSTAT\_PUB\_QT, that produce the values of the variable CONTRIB\_CSLOCFED\_QT, are listed in Table 39.

<sup>60</sup> FOD Sociale Zekerheid (2002), p. 100.

<sup>61</sup> The wage moderation percentage of 7,48% consists of three components. A basic percentage of 5,67%, increased with 1,41% (which is 5,67% applied on 24,87% of employers contributions and on the 0,04 of the paid education vacation) and increased with 0,40% (a lump sum increase for annual vaction) (see Put (2001), p 110). The basic percentage applied for local civil servants is 5,67% (see FOD Sociale Zekerheid (2002), p. 100).

<sup>62</sup> See FOD Sociale Zekerheid (2002), p. 296.

<sup>63</sup> See FOD Sociale Zekerheid (2002), p. 13 and 93.



Table 39: Variable values used to determine the values of CONTRIB\_CSLOCFED\_QT

Value of CONTRIB_CSLOCFED_QT	Label of CONTRIB_CSLOCFED_QT	Value of TB2_QT	Value of CONTRIB_LABMSTAT_PUB_QT
1	Civil servant working for local authority	1	3, 4
2	Civil servant working at the federal level	0	3, 4

For each individual the computed social security contributions will be stored in the matrixes CONTRIB\_PUBSCOM\_EMEE\_QT and CONTRIB\_PUBSCOM\_EMER\_QT respectively. The remuneration concept that will serve as the basis for these computations will be stored in the variable CONTRIB\_REMBPUB\_QT.

**Construction rule for CONTRIB\_PUBSCOM\_EMEE\_QT,  
CONTRIB\_PUBSCOM\_EMER\_QT and CONTRIB\_REMBPUB\_QT:**

If the individual is a civil servant with statutory service, i.e. CONTRIB\_CSLOCFED\_QT is equal to 1 or 2, we set CONTRIB\_REMBPUB\_QT equal to the sum of CONTRIB\_INCPUB\_QT, CONTRIB\_SHPUB\_QT and CONTRIB\_INCSPUB\_QT.

If the civil servant with statutory service is working for a local authority, i.e. CONTRIB\_CSLOCFED\_QT is equal to 1, we apply the percentages listed in column 1 and 2 of Table 37 on CONTRIB\_REMBPUB\_QT. The results are stored in the matrixes CONTRIB\_PUBSCOM\_EMEE\_QT and CONTRIB\_PUBSCOM\_EMER\_QT respectively. These are matrixes with 6 columns and as many rows as there are individuals.

If the civil servant with statutory service is working at the federal level, i.e. CONTRIB\_CSLOCFED\_QT is equal to 2, we apply the percentages listed in column 1 and 2 of Table 38 on CONTRIB\_REMBPUB\_QT. The results are stored as well in the matrixes CONTRIB\_PUBSCOM\_EMEE\_QT and CONTRIB\_PUBSCOM\_EMER\_QT respectively.

We integrate the percentages in Table 37 and Table 38 in the model in the form of the parameters CONTRIB\_CSCOMLOC\_QT and CONTRIB\_CSCOMFED\_QT respectively.

Civil servants also pay a contribution of 13,07% on their double holiday earnings.<sup>64</sup> We store this reconstructed result in the variable CONTRIB\_PUBSHOL\_EMEE\_QT.

**Construction rule for CONTRIB\_PUBSHOL\_EMEE\_QT:**

If the individual is a civil servant with statutory service, i.e. CONTRIB\_CSLOCFED\_QT is equal to 1 or 2, we apply 13,07% on the double

<sup>64</sup> FOD Sociale Zekerheid (2002), p. 100 for local civil servants and p 483 for federal civil servants.

holiday earnings of these civil servants, i.e. CONTRIB\_DHPUB\_QT and store the result in CONTRIB\_PUBSHOL\_EMEE\_QT.

We integrate this 13,07% in the model in the form of the parameter CONTRIB\_CSDHCON\_QT.

### **5.2.2 DEDUCTIONS ON EMPLOYER SOCIAL SECURITY CONTRIBUTIONS**

Different types of employer deductions can be distinguished. Some are lump-sum deductions and others are deductions in percentage of the remuneration. These deductions typically apply on the contributions paid by local authorities only.

We do not have the appropriate data to reconstruct these deductions. Nonetheless we discuss these 7 possible deductions in what follows. If it would have been possible to reconstruct these concepts, the result would have been stored in the matrix CONTRIB\_PUBSDED\_EMER\_QT, which has 7 columns and as many rows as individuals that are analysed.

#### **1. Target-group deduction: Subsidized contract worker**

Local authorities who employ subsidised contract workers can obtain deductions of the social security contributions on a) pensions, b) sickness and disability, c) family benefits, d) professional disease and e) children attendance.<sup>65</sup>

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 1 of the matrix CONTRIB\_PUBSDED\_EMER\_QT.

#### **Construction rule for CONTRIB\_PUBSDED\_EMER\_QT(1):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIB\_PUBSDED\_EMER\_QT(1) is set equal to 0.

#### **2. Target-group deduction: Employment incentive plan for the job seekers recruitment promotion**

Local authorities can get a reduction of their employer contributions if they hire employees in an employment incentive plan for the promotion of the recruitment of job seekers.<sup>66</sup>

If the job seeker is entitled to unemployment benefits, the guaranteed minimum income or social help, during the 12 months before hiring, the deduction is equal to 75% during quarter 1 to 5 of employment and equal to 50% from quarter 6 to 9.

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<sup>65</sup> FOD Sociale Zekerheid (2002), p. 102-103.

<sup>66</sup> FOD Sociale Zekerheid (2002), p. 103.

If the job seeker is entitled to unemployment benefits, the guaranteed minimum income or social help, during the 24 months before hiring, the deduction is equal to 100% during quarter 1 to 5 of employment and equal to 75% from quarter 6 to 9.

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 2 of the matrix CONTRIBUTIB\_PUBSDED\_EMER\_QT.

**Construction rule for CONTRIBUTIB\_PUBSDED\_EMER\_QT(2):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIBUTIB\_PUBSDED\_EMER\_QT(2) is set equal to 0.

**3. Target-group deduction: Job redistribution in the public sector**

Local authorities who employ an additional worker that replaces workers who voluntarily reduced their work time to 4/5<sup>th</sup> of a full time can obtain deductions of the social security contributions on a) pensions, b) sickness and disability, c) family benefits, d) professional disease and e) children attendance.<sup>67</sup>

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 3 of the matrix CONTRIBUTIB\_PUBSDED\_EMER\_QT.

**Construction rule for CONTRIBUTIB\_PUBSDED\_EMER\_QT(3):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIBUTIB\_PUBSDED\_EMER\_QT(3) is set equal to 0.

**4. Target-group deduction: occupation in accordance with ART. 60 § 7 of the law of july 8th 1976 relative to cpas**

CPAS, who employed beneficiaries of guaranteed minimum wage and/or beneficiaries of financial social help, have total exemption of employer contributions for these workers.<sup>68</sup>

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 4 of the matrix CONTRIBUTIB\_PUBSDED\_EMER\_QT.

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<sup>67</sup> FOD Sociale Zekerheid (2002), p. 103.

<sup>68</sup> FOD Sociale Zekerheid (2002), p. 103-104.

**Construction rule for CONTRIB\_PUBSDED\_EMER\_QT(4):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIB\_PUBSDED\_EMER\_QT(4) is set equal to 0.

**5. Target-group deduction: Social Maribel**

Local authorities who employ individuals that are working at least half-time in particular fields such as health, social action or cultural activity are entitled to a deduction of employer contributions of € 288,18 per quarter on December 31<sup>st</sup> 2001.<sup>69</sup>

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 5 of the matrix CONTRIB\_PUBSDED\_EMER\_QT.

**Construction rule for CONTRIB\_PUBSDED\_EMER\_QT(5):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIB\_PUBSDED\_EMER\_QT(5) is set equal to 0.

**6. Target-group deduction: Professional transition program**

Local authorities can have a partial or total exemption of their employer contributions for unemployed persons employed in a professional transition program. The deduction is equal to 75% (100%) during the first year and equal to 50% (75%) during the second year in case of occupation of beneficiaries of guaranteed minimum income or unemployed people since 1 year (2 years).<sup>70</sup>

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 6 of the matrix CONTRIB\_PUBSDED\_EMER\_QT.

**Construction rule for CONTRIB\_PUBSDED\_EMER\_QT(6):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIB\_PUBSDED\_EMER\_QT(6) is set equal to 0.

**7. Target-group deduction: Service Jobs – Smet jobs**

Local authorities are exempted from all employers contributions if they create jobs to activate long term unemployed.<sup>71</sup>

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<sup>69</sup> FOD Sociale Zekerheid (2002), p. 104.

<sup>70</sup> FOD Sociale Zekerheid (2002), p. 104.

<sup>71</sup> FOD Sociale Zekerheid (2002), p. 104-105.

To reconstruct these deductions, we need to identify those employees that generate this deduction. We do not have the data to identify these individuals, active for a local authority.

The reconstructed result of this deduction will be stored in column 7 of the matrix CONTRIBUTIB\_PUBSDED\_EMER\_QT.

**Construction rule for CONTRIBUTIB\_PUBSDED\_EMER\_QT(7):**

Since we can not reconstruct the individuals that generate this deduction, CONTRIBUTIB\_PUBSDED\_EMER\_QT(7) is set equal to 0.

**5.2.3 DEDUCTIONS ON EMPLOYEE SOCIAL SECURITY CONTRIBUTIONS**

In 2001 there existed no deductions on social security contributions of civil servants with statutory service. If a deduction those civil servants' contributions would be reconstructed we would store it in the variable CONTRIBUTIB\_PUBSDED\_EMEE\_QT.

**Construction rule for CONTRIBUTIB\_PUBSDED\_EMEE\_QT:**

The variable CONTRIBUTIB\_PUBSDED\_EMEE\_QT is set equal to 0 for all civil servants with statutory service.

**5.2.4 SOCIAL SECURITY CONTRIBUTIONS NET OF DEDUCTIONS**

After the above operations we can reconstruct the employee and the employer contributions net of deductions. This total sum of social security contributions, paid by the employee and employer are stored in the variables CONTRIBUTIB\_SSPUB\_EMEE\_QT and CONTRIBUTIB\_SSPUB\_EMER\_QT respectively.

**Construction rule for CONTRIBUTIB\_SSPUB\_EMEE\_QT and CONTRIBUTIB\_SSPUB\_EMER\_QT (continued):**

We compute the social security contributions of the employee, i.e. CONTRIBUTIB\_SSPUB\_EMEE\_QT, first as the sum of the employee social security contributions stored in CONTRIBUTIB\_PUBSCOM\_EMEE\_QT, i.e. the sum of columns 1 to 6. To this we add the contributions paid on double holiday earnings, i.e. the value of CONTRIBUTIB\_PUBSHOL\_EMEE\_QT.

The value of CONTRIBUTIB\_SSPUB\_EMEE\_QT is then compared with the employee deductions, stored in the variable CONTRIBUTIB\_PUBSDED\_EMEE\_QT. If the employee deductions are larger than the contributions, we set the result in CONTRIBUTIB\_PUBSDED\_EMEE\_QT first equal to the amount of the contributions.

After this operation the adapted employee deductions are subtracted from the 6 columns with employee contributions in CONTRIBUTIB\_PUBSCOM\_EMEE\_QT and CONTRIBUTIB\_PUBSHOL\_EMEE\_QT in proportion to the contributions observed in CONTRIBUTIB\_PUBSCOM\_EMEE\_QT and CONTRIBUTIB\_PUBSHOL\_EMEE\_QT before the deduction.

Then we recompute the social security contributions of the employee, i.e. `CONTRIB_SSPUB_EMEE_QT`, as the sum of the adapted employee social security contributions stored in `CONTRIB_PUBSCOM_EMEE_QT`, i.e. the sum of columns 1 to 6 and the contributions net of deductions paid on double holiday earnings, i.e. the value of `CONTRIB_PUBSHOL_EMEE_QT`.

We compute the social security contributions of the employer, i.e. `CONTRIB_SSPUB_EMER_QT`, first as the sum of the employer social security contributions stored in `CONTRIB_PUBSCOM_EMER_QT`, i.e. the sum of columns 1 to 6.

The value of `CONTRIB_SSPUB_EMER_QT` is then compared with the sum of all employer deductions, stored in the matrix `CONTRIB_PUBSDED_EMER_QT`. If the sum of the employer deductions would be greater than the sum of the contributions, we first multiply the 7 possible deductions with the fraction of the total amount of contributions divided by the total amount of deductions.

After this operation the adapted employer deductions are subtracted from the 7 columns with employer contributions in `CONTRIB_PUBSCOM_EMER_QT` in proportion to the contributions observed in `CONTRIB_PUBSCOM_EMER_QT` before the deduction.

Then we recompute the social security contributions of the employer, i.e. `CONTRIB_SSPUB_EMER_QT`, as the sum of the adapted employer social security contributions stored in `CONTRIB_PUBSCOM_EMER_QT`, i.e. the sum of columns 1 to 6.

## **6 SOCIAL SECURITY CONTRIBUTIONS FOR SELF EMPLOYED**

### **6.1 SOCIAL SECURITY CONTRIBUTIONS BEFORE DEDUCTIONS**

Self-employed pay social security contributions on a quarterly basis. The contributions are either based on their net indexed earnings or determined in a lump sum way.

If remunerations are used to compute the contributions, these are the net indexed earnings that correspond to the 3<sup>rd</sup> complete civil year (reference year) preceding the year during which the contributions are paid. The net indexed earnings correspond to the gross professional earnings reduced by professional costs and if the need arises, by professional losses.

If a self employed started his self employed activity within the last three years before the year of contribution or in the year of contribution itself, his remunerations are assumed to be zero and his social security contributions are

determined as a lump sum amount. The contributions are regulated later, once the income information becomes available.

Each self employed pays a lump sum amount of contributions, that depends on his remunerations. We list the brackets and the amounts, applied in 2001, in Table 40.

Table 40: Lump-Sum Contribution for Self-Employed at December 31<sup>st</sup> 2001<sup>72</sup>

Annual Net professional income in EUR	Lump-Sum Contribution (per quarter) in EUR
10.306,07 - 49.993,26	32,50
> 49.993,26	64,50

In order to reconstruct this lump sum contribution we need to know the remunerations of the self employed. The relevant remunerations should be covered by the variable CONTRIB\_INCSELF\_QT.

We will store this common lump sum contribution, paid by the self employed, in the variable CONTRIB\_SELFCOM\_EMER\_QT.

**Construction rule for CONTRIB\_SELFCOM\_EMER\_QT:**

If an individual is classified as a self employed, i.e. CONTRIB\_LABMSTAT\_SELF\_QT is not equal to 0, we select the value of CONTRIB\_SELFCOM\_EMER\_QT conditional on the income observed in CONTRIB\_INCSELF\_QT from Table 40.

We integrate the values listed in Table 40, in the model in the form of the parameter CONTRIB\_LSALLSE\_QT.

Remark that this procedure implies that those for which the value of CONTRIB\_INCSELF\_QT is equal to 0, will not obtain a value different from 0 for this common lump sum contribution. All starting self employed have a value of CONTRIB\_INCSELF\_QT is equal to 0.

On top of this lump sum amount, all self employed pay additional contributions. These contributions are computed differently for a) self employed and self employed assistants and b) self employed before the age of retirement and those after the age of retirement. Within the group of self employed before the age of retirement one also distinguishes those self employed who carry out their self employed activity as a principal activity.

For later purposes we therefore reconstruct a variable CONTRIB\_SELFPCR\_QT, which can take six different values.

**Construction rule for CONTRIB\_SELFPCR\_QT:**

To construct this variable we will use the exogenous variables BIJDCAT\_QT and HOEDRSVZ\_QT, provided by the RSVZ. The values of BIJDCAT\_QT and

<sup>72</sup> FOD Sociale Zekerheid (2002), p 83.

HOEDRSVZ\_QT that produce the values of the variable CONTRIB\_SELFPCR\_QT, are listed in Table 41.

Table 41: Variable values used to determine the values of CONTRIB\_SELFPCR\_QT

Value of CONTRIB_SELFPCR_QT	Label of CONTRIB_SELFPCR_QT	Value of BIJDCAT_QT	Value of HOEDRSVZ_QT
1	Self employed before the age of retirement in principal activity	A, H, I, J, K, O, Q, R, S, U	1, 3
2	Self employed before the age of retirement in complementary activity	D	1, 3
3	Self employed after the age of retirement	E, F, Y	1, 3
4	Self employed assistant before the age of retirement in principal activity	A, H, I, J, K, O, Q, R, S, U	2, 4
5	Self employed assistant before the age of retirement in complementary activity	D	2, 4
6	Self employed assistant after the age of retirement	E, F, Y	2, 4

The computation rules of the contributions for self employed also differ for starting and non starting self employed. Hence, we also need to know whether the self employed is a starter or not, i.e. active for 3 years or less as a self employed. We will store the number of years, active as self employed in the variable CONTRIB\_SELFYEAR\_QT.

#### **Construction rule for CONTRIB\_SELFYEAR\_QT:**

We observe the variable BEGAANSC\_QT, provided by the RSVZ. This variable contains the data on which the self employed was first known as self employed by the RSVZ. To construct CONTRIB\_SELFYEAR\_QT we first subtract the first 4 digits of this variable from 2001. If the result becomes negative, we set the value equal to 1. We set CONTRIB\_SELFYEAR\_QT also equal to 1 if the first four digits of BEGAANSC\_QT are equal to 2001.

The value 2001 is integrated in the model in the form of the parameter MIMOSIS\_REFYEAR\_ANN.

Remark that the construction of CONTRIB\_SELFYEAR\_QT implies that we treat self employed in the starting year and those in the first civil year after starting in the same way.

### **6.1.1 CALCULATION OF SOCIAL SECURITY CONTRIBUTIONS FOR SELF EMPLOYED**

#### SELF EMPLOYED IN PRINCIPAL ACTIVITY BEFORE RETIREMENT AGE



In principle, the contributions to be paid by self employed before the age of retirement in principal activity, are determined as a percentage of their remunerations. The percentages and the brackets, applied in 2001, are listed in Table 42.

Table 42: Social Security Contributions for Self-Employed on December 31<sup>st</sup> 2001<sup>73</sup>

Annual Net professional income in EUR	Social Security Contribution
10.306,07 - 49.993,26	16,70%
49.993,26 - 73.127,22	12,27%

The social security contributions computed by applying the rates, listed in Table 42, on the remunerations, are limited to a minimum and maximum per quarter. The minimum social security contribution is € 430,28 and the maximum social security contribution is € 2.812,98 per quarter.

There are two exceptions on this rule.

If the self employed is a widow or widower that benefits from a survival pension, the self employed with less than € 5.226,13 can request to be treated as a self employed with complementary activity. If the self employed widow/widower has € 5.226,13 income or more, the contributions are determined on a fixed income of € 10.306,07 independent of the fact whether the real income is above or below this threshold.<sup>74</sup>

If the self employed started his self employed activity within the last three years before the year of contribution or in the year of contribution itself, his social security contributions are determined as a lump sum amount. The lump sum amounts, used in 2001 for these self employed, are given in Table 43.

Table 43: Social Security Contributions for Starting Self-Employed on December 31<sup>st</sup> 2001<sup>75</sup>

Quarter of contributions liability	Social security contribution (per quarter)
1 <sup>st</sup> civil year and previous quarters	430,28 EUR
2 <sup>nd</sup> civil year	500,08 EUR
3 <sup>rd</sup> civil year	566,45 EUR

Apart from the variables we already reconstructed, we also need to know whether the individual receives a survival pension. We will infer this from the variable PENSWELF\_SURPENS\_QT that is produced by the MIMOSIS module that computes the pensions.

<sup>73</sup> FOD Sociale Zekerheid (2002), p 84-85.

<sup>74</sup> See FOD Sociale Zekerheid (2002), p 85.

<sup>75</sup> See FOD Sociale Zekerheid (2002), p 85.

**Construction rule for CONTRIB\_SELF\_COM\_EMER\_QT (continued):**

If an individual is self employed, i.e. CONTRIB\_LABMSTAT\_SELF\_QT is not equal to 0, and in principal activity, i.e. CONTRIB\_SELFPCR\_QT is equal to 1, we check whether the individual is a starter or not.

If the self employed is active for more than 3 years, i.e. CONTRIB\_SELFYEAR\_QT is larger than 3, we check whether the individual receives a survival pension, i.e. PENSWELF\_SURPENS\_QT is not equal to 0.

If this is the case we compute the additional contribution as 16,70% of € 10.306,07 if the individual has more than € 5.226,13 income. If the individual does not receive a survival pension or has low self employed income, the additional contribution is computed as a percentage of the observed self employed income, i.e. CONTRIB\_INCSELF\_QT, using the brackets and percentages listed in Table 42. We apply the minimal and maximal thresholds of € 430,28 and € 2.812,98 respectively, on these additional contributions.

If the self employed is a starter, i.e. CONTRIB\_SELFYEAR\_QT is equal to 3 or smaller, the value added to CONTRIB\_SELF\_COM\_EMER\_QT is a lump sum amount, selected from Table 43, conditional on the value of CONTRIB\_SELFYEAR\_QT.

The values in Table 42 and Table 43 are included in the model in the form of the parameters CONTRIB\_SELF\_PAA\_QT and CONTRIB\_SELF\_PAB\_QT. The nominal amounts of € 430,28, € 2.812,98 and € 5.226,13 are set by the parameter CONTRIB\_SELF\_PAC\_QT, which is a vector with 3 lines.

Remark that we assume here that people with a survival pension all opt for the general case and do not request to be treated as a self employed with complementary activity.

SELF EMPLOYED IN COMPLEMENTARY ACTIVITY BEFORE RETIREMENT AGE

In principle the contributions for self employed in complementary activity before retirement age are computed as a percentage of their remunerations.

A threshold is applied on the remunerations to determine whether social security contributions are to be paid. If the net earnings are lower than € 1.103,74 no social security contributions should be paid. If the net earnings are equal to € 1.103,74 or higher, the contributions are computed in the same way as is done for self employed in principal activity. If the computed contributions would fall below the amount of € 46,08 or come above the amount of € 2.812,98 per quarter, contributions are set equal to these thresholds.<sup>76</sup>

There is one exception on this rule.

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<sup>76</sup> See FOD Sociale Zekerheid (2002), p 85.

If the self employed in complementary activity started his self employed activity within the last three years before the year of contribution or in the year of contribution itself, his quarterly contribution is € 46,08.<sup>77</sup>

**Construction rule for CONTRIB\_SELF\_COM\_EMER\_QT (continued):**

If an individual is self employed, i.e. CONTRIB\_LABMSTAT\_SELF\_QT is not equal to 0, and in complementary activity, i.e. CONTRIB\_SELFPCR\_QT is equal to 2, we check whether the individual is a starter or not.

If the self employed is active for more than 3 years, i.e. CONTRIB\_SELFYEAR\_QT is larger than 3, we check whether the remunerations of the individual are higher than € 1.103,74 or not.

If the remunerations are below this threshold, the additional contributions are equal to 0. If the remunerations are equal to or above this threshold we check whether the individual receives a survival pension, i.e. PENSSELF\_SURPENS\_QT is not equal to 0.

If this is the case we compute the additional contribution as 16,70% of € 10.306,07 if the individual has more than € 5.226,13 income. If the individual does not receive a survival pension or has low self employed income, the additional contribution is computed as a percentage of the observed self employed income, i.e. CONTRIB\_INCSELF\_QT, using the brackets and percentages listed in Table 42.

We apply the minimal and maximal thresholds of € 46,08 and € 2.812,98 respectively, on these additional contributions.

If the self employed is a starter, i.e. CONTRIB\_SELFYEAR\_QT is equal to 3 or smaller, the value added to CONTRIB\_SELF\_COM\_EMER\_QT is a lump sum amount of € 46,08.

The nominal amounts of € 1.103,74, € 46,08 and € 2.812,98 are integrated in the model in the form of the parameter CONTRIB\_SELFCAA\_QT, which is a vector with 3 lines.

SELF EMPLOYED AFTER RETIREMENT AGE

If a self employed is not a starter, is still working after the age of retirement and does receive a retirement pension, a pre retirement pension or a survival pension, his contributions are computed as a percentage of his remunerations. The percentages, applied in 2001, are listed in Table 44.

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<sup>77</sup> See FOD Sociale Zekerheid (2002), p 85.

Table 44: Social Security Contributions for Self-Employed after the retirement age (with pension) on December 31<sup>st</sup> 2001<sup>78</sup>

Annual Net professional income in EUR	Social Security Contribution
< 2.207,49	0 EUR
≥ 2.207,49	12,99 %

In general, the social security contributions, obtained after applying the rates in Table 44, are limited to a minimum of € 71,69 and a maximum of € 320,38 per quarter. However, if the individual is a widow with survival pension, born before July 1<sup>st</sup> 1937 and younger than 65 years old, the maximum contribution is € 542,10.<sup>79</sup>

A starting self employed, still working after the age of retirement that receives a retirement pension, a pre retirement pension or a survival pension pays a lump sum amount of € 71,69 per quarter as social security contribution.<sup>80</sup>

If a self employed is not a starter and is still working after the age of retirement and does not receive a retirement pension, his contributions are computed as a percentage of his remunerations. The percentages, applied in 2001, are listed in Table 45.

Table 45: Social Security Contributions for Self-Employed after the retirement age (without retirement pension) at December 31<sup>st</sup> 2001<sup>81</sup>

Annual Net professional income in EUR	Social Security Contribution
< 2.207,49	0 EUR
2.207,49 – 49.993,26	16,70 %
49.993,26 – 73.127,22	12,27 %

The social security contributions, computed on the basis of the rates, given in Table 45, are limited to a minimum of € 92,16 and a maximum of € 2.812,98 per quarter.

A starting self employed, still working after the age of retirement and without a retirement pension, pays a lump sum amount of € 92,16 per quarter as social security contribution.<sup>82</sup>

Apart from the variables we already reconstructed, we also need to know whether the individual receives a retirement pension, a survival pension or a pre retirement pension. We will infer this from the variables PENSSELF\_RETPENS\_QT and PENSSELF\_SURPENS\_QT that are produced by the MIMOSIS module that computes the pensions and the variables

<sup>78</sup> See FOD Sociale Zekerheid (2002), p 85-87.

<sup>79</sup> See FOD Sociale Zekerheid (2002), p 86.

<sup>80</sup> See FOD Sociale Zekerheid (2002), p 86.

<sup>81</sup> See FOD Sociale Zekerheid (2002), p 85-87.

<sup>82</sup> See FOD Sociale Zekerheid (2002), p 85-87.

CONTRIB\_UNEMFT\_QT and CONTRIB\_UNEMPT\_QT, which have been constructed in section 3 above.

**Construction rule for CONTRIB\_SELF.COM\_EMER\_QT (continued):**

If an individual is self employed, i.e. CONTRIB\_LABMSTAT\_SELF\_QT is not equal to 0, and if he is after the age of retirement, i.e. CONTRIB\_SELFPCR\_QT is equal to 3, we check whether the individual receives a retirement, a survival pension or a pre retirement pension yes or no.

If the sum of CONTRIB\_UNEMFT\_QT, CONTRIB\_UNEMPT\_QT, PENSWELF\_SURPENS\_QT and PENSWELF\_RETPENS\_QT is different from 0 and the self employed is active for more than 3 years, i.e. CONTRIB\_SELFYEAR\_QT is larger than 3, we compute the additional contribution by applying the percentages, listed in Table 44, on the remunerations obtained as a self employed, i.e. CONTRIB\_INCSELF\_QT. We then apply the minimal and maximal thresholds of € 71,69 and € 320,38 respectively, on these additional contributions. If the self employed is a starter, i.e. CONTRIB\_SELFYEAR\_QT is equal to 3 or smaller, the value added to CONTRIB\_SELF.COM\_EMER\_QT is a lump sum amount of € 71,69.

If the sum of CONTRIB\_UNEMFT\_QT, CONTRIB\_UNEMPT\_QT, PENSWELF\_SURPENS\_QT and PENSWELF\_RETPENS\_QT is equal to 0 and the self employed is active for more than 3 years, i.e. CONTRIB\_SELFYEAR\_QT is larger than 3, we compute the additional contribution by applying the percentages, listed in Table 45, on the remunerations obtained as a self employed, i.e. CONTRIB\_INCSELF\_QT. We then apply the minimal and maximal thresholds of € 92,16 and € 2.812,98 respectively, on these additional contributions. If the self employed is a starter, i.e. CONTRIB\_SELFYEAR\_QT is equal to 3 or smaller, the value added to CONTRIB\_SELF.COM\_EMER\_QT is a lump sum amount of € 92,16.

The values in Table 44 and Table 45 are included in the model in the form of the parameters CONTRIB\_SELF.FARA\_QT and CONTRIB\_SELF.FARB\_QT. The nominal amounts of € 71,69, € 320,38, € 542,10, € 92,16 and € 2.812,98 are set by the parameter CONTRIB\_SELF.FARC\_QT, which is a vector with 5 lines.

Remark that we assume that none of the individuals is a widow with survival pension, born before July 1<sup>st</sup> 1937 and younger than 65 years old.

**6.1.2 CALCULATION OF SOCIAL SECURITY CONTRIBUTIONS FOR SELF EMPLOYED ASSISTANT**

In principle, the social security contributions of a self employed assistant are computed in the same way as those of the self employed (see section 6.1.1).

The spouse of a self employed assistant forms an exception to this rule.<sup>83</sup> For a spouse working assistant, contributions are calculated as a percentage of earned remunerations, independent of the other self employed status variables the individual might have. The rates applied on the remunerations of the self employed assistant in 2001, are listed in Table 46.

Table 46: Social Security Contribution for working assistant on December 31<sup>st</sup> 2001<sup>84</sup>

Annual Net professional income in EUR	Social Security Contribution
10.306,07 - 49.993,26	0,67%
49.993,27 - 73.127,22	0,44%

The social security contributions, computed on the basis of the rates, given in Table 46, are limited to a minimum of € 17,26 and a maximum of € 109,19 per quarter.

Apart from the variables we already reconstructed, we also need to know whether the individual, qualified as a self employed assistant, is the spouse of a self employed. For this we will use the variables FAMREL\_RELATION, FAMREL\_FAMTYPE and FAMREL\_COUPLE.<sup>85</sup>

#### **Construction rule for CONTRIB\_SELF\_COM\_EMER\_QT (continued):**

If an individual is self employed, i.e. CONTRIB\_LABMSTAT\_SELF\_QT is not equal to 0, and if he is a self employed assistant, i.e. CONTRIB\_SELF\_PCR\_QT is equal to 4, 5 or 6, we check whether this individual is the spouse of a self employed. We can do this by using the variables FAMREL\_RELATION, FAMREL\_FAMTYPE and FAMREL\_COUPLE. We consider only married people as spouses of a self employed.

If the assistant is the spouse of a self employed, we compute the additional contribution by applying the percentages, listed in Table 46, on the remunerations obtained as a self employed, i.e. CONTRIB\_INCSELF\_QT, of the individual. We then apply the minimal and maximal thresholds of € 17,26 and € 109,19 respectively, on these additional contributions.

If the assistant is not a spouse of a self employed, we apply the same rules as those discussed in section 6.1.1, to obtain the additional social security contribution.

The values in Table 46 are included in the model in the form of the parameter CONTRIB\_SELF\_FASA\_QT. The nominal amounts of € 17,26 and € 109,19 are set by the parameter CONTRIB\_SELF\_FASB\_QT, which is a vector with 2 lines.

<sup>83</sup> See FOD Sociale Zekerheid (2002), p 87.

<sup>84</sup> See FOD Sociale Zekerheid (2002), p 87.

<sup>85</sup> See Decoster, De Swerdt, Orsini and Van Camp (2007).

## **6.2 DEDUCTIONS ON EMPLOYER SOCIAL SECURITY CONTRIBUTIONS OF SELF EMPLOYED**

From January 1<sup>st</sup> 1998, self employed that establish their first activity as self employed, obtain a deduction during the first four quarters that follow the 3<sup>rd</sup> complete civil year as self employed.<sup>86</sup>

Social security contributions are reduced with 15% in these four quarters but the amount of the deduction can not exceed € 125,00.<sup>87</sup>

Apart from the variables we already reconstructed, we also need to know whether the self employed establishes his activity as self employed for the first time. If this is the case, we will set the variable CONTRIB\_SELFFIRS\_QT equal to 1.

### **Construction rule for CONTRIB\_SELFFIRS\_QT:**

We do not have sufficient information, to differentiate the value of this variable over self employed. We therefore assume that all self employed are in their first activity as self employed. Hence, if an individual is self employed, i.e. CONTRIB\_LABMSTAT\_SELF\_QT is not equal to 0, we set CONTRIB\_SELFFIRS\_QT equal to 1.

We will reconstruct the deduction for this self employed in their first activity and store the result in the variable CONTRIB\_SELFDEDU\_EMER\_QT.

### **Construction rule for CONTRIB\_SELFDEDU\_EMER\_QT:**

If the self employed is in his first activity as self employed, i.e. CONTRIB\_SELFFIRS\_QT is equal to 1, and if he is in his 4<sup>th</sup> year of activity, i.e. CONTRIB\_SELFYEAR\_QT is equal to 4, we set CONTRIB\_SELFDEDU\_EMER\_QT equal to 15% of the reconstructed contributions, i.e. CONTRIB\_SELFCOM\_EMER\_QT. If this amount exceeds the threshold of € 125 we set the deduction equal to this threshold.

The percentage reduction of 15% and the threshold of € 125 are integrated in the model in the form of the parameters CONTRIB\_SELFDEDA\_QT and CONTRIB\_SELFDEDB\_QT respectively.

## **6.3 SOCIAL SECURITY CONTRIBUTIONS NET OF DEDUCTIONS FOR SELF EMPLOYED**

After the above operations we can reconstruct contributions of the self employed net of deductions. We will store the results in the variable CONTRIB\_SSSELF\_EMER\_QT.

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<sup>86</sup> See FOD Sociale Zekerheid (2002), p 84.

<sup>87</sup> See FOD Sociale Zekerheid (2002), p 84.

**Construction rule for CONTRIB\_SSSELF\_EMER\_QT:**

We compare the value of CONTRIB\_SELFCOM\_EMER\_QT with the result in the variable CONTRIB\_SELFDEDU\_EMER\_QT first. If these deductions are larger than the contributions, we set the result in CONTRIB\_SELFDEDU\_EMER\_QT equal to the amount of contributions.

After this operation the adapted deductions are subtracted from the contributions. The result is stored in the variable CONTRIB\_SSSELF\_EMER\_QT.

## **7 SOCIAL SECURITY CONTRIBUTIONS PAID ON NON LABOUR MARKET INCOME**

Social security contributions are due on certain non labour market incomes as well. The rates, applied to compute these contributions, differ with the type of non labour market income. Four types of non labour market income shall be distinguished in what follows:

- social security contributions paid on retirement and survival pensions,
- social security contributions paid on conventional early retirement benefits,
- social security contributions paid on disability benefits by wage earners,
- social security contributions paid on benefits in case of industrial accidents or occupational diseases.

### **7.1 SOCIAL SECURITY CONTRIBUTIONS PAID ON RETIREMENT AND SURVIVAL PENSIONS**

In principle, all survival or retirement pensions are reduced with a social security contribution to finance the sickness and disability insurance branch. The contribution is computed as 3,55% of the gross pension.<sup>88</sup> However, if the contribution would bring the pension below a certain threshold, the contribution is limited. The thresholds applied depend on the fact whether the pensioner has family charge yes or no. We list the thresholds applied per month in 2001 in Table 47.

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<sup>88</sup> See FOD Sociale Zekerheid (2002), p 277.



Table 47: Threshold per month applied on pensions on December 31<sup>st</sup> 2001<sup>89</sup>

	With family charge (Amount in EUR)	Without family charge (Amount in EUR)
Amount of pensions	1.208,48	1.019,69

To reconstruct these social security contributions, we need to know whether the pensioner has family charge yes or no. We will reconstruct an identification of this and store the result in the variable CONTRIB\_FAMCHARG\_QT.

**Construction rule for CONTRIB\_FAMCHARG\_QT:**

In the module on personal income taxes, we reconstruct for each taxpayer a variable that covers the number of dependent children according to the tax legislation, i.e. the variable PIT\_DEPCHILD\_ANN. We will use the observations from this variable and set CONTRIB\_FAMCHARG\_QT equal to 1 if the variable PIT\_DEPCHILD\_ANN is positive.

Remark that the interpretation of the family charge of a pensioner is a) entirely based on the number of dependent children only and b) dependent on the number of dependent children according to the personal income tax legislation.

We can now reconstruct these basic social security contributions, paid on all pension benefits. We will store the result in the variable CONTRIB\_SSPEBASI\_QT.

**Construction rule for CONTRIB\_SSPEBASI\_QT:**

We apply the percentage of 3,55 on the value observed in CONTRIB\_PENS\_QT and subtract this amount from CONTRIB\_PENS\_QT. If, as a result of this subtraction, the pension would fall below the thresholds, given in Table 47, multiplied by 3, we limit the amount of the contribution to CONTRIB\_PENS\_QT minus the multiplied threshold. If as a result the contribution would become negative then, we set the contribution equal to 0. The thresholds are applied, conditional on the value of CONTRIB\_FAMCHARG\_QT.

The values in Table 47 are integrated in the model in the form of the parameter CONTRIB\_PELIMBA\_MONTH, which is a vector with one column and two lines. The value of 3,55 is integrated in the model in the form of the parameter CONTRIB\_PENSPERC\_MONTH.

Remark that we apply the thresholds on the sum of all pension benefits and not on each possible benefit separately.

From 1995 on, pensioners also have to pay a solidarity contribution. This contribution is computed as a percentage of the gross pensions. The percentage applied, increases with the height of the pensions and with the fact whether the

<sup>89</sup> See FOD Sociale Zekerheid (2002), p 277.

pensioner has family charge yes or no. The percentages applied in 2001, are listed in Table 48.

Table 48: Solidarity contribution on pension per month on December 31<sup>st</sup> 2001<sup>90</sup>

With dependent children (Amount in EUR)		Without dependent children (Amount in EUR)	
Total amount of pensions per month (P)	Contribution	Total amount of pensions per month (P)	Contribution
0,01 – 1.394,54	0	0,01 – 1.115,64	0
1394,55 – 1408,60	(P-1.394,54) * 50%	1.115,65 – 1126,88	(P-1.115,64) * 50%
1408,61 – 1673,45	P * 0,5%	1126,89 – 1394,54	P * 0,5%
1673,46 – 1690,46	8,37 + (P - 1673,45) * 50%	1394,55 – 1408,77	6,98 + (P-1394,54)*50%
1690,47 – 1952,34	P * 1%	1408,78 – 1673,45	P * 1%
1952,35 – 1972,43	19,53 + (P - 1952,34) * 50%	1673,46 – 1690,69	16,74 +(P-1673,45)*50%
1972,44 – 2231,26	P * 1,5%	1690,70 – 1952,34	P * 1,5%
2231,27 – 2254,46	33,47 + (P-2231,26) * 50%	1952,35 – 1972,65	29,29 +(P-1952,34)*50%
> 2.254,46	P * 2%	> 1.972,65	2%

We reconstruct these solidarity contributions and store the result in the variable CONTRIB\_SSPE SOLI\_QT.

#### **Construction rule for CONTRIB\_SSPE SOLI\_QT:**

We apply the percentages and the brackets, listed in Table 48, on the gross amount of pensions received by quarter, i.e. CONTRIB\_PENS\_QT, divided by 3 and store the result in CONTRIB\_SSPE SOLI\_QT. The brackets and percentages are selected, conditional on the value of CONTRIB\_FAMCHARG\_QT.

The values in Table 48 are integrated in the model in the form of the parameters CONTRIB\_PELIMNOC\_MONTH (without dependent children) and CONTRIB\_PELIMCHI\_MONTH (with dependent children).

Remark that we apply the percentages and brackets on the gross pensions, included the possible basic social security contribution paid to finance the sickness and disability branch.

<sup>90</sup> See RVP (2006). Amounts of 2004 adapted to index of June 2001 (i.e. 107,20).

## 7.2 SOCIAL SECURITY CONTRIBUTIONS PAID ON CONVENTIONAL EARLY RETIREMENT BENEFITS

People receiving conventional early retirement benefits also have to pay social security contributions on these benefits. The amount of the contribution is computed on the total amount of the early retirement benefit which consists of a) the unemployment allowance paid by the RVA and b) the possible additional supplement paid by the employer.<sup>91</sup> To compute the social security contributions in 2001, one applied the following rule:

- 3,5% computed by the employer on the complete amount, i.e. allowance plus additional supplement, of early retirement benefits,
- 1% of 3% (depending on the starting date of early retirement) computed by the RVA on the complete amount, i.e. allowance plus additional supplement, of early retirement benefits. The contribution of 3% was applied for those, pre retired from 1997 on, and 1% to those pre retired before 1997.

However, if the contribution would bring the early retirement benefit below a certain threshold, the contribution is limited. The threshold applied depends on a) the fact whether the early retired person has family charge yes or no and b) the fact whether he is part time or full time early retired. We list the thresholds applied per month in 2001 for full time and part time early retired in Table 49 and Table 50 respectively.

Table 49: Threshold per month applied on conventional early retirement benefits of full time early retired to compute social security contributions on December 31<sup>st</sup> 2001<sup>92</sup>

	With family charge (Amount in EUR)	Without family charge (Amount in EUR)
Amount of early retirement benefits	1.153,08	957,29

Table 50: Threshold per month applied on conventional early retirement benefits of part time early retired to compute social security contributions on December 31<sup>st</sup> 2001<sup>93</sup>

	With family charge (Amount in EUR)	Without family charge (Amount in EUR)
Amount of early retirement benefits	576,55	478,66

To reconstruct these contributions, we need to know when the early retirement started. We will store an indication of this in the variable `CONTRIB_EARSTART_QT`.

<sup>91</sup> See FOD Sociale Zekerheid (2002), p 348.

<sup>92</sup> See Put (2001), p 904.

<sup>93</sup> See Put (2001), p 905.

**Construction rule for CONTRIB\_EARSTART\_QT:**

We will set this variable equal to 1 if the individual became early retired before 1997 and equal to 2 if the early retired became early retired in 1997 or afterwards.

We do not have further information on the time the early retired became early retired. We assume that all early retired became early retired after 1997. Hence, if the individual receives early retirement benefits, i.e. if the sum of CONTRIB\_UNEMFT\_QT and CONTRIB\_UNEMPT\_QT is different from 0, we set CONTRIB\_EARSTART\_QT equal to 2.

We reconstruct these contributions on early retirement benefits and store the result in the variable CONTRIB\_SSEARBEN\_QT.

**Construction rule for CONTRIB\_SSEARBEN\_QT:**

We first compute the contribution on early retirement benefits as either 4,5% or 6,5% of CONTRIB\_UNEMFT\_QT or CONTRIB\_UNEMPT\_QT if one of the two is different from 0. The applied percentage is selected conditional on the value of CONTRIB\_EARSTART\_QT.

Remark that as a result of data limitations we will always apply the percentage of 6,5%.

We subtract this contribution from either CONTRIB\_UNEMFT\_QT or CONTRIB\_UNEMPT\_QT. If, as a result of this subtraction, the benefit would fall below the thresholds, given in Table 49 or Table 50, multiplied by 3, we limit the amount of the contribution to CONTRIB\_UNEMFT\_QT or CONTRIB\_UNEMPT\_QT minus the applied multiplied threshold. If as a result the contribution would become negative then, we set the contribution equal to 0. The thresholds are applied, conditional on a) the value of CONTRIB\_FAMCHARG\_QT and b) the fact whether early retired is a full time or part time early retired, i.e. either CONTRIB\_UNEMFT\_QT or CONTRIB\_UNEMPT\_QT is different from 0.

The percentages of 4,5% and 6,5% are integrated in the model in the form of the parameter CONTRIB\_EARPERC\_QT, which is a vector with 1 column and 2 rows. The values in Table 49 and Table 50 are integrated in the model in the form of the parameters CONTRIB\_EALIMFT\_MONTH and CONTRIB\_EALIMPT\_MONTH respectively. The latter are both vectors with one line and two columns.

### 7.3 SOCIAL SECURITY CONTRIBUTIONS PAID ON DISABILITY BENEFITS

Social security contributions are also due on disability benefits earned by wage earners, but not on allowances for primary disablement.<sup>94</sup> In 2001, this contribution is equal to 3,5% of the disability benefit.<sup>95</sup> However, if the contribution would bring the disability benefit below a certain threshold, the contribution is limited. The thresholds applied depend on the fact whether the disabled person has family charge yes or no. We list the thresholds applied per day in 2001 in Table 51.

Table 51: Threshold per day applied on disability benefits on December 31<sup>st</sup> 2001<sup>96</sup>

	With family charge (Amount in EUR)	Without family charge (Amount in EUR)
Amount of disability benefits	45,24	37,56

We reconstruct these social security contributions, paid on disability benefits and store the result in the variable CONTRIB\_SSDISAB\_QT.

#### Construction rule for CONTRIB\_SSDISAB\_QT:

We apply the percentage of 3,5 on the value observed in CONTRIB\_DISABWEA\_QT and subtract this amount from CONTRIB\_DISABWEA\_QT. If, as a result of this subtraction, the disability benefits would fall below the thresholds, given in Table 51, multiplied by 3\*26, i.e. 78, we limit the amount of the contribution to CONTRIB\_DISABWEA\_QT minus the multiplied threshold. If as a result the contribution would become negative then, we set the contribution equal to 0. The thresholds are applied, conditional on the value of CONTRIB\_FAMCHARG\_QT.

The values in Table 51 are integrated in the model in the form of the parameter CONTRIB\_DISABIM\_DAY, which is a vector with one line and two columns. The value of 3,5 is integrated in the model in the form of the parameter CONTRIB\_DISAPERC\_DAY.

Remark that we assume here that the family charge in the pension legislation and the sickness and disability legislation is the same for what the levying of social security contributions is concerned.

<sup>94</sup> Self employed do not pay contributions on their disability benefits (see Put (2001), item 1529).

<sup>95</sup> See FOD Sociale Zekerheid (2002), p 213.

<sup>96</sup> See FOD Sociale Zekerheid (2002), p 213.

## **7.4 SOCIAL SECURITY CONTRIBUTIONS PAID ON BENEFITS IN CASE OF INDUSTRIAL ACCIDENTS OR OCCUPATIONAL DISEASES**

Wage earners that obtain a benefit in case of an industrial accident or an occupational disease, had to pay a social security contribution of 13,07% on this benefit in 2001.<sup>97</sup> These contributions were only due on the benefits for either permanent or temporary disablement itself but not on the benefits for help of a third person.

We reconstruct these social security contributions, paid on benefits in case of an industrial accident or an occupational disease and store the result in the variable CONTRIB\_SSINDOCC\_QT.

### **Construction rule for CONTRIB\_SSINDOCC\_QT:**

We apply the percentage of 13,07 on the value observed in CONTRIB\_INDOCC\_QT and store this result in CONTRIB\_SSINDOCC\_QT. The value of 13,07 is integrated in the model in the form of the parameter CONTRIB\_INDOCCPC\_QT.

## **8 CONSTRUCTION OF VARIABLES TO BE EXCHANGED TO OTHER MODULES**

Throughout the preceding sections we reconstructed several income variables and the social security contributions paid on it. Some of the other modules require either these constructed variables or aggregates of it as input. In this section we discuss the variables constructed to exchange to other modules.

### **8.1 VARIABLES CONSTRUCTED FOR THE PIT MODULE**

The PIT module requires gross taxable income variables as input. With the above variables we can construct a number of different income concepts, net of social security contributions due on it.

#### **8.1.1 GROSS TAXABLE LABOUR MARKET INCOME**

We will store gross taxable labour income earned as a) wage earner on the private labour market, b) wage earner on the public labour market and c) self employed in the variables: CONTRIB\_GTIPRIV\_QT, CONTRIB\_GTIPUB\_QT and CONTRIB\_GTISELF\_QT. respectively.

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<sup>97</sup> See Put (2001), items 674 and 722.

We compute these variables as the reconstructed gross income variable minus the social security contributions that are still included in this income concept. These variables are thus defined as follows:

$$\begin{aligned} \text{CONTRIB\_GTIPRIV\_QT} &= \text{CONTRIB\_INCPRIV\_QT} + \\ &\text{CONTRIB\_INCSPRIV\_QT} + \text{CONTRIB\_SHPRIV\_QT} + \\ &\text{CONTRIB\_DHPRIV\_QT} - \text{CONTRIB\_SSPRIV\_EMEE\_QT}, \end{aligned}$$

$$\begin{aligned} \text{CONTRIB\_GTIPUB\_QT} &= \text{CONTRIB\_INCPUB\_QT} + \\ &\text{CONTRIB\_INCSPUB\_QT} + \text{CONTRIB\_SHPUB\_QT} + \\ &\text{CONTRIB\_DHPUB\_QT} - \text{CONTRIB\_SSPUB\_EMEE\_QT}, \end{aligned}$$

$$\begin{aligned} \text{CONTRIB\_GTISELF\_QT} &= \text{CONTRIB\_INCSELF\_QT} - \\ &\text{CONTRIB\_SSSELF\_EMER\_QT}. \end{aligned}$$

If one of these constructed gross taxable income variables, would become negative, we set this gross taxable income variable equal to 0.

### **8.1.2 GROSS TAXABLE NON LABOUR MARKET INCOME**

We reconstruct gross taxable non labour market income concepts on which social security contributions are due, but we also construct concepts on which no social security contributions were paid in 2001. We do this either because income concepts on which no social security contributions are paid are either taxed in the personal income tax system or because they might be taxed in the future.

We distinguish four different gross taxable non labour market income types:

- gross taxable pensions,
- gross taxable unemployment benefits,
- gross taxable sickness and disability benefits,
- gross taxable family allowances.

### **8.1.3 GROSS TAXABLE PENSIONS**

Two types of social security contributions could be due on pensions, i.e. a) the contribution for the financing of the sickness and disability branch and b) the solidarity contribution.

We store the gross taxable pension in the variable `CONTRIB_GTIPENS_QT`. This variable is identified as follows:

$$\begin{aligned} \text{CONTRIB\_GTIPENS\_QT} &= \text{CONTRIB\_PENS\_QT} - \text{CONTRIB\_SSPEBASI\_QT} \\ &- \text{CONTRIB\_SSPESOLI\_QT} \end{aligned}$$

If this constructed gross taxable income variable would become negative, we set this gross taxable income variable equal to 0.

Remark that we assume that all pension incomes are captured by the variable CONTRIB\_PENS\_QT and that all the constituting pension elements are treated by the tax system in the same way.

#### **8.1.4 GROSS TAXABLE UNEMPLOYMENT BENEFITS**

In the personal income tax legislation, the unemployment benefits of early retired people and older unemployed with seniority supplement are treated differently than those of other unemployed. Moreover, one distinguishes between conventional early retirement benefits of the old and the new type.<sup>98</sup> We therefore reconstruct four gross taxable income variables that cover unemployment benefits in one way or another. These variables are a) early retirement benefits of the new type (CONTRIB\_GTIEARNE\_QT), b) early retirement benefits of the old type (CONTRIB\_GTIEAROL\_QT), c) unemployment benefits of older unemployed with seniority supplement (CONTRIB\_GTIOLDUN\_QT) and d) all other unemployment benefits (CONTRIB\_GTIOTHUN\_QT).

We lack information to distinguish early retirement benefits of the old and the new type. We assumed that all early retirement benefits are of the new type.<sup>99</sup> Hence, the variables CONTRIB\_GTIEARNE\_QT and CONTRIB\_GTIEAROL\_QT are defined as follows:

$$\text{CONTRIB\_GTIEARNE\_QT} = \text{CONTRIB\_UNEMFT\_QT} + \text{CONTRIB\_UNEMPT\_QT} - \text{CONTRIB\_SSEARBEN\_QT},$$

$$\text{CONTRIB\_GTIEAROL\_QT} = 0.$$

Since no social security contributions are due on the unemployment benefits of the older unemployed with seniority supplement and all other unemployment benefits, the variables CONTRIB\_GTIOLDUN\_QT and CONTRIB\_GTIOTHUN\_QT are set equal to the sum of all other unemployment benefits, i.e. UNEM\_OLDUNSS\_QT and UNEM\_OTHERUN\_QT respectively. We obtain the latter variables as constructs from the module on unemployment benefits.<sup>100</sup>

#### **8.1.5 GROSS TAXABLE SICKNESS AND DISABILITY BENEFITS**

Since social security contributions are due on a) disability benefits of wage earners and b) benefits in case of industrial accidents or occupational diseases, we distinguish a gross taxable income variable on disability benefits (i.e. CONTRIB\_GTIDISAB\_QT) and a gross taxable income variable for benefits in case of industrial accidents or occupational diseases (i.e.

<sup>98</sup> See Ministerie van Financiën (2002), p. 36.

<sup>99</sup> See Rombaut, Van Camp and Verbist (2007b), Construction rule for UNEM\_ELIGUNS1\_QT.

<sup>100</sup> See Rombaut, Van Camp and Verbist (2007b), Section 6.



CONTRIB\_GTINDOCC\_QT) from one that covers all other sickness and disability benefits (i.e. CONTRIB\_GTISICK\_QT).

The variable CONTRIB\_GTIDISAB\_QT is constructed as:

$$\text{CONTRIB\_GTIDISAB\_QT} = \text{CONTRIB\_DISABWEA\_QT} - \text{CONTRIB\_SSDISAB\_QT}.$$

The variable CONTRIB\_GTINDOCC\_QT is constructed as:

$$\text{CONTRIB\_GTINDOCC\_QT} = \text{CONTRIB\_INDOCC\_QT} - \text{CONTRIB\_SSINDOCC\_QT}.$$

The variable CONTRIB\_GTISICK\_QT is set equal to the sum of all other sickness and disability benefits, i.e. SICK\_ALOTHBEN\_QT. We obtain the latter variable as a construct from the SICK module, i.e. the module on sickness and disability benefits.<sup>101</sup>

### 8.1.6 GROSS TAXABLE FAMILY ALLOWANCES

Since no social security contributions are due on family allowances, we set gross taxable income from family allowances (i.e. CONTRIB\_GTIFAMAL\_QT) equal to the total sum of constructed benefits (i.e. FAMAL\_AMOUNTF\_QT). We obtain the latter variable as a construct from the module on family allowances.<sup>102</sup>

## 8.2 VARIABLES CONSTRUCTED FOR THE UNEM MODULE

To check the income position of other household members, the UNEM module requires an estimate of either the gross incomes or the incomes net of prepayments. For this purpose we exchange the gross labour market incomes and the contributions paid on it, to the UNEM module.

The variables we exchange, are the following ones:

- CONTRIB\_REVPRIV\_QT = CONTRIB\_INCPRIV\_QT+  
CONTRIB\_INCSPRIV\_QT+CONTRIB\_SHPRIV\_QT+CONTRIB\_DHPRIV\_QT,
- CONTRIB\_REVPUB\_QT = CONTRIB\_INCPUB\_QT+  
CONTRIB\_INCSPUB\_QT+CONTRIB\_SHPRIV\_QT+CONTRIB\_DHPRIV\_QT,
- CONTRIB\_INCSELF\_QT,
- CONTRIB\_SSPRIV\_EMEE\_QT,
- CONTRIB\_SSPUB\_EMEE\_QT,
- CONTRIB\_SSSELF\_EMER\_QT.

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<sup>101</sup> See Rombaut, Van Camp and Verbist (2007a), Section 6.

<sup>102</sup> See Bay, Perelman and Van Camp (2007), Section 6.

### 8.3 VARIABLES CONSTRUCTED FOR THE SICK MODULE

To check the income position of other household members, the SICK module requires an estimate of either the gross incomes or the incomes net of prepayments. For this purpose we exchange the gross labour market incomes and the contributions paid on it, to the SICK module.

The variables we exchange, are the following ones:

- $CONTRIB\_REVPRIV\_QT = CONTRIB\_INCPRIV\_QT +$   
 $CONTRIB\_INCSPRIV\_QT + CONTRIB\_SHPRIV\_QT + CONTRIB\_DHPRIV\_QT,$
- $CONTRIB\_REVPUB\_QT = CONTRIB\_INCPUB\_QT +$   
 $CONTRIB\_INCSPUB\_QT + CONTRIB\_SHPRIV\_QT + CONTRIB\_DHPRIV\_QT,$
- $CONTRIB\_INCSELF\_QT,$
- $CONTRIB\_SSPRIV\_EMEE\_QT,$
- $CONTRIB\_SSPUB\_EMEE\_QT,$
- $CONTRIB\_SSESELF\_EMER\_QT.$

Next to this, the SICK module also requires input on the labour market status of an individual, to determine the type of insurance mechanism that covers the risks of the individual. For this purpose we also exchange the labour market position from the CONTRIB to the SICK module, i.e. the variables  $CONTRIB\_LABMSTAT\_PRIV\_QT,$   $CONTRIB\_LABMSTAT\_PUB\_QT$  and  $CONTRIB\_LABMSTAT\_SELF\_QT.$

### 8.4 VARIABLES CONSTRUCTED FOR THE FAMAL MODULE

To check the income position of other household members, the FAMAL module requires estimates of the gross incomes from employment and self employment and the contributions paid on these income sources. For this purpose we exchange two gross labour market income concepts and the contributions paid on it, to the FAMAL module.

The variables we exchange, are the following ones:

- $CONTRIB\_GREMPLOY\_QT = CONTRIB\_INCPRIV\_QT + CONTRIB\_INCSPRIV\_QT$   
 $+ CONTRIB\_SHPRIV\_QT + CONTRIB\_DHPRIV\_QT + CONTRIB\_INCPUB\_QT +$   
 $CONTRIB\_INCSPUB\_QT + CONTRIB\_SHPRIV\_QT + CONTRIB\_DHPRIV\_QT,$
- $CONTRIB\_INCSELF\_QT,$
- $CONTRIB\_SSEMPLOY\_EMEE\_QT = CONTRIB\_SSPRIV\_EMEE\_QT +$   
 $CONTRIB\_SSPUB\_EMEE\_QT,$
- $CONTRIB\_SSESELF\_EMER\_QT.$

## 8.5 VARIABLES CONSTRUCTED FOR THE EVAL MODULE

To determine the contributions paid by each individual the EVAL module requires estimates all contributions. Apart from the concepts already discussed, we therefore also construct a variable that contains the sum of all contributions paid on replacement incomes. We store the result in the variable CONTRIB\_SSREPLAC\_QT.

We construct this variable as follows:

- $\text{CONTRIB\_SSREPLAC\_QT} = \text{CONTRIB\_SSPEBASI\_QT} + \text{CONTRIB\_SSPESOLI\_QT} + \text{CONTRIB\_SSEARBEN\_QT} + \text{CONTRIB\_SSDISAB\_QT} + \text{CONTRIB\_SSINDOCC\_QT}$ .

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## **APPENDIX 1: CHANGES IN THE SOCIAL SECURITY CONTRIBUTION LEGISLATION SINCE 2001?**

The program law of December 24<sup>th</sup> 2002 introduced a new computation procedure for the structural deduction of the employers contribution. The computation rules, applied in 2001, are discussed in section 4.2.1. of this note. The new computation procedure, which becomes effective from January 1<sup>st</sup> 2004 on, will be discussed here.<sup>103</sup>

The law specifies a basic computation procedure for the structural deduction in case of a full time employee that satisfies certain conditions. It is the structural deduction, computed for a full time employee, that is linearly adapted according to the fraction of employment time. We discuss the computation rules, necessary to determine the deduction for full time employees.

The final reduction  $R$  is computed as the sum of a) a lump sum reduction  $F$ , b) a fraction  $\alpha$  of the difference between the income ceiling  $S_0$  and the quarterly income concept  $S$  and c) a fraction  $\delta$  of the difference between a quarterly income concept  $W$  and an income ceiling  $S_1$ . The final reduction  $R$  is thus computed as:

$$R = F + \alpha \cdot (S_0 - S) + \delta \cdot (W - S_1).$$

The values of  $F$ ,  $\alpha$ ,  $S_0$ ,  $\delta$  and  $S_1$  differ according to the employment regime of the employee. Three different regimes can be distinguished:

- Class 1: employees not else classified,
- Class 2: employees entitled to the Social Maribel with exception of those employed in services for help of households and old aged people and those employed in sheltered workplaces,
- Class 3: employees employed in sheltered workplaces.

We list the different values of  $S_0$ ,  $S_1$ ,  $\alpha$ ,  $\delta$  and  $F$  in Table 52 for each of these three classes.

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<sup>103</sup> See Programmawet 24 december 2002, Art 329 tot en met Art 334 (Juridat (2004)).

Table 52: Values used to compute the quarterly structural deduction of employers contribution since January 2004 (values of  $S_0$ ,  $S_1$  and  $F$  expressed in Euro's of 2004)<sup>104</sup>

Employment class	$F$	$\alpha$	$S_0$	$\delta$	$S_1$
Class 1	400,00	0,1750	5310,00	0,0173	12.000,00
Class 2	0,00	0,2706	5310,00	0,0173	12.000,00
Class 3	471,00	0,1750	5310,00	0,0173	12.000,00

The value of  $W$  is the quarterly amount of wages paid for labour time except those that are paid in case of interruption of the labour contract. If end of the year premia are paid by a third party, the registered value of  $W$  might be increased with 25% or 15%.

The value of  $S$  is a fraction of the value of  $W$ , that is determined conditional on the labour market regime of the employee.

If the employment is registered in number of days worked only, the value of  $S$  is computed as:

$S = W \cdot \left(13 \cdot \frac{D}{J}\right)$  where  $D$  is the number of days to be performed per week by the employee and  $J$  the number of registered performance days in the given quarter. From  $J$  one excludes the registered holidays for which the employer does not pay holiday earnings.

If part of the employment is registered in hours worked, the value of  $S$  is computed as:

$S = W \cdot \left(13 \cdot \frac{U}{H}\right)$  where  $U$  is the number of hours that should be performed per week by the employee and  $H$  the performed number of hours in the given quarter. From  $H$  one excludes the hours that correspond with registered holidays for which the employer does not pay holiday earnings.

For certain employers, the value of  $S$ , thus obtained, is reduced with a lump sum amount.

<sup>104</sup> RSZ (2006), kwart 01/2004, Deel 4, Titel 2.

## **APPENDIX 2: CLASSIFICATION OF VARIABLES AND PARAMETERS**

Throughout the main text we mentioned the names of variables and parameters that are used for the computation of the unemployment benefits with the UNEM module. Within the set of variables one can further distinguish endogenous from exogenous variables. Endogenous variables are variables that are constructed within the UNEM module itself. Exogenous variables are variables that either come from a source outside the whole model or from another module and that are used as input of the UNEM and therefore remain fixed throughout the UNEM module. Parameters are those elements of the module that will be offered to the user of the microsimulation model as something that can be manipulated.

In what follows we provide three tables with the exogenous and endogenous variables and the parameters of the UNEM module respectively. Each table consists of two columns that contain the following elements:

1. the name of the variable;
2. a label for this variable in English.

## EXOGENOUS VARIABLES

Name	Label
<b>From datawarehouse</b>	
<b>NARGENIS</b>	
NAREGNIS_HH_ID	Anonymised identification number of the household to which the individual belongs
NAREGNIS_SEX	Sex of the individual on 1 January 2002
NAREGNIS_DATBIRTH	Birth date of the individual in year and month
<b>RSZ</b>	
CLATRA_QT	Status of employee in classes (constructed by the RSZ)
CODTRA_QT	Employee code that allows to distinguish different social security contribution schemes
SAL100_QT	Sum of all gross earnings except termination compensations, premiums or waiting compensations for drivers
PRIMES_QT	Amount of the gross earnings that are not linked directly with performances
PREAVI_QT	Amount of termination compensations reported to the RSZ
SALATT_QT	Wage paid to car drivers for waiting
SALFOR_QT	Lump sum amount of earnings fixed to calculate social security contributions
PECVAC_QT	Amount of the legally double holiday pay paid by the employer
CODIRSZ_QT	Dimension of the employer (size in number of labour performances) expressed in classes based on information known by the RSZ
CODRED_QT	Code indicating reduction of social security contribution paid to the RSZ
TAUXRSZ_QT	Percentage part-time labour for labour regime that falls under the RSZ
CODFFE_QT	Code of the contribution to the Fund of the Closure of Companies
NR_CP_QT	Number of the joint committee (paritair comité) used to classify the employer
T_PRERSZ_QT	Code labour regime on the last day of the trimester for labour performance declared at the RSZ
CLATR2_QT	Detailed regrouping of employee codes, taking into account the sector-index of the employer
SECEMP_QT	Indicator whether individual is employed in private or public sector
<b>RSZPPO</b>	
TB2_QT	Indicator whether the employee pays social security contributions to the RSZPPO yes or no
WCATCD_QT	Status of the employee in classes for employees entitled to pay social security contributions to the RSZPPO
STFNCD_QT	Status of the activity that results in social security contributions to the RSZPPO (employee characterisation, characterisation of labour activity, ...)
LMSAMT_QT	Remuneration mass that is used to calculate social security contributions for performances that result in social security contributions to the RSZPPO

**RSVZ**

HOEDRSVZ_QT	Status with respect to the RSVZ
BEGAANSC_QT	Starting date of membership of the RSVZ
BIJDCAT_QT	Contribution code at the RSVZ (principal occupation, additional occupation, after the age of retirement, ...)

**CONSTRUCTED**

MIMOSIS_WEIGHT	Sample weight correction for non random selection
MIMOSIS_GRINC_HOUR	Constructed income earned per hour
INCSELF_QT	Quarterly income of self employed

**From other modules**

FAMREL_FAMILY	Unique identifier identifying the family to which the individual belongs
FAMREL_RELATION	Relation of the individual with respect to the head of the family
FAMREL_FAMTYPE	Type of family to which the individual belongs
FAMREL_COUPLE	Type of couple to which the individual belongs
PENSWELF_RETPENS_QT	Retirement pension
PENSWELF_SURPENS_QT	Survival pension
UNEM_BENUNSS1_QT	Early retirement benefit paid by the RVA to unemployed not in search of work
UNEM_ADDUNSS_QT	Early retirement benefit paid by the employer to unemployed not in search of work
UNEM_BENEMP1_QT	Early retirement benefit paid by the RVA to a part time employee
UNEM_ADDEMP_QT	Early retirement benefit paid by the employer to a part time employee
UNEM_OLDUNSS_QT	Unemployment benefits of older unemployed with seniority supplement
UNEM_OTHERUN_QT	Unemployment benefits, other than early retirement benefits and benefits of older unemployed with seniority supplement
UNEM_STATUS_QT	Indicator whether an individual is entitled to any sort of benefit paid by the RVA
UNEM_NUMMINU_QT	Number of months the unemployed is already in unemployment
SICK_IND_QT	Disability benefits received by wage earners because of industrial accidents (benefits for help of a third person excluded)
SICK_OCC_QT	Disability benefits received by wage earners because of occupational diseases (benefits for help of a third person excluded)
SICK_DISABWEA_QT	Disability benefits received by wage earners on the private or public labour market
SICK_ALOTHBEN_QT	Benefits in case of sickness or disability other than those covered by SICK_IND_QT, SICK_OCC_QT and SICK_DISABWEA_QT
PIT_DEPCHILD_ANN	Number of dependent children in the tax unit
FAMAL_AMOUNTF_QT	Total amount of family allowances received by the recipient



## ENDOGENOUS VARIABLES

Name	Label
<b>Income concepts</b>	
CONTRIB_LABMSTAT_PRIV_QT	Labour market status of a wage earner on the private labour market
CONTRIB_INCPRIV_QT	Labour income, earned as wage earner on the private labour market
CONTRIB_SHPRIV_QT	Single holiday earnings earned on the private labour market
CONTRIB_DHPRIV_QT	Single holiday earnings earned on the private labour market
CONTRIB_INCSPRIV_QT	Supplement to real earned labour income, other than holiday earnings, obtained as wage earner on the private labour market
CONTRIB_LABMSTAT_PUB_QT	Labour market status of a wage earner on the public labour market
CONTRIB_INCPUB_QT	Labour income, earned as wage earner on the public labour market
CONTRIB_SHPUB_QT	Single holiday earnings earned on the public labour market
CONTRIB_DHPUB_QT	Single holiday earnings earned on the public labour market
CONTRIB_INCSPUB_QT	Supplement to real earned labour income, other than holiday earnings, obtained as wage earner on the public labour market
CONTRIB_LABMSTAT_SELF_QT	Labour market status of a self employed
CONTRIB_INCSELF_QT	Labour income, earned as self employed
CONTRIB_PENS_QT	Pension benefits on which social security contributions have to be paid
CONTRIB_UNEMFT_QT	Early retirement benefits of a full time unemployed on which social security contributions have to be paid
CONTRIB_UNEMPT_QT	Early retirement benefits of a part time unemployed on which social security contributions have to be paid
CONTRIB_DISABWEA_QT	Disability benefits received by wage earners on the private or public labour market
CONTRIB_INDOCC_QT	Disability benefits received by wage earners because of industrial accidents or occupational diseases (benefits for help of a third person excluded)
<b>Contributions of wage earners on the private labour market</b>	
CONTRIB_SIZECOMP_QT	Company size of the company the employee is working
CONTRIB_REMBPRIV_QT	Basic remuneration concept used to determine social security contributions on the private labour market
CONTRIB_WEARCOM_EMEE_QT	Common social security contributions paid by the employee working as wage earner on the private labour market
CONTRIB_WEARCOM_EMER_QT	Common social security contributions paid by the employer for an employee working as wage earner on the private labour market
CONTRIB_WEARHOLA_EMER_QT	Social security contribution paid for holiday earnings of blue collar workers on the private labour market

CONTRIB_WEARHOLD_EMEE_QT	Social security contributions paid on double holiday earnings of wage earners on the private labour market
CONTRIB_WEARDEDU_EMER_QT	Deductions of employer social security contributions permitted for wage earners on the private labour market
CONTRIB_WEARDEDU_EMEE_QT	Deductions of employee social security contributions permitted for wage earners on the private labour market
CONTRIB_STRUCDED_QT	Identifier whether the employer can claim a structural deduction
CONTRIB_TAUXPT_QT	Fraction of time performed as a part time worker, compared to a full time worker (computation based on real observed values)
CONTRIB_FULLPART_QT	Fraction of time performed as a part time worker, compared to a full time worker (computation conditional on the type of simulation performed by the user of the model)
CONTRIB_STRUCCAT_QT	Type of structural deduction that employer is allowed to apply for the employee
CONTRIB_YOUNGW_QT	Identification whether an individual is a young worker after his first job agreement yes or no
CONTRIB_PLUSPLAN_QT	Identification that the employee is a plus-plan
CONTRIB_WORKTIME_QT	Number of quarters the employee is employed
CONTRIB_YOUNGJTR_QT	The individual is young worker in a job training program yes or no
CONTRIB_DOMESDED_QT	Individual is a domestic worker yes or no
CONTRIB_UNPROFC_QT	The employee was unemployed and is employed part time or full time
CONTRIB_UNPRERET_QT	The employee was unemployed and is employed part time or full time and replaces a pre retired person
CONTRIB_SCREADED_QT	The employer is allowed to reduce social security contributions because of hiring additional scientific workers
CONTRIB_PUBSEDED_QT	The employee is civil servant that replaces other civil servants who reduce their work time
CONTRIB_UNACTDED_QT	The employee was an unemployed that generates a deduction of employer social security contributions
CONTRIB_4DAYDED_QT	The employee enters a 4 day week regime, which entitles the employer a deduction because of job creation
CONTRIB_38HDED_QT	The employee generates a deduction of social security contributions because he switches from a 39 hours week to a 38 hours week
CONTRIB_UNSMEDDED_QT	The employee was a long term unemployed that was difficult to place
CONTRIB_DRTUGDED_QT	Employee generates deduction for activity in the dragging and tugging sector
CONTRIB_SUBCDED_QT	Employee is subsidised contract worker
CONTRIB_JOBSEDED_QT	Employee is employed as job seeker yes or no
CONTRIB_JOBSMONT_QT	Number of months the job seeker was in a given status before he became employed
CONTRIB_SOCMARDE_QT	Employee generates the right on the social Maribel yes or no
CONTRIB_SSPRIV_EMEE_QT	Employee social security contributions paid for employee in

	the private labour market
CONTRIB_SSPRIV_EMER_QT	Employer social security contributions paid for employee in the private labour market
<b>Contributions of wage earners on the public labour market</b>	
CONTRIB_REMBPUB_QT	Basic remuneration concept used to determine social security contributions of wage earners on the public labour market
CONTRIB_PUBNSCOM_EMEE_QT	Common social security contributions paid by the employee working as wage earner on the public labour market but with non statutory service
CONTRIB_PUBNSCOM_EMER_QT	Common social security contributions paid by the employer for an employee working as wage earner on the public labour market but with non statutory service
CONTRIB_PUBNSHOL_EMER_QT	Social security contribution paid for holiday earnings of blue collar workers on the public labour market but with non statutory service
CONTRIB_PUBNSHOL_EMEE_QT	Social security contributions paid on double holiday earnings of wage earners on the public labour market but with non statutory service
CONTRIB_PUBNSDED_EMER_QT	Deductions of employer social security contributions permitted for wage earners on the public labour market but with non statutory service
CONTRIB_PUBNSDED_EMEE_QT	Deductions of employee social security contributions permitted for wage earners on the public labour market but with non statutory service
CONTRIB_CSLOCFED_QT	Indicator whether civil servant works for a local authority or for the federal government
CONTRIB_PUBSCOM_EMEE_QT	Common social security contributions paid by the employee working as wage earner on the public labour market
CONTRIB_PUBSCOM_EMER_QT	Common social security contributions paid by the employer for an employee working as wage earner on the public labour market
CONTRIB_PUBSHOL_EMEE_QT	Social security contributions paid on double holiday earnings of wage earners on the public labour market
CONTRIB_PUBSDED_EMER_QT	Deductions of employer social security contributions permitted for wage earners on the public labour market
CONTRIB_PUBSDED_EMEE_QT	Social security contributions paid on double holiday earnings of wage earners on the public labour market
CONTRIB_SSPUB_EMEE_QT	Employee social security contributions paid for employee in the public labour market
CONTRIB_SSPUB_EMER_QT	Employer social security contributions paid for employee in the public labour market
<b>Contributions of self employed</b>	
CONTRIB_SELFYEAR_QT	Number of years the self employed is self employed
CONTRIB_SELFCOM_EMER_QT	Common social security contributions paid by the self employed
CONTRIB_SELFPCR_QT	Status of the self employed
CONTRIB_SELFFIRS_QT	Self employed establishes his activity as self employed for the first time

CONTRIB_SELFDEDU_EMER_QT	Deduction of social security contributions of self employed
CONTRIB_SSSELF_EMER_QT	Social security contributions net of deductions paid by self employed

### **Contributions on non labour market income**

CONTRIB_FAMCHARG_QT	A pensioner is identified to have family charge yes or no
CONTRIB_SSPEBASI_QT	The basic social security contributions paid on pension benefits
CONTRIB_SSPE SOLI_QT	Solidarity contributions paid on pension benefits
CONTRIB_EARSTART_QT	Identification whether early retirement is of the old or the new type
CONTRIB_SSEARBEN_QT	Social security contributions paid on early retirement benefits
CONTRIB_SSDISAB_QT	Social security contributions paid on disability benefits by wage earners
CONTRIB_SSINDOCC_QT	Social security contributions paid on benefits for industrial accidents or occupational diseases

### **Gross taxable income concepts**

CONTRIB_GTIPRIV_QT	Gross taxable labour income earned as wage earner on the private labour market
CONTRIB_GTIPUB_QT	Gross taxable labour income earned as wage earner on the public labour market
CONTRIB_GTISELF_QT	Gross taxable labour income earned as self employed
CONTRIB_GTIPENS_QT	Gross taxable pension benefits
CONTRIB_GTI EARNE_QT	Gross taxable early retirement benefits of the new type
CONTRIB_GTI EAROL_QT	Gross taxable early retirement benefits of the old type
CONTRIB_GTI OLDUN_QT	Gross taxable unemployment benefits of older unemployed with seniority supplement
CONTRIB_GTI OTHUN_QT	Gross taxable unemployment benefits, other than early retirement benefits
CONTRIB_GTI DISAB_QT	Gross taxable disability benefits of wage earners
CONTRIB_GTI NDOCC_QT	Gross taxable benefits in case of industrial accidents or occupational diseases
CONTRIB_GTI SICK_QT	Gross taxable benefits in case of sickness other than disability benefits
CONTRIB_GTI FAMAL_QT	Gross taxable income from family allowances

### **Other exchange concepts**

CONTRIB_REVPRIV_QT	Sum of gross labour income, holiday earnings and other supplements, earned as wage earner on the private labour market
CONTRIB_REVPUB_QT	Sum of gross labour income, holiday earnings and other supplements, earned as wage earner on the public labour market
CONTRIB_GREMPLOY_QT	Gross income from employment
CONTRIB_SSEMPLOY_QT	Social security contributions paid on income from employment

CONTRIB_SSREPLAC_QT	Social security contributions paid on all sorts of replacement income
<b>Instruments</b>	
CONTRIB_WORKHOUR	Vector with hours that the individual is assumed to work per week

## PARAMETERS

Name	Label
<b>Income concepts</b>	
CONTRIB_PERSALB_QT	Percentage used to increase income of blue collar workers to determine common social security contributions
CONTRIB_SHBLUE_QT	Percentage used to determine single holiday earnings of blue collar workers
CONTRIB_DHBLUE_QT	Percentage used to determine double holiday earnings of blue collar workers
CONTRIB_DHWHITE_QT	Percentage used to determine double holiday earnings of white collar workers
CONTRIB_DHCSFIX_QT	Fixed part of double holiday earnings of civil servants
CONTRIB_DHCSVAR_QT	Variable part of double holiday earnings of civil servants
<b>Contributions wage earners on the private labour market</b>	
CONTRIB_WEARCOM_QT	Percentages used to determine common wage earner contributions of employee and employer
CONTRIB_WEARHOLA_QT	Percentage used to determine contribution for holiday earnings of blue collar workers
MIMOSIS_PRIINDEX_ANN	Price index used to deflate annual income to previous year
CONTRIB_WEARHOLD_QT	Percentage used to determine contribution on double holiday earnings in wage earner regime
CONTRIB_SD1_QT	Percentages used to determine structural deduction of type 1
CONTRIB_SD2_QT	Percentages used to determine structural deduction of type 2
CONTRIB_SD3_QT	Percentages used to determine structural deduction of type 3
CONTRIB_SD4_QT	Percentages used to determine structural deduction of type 4
CONTRIB_SOCMAR_QT	Fixed deduction in case of social Maribel
CONTRIB_YWDED_QT	Percentage used to determine deduction for young wage earner
CONTRIB_PLUDEDU_QT	Percentages used to determine deductions for plus plans
CONTRIB_UNPROFDP_QT	Percentages used to determine deduction in case of part time career interruption
CONTRIB_UNPROFDF_QT	Percentages used to determine deduction in case of full time career interruption
CONTRIB_UNPRERDP_QT	Percentages used to determine deduction in case of half time pre retirement with part time employment
CONTRIB_UNPRERDF_QT	Percentages used to determine deduction in case of half time

	pre retirement with half time employment
CONTRIB_4DAYDEDA_QT	Percentages used to determine deduction in case of 4-days week deduction
CONTRIB_4DAYDEDB_QT	Maximal amount used to determine deduction in case of 4-days week deduction
CONTRIB_38HDEDA_QT	Fixed amount applied as deduction in case of switch from 39 to 38 hours
CONTRIB_JOBSDEDA_QT	Percentage used to determine deductions for job seekers
CONTRIB_PDEDBL_MONTH	Monthly personal deduction for blue collar workers with low wages
CONTRIB_PDEDWI_MONTH	Monthly personal deduction for white collar workers with low wages

### **Contributions wage earners on the public labour market**

CONTRIB_CSCOMLOC_QT	Percentages used to determine common contributions of civil servants working for a local authority
CONTRIB_CSCOMFED_QT	Percentages used to determine common contributions of civil servants working for the federal state
CONTRIB_CSDHCON_QT	Percentage used to determine contributions on double holiday earnings of civil servants

### **Contributions self employed**

CONTRIB_LSALLSE_QT	Lump sum contribution to be paid by all self employed
CONTRIB_SELFPAA_QT	Percentages used to determine social security contributions of self employed in principal activity
CONTRIB_SELFPAB_QT	Lump sum amounts of self employed in their first three years of activity for self employed in principal activity
CONTRIB_SELFPAC_QT	Values used to determine contributions of self employed with survival pension in principal activity
CONTRIB_SELFCAA_QT	Lump sum amounts used to determine contributions of self employed in complementary activity
CONTRIB_SELFARA_QT	Percentages used to determine social security contributions of self employed who are retired and have a retirement pension
CONTRIB_SELFARB_QT	Percentages used to determine social security contributions of self employed who are retired and do not have a retirement pension
CONTRIB_SELFARC_QT	Lump sum amounts used to determine contributions of self employed after retirement age
CONTRIB_SELFASA_QT	Percentages used to determine contributions of self employed assistant
CONTRIB_SELFASB_QT	Lump sum amounts used to determine contributions of self employed assistant
CONTRIB_SELFDEDA_QT	Percentage used to determine deductions of self employed contributions
CONTRIB_SELFDEDB_QT	Lump sum amount used to limit the deduction of self employed contributions

### **Contributions non labour market income**

MIMOSIS_REFYEAR_ANN	Year for which the data are registered
CONTRIB_PELIMBA_MONTH	Lump sum amounts used to determine the threshold of pension on which contributions have to be paid
CONTRIB_PENSPERC_MONTH	Percentage used to determine social security contributions on pension benefits
CONTRIB_PELIMNOC_MONTH	Percentages used to determine solidarity contributions on pensions for pensioner without dependent children
CONTRIB_PELIMCHI_MONTH	Percentages used to determine solidarity contributions on pensions for pensioner with dependent children
CONTRIB_EARPERC_QT	Percentages used to determine contributions on early retirement benefits
CONTRIB_EALIMFT_MONTH	Lump sum amounts used to determine the threshold of early retirement benefits on which contributions have to be paid (benefits of full time early retired)
CONTRIB_EALIMPT_MONTH	Lump sum amounts used to determine the threshold of early retirement benefits on which contributions have to be paid (benefits of part time early retired)
CONTRIB_DISABIM_DAY	Lump sum amounts used to determine the threshold of disability benefits on which contributions have to be paid
CONTRIB_DISAPERC_DAY	Percentage used to determine social security contributions on disability benefits
CONTRIB_INDOCCPC_QT	Percentage used to determine social security contributions on benefits in case of industrial accidents of occupational diseases
CONTRIB_HOURSIM	Indicator saying that private labour market income must be computed as the product of hours worked per week and a wage rate
CONTRIB_WAGEINC	Parameter used to increase the hourly wage earned
CONTRIB_SEXINCR	Parameter used to identify whether the increase should be applied on male income (=1) or on female income (=2)
CONTRIB_DUURP	Maximum number of months in unemployment for which the unemployed can receive a benefit
CONTRIB_SIMUNEM	Identifier to start the routine to compute the labour income of unemployed who drop out of the system
CONTRIB_HOURUNEM	Number of hours per week the drop-out unemployed are assumed to work
WORKHOUR_SPOUSE1	Number of hours worked per week by spouse 1 of a couple or a single (in principle identified as a man)
WORKHOUR_SPOUSE2	Number of hours worked per week by spouse 2 of a couple (in principle identified as a woman)