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MIMOSIS: MICROsimulation MODEL for Belgian
Social Insurance Systems
**Modelling rules for the Sickness and
Disability benefits Module**

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Abstract

This note discusses the rules, used to simulate the sickness and disability benefits in MIMOSIS.¹ The subset of MIMOSIS that covers the computation rules for sickness and disability benefits is called the SICK module.

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

¹ 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 sickness and disability benefits 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 SICK module. Names of variables and parameters will appear with capital letters. The names of endogenous variables and parameters start with the string SICK_. 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, a week, a month or a year, end with the string _DAY, _WEEK, _MONTH or _ANN respectively. In appendix 3 we provide a list of all variables and parameters used in this note.

The computation rules for the different sickness and disability benefits differ with the type of insurance that the insured enjoys. Three insurance types can be distinguished: a) insured as a wage earner on the private labour market, b) insured as a wage earner on the public labour market and c) insured as a self employed.

In section 1 of this note we illustrate how the sick and disabled are identified in the model. In some occasions it is necessary to take into account the income position of other household members to determine the sickness and disability benefits. In section 2 we therefore illustrate how this household income information is summarised for each of these sick or disabled. In section 3 we explain how we identify the type of insurance that the sick enjoys. In sections 4, 5 and 6 we discuss the rules, used to determine the benefits, received by the sick or disabled, if they are insured as a) a wage earner on the private labour market, b) a wage earner on the public labour market and c) a self employed respectively.

For each of these insurance types, the sickness and disability benefits module covers more benefits than sickness and disability benefits in the strict sense if necessary. It recomputes benefits a) in case of sickness and disability, b) benefits in case of maternity leave, c) benefits in case of industrial accidents and d) benefits in case of occupational diseases.

For each of these benefits we first provide a stylised version of the computation rules, applied in reality, to compute the daily benefit. We then explain how we reconstruct the variables, required to reconstruct these daily and the corresponding quarterly benefits. We finally explain how we reconstruct the daily and the quarterly benefit with these reconstructed variables.

1 IDENTIFICATION OF THE SICK AND DISABLED

We first want to identify all individuals that in a given quarter were eligible to receive a sickness or disability benefit, independent of their type of insurance, just to have an identifier that covers the whole group of sick and disabled.

To identify this group we either rely on information provided by the employer, since the employer registers the number of equated days, or we rely on information provided by the organisation that pays the sickness or disability benefit.

If we consider an individual as sick or disabled we will set the variable `SICK_RISKGLOB_QT`, equal to 1.

Construction rule for `SICK_RISKGLOB_QT`:

In Table 1 we illustrate which exogenous variables have been used to identify whether an individual is sick or disabled. In column 2, 3, 4 and 5 we give the name, the label, the name of data provider and the values of this variable that result in a sickness or disability indicator, respectively.

Table 1: Values of exogenous variables used to create the variable SICK_RISKGLOB_QT

Value of SICK_RISK GLOB_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	1, 2, 3, 4, 5, 6, 7, 8, 10, 16, 82
1	BARB100A_QT	Performance code of performances registered by the RSZPPO	RSZPPO	110, 111, 112, 150, 153
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	210, 211, 212, 216, 220, 221, 222, 231, 232, 241, 245
1	BARB000_QT	Performance code of performances registered by the RSZPPO	RSZPPO	53
1	RIZIVINA_STELSEL_INVALID_QT	Code that indicates the type of RIZIV benefit for disability received in the given quarter	RIZIV	1 or 2
1	RIZIVINA_STELSEL_MAT_QT	Code that indicates the type of RIZIV benefit for maternity during disability received in the given quarter	RIZIV	3 or 4
1	FATFAO_BENEF_ANN	The individual receives a benefit because of an industrial accident in the given year	FAO	1
1	FBZFMB_BENEF_QT	The individual receives a benefit because of an occupational disease in the given quarter	FBZ	1

Remark that, since we fix the set of sick and disabled on the basis of administrative indicators. This has the advantage that we can rely on other administrative variables to recalculate their benefits, but it has the disadvantage that the current sickness and disability module can not be used

to simulate the effects when people are moving in or out sickness or disability. If the module is to be used for that, observations currently lacking, have to be imputed. Which variable values will have to be imputed should become clear from reading through the remainder of the text.

Remark that with this way of identifying the sick or disabled, we limit the group of sick or disabled to those either known by the employer as sick or disabled in the quarter that is being analysed or known as a benefit receiver by one of the organisations that pays the benefits for that quarter. Hence, those for which the employer or the paying institution does not provide information, drop out of the group of sick or disabled. This might be problematic for the group that became sick in a quarter preceding the quarter of analysis but did not enter disability yet (i.e. is sick for more than 12 months).

2 IDENTIFICATION OF THE HOUSEHOLD POSITION OF THE SICK AND DISABLED

In some occasions, the level of the sickness and disability benefits depends on the family charge of the sick or disabled. In the sickness and disability legislation of 2001 one can distinguish three different household positions of the sick or disabled²:

1. A sick or disabled with dependent family. This is a sick or disabled who:
 - 1.1. either cohabits with a partner, married or not, who does not practice a profession and does not receive any pension, indemnification or benefit. The practice of a profession refers to every activity for which the partner receives an income. The amount of the income, pension, indemnification or benefit is only taken into account when the total amount is higher than € 611,33 per month.³
 - 1.2. or does not cohabit with a partner but,
 - cohabits with one or more children,
 - cohabits with one or more children and one or more relatives up to the third degree,
 - cohabits with one or more relatives up to the third degree⁴,
 - and if all these cohabitating individuals do not practice a profession and do not receive any pension, indemnification or benefit. The practice of a profession refers to every activity for which the cohabitating individual receives an income. The amount of the income, pension, indemnification

² See Van Eeckhoutte, W. (2001), p. 464-465 and Janvier (2002), p. 14.

³ See Van Eeckhoutte, W. (2001), p. 465.

⁴ Children that are 25 or older are considered as relatives up to the third degree (see KB of 29 december 1997).

or benefit is only taken into account when the total amount is higher than € 611,33 per month.⁵

- 1.3. Or lives alone but has a duty of care. The individual has duty of care if he pays alimony of € 111,55 per month.
2. A sick or disabled who is single. This is a sick or disabled who lives alone and has no duty of care.
3. A cohabitating sick or disabled. This is a sick or disabled who is not classified as a sick or disabled with dependent family and not as a sick or disabled who is single.

To reconstruct the household position of the sick or disabled, i.e. for those individuals for which SICK_RISKGLOB_QT is equal to 1, we need a number of variables that allow us to identify the precise position.

One of the variables we require should reflect the relation between the sick or disabled and his other household members. We need to distinguish 4 possible relationships: 1) partner, 2) child, 3) relative up to the third degree and 4) other. We will store this relationship-indicators in the variable SICK_REL_QT.

Construction rule for SICK_REL_QT:

In order to determine the values of the variable SICK_REL_QT, we make use of the relationship variables: FAMREL_RELATION, FAMREL_FAMTYPE and FAMREL_COUPLE. In Decoster, De Swerdt, Orsini and Van Camp (2007) we explain how these variables are constructed and how they can be used to determine the values of SICK_REL_QT.⁶ This variable can take the values 1, 2, 3, 4, 5 or 6 if the household member of the unemployed is 1) partner, 2) child, 3) ascendant of the first degree, 4) ascendant of the second degree, 5) relative up to the third degree and 6) other, respectively.

If a child is 25 or older, we will classify it as a relative up to the third degree. We observe the age of each individual in the variable SICK_YEAR_AGE

We also need a variable that indicates whether the household member satisfies certain income conditions. We will store an indication of this in the variable SICK_DEPINC_QT. This variable will be set equal to 1 if a household member does NOT satisfy the conditions to be a dependent of the sick or disabled.

Construction rule for SICK_DEPINC_QT:

Before explaining how the income conditions have been checked, we first list the income variables that will be used as input to check these income conditions. We list these variables, and the module that produces these variables, in Table 2.

⁵ See Van Eeckhoutte, W. (2001), p. 465.

⁶ Note that if multiple sick or disabled are present in the same household, the values of the variable SICK_REL_QT are overwritten each time we determine the family relationships of a particular sick or disabled.

Table 2: Income variables produced by different modules of the model used as input to check the dependency conditions⁷

Variable	Module	Description
CONTRIB_REVPRIV_QT	CONTRIB	Sum of gross labour income, holiday earnings and other supplements, earned as wage earner on the private labour market
CONTRIB_REVPUB_QT	CONTRIB	Sum of gross labour income, holiday earnings and other supplements, earned as wage earner on the public labour market
CONTRIB_INCSELF_QT	CONTRIB	Gross income earned as self employed
CONTRIB_SSPRIV_EMEE_QT	CONTRIB	Social security contributions paid on CONTRIB_REVPRIV_QT
CONTRIB_SSPUB_EMEE_QT	CONTRIB	Social security contributions paid on CONTRIB_REVPUB_QT
CONTRIB_SSESELF_EMER_QT	CONTRIB	Social security contributions paid on CONTRIB_INCSELF_QT
PENSWELF_AMOUNTP_QT	PENSWELF	Gross amount of pensions received
FAMAL_AMOUNTF_QT	FAMAL	Gross amount of family allowances received by the recipient
SICK_TOTBENPR_QT	SICK	Gross amount of sickness and disability benefits estimated before sickness and disability benefits are computed
UNEM_BENUN_QT	UNEM	Gross amount of real unemployment benefits in a given quarter (no benefits paid by RVA as supplement to wage)

The income conditions to be checked depend on the relationship the household member has with the sick or disabled. If the sick or disabled has a partner, we only check the income conditions for the partner. If the sick or disabled has no partner we check whether each of the other household members, satisfies the income conditions. We store the result of this check in the variable SICK_DEPINC_QT.

⁷ Note that the SICK module also requires observations on the sickness and disability benefits of all household members. We solve this problem by running the SICK module twice. In the first run we use exogenous observations on sickness and disability benefits as input of the module.

For each household member of the sick or disabled we check the following income condition, independent of the relationship this individual has with the sick or disabled:

- If $(\text{CONTRIB_REVPRIV_QT} - \text{CONTRIB_SSPRIV_EMEE_QT}) + (\text{CONTRIB_REVPUB_QT} - \text{CONTRIB_SSPUB_EMEE_QT}) + (\text{CONTRIB_INCSELF_QT} - \text{CONTRIB_SSSELF_EMER_QT}) + \text{PENSWELF_AMOUNTP_QT} + \text{SICK_TOTBENPR_QT} + \text{UNEM_BENUN_QT} > 1833,99$ then $\text{SICK_DEPINC_QT} = 1$.

Remark that we apply the income check on the sum of all possible income sources to be taken into account instead of applying it source by source.

The threshold of € 1833,99 is integrated in the module in the form of the parameter SICK_WAGEDFQ1_QT .

We also need to know whether the sick or disabled is single yes or no. We will count the number of household members and store this result in the variable SICK_HH_SIZE .

Construction rule for SICK_HH_SIZE :

We observe the variable NAREGNIS_HH_ID , that comes from the national register. This variable contains a unique identifier of the household to which the individual belongs. We set SICK_HH_SIZE equal to the number of times this unique value, that we observe for a given individual, is observed in the data set as a whole.

With the variables SICK_REL_QT , SICK_DEPINC_QT and SICK_HH_SIZE , we can now reconstruct the required household position of the sick and disabled. We store the result in the variable SICK_FAMSIT_QT . This variable can take four values:

- If the individual is not sick or disabled $\text{SICK_FAMSIT_QT} = 0$,
- If the sick or disabled has dependent family $\text{SICK_FAMSIT_QT} = 1$,
- If the sick or disabled is categorised as single $\text{SICK_FAMSIT_QT} = 2$,
- If the sick or disabled is categorised as cohabitating $\text{SICK_FAMSIT_QT} = 3$.

Construction rule for SICK_FAMSIT_QT :

If the sick or disabled is single, i.e. SICK_HH_SIZE is equal to 1, SICK_FAMSIT_QT is set equal to 2. Remark that we assume that all single sick or disabled do not have a duty of care.

If the individual is not considered as single, we should determine whether the value for SICK_FAMSIT_QT should either be 1 or 3. By default the value of SICK_FAMSIT_QT for non single sick or disabled is set equal to 1, i.e. the default is that these sick or disabled have dependent family.

In case the sick or disabled has a partner, i.e. SICK_REL_QT of a household member is equal to 1, we switch the value of SICK_FAMSIT_QT to 3 if the value of SICK_DEPINC_QT of this partner is equal to 1.

In case the sick or disabled has no partner, i.e. we do not observe a household member with a value for SICK_REL_QT equal to 1, we switch the value of SICK_FAMSIT_QT to 3 if one of the following conditions applies:

- If the value of SICK_DEPINC_QT of one of the household members is equal to 1,
- If the sick or disabled only cohabits with people classified as other, i.e. SICK_REL_QT is equal to 6 for all household members.

3 IDENTIFICATION OF THE TYPE OF INSURANCE

A sick or disabled individual can be insured as a) a wage earner on the private labour market, b) a wage earner on the public labour market or c) as a self employed. If the sick is insured as a wage earner on the private labour market, it might be as a blue or as a white collar worker. If the individual is a wage earner is on the public labour market, it might be that he is insured as a blue or white collar civil servant without statutory service or as a civil servant with statutory service. Since the computation rules of the benefits differ between all these insurance types, it is important to identify on which type of insurance the individual can rely.

We have two sources of information to identify the type of insurance that sick or disabled can rely on. If the sick or disabled was on the labour market in the quarter of analysis we observe his labour market status. If the individual is sick or disabled and known as such by one of the organisations that pay a benefit, we can derive his insurance type from these sources as well.

In the first two subsections of this section we explain how we use these two different sources to derive an indication on the type of insurance the sick or disabled relies upon. In a third subsection we explain how we solve possible conflicting indications of the type of insurance.

3.1 IDENTIFICATION OF THE TYPE OF INSURANCE OF SICK OR DISABLED ON THE BASIS OF LABOUR MARKET STATUS

If the sick or disabled was on the labour market during the quarter of analysis we know his labour market status. We use this information on the labour market status to initialise the variables SICK_TYPEINSU_PRIV_QT, SICK_TYPEINSU_PUB_QT and SICK_TYPEINSU_SELF_QT. These variables cover the type of insurance the sick or disabled might rely upon as a) a wage earner on

the private labour market, b) a wage earner on the public labour market or c) as a self employed respectively.

Construction rule for SICK_TYPEINSU_PRIV_QT, SICK_TYPEINSU_PUB_QT and SICK_TYPEINSU_SELF_QT:

We obtain the labour market statuses of each individual from the CONTRIB module in the form of the variables: CONTRIB_LABMSTAT_PRIV_QT, CONTRIB_LABMSTAT_PUB_QT and CONTRIB_LABMSTAT_SELF_QT.

If an individual is identified as a sick or disabled person, i.e. SICK_RISKGLOB_QT is equal to 1, we translate these observed labour market statuses in values that capture the type of insurance on which the individual can rely upon. How these labour market statuses are translated into insurance types, is illustrated in Table 3, Table 4 and Table 5.

Table 3: Variable values used to determine the values of SICK_TYPEINSU_PRIV_QT

Value of SICK_TYPEINSU_PRIV_QT	Label of SICK_TYPEINSU_PRIV_QT	Value of CONTRIB_LABMSTAT_PRIV_QT
1	Individual is insured as a blue collar worker	1
2	Individual is insured as a white collar worker	2

Table 4: Variable values used to determine the values of SICK_TYPEINSU_PUB_QT

Value of SICK_TYPEINSU_PUB_QT	Label of SICK_TYPEINSU_PUB_QT	Value of CONTRIB_LABMSTAT_PUB_QT
1	Individual is insured as a blue collar worker without statutory service	1
2	Individual is insured as a white collar worker without statutory service	2
3	Individual is insured as a blue collar worker with statutory service	3
4	Individual is insured as a white collar worker with statutory service	4

Table 5: Variable values used to determine the values of SICK_TYPEINSU_SELF_QT

Value of SICK_TYPEINSU_SELF_QT	Label of SICK_TYPEINSU_SELF_Q T	Value of CONTRIB_LABMSTAT_SELF_QT
1	Individual is insured as a self employed	1

3.2 IDENTIFICATION OF THE TYPE OF INSURANCE OF SICK OR DISABLED ON THE BASIS OF RECEIVED BENEFITS

If an individual receives benefits, his insurance type will also be known by the insurer that pays this benefit. We dispose of three sources that could provide us additional information on the insurance type of the sick or disabled: a) the RIZIV data, b) data from the FAO and c) data from the FBZ. For each of these sources we illustrate how we identify the insurance type of sick or disabled for whom the insurance type has not been identified yet, i.e. SICK_TYPEINSU_PRIV_QT, SICK_TYPEINSU_PUB_QT and SICK_TYPEINSU_SELF_QT is still equal to 0, although the individual is sick or disabled.

3.2.1 IDENTIFICATION OF THE TYPE OF INSURANCE WITH RIZIV DATA

If an individual receives a benefit from the mutuality (verzekeringsinstelling) which is finally reimbursed by the RIZIV, we observe the exogenous variable AANWIJZ_QT, provided by the RIZIV. This variable covers information on the family charge and the labour market position of the individual. We can use this variable to identify the insurance type of private labour market wage earners and self employed if this would still be necessary.

Construction rule for SICK_TYPEINSU_PRIV_QT and SICK_TYPEINSU_SELF_QT (continued):

If an individual is sick or disabled, i.e. SICK_RISKGLOB_QT is equal to 1, and his insurance type is not identified yet, i.e. SICK_TYPEINSU_PRIV_QT and SICK_TYPEINSU_SELF_QT is still equal to 0, we use the values of AANWIJZ_QT to identify this insurance type.

How we use these values to further identify SICK_TYPEINSU_PRIV_QT and SICK_TYPEINSU_SELF_QT, is illustrated in Table 6 and Table 7 respectively.

Table 6: Variable values used to determine the values of SICK_TYPEINSU_PRIV_QT with RIZIV variables

Value of SICK_TYPEINSU_PRIV_QT	Label of SICK_TYPEINSU_PRIV_QT	Value of AANWIJZ_QT
1	Individual is insured as a blue collar worker	1111, 1112, 1121, 1122, 1311, 1312, 1321, 1322, 8111, 8112, 8121, 8122, 8311, 8312, 8321, 8322, 9111, 9112, 9121, 9122, 9311, 9312, 9321, 9322
2	Individual is insured as a white collar worker	1211, 1212, 1221, 1222, 8211, 8212, 8221, 8222, 9211, 9212, 9221, 9222

Table 7: Variable values used to determine the values of SICK_TYPEINSU_SELF_QT with RIZIV variables

Value of SICK_TYPEINSU_SELF_QT	Label of SICK_TYPEINSU_SELF_QT	Value of AANWIJZ_QT
1	Individual is insured as a self employed	1411, 1412, 1421, 1422, 1511, 1512, 1521, 1522, 8411, 8412, 8421, 8422, 8511, 8512, 8521, 8522, 9411, 9412, 9421, 9422, 9511, 9512, 9521, 9522

3.2.2 IDENTIFICATION OF THE TYPE OF INSURANCE WITH FAO DATA

If an individual receives a benefit because of an industrial accident, we observe the variables FATFAO_CSECACC_ANN and FATFAO_BERCAT_ANN, provided by the FAO. These variables cover respectively the sector in which the wage earner is active (either private or public) and the type of professional category (i.e. blue or white collar worker). We can use these variables to identify the insurance type of private and public labour market wage earners if this would still be necessary.

Construction rule for SICK_TYPEINSU_PRIV_QT and SICK_TYPEINSU_PUB_QT (continued):

If an individual is sick or disabled, i.e. SICK_RISKGLOB_QT is equal to 1, and his insurance type is not identified yet, i.e. SICK_TYPEINSU_PRIV_QT and SICK_TYPEINSU_PUB_QT is still equal to 0, we use the values of FATFAO_CSECACC_ANN and FATFAO_BERCAT_ANN to identify this insurance type.

How we use these values to further identify SICK_TYPEINSU_PRIV_QT and SICK_TYPEINSU_PUB_QT, is illustrated in Table 8 and Table 9 respectively.

Table 8: Variable values used to determine the values of SICK_TYPEINSU_PRIV_QT with FAO variables

Value of SICK_TYPEINSU_PRIV_QT	Label of SICK_TYPEINSU_PRIV_QT	Value of FATFAO_CSECACC_ANN	Value of FATFAO_BERCAT_ANN
1	Individual is insured as a blue collar worker	R	1, A, H
2	Individual is insured as a white collar worker	R	2, 3, 4, B, C, D, E, F, G, I, J, L, M, N

Table 9: Variable values used to determine the values of SICK_TYPEINSU_PUB_QT with FAO variables

Value of SICK_TYPEINSU_PUB_QT	Label of SICK_TYPEINSU_PUB_QT	Value of FATFAO_CSECACC_ANN	Value of FATFAO_BERCAT_ANN
1	Individual is insured as a blue collar worker without statutory service	U	1, A, H
2	Individual is insured as a white collar worker without statutory service	U	2, 3, 4, B, C, D, E, F, G, I, J, L, M, N
3	Individual is insured as a blue collar worker with statutory service	U	
4	Individual is insured as a white collar worker with statutory service	U	K

Remark that with these data we can not distinguish between blue and white collar workers with statutory service. We therefore classify all people with statutory service as white collar workers.

3.2.3 IDENTIFICATION OF THE TYPE OF INSURANCE WITH FBZ DATA

With the data we obtain from the FBZ we can not further distinguish the sector in which the wage earner is active and the type of professional category of the wage earner. If their insurance type is not defined yet, they will obtain the default insurance type (see section 3.3).

3.3 IDENTIFICATION OF TYPE OF INSURANCE OF SICK OR DISABLED IN CASE OF CONFLICTING INSURANCE TYPES

The above identification process did neither prevent the identification of multiple insurance types for a single individual, nor did it guarantee the identification of insurance for each sick or disabled.

If we observe multiple values for the same individual and one of them is that of a wage earner on the private labour market we will keep this insurance type and set the others equal to 0. In other cases with multiple values for the insurance type, we keep the insurance type of the civil servant and switch that of the self employed equal to 0.

If the individual is sick or disabled and the three insurance types are still equal to 0, this might be because the individual is identified to be sick through the data on occupational diseases. We assume that occupational diseases mainly concern people insured as white collar wage earner on the private labour market. We therefore switch SICK_TYPEINSU_PRIV_QT equal to 2 when all insurance types are still equal to 0.

4 SICKNESS AND DISABILITY BENEFITS FOR THOSE INSURED AS WAGE EARNER ON THE PRIVATE LABOUR MARKET

We will distinguish 4 types of benefits that sick or disabled, insured as wage earners on the private labour market, might receive. These benefits are:

1. common sickness and disability benefits,
2. maternity benefits,
3. benefits in case of industrial accident,
4. benefits in case of occupational disease.

For each of these benefits we will reconstruct a) a variable that indicates whether the individual is eligible for these benefits and b) one that covers the recomputed benefit.

These indicators will be stored in the variables SICK_ELIGPRIx_QT and SICK_BENPRIx_QT, respectively, where x will be a number running from 1 to 4, covering the above four benefit types respectively.

4.1 SICKNESS AND DISABILITY BENEFITS

To determine the common sickness or disability benefit, for those insured as a wage earner on the private labour market, one first computes a daily benefit conditional on some household and past labour market characteristics. In general, this daily benefit is computed as a percentage of lost wages. The characteristics that determine the precise computation rule are the following ones:

- Has the sick or disabled dependent family yes or no?
- Did the sick or disabled lose his sole source of income yes or no?

- How much weeks is the sick or disabled already sick?
- Is the sick or disabled a blue or a white collar worker?

Conditional on these characteristics, one either applies a percentage on unlimited lost wages or on limited lost wages. If limitations were applied on June 1st 2001, the wages per day were limited to € 116,74 if the employee was in a five-day working week, and limited to € 97,28 if he was in a six-day working week.⁸ These lost but limited daily wages are abbreviated as LDW in what follows. We refer to the unlimited daily wage with UDW.

The daily benefit, obtained by applying a percentage on the lost limited or unlimited wages, is then sometimes limited to a minimum or maximum level. The limits applied depend on the fact whether the individual has been a regular worker yes or no.

In broad lines, an employee is considered to be a regular worker if he satisfies the following conditions:⁹

- he is insured in the health insurance system for at least 6 months when he becomes sick,
- the number of days worked or assimilated days in the period from when he became insured until he became sick amount to 75% or more of the number of days to be performed by a full time employee
- his average daily wage, obtained, while working, is sufficiently high. The average daily wage to be proven depends on the age of the employee and the moment of entering disability. If the employee became disabled after March 1983 he had to prove an average daily wage of € 21,42, € 16,06 and € 10,71 if the employee was 21 or older, between 18 and 20 and younger than 18 respectively. Disabled who became disabled before April 1983 had to prove an average daily wage of € 10,91, € 8,18 and € 5,45 if the employee was 21 or older, between 18 and 20 and younger than 18 respectively.

The daily benefit is paid for each day of the week except for Sundays.¹⁰

In Table 10 we list the different cases one can distinguish in the computation of the sickness and disability benefits, the general rule used to determine the daily benefit in each case and if they apply, the minimum and maximum level used to restrict the daily benefit.

⁸ See Van Eeckhoutte, W. (2001), p. 44 and 57.

⁹ FOD Sociale Zekerheid (2002), p. 211.

¹⁰ See Van Eeckhoutte, W. (2001), p. 466.

Table 10: Conditions used to determine the daily benefit for sick or disabled insured as wage earner on the private labour market on June 1st 2001¹¹

Category	Rule	Minimum daily amount		Maximum daily amount
		Irregular workers	Regular workers	
	(1)	(2)	(3)	(4)
Employees with dependent family				
In the 1 st month of sickness				
For blue collar workers				
1	In their 1 st week of sickness	100% of UDW		
2	In the 2 nd , third or 4 th week of sickness	60% of LDW		
3	For white collar workers	100% of UDW		
4	In the 2 nd until the 12 th month of sickness	60% of LDW		€ 58,38
5	From the 13 th month of sickness (period of disability)	65% of LDW	€ 28,21 € 35,18	€ 58,38
Employees without dependent family who have lost their sole source of income				
In the 1 st month of sickness				
For blue collar workers				
6	In their 1 st week of sickness	100% of UDW		
7	In the 2 nd , third or 4 th week of sickness	60% of LDW		
8	For white collar workers	100% of UDW		
9	In the 2 nd until the 12 th month of sickness	60% of LDW		€ 58,38
10	From the 13 th month of sickness (period of disability)	45% of LDW	€ 21,17 € 28,14	€ 38,92
Employees without dependent family who have not lost their sole source of income				
In the 1 st month of sickness				
For blue collar workers				
11	In their 1 st week of sickness	100% of UDW		
12	In the 2 nd , third or 4 th week of sickness	60% of LDW		
13	For white collar workers	100% of UDW		
14	In the 2 nd until the 12 th month of sickness	55% of LDW		€ 53,50
15	From the 13 th month of sickness (period of disability)	40% of LDW	€ 21,17 € 25,19	€ 38,92

¹¹ See Van Eeckhoutte, W. (2001), p. 44, 57 and 464-465.

The sickness benefits of blue collar workers are paid by the employer during the first two weeks. For white collar workers these benefits are paid by the employer during the first month. All other benefits are paid by the health insurance system.¹²

In order to check the conditions in Table 10, we need to know first whether a sick or disabled receives a sickness or disability benefit and if he does, we need to know:

- the type of workweek the sick or disabled was in, i.e. a 5 or 6 day working week.
- how much weeks the sick or disabled is already sick,
- whether the sick or disabled loses his sole source of income yes or no,
- whether the sick or disabled is a blue or white collar worker,
- the lost daily wage of the sick or disabled,
- the household type of the sick or disabled,
- whether the sick or disabled was a regular worker yes or no.

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If a sick or disabled, insured as a wage earner on the private labour market, receives a sickness or disability benefit, we set the variable SICK_ELIGPRI1_QT equal to 1 if the individual is in the first year of sickness and equal to 2 if the individual is considered to be in disability.

Construction rule for SICK_ELIGPRI1_QT:

If an individual is insured as a wage earner on the private labour market, i.e. if SICK_TYPEINSU_PRIV_QT is not equal to 0, we will set SICK_ELIGPRI1_QT equal to 1 conditional on values of two exogenous variables.

The variables we use either reveal that the individual is known as sick or disabled by the employer (CODASM_QT) or known as such by the RIZIV (RIZIVINA_STELSEL_INVALID_QT or RIZIVINA_STELSEL_MAT_QT). If an individual is still in his first year of sickness, we will set SICK_ELIGPRI1_QT equal to 1. If the individual is considered to be in disability, we set SICK_ELIGPRI1_QT equal to 2. In Table 11 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPRI1_QT.

¹² See Van Eeckhoutte, W. (2001), p. 44, 57 and 464-465.

Table 11: Values of exogenous variables used to create the variable SICK_ELIGPRI1_QT

Value of SICK_ELIGPRI1_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	1, 10, 82
2	RIZIVINA_STELSEL_INVAL_QT	Code that indicates the type of RIZIV benefit received in the given quarter	RIZIV	1

We will reconstruct the working week of the sick or disabled and store the result in the variable SICK_WOWEPRIV_QT.

Construction rule for SICK_WOWEPRIV_QT:

If an individual is insured as a wage earner on the private labour market, i.e. if SICK_TYPEINSU_PRIV_QT is not equal to 0, we will set SICK_WOWEPRIV_QT equal to 1 if the individual is assumed to be working a 5 day working week and equal to 2 if this individual is working in a 6 day working week.

We do not have sufficient information to distinguish between both types of working weeks. We assume that all individuals, insured as wage earner on the private labour market, work in a 5 day working week. Hence, we set SICK_WOWEPRIV_QT equal to 1 if SICK_TYPEINSU_PRIV_QT is not equal to 0.

The number of days the sick or disabled receives a benefit throughout the quarter, will be stored in the variable SICK_DAYS PRI1_QT.

Construction rule for SICK_DAYS PRI1_QT:

If an individual is insured as a wage earner on the private labour market, i.e. if SICK_TYPEINSU_PRIV_QT is not equal to 0, we can rely on three exogenous variables to reconstruct the number of days for which the individual receives a sickness or disability benefit.

If an individual is not in disability, i.e. SICK_ELIGPRI1_QT equal to 1, we can rely on the exogenous variable JRSASM_QT, provided by the RSZ. The variable JRSASM_QT covers the number of equated days, registered in a given quarter. We divide the value of JRSASM_QT by the number of days worked per week,

i.e. either by 5 or 6. The value of 5 or 6 is chosen, conditional on the value of SICK_WOWEPRIV_QT. The result of this division is rounded to above and then multiplied by 6.

If an individual is in disability, i.e. SICK_ELIGPRI1_QT is equal to 2, we could rely on the exogenous variables RIZIVINA_AANVANGS_INVALID_QT and RIZIVINA_EINDBETA_INVALID_QT, provided by the RIZIV. These variables cover the starting and the assumed ending date of the payments. However, we only use the starting date of the payments and assume that the ending date of the payments is the last day of the quarter under analysis.¹³

We then check how many days, starting from the starting date of the payments until the last day of the quarter under analysis, are situated within the quarter under analysis. This number of days is divided by 7 and then multiplied with 6. This result is rounded to above and is considered to be the number of days for which the individual receives a benefit in the given quarter.

If, after this operation, the value of SICK_DAYS PRI1_QT, would be larger than 13 times 6 we set SICK_DAYS PRI1_QT equal to 78.

We will reconstruct the number of weeks the sick is already sick and store this result in the variable SICK_WEEK PRI1_QT. To identify this stock variable we need a reference point in time, i.e. the day for which we register the number of weeks in sickness that have passed already. For the identification of SICK_WEEK PRI1_QT, and most of the variables that follow, this reference day will be the last day of the quarter of analysis because the data we use register information that applied in the quarter that has passed.

Construction rule for SICK_WEEK PRI1_QT:

If an individual is not in disability, i.e. SICK_ELIGPRI1_QT equal to 1, we divide the number of days for which a benefit is received by 6 and round the result to above.

If an individual is in disability, i.e. SICK_ELIGPRI1_QT is equal to 2, we can rely on the exogenous variable B_ZIEKTE_QT provided by the RIZIV. This variable covers the starting date of the period of sickness. We compute the number of weeks in sickness by taking the difference between the ending date of the quarter under analysis and the value in B_ZIEKTE_QT. This number is divided by 7 and rounded to above. If after this operation, the value of SICK_WEEK PRI1_QT would be smaller than 53 we set the value of SICK_WEEK PRI1_QT equal to 53. If SICK_WEEK PRI1_QT is still equal to 0

¹³ That we choose the last day of the quarter under analysis as the assumed ending date of the payments, instead of the value in RIZIVINA_EINDBETA_QT, is based on two arguments: a) the value in RIZIVINA_EINDBETA_QT is an estimated date, while the value in RIZIVINA_AANVANGS_QT is not, and b) the use of the last date of the quarter performed better in reconstructing the estimates of the benefits for 2001.

after this operation, we set the value of SICK_WEEKPRI1_QT equal to 53 plus 13.

Remark that we assume here that individuals, for whom we do not have additional information, are in disability already throughout the whole quarter that is being analysed.

We also have to reconstruct a variable that indicates whether the sick or disabled lost his sole source of income. An indicator of this will be stored in the variable SICK_SOLEPRIV_QT. This variable is equal to 1 if the sick or disabled lost his sole source of income when he became sick.

Construction rule for SICK_SOLEPRIV_QT:

We do not have sufficient information to reconstruct this variable. Therefore we assume that all sick or disabled, insured as wage earner on the private labour market, lose their sole source of income, if they become sick. Hence, if SICK_TYPEINSU_PRIV_QT is not equal to 0, we set SICK_SOLEPRIV_QT equal to 1.

We reconstruct an indicator of the fact that the individual is a regular worker yes or no. If an individual is considered to be a regular worker, the variable SICK_REGWPRIV_QT is set equal to 1. If the individual is considered to be an irregular worker, this variable is set equal to 2.

Construction rule for SICK_REGWPRIV_QT:

Exploitation of the CIMIRe data should allow us to check some conditions that need to be checked to qualify an employee as a regular worker. We did not exploit these data for this purpose.

We assume that all individuals, insured as a wage earner on the private labour market, i.e. for which SICK_TYPEINSU_PRIV_QT is not equal to 0, have been regular workers before they became sick. Hence, we set SICK_REGWPRIV_QT equal to 1 for all individuals for which SICK_TYPEINSU_PRIV_QT is not equal to 0.

Next to the above reconstructed variables, we also need observations on the last daily wage of the sick or disabled. We will store this wage in the variable SICK_LDAYWAGE_DAY.

Construction rule for SICK_LDAYWAGE_DAY:

For all individuals in the sample, we dispose of an observation of the last observed hourly wage in the variable MIMOSIS_GRINC_HOUR.¹⁴ We construct SICK_LDAYWAGE_DAY as the value of MIMOSIS_GRINC_HOUR multiplied by 7,6.

¹⁴ See Perelman and Van Camp (2006) for a discussion of the construction of this variable.

With all these reconstructed variables we can now reconstruct the sickness or disability benefit. We will reconstruct a daily benefit and a quarterly benefit and store the results in the variables SICK_BENPRI1_DAY and SICK_BENPRI1_QT respectively. The latter variable covers the amount of the benefit, received by the sick or disabled, independent of who pays the benefit. To distinguish the public from the private budget we also construct a variable SICK_EMPBPRI1_QT that covers the benefit paid by the employer.

Construction rule for SICK_BENPRI1_DAY, SICK_BENPRI1_QT and SICK_EMPBPRI1_QT:

If an individual is entitled to sickness or disability benefits in the private labour market wage earner regime, i.e. SICK_ELIGPRI1_QT is not equal to 0, we determine the value of SICK_BENPRI1_QT on a step by step basis. We compute a different daily benefit for each week the sick has been sick throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks in sickness at the end of the quarter, i.e. the value of SICK_WEEKPRI1_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYS PRI1_QT, by 6.¹⁵

For each week we select the appropriate percentage and minima and maxima from Table 10, conditional on the values observed for family type (i.e. SICK_FAMSIT_QT), the loss of the sole source of income (i.e. SICK_SOLEPRIV_QT), whether the employee was a regular or irregular worker (i.e. SICK_REGWPRIV_QT) and the type of insurance (blue or white collar) (i.e. SICK_TYPEINSU_PRIV_QT).

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 116,74 or € 97,28 on the value observed in SICK_LDAYWAGE_DAY to obtain the limited daily wage. Which of the two limits should be applied is determined, conditional on the type of working week the individual is in, i.e. the value of SICK_WOWEPRIV_QT.

With this information we can compute the value of the daily benefit, i.e. SICK_BENPRI1_DAY, received in the week under analysis. We multiply this daily benefit with 6 and add this result to the value of SICK_BENPRI1_QT, except in the last week that is analysed. In this case we add the daily benefit

¹⁵ Remark that we assume here that within the given quarter, the period of sickness or disability is a continuous period that starts x weeks before the end of the quarter, where x differs in function of the number of days for which we assume that the individual receives a benefit in that quarter.

times the remaining number of days for which a benefit is received in the given quarter.

If the second week is analysed in case of a blue collar worker or the fourth in case of a white collar worker, the value of SICK_EMPBPRI1_QT is set equal to the value of SICK_BENPRI1_QT at that stage.

The limits of € 116,74 and € 97,28 are integrated in the model in the form of the parameter SICK_LIMPRIV_DAY, which is a vector with 2 lines and 1 column. The values in Table 10 are integrated in the model in the form of the parameter SICK_PERCPRIV_DAY, which is a matrix with 15 lines and 4 columns.

Next to this common benefit, blue collar workers also receive a supplementary benefit if they are in their 2nd, third and 4th week of sickness. This supplementary daily benefit amounts to:¹⁶

- 25,88% of the part of the lost normal daily wage that does not exceed the daily maximum of € 116,74,
- plus 85,88% of the lost normal daily wage that exceeds the daily maximum of € 116,74,
- minus the tax prepayments computed on the taxable daily wage that the blue-collar worker normally receives if he would have worked that day.

In the second week this benefit is paid by the employer, in the third and 4th week, this supplement is paid by the health insurance system.

In order to compute this benefit we need to know whether the sick is a) insured as a blue collar worker, b) what is lost normal daily wage was and c) which prepayments he would pay on this wage.

We will reconstruct these daily prepayments on his lost daily wage, that we observe in the variable SICK_LDAYWAGE_DAY and store the result in the variable SICK_PREPAY_DAY. How we reconstruct this variable is explained in appendix 2.

We also reconstruct this additional daily supplement for blue collar workers and store this result in the variable SICK_SUPPRI1_DAY. The final benefit, received in the given quarter, will be stored in the variable SICK_SUPPRI1_QT. The latter variable again covers the whole supplement, received by the sick, independent of who pays this supplement. We will store the supplement, paid by the employer, in the variable SICK_EMPSPRI1_QT.

¹⁶ See Van Eeckhoutte, W. (2001), p. 44.

Construction rule for SICK_SUPPRI1_DAY, SICK_SUPPRI1_QT and SICK_EMPSPRI1_QT:

If an individual is a) entitled to sickness or disability benefits in the private labour market wage earner regime, i.e. SICK_ELIGPRI1_QT is not equal to 0 and b) insured as a blue collar worker, i.e. SICK_TYPEINSU_PRIV_QT is equal to 1 and c) is in his 2nd, third or 4th week of sickness, i.e. SICK_WEEKPRI1_QT is equal to 2, 3 or 4, then compute SICK_SUPPRI1_DAY as follows:

25,88% of the part of SICK_LDAYWAGE_DAY that does not exceed € 116,74 + 85,88% of the part of SICK_LDAYWAGE_DAY that exceeds € 116,74 - SICK_PREPAY_DAY.

When SICK_SUPPRI1_DAY has been reconstructed, we construct SICK_SUPPRI1_QT, as the value of SICK_SUPPRI1_DAY multiplied by the number of days in sickness in the given quarter that could result in this supplement.

The number of weeks in sickness in the given quarter that could result in a supplement is equal to the value of SICK_WEEKPRI1_QT minus 1 if the sick is sick for 2, 3 or 4 weeks.

If the second week is analysed, the value of SICK_EMPSPRI1_QT is set equal to the value of SICK_SUPPRI1_QT at that time.

The limit of € 116,74 is integrated in the model as an element of the parameter SICK_LIMPRIV_DAY. The values of 25,88% and 85,88%, are integrated in the model in the form of the parameter SICK_SUPPRIV_DAY, which is again a parameter with 1 column and 2 lines.

Certain sick or disabled, insured as a wage earner on the private labour market, can receive a supplementary benefit for costs they make if they have to rely on a third person. The conditions to be satisfied by all sick or disabled that are entitled to these benefits are:¹⁷

- that the employee is incapable of performing a number of activities of normal life alone,
- that the employee is not admitted to any kind of official nursing facility, locked up in prison or internalised in some social protection institution,
- that the incapability of performing these normal life activities has been recognised by the Geneeskundige Raad voor Invaliditeit/Conseil Médical de l'Invalidité.

An employee that satisfies these conditions either receives a fixed supplement per day or a benefit that is a percentage of his limited daily wage. The

¹⁷ See Van Eeckhoutte, W. (2001), p. 464.

characteristics that determine the precise computation rule are the following ones:

- Has the sick or disabled dependent family yes or no?
- Did the sick or disabled loose his sole source of income yes or no?
- How much weeks is the sick or disabled already sick?

If limitations were applied on the lost wage on June 1st 2001, the wages per day were limited to € 116,74 if the employee was in a five-day working week, and limited to € 97,28 if he was in a six-day working week.¹⁸

In Table 12 we list the different cases one can distinguish in the computation of this supplementary benefit for help of a third person.

Table 12: Conditions used to determine the daily supplementary benefit for help of a third person for sick or disabled insured as wage earner on the private labour market on June 1st 2001¹⁹

Category	Rule	Minimum daily amount	Maximum daily amount
	(1)	(2)	(3)
Employees with dependent family			
1	In the 4 th until the 12 th month of sickness	€ 5,06	
2	From the 13 th month of sickness (period of disability)	€ 5,06	
Employees without dependent family who have lost their sole source of income			
3	In the 4 th until the 12 th month of sickness	€ 5,06	
4	From the 13 th month of sickness (period of disability)	20% of LDW	€ 35,18 € 58,38
Employees without dependent family who have not lost their sole source of income			
5	In the 4 th until the 12 th month of sickness	€ 5,06	
6	From the 13 th month of sickness (period of disability)	25% of LDW	€ 35,18 € 58,38

In order to check the conditions in Table 12, we need to know first whether a sick or disabled is eligible to receive this supplementary benefit for help of a third person and if he is, we need to know:

- the type of workweek the sick or disabled was in, i.e. a 5 or 6 day working week.

¹⁸ See Van Eeckhoutte, W. (2001), p. 44 and 57.

¹⁹ See Van Eeckhoutte, W. (2001), p. 464-465.

- how much weeks the sick or disabled is already sick,
- whether the sick or disabled loses his sole source of income yes or no,
- the lost daily wage of the sick or disabled,
- the household type of the sick or disabled.

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If a sick or disabled, insured as a wage earner on the private labour market, receives a supplementary benefit for help of a third person, we set the variable SICK_ELTHPRIV_QT equal to 1.

Construction rule for SICK_ELTHPRIV_QT:

If an individual is insured as a wage earner on the private labour market, i.e. if SICK_TYPEINSU_PRIV_QT is not equal to 0, we will set SICK_ELTHPRIV_QT equal to 1 conditional on the value of an exogenous variable.

The exogenous variable we use is the variable RIZIVINA_BETALING_INVALID_QT, provided by the RIZIV. This variable covers an indicator for the type of benefit that has been paid to the disabled. In Table 13 we illustrate how values of this exogenous variable are translated into values of SICK_ELTHPRIV_QT.

Table 13: Values of exogenous variables used to create the variable SICK_ELTHPRIV_QT

Value of SICK_ELTHPRIV_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	RIZIVINA_BETALING_INVALID_QT	Code that indicates the type of benefit paid in the given quarter	RIZIV	Variable is three characters long, second character should be equal to '1'

Remark that we assume here that none of the primary disabled receives this supplementary benefit because of help of a third person. This is simply because we do not have sufficient information to discriminate those that receive the benefit from those that do not receive the benefit.

The other variables to reconstruct this supplement have been reconstructed already. We will reconstruct the daily supplement first and then use this daily supplement to compute the quarterly amount. These reconstructed values will be stored in the variables SICK_BETHPRIV_DAY and SICK_BETHPRIV_QT respectively.

Construction rule for SICK_BETHPRIV_DAY and SICK_BETHPRIV_QT:

If the private labour market insured is entitled to a supplement for the help of a third person, i.e. SICK_ELTHPRIV_QT is equal to 1, we again determine the value of SICK_BETHPRIV_QT on a step by step basis. We compute a different daily benefit for each week the sick has been sick throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks in sickness at the end of the quarter, i.e. the value of SICK_WEEKPRI1_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYS PRI1_QT, by 6.

Since we observe the family type (i.e. SICK_FAMSIT_QT) and the loss of the sole source of income (i.e. SICK_SOLEPRIV_QT), we can select the appropriate computation rule for this daily benefit from Table 12.

If we have to apply a limit on the value of SICK_LDAYWAGE_DAY for the application of this computation rule, the limit is selected conditional on the type of working week the individual is in, i.e. the value of SICK_WOWEPRIV_QT.

If the value of SICK_BETHPRIV_DAY is determined, we add the product of SICK_BETHPRIV_DAY multiplied with 6 to the value of SICK_BETHPRIV_QT, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

The limits of € 116,74 and € 97,28 are integrated in the model in the form of the parameter SICK_LIMPRIV_DAY, which is a vector with 2 lines and 1 column. The values in Table 12 are integrated in the model in the form of the parameter SICK_THIRPRIV_DAY, which is a matrix with 6 lines and 3 columns.

4.2 MATERNITY BENEFITS

In general women, who will be giving birth to a child, are entitled to a maternity benefit during 15 weeks spread around the birth of the child. This period might start 7 weeks before the theoretical date of birth and should start at last 1 week before the theoretical date of birth.

A daily benefit is computed as a percentage of the lost, either limited or unlimited, wages. If limitations were applied on June 1st 2001, the wages per day

were limited to € 116,74 if the employee was in a five-day working week, and limited to € 97,28 if he was in a six-day working week.²⁰

The percentage that is applied depends on a number of characteristics of the mother and the time the maternity leave already lasted. The characteristics that determine the percentage applied on the lost, either limited or unlimited, wages are the following ones:

- Is the mother a wage earner with a labour market contract yes or no?
- Is the mother full time unemployed yes or no?
- How many days of the maternity leave have been consumed on the moment of computation of the benefit?

The daily benefit is paid for each day that would have been worked throughout this period of maternity leave or for each day that is considered to be equal to such a working day.²¹ We assume that all individuals are working in a 5 day week regime and thus that maximal number of rewarded days is equal to 75 if an individual is entitled to maternity benefits.

We therefore assume that the maximum number of days is equal to 15 times 5 for each individual.

In Table 14 we list the different cases one can distinguish in the computation of these maternity benefits.

²⁰ See Van Eeckhoutte, W. (2001), p. 469 and 465.

²¹ See Van Eeckhoutte, W. (2001), p. 468.

Table 14: Conditions used to determine the daily maternity benefit for those insured as wage earner on the private labour market on June 1st 2001²²

Category		Rule
		(1)
General rule		
1	First 30 days	79,5% of LDW
2	From day 31 on	75,0% of LDW
Employees with a labour market contract		
3	First 30 days	82,0% of UDW
4	From day 31 on	75,0% of LDW
Full time unemployed		
5	First 30 days	The unemployment benefit (= maximum 60,0% of LDW) + 19,5% of LDW
6	From day 31 on	The unemployment benefit (= maximum 60,0% of LDW) + 15,0% of LDW

In order to check the conditions in Table 14, we need to know first whether the individual is entitled to maternity benefits and if she does, we need to know:

- the type of workweek she was in, i.e. a 5 or 6 day working week.
- how many days of maternity leave already passed before the start of the quarter,
- whether she was full time unemployed or not when taking up maternity leave,
- whether she had a labour market contract when taking up maternity leave,
- the lost daily wage.

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If the person, insured as a wage earner on the private labour market, should receive a maternity benefit, we set the variable `SICK_ELIGPRI2_QT` equal to 1 if the individual is not in disability and equal to 2 if the individual is in disability.

Construction rule for `SICK_ELIGPRI2_QT`:

If an individual is insured as a wage earner on the private labour market, i.e. if `SICK_TYPEINSU_PRIV_QT` is not equal to 0, we will set `SICK_ELIGPRI2_QT` equal to 1 or 2 conditional on values of two exogenous variables.

The variables we use either reveal that the individual is known as a person on maternity leave by the employer (`CODASM_QT`) or known as such by the RIZIV (`RIZIVINA_STELSEL_MAT_QT`). In Table 15 we illustrate how values of these exogenous variables are translated into values of `SICK_ELIGPRI2_QT`.

²² See Van Eeckhoutte, W. (2001), p. 468.

Table 15: Values of exogenous variables used to create the variable SICK_ELIGPRI2_QT

Value of SICK_ELIGPRI2_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	6, 7, 8
2	RIZIVINA_STELSEL_MAT_QT	Code that indicates the type of RIZIV benefit received in the given quarter	RIZIV	3

We will construct the number of days the person received the maternity benefit throughout the given quarter, and store this result in the variable SICK_DAYS PRI2_QT.

Construction rule for SICK_DAYS PRI2_QT:

If an individual is entitled to maternity benefits in the private labour market wage earner regime and not in disability, i.e. SICK_ELIGPRI2_QT is equal to 1, we rely on the value of the exogenous variable JRSASM_QT, provided by the RSZ. The variable JRSASM_QT covers the number of equated days, registered in a given quarter.

We set the number of days on maternity leave equal to the number of equated days, observed in JRSASM_QT. Remark that we assume here that the maternity leave always starts in the quarter under analysis.

If an individual is in disability, i.e. SICK_ELIGPRI2_QT is equal to 2, we could rely on the exogenous variables RIZIVINA_AANVANGS_MAT_QT and RIZIVINA_EINDBETA_MAT_QT, provided by the RIZIV. These variables cover the starting and the assumed ending date of the payments. However, we only use the starting date of the payments and assume that the ending date of the payments is the last day of the quarter under analysis.²³

²³ That we choose the last day of the quarter under analysis as the assumed ending date of the payments, instead of the value in RIZIVINA_EINDBETA_QT, is based on two arguments: a) the value in RIZIVINA_EINDBETA_QT is an estimated date, while the value in RIZIVINA_AANVANGS_QT is not, and b) the use of the last date of the quarter performed better in reconstructing the estimates of the benefits for 2001.

We then check how many days, starting from the starting date of the payments until the last day of the quarter under analysis, are situated within the quarter under analysis. These days are assumed to be the days for which payments were received throughout the given quarter.

If after this operation SICK_DAYS_PRI2_QT turns out to be larger than 75 for people entitled to maternity benefits, i.e. for which SICK_ELIG_PRI2_QT is not equal to 0, we set SICK_DAYS_PRI2_QT equal to 75.

We also reconstruct the number of days the person has been on maternity leave at the beginning of the quarter and store this result in the variable SICK_MATL_PRI2_QT.

Construction rule for SICK_MATL_PRI2_QT:

If an individual is entitled to maternity benefits in the private labour market wage earner regime and not in disability, i.e. SICK_ELIG_PRI2_QT is not equal to 1, we have no information to determine the number of days, the individual was already on maternity leave before the quarter under analysis. In this case we assume that the individual has been 0 days on maternity leave before the start of the quarter.

If an individual is entitled to maternity benefits in the private labour market wage earner regime and in disability, i.e. SICK_ELIG_PRI2_QT is not equal to 2, we rely on the exogenous variable RIZIVINA_AANVANGS_MAT_QT, provided by the RIZIV. This variable covers the starting date of the RIZIV payments.

We compute the number of days that lie between the starting date of the quarter of analysis and the value observed in RIZIVINA_AANVANGS_MAT_QT. We divide this result by 7, multiply it with 5 and round it to above. This result is considered to be the number of days of maternity leave that already passed at the beginning of the quarter of analysis. If after this operation SICK_MATL_PRI2_QT turns out to be larger than 75, we limit the value of SICK_MATL_PRI2_QT to 75. If the maternity leave started within the quarter of analysis, the value of SICK_MATL_PRI2_QT is set equal to 0.

Whether an employee has a labour market contract yes or no, will be derived from the fact that the employee has a labour market income yes or no, i.e. whether the variable CONTRIB_REV_PRIV_QT is equal to 0 or not. Whether the person on maternity leave is a full time unemployed or not, will be derived from the fact that this person has no labour market income, i.e. CONTRIB_REV_PRIV_QT is equal to 0, and receives unemployment benefits or not, i.e. whether the variable UNEM_BENUN_QT is equal or not.

With all these reconstructed variables we can now reconstruct the maternity benefits. We will store the daily benefit in the variable SICK_BEN_PRI2_DAY and the quarterly benefit in the variable SICK_BEN_PRI2_QT.

Construction rule for SICK_BENPRI2_DAY and SICK_BENPRI2_QT:

If an individual is entitled to maternity benefits in the private labour market wage earner regime, i.e. SICK_ELIGPRI2_QT is not equal to 0, we compute the different daily benefits this individual might be confronted with throughout that quarter and accumulate these benefits, to obtain an estimate of the quarterly benefit.

If an individual has used less than 31 days of maternity leave, i.e. SICK_MATLPRI2_QT is less than 31, we compute the value of SICK_BENPRI2_QT in two steps.

In a first step, we compute the value of SICK_BENPRI2_DAY as a percentage of the limited or unlimited wage. The appropriate percentage is selected from lines 1, 3 or 5 in Table 14, conditional on the observed unemployment benefit (i.e. UNEM_BENUN_QT) and labour market income (i.e. CONTRIB_REVPRIV_QT).

An individual is identified as a full time unemployed if CONTRIB_REVPRIV_QT is equal to 0 and if UNEM_BENUN_QT is different from 0. In this case we only select the percentage to be applied as additional supplement.

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 116,74 or € 97,28 on the value observed in SICK_LDAYWAGE_DAY to obtain the limited daily wage. Which of the two limits should be applied is determined, conditional on the type of working week the individual is in, i.e. the value of SICK_WOWEPRIV_QT.

After this value of SICK_BENPRI2_DAY has been determined, we compute SICK_BENPRI2_QT as the value of SICK_BENPRI2_DAY times 31 minus the number of days on maternity leave that already have been consumed, i.e. the value of SICK_MATLPRI2_QT.

In a second step we compute the value of value of SICK_BENPRI2_DAY again as a percentage of the limited wage but the appropriate percentage is selected now from lines 2, 4 or 6 in Table 14, conditional on the observed unemployment benefit (i.e. UNEM_BENUN_QT) and labour market income (i.e. CONTRIB_REVPRIV_QT) by applying the same principles as above.

After this second value of SICK_BENPRI2_DAY has been determined, we add the value of SICK_BENPRI2_DAY times the number of days of maternity leave that should still be consumed, i.e. 75 minus 30 to the value of SICK_BENPRI2_QT.

If an individual has used 31 days or more of maternity leave, i.e. SICK_MATLPRI2_QT is 31 or more, we compute the value of SICK_BENPRI2_QT in one step.

We compute the value of value of SICK_BENPRI2_DAY as a percentage of the limited wage. The appropriate percentage is selected now from lines 2, 4 or 6 in Table 14, conditional on the observed unemployment benefit (i.e. UNEM_BENUN_QT) and labour market income (i.e. CONTRIB_REVPRIV_QT) by applying the same principles as above.

When the value of SICK_BENPRI2_DAY has been determined, we set the value of SICK_BENPRI2_DAY times the number of days on maternity leave that should still be consumed, i.e. 75 minus the value of SICK_MATLPRI2_QT, to the value of SICK_BENPRI2_QT.

The limits of € 116,74 and € 97,28 are integrated in the model in the form of the parameter SICK_LIMPRIV_DAY, which is a vector with 2 lines and 1 column. The percentages, listed in Table 14, are integrated in the model in the form of the parameter SICK_MATPRIV_DAY, which is a vector of 6 lines and 1 column.

Remark that for full time unemployed on maternity leave the quarterly amount only contains the supplementary benefit. The basic benefit is stored in the variable UNEM_BENUN_QT.

Remark that we only compute the regular benefits for maternity leave here. If people are on maternity leave because their pregnancy is incompatible with the security prescriptions we assume that they receive a benefit for occupational disease.

4.3 BENEFITS IN CASE OF INDUSTRIAL ACCIDENTS

In case of an industrial accident, one could distinguish three states of disablement:²⁴

- temporary full disablement,
- temporary partial disablement,
- permanent disablement.

The benefit received, differs over these states.

In case of temporary full disablement the employee is entitled a guaranteed income, paid by the employer. This guaranteed income differs between blue- and white-collar workers:²⁵

- blue-collar workers receive their usual wages the first seven days of disablement (the first of these seven days is the working day that got interrupted by the accident),

²⁴ See Van Eeckhoutte, W. (2001), p. 534.

²⁵ See Van Eeckhoutte, W. (2001), p. 45 and 57.

- white-collar workers receive a guaranteed income during the first month of disablement. This income is equal to their normal wages.

When the right to a guaranteed income is exhausted, the employee receives a replacement income of 90% of the average daily wages. The average daily wage is equal to the income an employee is entitled to for the whole year prior to the accident, divided by 365. From January 1st 2001 on the basic wage was limited to € 24.888,70 for the purpose of this computation. This means that the average daily wages were limited to € 68,19.²⁶

In case of temporary partial disablement one can distinguish three cases:²⁷

- the employee is temporary partial disabled and continues to work. His benefit is then equal to the loss in wages, computed as the difference in wages before and after the accident.
- the employee is temporary partial disabled and is not reemployed outside his own will. The benefit is equal to the one paid in case of temporary full disablement
- the employee is temporary partial disabled and decides not to accept some offered job. The benefit is determined in function of his loss of capacities, either by comparing his capacities with the lost job or by comparing them with respect to the offered job.

In case of permanent disablement the employee receives an annual allowance during the first three years. This allowance is calculated as 100% of the basic wage times the degree of disablement on the labour market. From January 1st 2001 on the basic wage was limited to € 24.888,70 for the purpose of this computation. After a period of three years, the enduring disablement is determined definitely and the annual allowance is replaced by a life-annuity. The life annuity depends on the degree of disablement but not in a linear way. Both the annual allowance and the life-annuity can be supplemented with a benefit for the assistance of another person if the employee is in need of help to perform the normal activities of the daily life.²⁸

For the computation of benefits for industrial accidents, one works with 365 days per year.²⁹ We therefore assume that this daily benefit is attributed 7 days a week.

For the sake of computation of these benefits for industrial accidents, we assume that all temporary partial disabled, are treated as temporary full disabled and that permanent disabled are in the first three years of disablement. This implies

²⁶ See Van Eeckhoutte, W. (2001), p. 536.

²⁷ See Van Eeckhoutte, W. (2001), p. 534.

²⁸ See Van Eeckhoutte, W. (2001), p. 534.

²⁹ See Van Eeckhoutte, W. (2001), p. 536 and FAO (2006), Uw rechten, Vraag 4: Waarop heb ik recht in geval van een arbeidsongeval?

the computation rules, listed in Table 16. We will not recompute the additional benefit for assistance of another person.

Table 16: Conditions used to determine the daily benefit for industrial accidents for those insured as wage earner on the private labour market on June 1st 2001³⁰

Category	Rule	Minimum daily amount	Maximum daily amount
	(1)	(2)	(3)
Temporary full disablement			
In the 1 st month of sickness			
For blue collar workers			
1	In their 1 st week of sickness	100% of UDW	
2	In the 2 nd , third or 4 th week of sickness	90% of LDW	
3	For white collar workers	100% of UDW	
4	From the 2 nd month of sickness (period of disability)	90% of LDW	
Temporary partial disablement			
In the 1 st month of sickness			
For blue collar workers			
5	In their 1 st week of sickness	100% of UDW	
6	In the 2 nd , third or 4 th week of sickness	90% of LDW	
7	For white collar workers	100% of UDW	
8	From the 2 nd month of sickness (period of disability)	90% of LDW	
9	Permanent disablement	100% of LDW times the degree of disablement	

In order to check the conditions in Table 16, we need to know first whether the employee receives a benefit for an industrial accident and if he does, we need to know:

- how much weeks he receives this benefit in the given quarter,
- whether this employee is a blue or white collar worker,
- the lost daily wage of the employee,
- the degree of disablement of the employee,
- the type of disablement (temporary full or partial disablement or permanent disablement).

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

³⁰ See Van Eeckhoutte, W. (2001), p. 534-536.

If the employee, insured as a wage earner on the private labour market, receives a benefit for an industrial accident, we set the variable `SICK_ELIGPRI3_QT` equal to 1.

Construction rule for `SICK_ELIGPRI3_QT`:

If an individual is insured as a wage earner on the private labour market, i.e. if `SICK_TYPEINSU_PRIV_QT` is not equal to 0, we will set `SICK_ELIGPRI3_QT` equal to 1 if the individual has received a benefit from the FAO in the given year for either temporary full or partial disablement or because of permanent disablement.

The information on these states is taken from three exogenous variables, all provided by the FAO. The variable `FATFAO_PTBWOD_ANN`, gives the degree of permanent disablement in case of permanent disablement. The variables `FATFAO_TWOPARD_ANN` and `FATFAO_TWOTOTD_ANN` cover the number of days in partial and full disability in the given year.

We set the variable `SICK_ELIGPRI3_QT` equal to 1 if either one of these variables is different from 0.

Remark that by doing this, we assume that any individual who received any kind of these three benefits throughout the year analysed, from the FAO, is receiving this benefit in the quarter that is being analysed.

We also reconstruct an indicator that covers the type of disability benefit the employee is entitled to. We will store this reconstructed result in the variable `SICK_TYDBPRI3_QT`. This variable can take three values, apart from the default value of 0, i.e. 1) if the employee is in temporary full disablement, 2) if the employee is in temporary partial disablement and 3) if the employee is in permanent disablement.

Construction rule for `SICK_TYDBPRI3_QT`:

In order to reconstruct this variable, we again rely on the exogenous variable `FATFAO_PTBWOD_ANN`, which gives the degree of permanent disablement in case of permanent disablement and the variables `FATFAO_TWOPARD_ANN` and `FATFAO_TWOTOTD_ANN`, that cover the number of days in partial and full disability in the given year.

Although we can have observations in more than one of these variables for the same individual, we will use the observations of these three variables to derive one of the three values of the variable `SICK_TYDBPRI3_QT`.

We will identify individuals as permanently disabled in the given quarter if we have an indication that they were permanently disabled at some occasion in the given year. Only if they are not permanently disabled, we will identify them as being in full disability in the given quarter, if they have been in full disablement somewhere throughout the given year. If they have neither been permanently disabled nor been in full disability in that year, we will identify

them as temporarily partial disabled if we have an indication they have been partial disabled in the year of analysis. We implement these assumptions by respecting the following conditions.

If a positive value is observed for the variable `FATFAO_PTBWOD_ANN`, we set the variable `SICK_TYDBPRI3_QT` equal to 3.

If the variable `SICK_TYDBPRI3_QT` is still equal to 0 after this and the variable `FATFAO_TWOTOTD_ANN` has a positive value, we set `SICK_TYDBPRI3_QT` equal to 1.

If the variable `SICK_TYDBPRI3_QT` is still equal to 0 after this and the variable `FATFAO_TWOPARD_ANN` has a positive value, we set `SICK_TYDBPRI3_QT` equal to 2.

We will also reconstruct the number of days the individual received a benefit for industrial accidents throughout the quarter. The result of this reconstruction will be stored in the variable `SICK_DAYS PRI3_QT`.

Construction rule for `SICK_DAYS PRI3_QT`:

If an individual is identified to be in permanent disablement, i.e. `SICK_TYDBPRI3_QT` is equal to 3, we use the date on which the accident took place, to compute the number of days for which a benefit was received. We observe the date on which the accident took place in the exogenous variable `FATFAO_DATONG_ANN`. We compute the number of days for which a benefit was received during the quarter, as the difference between the ending date of the quarter under analysis and the value in `FATFAO_DATONG_ANN`.

If the individual is either in temporary full or partial disablement, we can use the exogenous variables `FATFAO_TWOTOTD_ANN` and `FATFAO_TWOPARD_ANN`.

If an individual is identified as either in temporary full or partial disablement, i.e. `SICK_TYDBPRI3_QT` is equal to 1 or 2, we set the variable `SICK_DAYS PRI3_QT` equal to the sum of `FATFAO_TWOTOTD_ANN` and `FATFAO_TWOPARD_ANN` divided by 4.

If after this operation, the variable `SICK_DAYS PRI3_QT` is larger than 91 and the individual is identified as being in one of the three disablement states, i.e. `SICK_TYDBPRI3_QT` is different from 0, we assume that the individual has been in this status throughout the whole quarter and therefore received a benefit for each of these days. In this case we set the variable `SICK_DAYS PRI3_QT` equal to 13 times 7, i.e. 91.

We reconstruct the number of weeks the individual is disabled because of an industrial accident at the end of the quarter of analysis. The result of this reconstruction will be stored in the variable `SICK_WEEK PRI3_QT`.

Construction rule for SICK_WEEKPRI3_QT:

We observe the date on which the accident, that results in the benefits for industrial accidents, took place in the exogenous variable FATFAO_DATONG_ANN. We compute the number of weeks already disabled because of an industrial accident at the end of the quarter by taking the difference between the ending date of the quarter under analysis and the value in FATFAO_DATONG_ANN. This number is divided by 7 and rounded to above. If the value of SICK_WEEKPRI3_QT is still equal to 0 after this operation, we set SICK_WEEKPRI3_QT equal to 13.

Finally, we also reconstruct the degree of disability for the labour market, for those in permanent disablement. We store this degree as a fraction ranging from 0 to 1, in the variable SICK_DEGRPRI3_QT.

Construction rule for SICK_DEGRPRI3_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FATFAO_PTBWOD_ANN, which gives the degree of permanent disablement in case of permanent disablement. Since the variable FATFAO_PTBWOD_ANN is expressed in percentages times 100, we set SICK_DEGRPRI3_QT equal to FATFAO_PTBWOD_ANN divided by 10000. If this variable would be larger than 1, we set it equal to 1.

With all these reconstructed variables we can now reconstruct the benefits paid in case of industrial accidents. We will reconstruct a daily benefit and a quarterly benefit and store the results in the variables SICK_BENPRI3_DAY and SICK_BENPRI3_QT respectively. The latter variable covers the amount of the benefit, received by the employee, independent of whom pays the benefit. To distinguish the public from the private budget we also construct a variable SICK_EMPBPRI3_QT that covers the benefit paid by the employer.

Construction rule for SICK_BENPRI3_DAY, SICK_BENPRI3_QT and SICK_EMPBPRI3_QT:

If an individual is entitled to benefits because of industrial accidents in the private labour market wage earner regime, i.e. SICK_ELIGPRI3_QT is not equal to 0, we determine the value of SICK_BENPRI3_QT on a step by step basis. We compute a different daily benefit for each week the sick has been disabled because of this industrial accident throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks an individual has been disabled because of an industrial accident at the end of the quarter, i.e. the value of SICK_WEEKPRI3_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYS PRI3_QT, by 7.

For each week we select the appropriate computation rule for the daily benefit from Table 16, conditional on the type of insurance (blue or white collar, i.e. SICK_TYPEINSU_PRIV_QT) and the type of benefit the insured is entitled to (full or partial temporary disablement or permanent disablement, i.e. the value of SICK_TYDBPRI3_QT).

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 68,19 on the value observed in SICK_LDAYWAGE_DAY to obtain the limited daily wage.

With this information we can compute the value of the daily benefit, i.e. SICK_BENPRI3_DAY, received in the week under analysis. The value we add to SICK_BENPRI3_QT, for the week under analysis is the value of SICK_BENPRI3_DAY multiplied by 7, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

If the first week is analysed in case of a blue collar worker or the fourth in case of a white collar worker, the value of SICK_EMPBPRI3_QT is set equal to the value of SICK_BENPRI3_QT at that stage.

The limit of € 68,19 is integrated in the model in the form of the parameter SICK_INDACCLW_DAY. The values in Table 16 are integrated in the model in the form of the parameter SICK_INDACCPC_DAY, which is a matrix with 9 lines and 3 columns.

4.4 BENEFITS IN CASE OF OCCUPATIONAL DISEASES

The rules, applied to compute benefits of occupational diseases, are quite similar to those applied for the computation of industrial accidents, but not completely the same. One can again distinguish three states of disablement:³¹

- temporary full disablement,
- temporary partial disablement,
- permanent disablement.

The benefit received, differs over these states.

In case of temporary full disablement the employee is entitled a guaranteed income, paid by the employer. This guaranteed income differs between blue- and white-collar workers:³²

³¹ See Van Eeckhoutte, W. (2001), p. 542.

³² See Van Eeckhoutte, W. (2001), p. 542.

- blue-collar workers receive their usual wages the first seven days of disablement (the first of these seven days is the working day that got interrupted by the occupational disease),
- white-collar workers receive a guaranteed income during the first month of disablement. This income is equal to their normal wages.

When the right to a guaranteed income is exhausted, the employee receives a replacement income of 90% of the average daily wages if his occupational disease lasts 15 days or more.³³ The average daily wage is equal to the income an employee is entitled to for the whole year prior to the accident, divided by 365. From January 1st 2001 on the basic wage was limited to € 24.888,70 for the purpose of this computation. This means that the average daily wages were limited to € 68,19.³⁴

In case of temporary partial disablement one can distinguish three cases:³⁵

- the employee is temporary partial disabled and continues to work. His benefit is then equal to the loss in wages, computed as the difference in wages before and after the accident.
- the employee is temporary partial disabled and is not reemployed outside his own will. The benefit is equal to the one paid in case of temporary full disablement.
- the employee is temporary partial disabled and decides not to accept some offered job. The benefit is determined in function of his loss of capacities, either by comparing his capacities with the lost job or by comparing them with respect to the offered job.

In case of permanent disablement the employee receives an annual allowance per year of permanent disablement. In principle, this allowance is calculated as 100% of the basic wage times the degree of disablement on the labour market. From January 1st 2001 on the basic wage was limited to € 24.888,70 for the purpose of this computation. This annual allowance can be revised at any time, while the benefit for industrial accidents was replaced by a life-annuity after a period of three years in permanent disablement.³⁶

The annual allowance can be supplemented with a benefit for the assistance of another person if the employee is in need of help to perform the normal activities of the daily life.³⁷

³³ Presumably, people with an occupational disease, that last more than 7 days but less than 15, enter the sickness system and are paid by the mutuality.

³⁴ See Van Eeckhoutte, W. (2001), p. 542 and 536.

³⁵ See Van Eeckhoutte, W. (2001), p. 542 and 534.

³⁶ See Van Eeckhoutte, W. (2001), p. 542.

³⁷ See Van Eeckhoutte, W. (2001), p. 542 and 534.

For the computation of benefits for occupational diseases, one works with 365 days per year.³⁸ We therefore assume that this daily benefit is attributed 7 days a week.

For the sake of computation of these benefits, we assume that all temporary partial disabled, are treated as temporary full disabled and that the benefit of permanent disabled is determined as the general case prescribes. This implies the computation rules, listed in Table 17. We will not recompute the additional benefit for assistance of another person.

Table 17: Conditions used to determine the daily benefit for occupational diseases for those insured as wage earner on the private labour market on June 1st 2001³⁹

Category	Rule	Minimum daily amount	Maximum daily amount
	(1)	(2)	(3)
Temporary full disablement			
In the 1 st month of sickness			
For blue collar workers			
1	In their 1 st week of sickness	100% of UDW	
2	In the 2 nd week of sickness, if this week is complete, the third or 4 th week of sickness	90% of LDW	
3	For white collar workers	100% of UDW	
4	From the 2 nd month of sickness (period of disability)	90% of LDW	
Temporary partial disablement			
In the 1 st month of sickness			
For blue collar workers			
5	In their 1 st week of sickness	100% of UDW	
6	In the 2 nd week of sickness, if this week is complete, the third or 4 th week of sickness	90% of LDW	
7	For white collar workers	100% of UDW	
8	From the 2 nd month of sickness (period of disability)	90% of LDW	
9	Permanent disablement	100% of LDW times the degree of disablement	

In order to check the conditions in Table 17, we need to know first whether the employee receives a benefit for an occupational disease and if he does, we need to know:

³⁸ See Van Eeckhoutte, W. (2001), p. 536 and FAO (2006), Uw rechten, Vraag 4: Waarop heb ik recht in geval van een arbeidsongeval?

³⁹ See Van Eeckhoutte, W. (2001), p. 542 and 534-536.

- how much weeks he receives this benefit in the given quarter,
- whether this employee is a blue or white collar worker,
- the lost daily wage of the employee,
- the degree of disablement of the employee,
- the type of disablement (temporary full or partial disablement or permanent disablement).

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If the employee, insured as a wage earner on the private labour market, receives a benefit for an occupational disease, we set the variable SICK_ELIGPRI4_QT equal to 1.

Construction rule for SICK_ELIGPRI4_QT:

If an individual is insured as a wage earner on the private labour market, i.e. if SICK_TYPEINSU_PRIV_QT is not equal to 0, we will set SICK_ELIGPRI4_QT equal to 1 if the individual has received a benefit from the FBZ in the given year for either temporary full or partial disablement or because of permanent disablement.

The information on these states is taken from an exogenous variable, provided by the FBZ. The variable FBZFMB_SOORT_UI_QT, gives the type of benefit, paid by the FBZ. In Table 18 we illustrate how values of this variable are converted into a value of SICK_ELIGPRI4_QT.

Table 18: Values of exogenous variables used to create the variable SICK_ELIGPRI4_QT

Value of SICK_ELIGPRI4_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	FBZFMB_SOORT_UI_QT	Type of benefit paid to the employee	FBZ	1, 2

We also reconstruct an indicator that covers the type of disability benefit the employee is entitled to. We will store this reconstructed result in the variable SICK_TYDBPRI4_QT. This variable can take three values, apart from the default value of 0, i.e. 1) if the employee is in temporary full disablement, 2) if the employee is in temporary partial disablement and 3) if the employee is in permanent disablement.

Construction rule for SICK_TYDBPRI4_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FBZFMB_SOORT_UI_QT, which gives the type of benefit, paid by the FBZ and

the variable FBZFMB_PERCENTA_QT, which gives the degree of disablement for the labour market expressed as a percentage.

We will identify individuals as permanently disabled in the given quarter if the individual received benefit for permanent disablement in the given quarter, i.e. FBZFMB_SOORT_UI_QT is equal to 2. In this case we set SICK_TYDBPRI4_QT equal to 3.

If the individual is in temporary disablement, i.e. FBZFMB_SOORT_UI_QT is equal to 1, we will discriminate between either full or partial disablement on the basis of the value of FBZFMB_PERCENTA_QT. If this variable is equal to 100 or larger, we consider the individual as temporarily in full disablement and set SICK_TYDBPRI4_QT equal to 1. In all other cases we consider the individual to be in partial disablement and set SICK_TYDBPRI4_QT equal to 2.

We will also reconstruct the number of days the individual received a benefit for occupational diseases throughout the quarter. The result of this reconstruction will be stored in the variable SICK_DAYS PRI4_QT.

Construction rule for SICK_DAYS PRI4_QT:

We observe the starting date of disability and the foreseen ending date in the exogenous variables FBZFMB_BEG_ONGE_QT and FBZFMB_STOPZETI_QT. Both variables contain the year, expressed in four figures, the day and the month. The latter both expressed in two digits.

We set the value of SICK_DAYS PRI4_QT equal to the number of days, between the starting and ending date, that fall within the quarter under analysis. If the value of FBZFMB_BEG_ONGE_QT is missing, we assume that the disability starts on the first day of the quarter. If the value of FBZFMB_STOPZETI_QT is missing, we assume that the disability last until the last day of the quarter.

If after this operation, the variable SICK_DAYS PRI4_QT is larger than 91 and the individual is identified as being in one of the three disablement states, i.e. SICK_TYDBPRI4_QT is different from 0, we assume that the individual has been in this status throughout the whole quarter and therefore received a benefit for each of these days. In this case we set the variable SICK_DAYS PRI4_QT equal to 13 times 7, i.e. 91.

We reconstruct the number of weeks the individual is disabled because of an occupational disease at the end of the quarter of analysis. The result of this reconstruction will be stored in the variable SICK_WEEK PRI4_QT.

Construction rule for SICK_WEEK PRI4_QT:

We observe the date on which the disability because of the occupational disease started in the exogenous variable FBZFMB_BEG_ONGE_QT. We compute the number of weeks already disabled because of an occupational disease at the end of the quarter by taking the difference between the ending

date of the quarter under analysis and the value in FBZFMB_BEG_ONGE_QT. This number is divided by 7 and rounded to above. If the value of SICK_WEEKPRI4_QT is still equal to 0 after this operation, we set SICK_WEEKPRI4_QT equal to 13.

Finally, we also reconstruct the degree of disability for the labour market, for those in permanent disablement. We store this degree as a fraction ranging from 0 to 1, in the variable SICK_DEGRPRI4_QT.

Construction rule for SICK_DEGRPRI4_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FBZFMB_PERCENTA_QT, which gives the degree of disablement for the labour market. Since the variable FBZFMB_PERCENTA_QT is expressed in percentages, we set SICK_DEGRPRI4_QT equal to FBZFMB_PERCENTA_QT divided by 100. If this variable would be larger than 1, we set it equal to 1.

With all these reconstructed variables we can now reconstruct the benefits paid in case of occupational diseases. We will reconstruct a daily benefit and a quarterly benefit and store the results in the variables SICK_BENPRI4_DAY and SICK_BENPRI4_QT respectively. The latter variable covers the amount of the benefit, received by the employee, independent of whom pays the benefit. To distinguish the public from the private budget we also construct a variable SICK_EMPBPRI4_QT that covers the benefit paid by the employer.

Construction rule for SICK_BENPRI4_DAY, SICK_BENPRI4_QT and SICK_EMPBPRI4_QT:

If an individual is entitled to benefits because of occupational diseases in the private labour market wage earner regime, i.e. SICK_ELIGPRI4_QT is not equal to 0, we determine the value of SICK_BENPRI4_QT on a step by step basis. We compute a different daily benefit for each week the sick has been disabled because of this occupational disease throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks an individual has been disabled because of an occupational disease at the end of the quarter, i.e. the value of SICK_WEEKPRI4_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYS PRI4_QT, by 7.

For each week we select the appropriate computation rule for the daily benefit from Table 17, conditional on the type of insurance (blue or white collar, i.e. SICK_TYPEINSU_PRIV_QT) and the type of benefit the insured is entitled to (full or partial temporary disablement or permanent disablement, i.e. the value of SICK_TYDBPRI4_QT).

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 68,19 on the value observed in SICK_LDAYWAGE_DAY to obtain the limited daily wage.

With this information we can compute the value of the daily benefit, i.e. SICK_BENPRI4_DAY, received in the week under analysis. If the second week is analysed and the individual is a blue collar worker we apply the rule as if the sickness lasts 15 days or more, assuming that those who are sick more than 7 days but less than 15, receive a similar benefit from their mutuality.

The value we add to SICK_BENPRI4_QT, for the week under analysis is the value of SICK_BENPRI4_DAY multiplied by 7, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

If the first week is analysed in case of a blue collar worker or the fourth in case of a white collar worker, the value of SICK_EMPBPRI4_QT is set equal to the value of SICK_BENPRI4_QT at that stage.

The limit of € 68,19 is integrated in the model in the form of the parameter SICK_OCCDISLW_DAY. The values in Table 17 are integrated in the model in the form of the parameter SICK_OCCDISPC_DAY, which is a matrix with 9 lines and 3 columns.

5 SICKNESS AND DISABILITY BENEFITS FOR THOSE INSURED AS WAGE EARNER ON THE PUBLIC LABOUR MARKET

We will again distinguish 4 possible types of benefits that sick or disabled, insured as wage earners on the public labour market, might receive. These benefits are:

1. common sickness and disability benefits,
2. maternity benefits,
3. benefits in case of industrial accident,
4. benefits in case of occupational disease.

For each of these benefits we will reconstruct a) a variable that indicates whether the individual is eligible for these benefits and b) one that covers the recomputed benefit.

These indicators will be stored in the variables SICK_ELIGPUBx_QT and SICK_BENPUBx_QT, respectively, where x will be a number running from 1 to 4, covering the above four benefit types respectively.

For the computation of sickness and disability benefits of wage earners on the public labour market, one distinguishes between civil servants without and with statutory service.

5.1 SICKNESS AND DISABILITY BENEFITS FOR CIVIL SERVANTS WITHOUT STATUTORY SERVICE

Within the sickness and disability benefit system, civil servants without statutory service are treated in the same way as those insured as wage earner on the private labour market.⁴⁰ Hence, for these civil servants we will not reply the computation rules applied, since they are the same as those discussed in section 4. We will only discuss how we construct the variables, necessary to implement these computation rules.

5.1.1 SICKNESS AND DISABILITY BENEFITS

The computation rules, necessary to compute the regular sickness and disability benefits of those for which the regime is equal to that of the private labour market, are summarised in Table 10. In order to check the conditions listed in Table 10, we need to know whether a sick or disabled receives a sickness or disability benefit and if he does, we need to know:

- the type of workweek the sick or disabled was in, i.e. a 5 or 6 day working week.
- how much weeks the sick or disabled is already sick,
- whether the sick or disabled loses his sole source of income yes or no,
- whether the sick or disabled is a blue or white collar worker,
- the lost daily wage of the sick or disabled,
- the household type of the sick or disabled.

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If a sick or disabled, that is insured as a wage earner on the public labour market but not in statutory service, receives a sickness or disability benefit, we set the variable `SICK_ELIGPUB1_QT` equal to 1.

Construction rule for `SICK_ELIGPUB1_QT`:

If an individual is on the public labour market but not in statutory service, i.e. if `SICK_TYPEINSU_PUB_QT` is equal to 1 or 2, we will set `SICK_ELIGPUB1_QT` equal to 1 conditional on values of four exogenous variables.

⁴⁰ See Van Eeckhoutte, W. (2001), p. 338, point 2.2.a.

The variables we use either reveal that the individual is known as sick or disabled by the employer (CODASM_QT, BARB100A or BARB200_QT) or known as such by the RIZIV (RIZIVINA_STELSEL_MAT_QT). If an individual is still in his first year of sickness, we will set SICK_ELIGPUB1_QT equal to 1. If the individual is considered to be in disability, we set SICK_ELIGPUB1_QT equal to 2. In Table 19 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPUB1_QT.

Table 19: Values of exogenous variables used to create the variable SICK_ELIGPUB1_QT

Value of SICK_ELIGPUB1_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	1, 10, 82
1	BARB100A_QT	Performance code of performances registered by the RSZPPO	RSZPPO	110
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	210, 211, 212, 216, 220
2	RIZIVINA_STELSEL_INVALID_QT	Code that indicates the type of RIZIV benefit received in the given quarter	RIZIV	1

We will reconstruct the working week of the sick or disabled and store the result in the variable SICK_WOWEPUB_QT.

Construction rule for SICK_WOWEPUB_QT:

If an individual is insured as a wage earner on the public labour market but not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we will set SICK_WOWEPRIV_QT equal to 1 if the individual is assumed to be working a 5 day working week and equal to 2 if this individual is working in a 6 day working week.

We do not have sufficient information to distinguish between both types of working weeks. We assume that all individuals, insured as a wage earner on the public labour market but not in statutory service, work in a five day working week. Hence, we set SICK_WOWEPUB_QT equal to 1 if SICK_TYPEINSU_PUB_QT is equal to 1 or 2.

The number of days the sick or disabled receives a benefit throughout the quarter, will be stored in the variable SICK_DAYSPUB1_QT.

Construction rule for SICK_DAYSPUB1_QT:

If an individual is insured as a wage earner on the public labour market, i.e. if SICK_TYPEINSU_PUB_QT is not equal to 0, we can rely on three exogenous variables to reconstruct the number of days for which the individual receives a sickness or disability benefit.

If an individual is not in disability, i.e. SICK_ELIGPUB1_QT equal to 1, we can rely on the exogenous variable JRSASM_QT, provided by the RSZ and the variables P_DG100A_QT and P_DG200_QT, provided by the RSZPPO. These variables cover the number of equated days that correspond with the equated days covered by the variables CODASM_QT, BARB100A_QT and BARB200_QT.

To compute the number of days for which a benefit was received, we first compute the sum of the observed number of equated days in all these variables. This sum is divided by the number of days worked per week, i.e. either by 5 or 6. The value of 5 or 6 is chosen, conditional on the value of SICK_WOWEPUB_QT. The result of this division is rounded to above and then multiplied by 6.

If an individual is in disability, i.e. SICK_ELIGPUB1_QT is equal to 2, we could rely on the exogenous variables RIZIVINA_AANVANGS_INVALID_QT and RIZIVINA_EINDBETA_INVALID_QT, provided by the RIZIV. These variables cover the starting and the assumed ending date of the payments. However, we only use the starting date of the payments and assume that the ending date of the payments is the last day of the quarter under analysis.⁴¹

We then check how many days, starting from the starting date of the payments until the last day of the quarter under analysis, are situated within the quarter under analysis. This number of days is divided by 7 and then multiplied with 6. This result is rounded to above and is considered to be the number of days for which the individual receives a benefit in the given quarter.

⁴¹ That we choose the last day of the quarter under analysis as the assumed ending date of the payments, instead of the value in RIZIVINA_EINDBETA_QT, is based on two arguments: a) the value in RIZIVINA_EINDBETA_QT is an estimated date, while the value in RIZIVINA_AANVANGS_QT is not, and b) the use of the last date of the quarter performed better in reconstructing the estimates of the benefits for 2001.

If, after this operation, the value of SICK_DAYS PUB1_QT, would be larger than 13 times 6 we set SICK_DAYS PUB1_QT equal to 78.

We will reconstruct the number of weeks the sick is already sick at the end of the quarter of analysis and store this result in the variable SICK_WEEK PUB1_QT for those insured as a wage earner on the public labour market, i.e. if SICK_TYPE INSU_PUB_QT is not equal to 0.

Construction rule for SICK_WEEK PUB1_QT:

If an individual is not in disability, i.e. SICK_ELIG PUB1_QT equal to 1, we divide the number of days for which a benefit is received by 6 and round the result to above.

If an individual is in disability, i.e. SICK_ELIG PUB1_QT is equal to 2, we can rely on the exogenous variable B_ZIEKTE_QT provided by the RIZIV. This variable covers the starting date of the period of sickness. We compute the number of weeks in sickness by taking the difference between the ending date of the quarter under analysis and the value in B_ZIEKTE_QT. This number is divided by 7 and rounded to above. If after this operation, the value of SICK_WEEK PUB1_QT would be smaller than 53 we set the value of SICK_WEEK PUB1_QT equal to 53. If SICK_WEEK PUB1_QT is still equal to 0 after this operation, we set the value of SICK_WEEK PUB1_QT equal to 53 plus 13.

Remark that we assume here that individuals, for whom we do not have additional information, are in disability already throughout the whole quarter that is being analysed.

We also have to reconstruct a variable that indicates whether the sick or disabled lost his sole source of income. An indicator of this will be stored in the variable SICK_SOLE PUB_QT. This variable is equal to 1 if the sick or disabled lost his sole source of income when he became sick.

Construction rule for SICK_SOLE PUB_QT:

We do not have sufficient information to reconstruct this variable. Therefore we assume that all sick or disabled, insured as wage earner on the public labour market who are not in statutory service, lose their sole source of income, if they become sick. Hence, if SICK_TYPE INSU_PUB_QT is equal to 1 or 2, we set SICK_SOLE PUB_QT equal to 1.

We also reconstruct an indicator of the fact that the individual is a regular worker yes or no. If an individual is considered to be a regular worker, the variable SICK_REG WPUB_QT is set equal to 1.

Construction rule for SICK_REG WPUB_QT:

Exploitation of the CIMIR data should allow us to check some conditions that need to be checked to qualify an employee as a regular worker. We did not exploit these data for this purpose.

We assume that all individuals, insured as a wage earner on the public labour market, i.e. for which SICK_TYPEINSU_PUB_QT is not equal to 0, have been regular workers before they became sick. Hence, we set SICK_REGWPUB_QT equal to 1 for all individuals for which SICK_TYPEINSU_PUB_QT is not equal to 0.

For all individuals in the sample we have an indication of their lost daily wage in the variable SICK_LDAYWAGE_DAY.

With all these reconstructed variables we can now reconstruct the sickness or disability benefit. We reconstruct a daily benefit and a quarterly benefit and store the results in the variables SICK_BENPUB1_DAY and SICK_BENPUB1_QT respectively. The latter variable covers the amount of the benefit, received by the sick or disabled, independent of who pays. To distinguish the payments from the budget of the sickness and disability system, from those made by the employer we also construct a variable SICK_EMPBPUB1_QT that covers the benefit paid by the employer.

Construction rule for SICK_BENPUB1_DAY, SICK_BENPUB1_QT and SICK_EMPBPUB1_QT:

If an individual is entitled to sickness or disability benefits in the public labour market wage earner regime, i.e. SICK_ELIGPUB1_QT is not equal to 0, and if this individual is not in statutory service, i.e. SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we determine the value of SICK_BENPUB1_QT on a step by step basis. We compute a different daily benefit for each week the sick has been sick throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks in sickness at the end of the quarter, i.e. the value of SICK_WEEKPUB1_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYSPUB1_QT, by 6.

For each week we select the appropriate percentage and minima and maxima from Table 10, conditional on the values observed for family type (i.e. SICK_FAMSIT_QT), the loss of the sole source of income (i.e. SICK_SOLEPUB_QT), whether the employee was a regular or irregular worker (i.e. SICK_REGWPUB_QT) and the type of insurance (blue or white collar) (i.e. SICK_TYPEINSU_PUB_QT).

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 116,74 or € 97,28 on the value observed in SICK_LDAYWAGE_DAY to obtain the limited daily wage. Which of the two limits should be applied is determined, conditional on the type of working week the individual is in, i.e. the value of SICK_WOWEPUB_QT.

With this information we can compute the value of the daily benefit, i.e. `SICK_BENPUB1_DAY`, received in the week under analysis. We multiply this daily benefit with 6 and add this result to the value of `SICK_BENPUB1_QT`, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

If the second week is analysed in case of a blue collar worker or the fourth in case of a white collar worker, the value of `SICK_EMPBPUB1_QT` is set equal to the value of `SICK_BENPUB1_QT` at that stage.

The limits of € 116,74 and € 97,28 are integrated in the model in the form of the parameter `SICK_LIMPRIV_DAY`, which is a vector with 2 lines and 1 column. The values in Table 10 are integrated in the model in the form of the parameter `SICK_PERCPRIV_DAY`, which is a matrix with 15 lines and 4 columns.

Next to this common benefit, blue collar workers also receive a supplementary benefit if they are in their 2nd, third and 4th week of sickness.

We also reconstruct this additional daily supplement for blue collar workers and store this result in the variable `SICK_SUPPUB1_DAY`. The final benefit, received in the given quarter, will be stored in the variable `SICK_SUPPUB1_QT`. The latter variable again covers the whole supplement, received by the sick, independent of whom pays this supplement. We will store the supplement, paid by the employer, in the variable `SICK_EMPSPUB1_QT`.

Construction rule for `SICK_SUPPUB1_DAY`, `SICK_SUPPUB1_QT` and `SICK_EMPSPUB1_QT`:

If an individual is a) entitled to sickness or disability benefits in the public labour market wage earner regime but is not in statutory service, i.e. `SICK_ELIGPUB1_QT` is equal to 1 and b) insured as a blue collar worker, i.e. `SICK_TYPEINSU_PUB_QT` is equal to 1 and c) is in his 2nd, third or 4th week of sickness, i.e. `SICK_WEEKPUB1_QT` is equal to 2, 3 or 4, then compute `SICK_SUPPUB1_DAY` as follows:

25,88% of the part of `SICK_LDAYWAGE_DAY` that does not exceed € 116,74 +

85,88% of the part of `SICK_LDAYWAGE_DAY` that exceeds € 116,74 –
`SICK_PREPAY_DAY`.

When `SICK_SUPPUB1_DAY` has been reconstructed, we construct `SICK_SUPPUB1_QT`, as the value of `SICK_SUPPUB1_DAY` multiplied by the number of weeks in sickness in the given quarter that could result in a supplement times 6.

The number of weeks in sickness in the given quarter that could result in a supplement is equal to the value of SICK_WEEKPUB1_QT minus 1 if the sick is sick for 2, 3 or 4 weeks.

If the second week is analysed, the value of SICK_EMPSPUB1_QT is set equal to the value of SICK_SUPPUB1_QT at that time.

The number of days worked per week is selected conditional on the value of SICK_WOWEPUB_QT.

The limit of € 116,74 is integrated in the model as an element of the parameter SICK_LIMPRIV_DAY. The values of 25,88% and 85,88%, are integrated in the model in the form of the parameter SICK_SUPPRIV_DAY, which is again a parameter with 1 line and 2 columns.

Certain sick or disabled, insured as a wage earner on the public labour market but not in statutory service, can receive a supplementary benefit for costs they make if they have to rely on a third person. The computation rules, necessary to compute this supplementary benefit for those for which the regime is equal to that of the private labour market, are summarised in Table 12. In order to check the conditions in Table 12, we need to know first whether a sick or disabled is eligible to receive this supplementary benefit for help of a third person and if he is, we need to know:

- the type of workweek the sick or disabled was in, i.e. a 5 or 6 day working week.
- how much weeks the sick or disabled is already sick,
- whether the sick or disabled loses his sole source of income yes or no,
- the lost daily wage of the sick or disabled,
- the household type of the sick or disabled.

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If a sick or disabled, insured as a wage earner on the public labour market but not in statutory service, receives a supplementary benefit for help of a third person, we set the variable SICK_ELTHPUB_QT equal to 1.

Construction rule for SICK_ELTHPUB_QT:

If an individual is insured as a wage earner on the public labour market but not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we will set SICK_ELTHPUB_QT equal to 1 conditional on the value of an exogenous variable.

The exogenous variable we use is the variable RIZIVINA_BETALING_INVALID_QT, provided by the RIZIV. This variable covers an indicator for the type of benefit that has been paid to the disabled. In

Table 20 we illustrate how values of this exogenous variable are translated into values of SICK_ELTHPUB_QT.

Table 20: Values of exogenous variables used to create the variable SICK_ELTHPUB_QT

Value of SICK_ELTHPUB_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	RIZIVINA_BETALING_INVALID_QT	Code that indicates the type of benefit paid in the given quarter	RIZIV	Variable is three characters long, second character should be equal to '1'

Remark that we assume here that none of the primary disabled receives this supplementary benefit because of help of a third person. This is simply because we do not have sufficient information to discriminate those that receive the benefit from those that do not receive the benefit.

The other variables to reconstruct this supplement have been reconstructed already. We will reconstruct the daily supplement first and then use this daily supplement to compute the quarterly amount. These reconstructed values will be stored in the variables SICK_BETHPUB_DAY and SICK_BETHPUB_QT respectively.

Construction rule for SICK_BETHPUB_DAY and SICK_BETHPUB_QT:

If the public labour market insured is entitled to a supplement for the help of a third person, i.e. SICK_ELTHPUB_QT is equal to 1, and if this individual is not in statutory service, i.e. SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we again determine the value of SICK_BETHPUB_QT on a step by step basis. We compute a different daily benefit for each week the sick has been sick throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks in sickness at the end of the quarter, i.e. the value of SICK_WEEKPUB1_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYS PUB1_QT, by 6.

Since we observe the family type (i.e. SICK_FAMSIT_QT) and the loss of the sole source of income (i.e. SICK_SOLEPUB_QT), we can select the appropriate computation rule for this daily benefit from Table 12.

If we have to apply a limit on the value of SICK_LDAYWAGE_DAY for the application of this computation rule, the limit is selected conditional on the type of working week the individual is in, i.e. the value of SICK_WOWEPUB_QT.

If the value of SICK_BETHPUB_DAY is determined, we add the product of SICK_BETHPUB_DAY multiplied with 6 to the value of SICK_BETHPUB_QT, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

The limits of € 116,74 and € 97,28 are integrated in the model in the form of the parameter SICK_LIMPRIV_DAY, which is a vector with 2 lines and 1 column. The values in Table 12 are integrated in the model in the form of the parameter SICK_THIRPRIV_DAY, which is a matrix with 6 lines and 3 columns.

5.1.2 MATERNITY BENEFITS

The computation rules, necessary to compute the maternity benefits of those for which the regime is equal to that of the private labour market, are summarised in Table 14. In order to check the conditions in Table 14, we need to know first whether the individual is entitled to maternity benefits and if she does, we need to know:

- the type of workweek she was in, i.e. a 5 or 6 day working week.
- how many days of maternity leave already passed,
- whether she was full time unemployed or not when taking up maternity leave,
- whether she had a labour market contract when taking up maternity leave,
- the lost daily wage.

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If the individual is insured as a wage earner on the public labour market but is not in statutory service and should receive a maternity benefit, we set the variable SICK_ELIGPUB2_QT equal to 1 if the individual is not in disability and equal to 2 if the individual is in disability.

Construction rule for SICK_ELIGPUB2_QT:

If an individual is insured as a wage earner on the public labour market but is not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we will set SICK_ELIGPUB2_QT equal to 1 or 2 conditional on values of three exogenous variables.

The variables we use either reveal that the individual is known as a person on maternity leave by the employer (CODASM_QT or BARB200_QT) or known as such by the RIZIV (RIZIVINA_STELSEL_MAT_QT). In Table 21 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPUB2_QT.

Table 21: Values of exogenous variables used to create the variable SICK_ELIGPUB2_QT

Value of SICK_ELIGPUB2_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	6, 7, 8
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	241, 245
2	RIZIVINA_STELSEL_MAT_QT	Code that indicates the type of RIZIV benefit received in the given quarter	RIZIV	3

We will construct the number of days the person received the maternity benefit throughout the given quarter, and store this result in the variable SICK_DAYS PUB2_QT.

Construction rule for SICK_DAYS PUB2_QT:

If an individual is entitled to maternity benefits in the public labour market wage earner regime and not in disability, i.e. SICK_ELIGPUB2_QT is equal to 1, we rely on the values of the exogenous variable JRSASM_QT, provided by the RSZ and the variable P_DG200_QT, provided by the RSZPPO. These variables cover the number of equated days, registered in a given quarter, that correspond with the codes covered by the variables CODASM_QT and BARB200_QT.

We set the number of days on maternity leave equal to the sum of the values observed in JRSASM_QT and P_DG200_QT.

If an individual is in disability, i.e. SICK_ELIGPUB2_QT is equal to 2, we could rely on the exogenous variables RIZIVINA_AANVANGS_MAT_QT and

RIZIVINA_EINDBETA_MAT_QT, provided by the RIZIV. These variables cover the starting and the assumed ending date of the payments. However, we only use the starting date of the payments and assume that the ending date of the payments is the last day of the quarter under analysis.⁴²

We then check how many days, starting from the starting date of the payments until the last day of the quarter under analysis, are situated within the quarter under analysis. These days are assumed to be the days for which payments were received.

If after this operation SICK_DAYSPUB2_QT turns out to be larger than 75, for people entitled to maternity benefits, i.e. for which SICK_ELIGPUB2_QT is not equal to 0, we set SICK_DAYSPUB2_QT equal to 75.

We also reconstruct the number of days the person is on maternity leave at the beginning of the quarter and store this result in the variable SICK_MATLPUB1_QT.

Construction rule for SICK_MATLPUB2_QT:

If an individual is entitled to maternity benefits in the public labour market wage earner regime, not in statutory service and not in disability, i.e. SICK_ELIGPUB2_QT is not equal to 1, we have no information to determine the number of days, the individual was already on maternity leave before the quarter under analysis. In this case we assume that the individual has been 0 days on maternity leave before the start of the quarter.

If an individual is entitled to maternity benefits in the public labour market wage earner regime, not in statutory service and in disability, i.e. SICK_ELIGPUB2_QT is not equal to 2, we rely on the exogenous variable RIZIVINA_AANVANGS_MAT_QT, provided by the RIZIV. This variable covers the starting date of the RIZIV payments.

We compute the number of days that lie between the starting date of the quarter of analysis and the value observed in RIZIVINA_AANVANGS_MAT_QT. We divide this result by 7, multiply it with 5 and round it to above. This result is considered to be the number of days of maternity leave that already passed at the beginning of the quarter of analysis. If after this operation SICK_MATLPUB2_QT turns out to be larger than 75, we limit the value of SICK_MATLPUB2_QT to 75.

Whether an employee has a labour market contract yes or no, will be derived from the fact that the employee has a labour market income yes or no, i.e.

⁴² That we choose the last day of the quarter under analysis as the assumed ending date of the payments, instead of the value in RIZIVINA_EINDBETA_QT, is based on two arguments: a) the value in RIZIVINA_EINDBETA_QT is an estimated date, while the value in RIZIVINA_AANVANGS_QT is not, and b) the use of the last date of the quarter performed better in reconstructing the estimates of the benefits for 2001.

whether the variable `CONTRIB_REVPUB_QT` is equal to 0 or not. Whether the person on maternity leave is a full time unemployed or not, will be derived from the fact that this person has no labour market income, i.e. `CONTRIB_REVPUB_QT` is equal to 0, and receives unemployment benefits or not, i.e. whether the variable `UNEM_BENUN_QT` is equal or not.

With all these reconstructed variables we can now reconstruct the maternity benefits. We will store the daily benefit in the variable `SICK_BENPUB2_DAY` and the quarterly benefit in the variable `SICK_BENPUB2_QT`.

Construction rule for `SICK_BENPUB2_DAY` and `SICK_BENPUB2_QT`:

If an individual is entitled to maternity benefits in the public labour market wage earner regime, i.e. `SICK_ELIGPRI2_QT` is not equal to 0, and if this individual is not in statutory service, i.e. `SICK_TYPEINSU_PUB_QT` is equal to 1 or 2, we compute the different daily benefits this individual might be confronted with throughout that quarter and accumulate these benefits, to obtain an estimate of the quarterly benefit.

If an individual has used less than 31 days of maternity leave, i.e. `SICK_MATLPUB2_QT` is less than 31, we compute the value of `SICK_BENPUB2_QT` in two steps.

In a first step, we compute the value of `SICK_BENPUB2_DAY` as a percentage of the limited or unlimited wage. The appropriate percentage is selected from lines 1, 3 or 5 in Table 14, conditional on the observed unemployment benefit (i.e. `UNEM_BENUN_QT`) and labour market income (i.e. `CONTRIB_REVPUB_QT`).

An individual is identified as a full time unemployed if `CONTRIB_REVPUB_QT` is equal to 0 and if `UNEM_BENUN_QT` is different from 0. In this case we only select the percentage to be applied as additional supplement.

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 116,74 or € 97,28 on the value observed in `SICK_LDAYWAGE_DAY` to obtain the limited daily wage. Which of the two limits should be applied is determined, conditional on the type of working week the individual is in, i.e. the value of `SICK_WOWEPUB_QT`.

After this value of `SICK_BENPUB2_DAY` has been determined, we compute `SICK_BENPUB2_QT` as the value of `SICK_BENPUB2_DAY` times 31 minus the number of days on maternity leave that already have been consumed, i.e. the value of `SICK_MATLPUB2_QT`.

In a second step we compute the value of value of `SICK_BENPUB2_DAY` again as a percentage of the limited wage but the appropriate percentage is selected now from lines 2, 4 or 6 in Table 14, conditional on the observed

unemployment benefit (i.e. UNEM_BENUN_QT) and labour market income (i.e. CONTRIB_REVPUB_QT) by applying the same principles as above.

After this second value of SICK_BENPUB2_DAY has been determined, we add the value of SICK_BENPUB2_DAY times the number of days of maternity leave that should still be consumed, i.e. 75 minus 30 to the value of SICK_BENPUB2_QT.

If an individual has used 31 days or more of maternity leave, i.e. SICK_MATLPUB2_QT is 31 or more, we compute the value of SICK_BENPUB2_QT in one step.

We compute the value of value of SICK_BENPUB2_DAY as a percentage of the limited wage. The appropriate percentage is selected now from lines 2, 4 or 6 in Table 14, conditional on the observed unemployment benefit (i.e. UNEM_BENUN_QT) and labour market income (i.e. CONTRIB_REVPUB_QT) by applying the same principles as above.

When the value of SICK_BENPUB2_DAY has been determined, we set the value of SICK_BENPUB2_DAY times the number of days on maternity leave that should still be consumed, i.e. 75 minus the value of SICK_MATLPUB2_QT, to the value of SICK_BENPUB2_QT.

The limits of € 116,74 and € 97,28 are integrated in the model in the form of the parameter SICK_LIMPRIV_DAY, which is a vector with 2 lines and 1 column. The percentages, listed in Table 14, are integrated in the model in the form of the parameter SICK_MATPRIV_DAY, which is a vector of 6 lines and 1 column.

Remark that for full time unemployed on maternity leave the quarterly amount only contains the supplementary benefit. The basic benefit is stored in the variable UNEM_BENUN_QT.

Remark that we only compute the regular benefits for maternity leave here. If people are on maternity leave because their pregnancy is incompatible with the security prescriptions we assume that they receive a benefit for occupational disease.

5.1.3 BENEFITS IN CASE OF INDUSTRIAL ACCIDENTS

The computation rules, necessary to compute the benefits in case of industrial accidents of those for whom the regime is equal to that of the private labour market, are summarised in Table 16. In order to check the conditions in Table 16, we need to know first whether the employee receives a benefit for an industrial accident and if he does, we need to know:

- how much weeks he receives this benefit in the given quarter,
- whether this employee is a blue or white collar worker,

- the lost daily wage of the employee,
- the degree of disablement of the employee,
- the type of disablement (temporary full or partial disablement or permanent disablement).

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If an individual is insured as a wage earner on the public labour market but not in statutory service, receives a benefit for an industrial accident, we set the variable SICK_ELIGPUB3_QT equal to 1.

Construction rule for SICK_ELIGPUB3_QT:

If an individual is insured as a wage earner on the public labour market but not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we will set SICK_ELIGPUB3_QT equal to 1 if the individual has received a benefit from the FAO in the given year for either temporary full or partial disablement or because of permanent disablement.

The information on these states is taken from three exogenous variables, all provided by the FAO. The variable FATFAO_PTBWOD_ANN, gives the degree of permanent disablement in case of permanent disablement. The variables FATFAO_TWOPARD_ANN and FATFAO_TWOTOTD_ANN cover the number of days in partial and full disability in the given year.

We set the variable SICK_ELIGPUB3_QT equal to 1 if either one of these variables is different from 0.

Remark that by doing this, we assume that any individual who received any kind of these three benefits throughout the year analysed, from the FAO, is receiving this benefit in the quarter that is being analysed.

We also reconstruct an indicator that covers the type of disability benefit the employee is entitled to. We will store this reconstructed result in the variable SICK_TYDBPUB3_QT. This variable can take three values, apart from the default value of 0, i.e. 1) if the employee is in temporary full disablement, 2) if the employee is in temporary partial disablement and 3) if the employee is in permanent disablement.

Construction rule for SICK_TYDBPUB3_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FATFAO_PTBWOD_ANN, which gives the degree of permanent disablement in case of permanent disablement and the variables FATFAO_TWOPARD_ANN and FATFAO_TWOTOTD_ANN, that cover the number of days in partial and full disability in the given year.

Although we can have observations in more than one of these variables for the same individual, we will use the observations of these three variables to derive one of the three values of the variable SICK_TYDBPUB3_QT.

We will identify individuals as permanently disabled in the given quarter if we have an indication that they were permanently disabled at some occasion in the given year. Only if they are not permanently disabled, we will identify them as being in full disability in the given quarter, if they have been in full disablement somewhere throughout the given year. If they have neither been permanently disabled nor been in full disability in that year, we will identify them as temporarily partial disabled if we have an indication they have been partial disabled in the year of analysis. We implement these assumptions by respecting the following conditions.

If a positive value is observed for the variable FATFAO_PTBWOD_ANN, we set the variable SICK_TYDBPUB3_QT equal to 3.

If the variable SICK_TYDBPUB3_QT is still equal to 0 after this and the variable FATFAO_TWOTOTD_ANN has a positive value, we set SICK_TYDBPUB3_QT equal to 1.

If the variable SICK_TYDBPUB3_QT is still equal to 0 after this and the variable FATFAO_TWOPARD_ANN has a positive value, we set SICK_TYDBPUB3_QT equal to 2.

We will also reconstruct the number of days the individual received a benefit for industrial accidents throughout the quarter. The result of this reconstruction will be stored in the variable SICK_DAYS PUB3_QT.

Construction rule for SICK_DAYS PUB3_QT:

If an individual is identified to be in permanent disablement, i.e. SICK_TYDBPUB3_QT is equal to 3, we use the date on which the accident took place, to compute the number of days for which a benefit was received. We observe the date on which the accident took place in the exogenous variable FATFAO_DATONG_ANN. We compute the number of days for which a benefit was received during the quarter, as the difference between the ending date of the quarter under analysis and the value in FATFAO_DATONG_ANN.

If the individual is either in temporary full or partial disablement, we can use the exogenous variables FATFAO_TWOTOTD_ANN and FATFAO_TWOPARD_ANN.

If an individual is identified as either in temporary full or partial disablement, i.e. SICK_TYDBPUB3_QT is equal to 1 or 2, we set the variable SICK_DAYS PRI3_QT equal to the sum of FATFAO_TWOTOTD_ANN and FATFAO_TWOPARD_ANN divided by 4.

If after this operation, the variable SICK_DAYS PUB3_QT is larger than 91 and the individual is identified as being in one of the three disablement states, i.e.

SICK_TYDBPUB3_QT is different from 0, we assume that the individual has been in this status throughout the whole quarter and therefore received a benefit for each of these days. In this case we set the variable SICK_DAYSPUB3_QT equal to 13 times 7, i.e. 91.

We reconstruct the number of weeks the individual is disabled because of an industrial accident at the end of the quarter of analysis. The result of this reconstruction will be stored in the variable SICK_WEEKPUB3_QT.

Construction rule for SICK_WEEKPUB3_QT:

We observe the date on which the accident, that results in the benefits for industrial accidents, took place in the exogenous variable FATFAO_DATONG_ANN. We compute the number of weeks already disabled because of an industrial accident by taking the difference between the ending date of the quarter under analysis and the value in FATFAO_DATONG_ANN. This number is divided by 7 and rounded to above. If the value of SICK_WEEKPUB3_QT is still equal to 0 after this operation, we set SICK_WEEKPUB3_QT equal to 13.

Finally, we also reconstruct the degree of disability for the labour market, for those in permanent disablement. We store this degree as a fraction ranging from 0 to 1, in the variable SICK_DEGRPUB3_QT.

Construction rule for SICK_DEGRPUB3_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FATFAO_PTBWOD_ANN, which gives the degree of permanent disablement in case of permanent disablement. Since the variable FATFAO_PTBWOD_ANN is expressed in percentages times 100, we set SICK_DEGRPUB3_QT equal to FATFAO_PTBWOD_ANN divided by 10000. If this variable would be larger than 1, we set it equal to 1.

With all these reconstructed variables we can now reconstruct the benefits paid in case of industrial accidents. We will reconstruct a daily benefit and a quarterly benefit and store the results in the variables SICK_BENPUB3_DAY and SICK_BENPUB3_QT respectively. The latter variable covers the amount of the benefit, received by the employee, independent of whom pays the benefit. To distinguish the payments from the budget of the sickness and disability system from those made by the employer we also construct a variable SICK_EMPBPUB3_QT that covers the benefit paid by the employer.

Construction rule for SICK_BENPUB3_DAY, SICK_BENPUB3_QT and SICK_EMPBPUB3_QT:

If an individual is insured as a wage earner on the public labour market but not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2 and entitled to benefits in case of industrial accidents, i.e. SICK_ELIGPUB3_QT is equal to 1, we determine the value of SICK_BENPUB3_QT on a step by step

basis. We compute a different daily benefit for each week the sick has been disabled because of this industrial accident throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks an individual has been disabled because of an industrial accident at the end of the quarter, i.e. the value of `SICK_WEEKPUB3_QT`, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. `SICK_DAYSPUB3_QT`, by 7.

For each week we select the appropriate computation rule for the daily benefit from Table 16, conditional on the type of insurance (blue or white collar, i.e. `SICK_TYPEINSU_PRIV_QT`) and the type of benefit the insured is entitled to (full or partial temporary disablement or permanent disablement, i.e. the value of `SICK_TYDBPRI3_QT`).

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 68,19 on the value observed in `SICK_LDAYWAGE_DAY` to obtain the limited daily wage.

With this information we can compute the value of the daily benefit, i.e. `SICK_BENPUB3_DAY`, received in the week under analysis. The value we add to `SICK_BENPUB3_QT`, for the week under analysis is the value of `SICK_BENPUB3_DAY` multiplied by 7, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

If the first week is analysed in case of a blue collar worker or the fourth in case of a white collar worker, the value of `SICK_EMPBPUB3_QT` is set equal to the value of `SICK_BENPUB3_QT` at that stage.

The limit of € 68,19 is integrated in the model in the form of the parameter `SICK_INDACCLW_DAY`. The values in Table 16 are integrated in the model in the form of the parameter `SICK_INDACCPC_DAY`, which is a matrix with 9 lines and 3 columns.

5.1.4 BENEFITS IN CASE OF OCCUPATIONAL DISEASES

The computation rules, necessary to compute the benefits in case of occupational diseases of those for whom the regime is equal to that of the private labour market, are summarised in Table 17. In order to check the conditions in Table 17, we need to know whether the employee receives a benefit for an occupational disease and if he does, we need to know:

- how much weeks he receives this benefit in the given quarter,

- whether this employee is a blue or white collar worker,
- the lost daily wage of the employee,
- the degree of disablement of the employee,
- the type of disablement (temporary full or partial disablement or permanent disablement).

To determine the benefit, received throughout a given quarter, we also need to know for how many days we need to recompute this daily benefit.

If an individual is insured as a wage earner on the public labour market but not in statutory service and receives a benefit for an occupational disease, we set the variable SICK_ELIGPUB4_QT equal to 1.

Construction rule for SICK_ELIGPUB4_QT:

If an individual is insured as a wage earner on the public labour market but not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2, we will set SICK_ELIGPUB4_QT equal to 1 if the individual has received a benefit from the FBZ in the given year for either temporary full or partial disablement or because of permanent disablement.

The information on these states is taken from an exogenous variable, provided by the FBZ. The variable FBZFMB_SOORT_UI_QT, gives the type of benefit, paid by the FBZ. In Table 22 we illustrate how values of this variable are converted into a value of SICK_ELIGPUB4_QT.

Table 22: Values of exogenous variables used to create the variable SICK_ELIGPUB4_QT

Value of SICK_ELIGPUB4_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	FBZFMB_SOORT_UI_QT	Type of benefit paid to the employee	FBZ	1, 2

We also reconstruct an indicator that covers the type of disability benefit the employee is entitled to. We will store this reconstructed result in the variable SICK_TYDBPUB4_QT. This variable can take three values, apart from the default value of 0, i.e. 1) if the employee is in temporary full disablement, 2) if the employee is in temporary partial disablement and 3) if the employee is in permanent disablement.

Construction rule for SICK_TYDBPUB4_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FBZFMB_SOORT_UI_QT, which gives the type of benefit, paid by the FBZ and the variable FBZFMB_PERCENTA_QT, which gives the degree of disablement for the labour market expressed as a percentage.

We will identify individuals as permanently disabled in the given quarter if the individual received a benefit for permanent disablement in the given quarter, i.e. FBZFMB_SOORT_UI_QT is equal to 2. In this case we set SICK_TYDBPUB4_QT equal to 3.

If the individual is in temporary disablement, i.e. FBZFMB_SOORT_UI_QT is equal to 1, we will discriminate between either full or partial disablement on the basis of the value of FBZFMB_PERCENTA_QT. If this variable is equal to 100 or larger, we consider the individual as temporarily in full disablement and set SICK_TYDBPUB4_QT equal to 1. In all other cases we consider the individual to be in partial disablement and set SICK_TYDBPUB4_QT equal to 2.

We will also reconstruct the number of days the individual received a benefit for occupational diseases throughout the quarter. The result of this reconstruction will be stored in the variable SICK_DAYS PUB4_QT.

Construction rule for SICK_DAYS PUB4_QT:

We observe the starting date of disability and the foreseen ending date in the exogenous variables FBZFMB_BEG_ONGE_QT and FBZFMB_STOPZETI_QT. Both variables contain the year, expressed in four figures, the day and the month. The latter both expressed in two digits.

We set the value of SICK_DAYS PUB4_QT equal to the number of days, between the starting and ending date, that fall within the quarter under analysis. If the value of FBZFMB_BEG_ONGE_QT is missing, we assume that the disability starts on the first day of the quarter. If the value of FBZFMB_STOPZETI_QT is missing, we assume that the disability last until the last day of the quarter.

If after this operation, the variable SICK_DAYS PUB4_QT is larger than 91 and the individual is identified as being in one of the three disablement states, i.e. SICK_TYDBPUB4_QT is different from 0, we assume that the individual has been in this status throughout the whole quarter and therefore received a benefit for each of these days. In this case we set the variable SICK_DAYS PUB4_QT equal to 13 times 7, i.e. 91.

We reconstruct the number of weeks the individual is disabled because of an occupational disease at the end of the quarter of analysis. The result of this reconstruction will be stored in the variable SICK_WEEK PUB4_QT.

Construction rule for SICK_WEEK PUB4_QT:

We observe the date on which the disability because of the occupational disease started in the exogenous variable FBZFMB_BEG_ONGE_QT. We compute the number of weeks already disabled because of an occupational disease at the end of the quarter by taking the difference between the ending date of the quarter under analysis and the value in FBZFMB_BEG_ONGE_QT. This number is divided by 7 and rounded to above. If the value of

SICK_WEEKPUB4_QT is still equal to 0 after this operation, we set SICK_WEEKPUB4_QT equal to 13.

Finally, we also reconstruct the degree of disability for the labour market, for those in permanent disablement. We store this degree as a fraction ranging from 0 to 1, in the variable SICK_DEGRPUB4_QT.

Construction rule for SICK_DEGRPUB4_QT:

In order to reconstruct this variable, we again rely on the exogenous variable FBZFMB_PERCENTA_QT, which gives the degree of disablement for the labour market. Since the variable FBZFMB_PERCENTA_QT is expressed in percentages, we set SICK_DEGRPUB4_QT equal to FBZFMB_PERCENTA_QT divided by 100. If this variable would be larger than 1, we set it equal to 1.

With all these reconstructed variables we can now reconstruct the benefits paid in case of occupational diseases. We will reconstruct a daily benefit and a quarterly benefit and store the results in the variables SICK_BENPUB4_DAY and SICK_BENPUB4_QT respectively. The latter variable covers the amount of the benefit, received by the employee, independent of whom pays the benefit. To distinguish the payments from the budget of the sickness and disability system, from those made by the employer we also construct a variable SICK_EMPBPUB4_QT that covers the benefit paid by the employer

Construction rule for SICK_BENPUB4_DAY, SICK_BENPUB4_QT and SICK_EMPBPUB4_QT:

If an individual is insured as a wage earner on the public labour market but not in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 1 or 2 and entitled to benefits in case of occupational diseases, i.e. SICK_ELIGPUB4_QT is equal to 1, we determine the value of SICK_BENPUB4_QT on a step by step basis. We compute a different daily benefit for each week the sick has been disabled because of this occupational disease throughout the past quarter.

The first week for which we compute a daily benefit is equal to the number of weeks an individual has been disabled because of an occupational disease at the end of the quarter, i.e. the value of SICK_WEEKPUB4_QT, minus the number of weeks for which the individual received a benefit in the given quarter. We compute the number of weeks for which the individual received a benefit in the given quarter by dividing the number of days this benefit was received, i.e. SICK_DAYSPUB4_QT, by 7.

For each week we select the appropriate computation rule for the daily benefit from Table 17, conditional on the type of insurance (blue or white collar, i.e. SICK_TYPEINSU_PUB_QT) and the type of benefit the insured is entitled to (full or partial temporary disablement or permanent disablement, i.e. the value of SICK_TYDBPUB4_QT).

Conditional on these values we also check whether the percentage should be applied on a limited or unlimited wage. If the percentage should be applied on a limited wage, we apply the limit of € 68,19 on the value observed in SICK_LDAYWAGE_DAY to obtain the limited daily wage.

With this information we can compute the value of the daily benefit, i.e. SICK_BENPUB4_DAY, received in the week under analysis. If the second week is analysed and the individual is a blue collar worker we apply the rule as if the sickness lasts 15 days or more, assuming that those who are sick more than 7 days but less than 15, receive a similar benefit from their mutuality.

The value we add to SICK_BENPUB4_QT, for the week under analysis is the value of SICK_BENPUB4_DAY multiplied by 7, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

If the first week is analysed in case of a blue collar worker or the fourth in case of a white collar worker, the value of SICK_EMPBPUB4_QT is set equal to the value of SICK_BENPUB4_QT at that stage.

The limit of € 68,19 is integrated in the model in the form of the parameter SICK_OCCDISLW_DAY. The values in Table 17 are integrated in the model in the form of the parameter SICK_OCCDISPC_DAY, which is a matrix with 9 lines and 3 columns.

5.2 SICKNESS AND DISABILITY BENEFITS FOR CIVIL SERVANTS WITH STATUTORY SERVICE

5.2.1 SICKNESS AND DISABILITY BENEFITS

For each civil servant in statutory service, a personal counter of the allowed number of days of sickness leave is constructed. If the civil servant enters statutory service, the counter is set equal to 63. For each 12 months of seniority in statutory service, the counter is increased with 21 days.

If the civil servant falls ill, he receives 100% of his lost wages, for as many working days as he is sick and as long as this number of days is smaller than the allowed number of sickness days in the counter.

If his number of illness days exceeds the amount of days in the counter the civil servant receives at least 60% of his lost wages. However, if a medical social board (de medisch sociale Rijksdienst) recognises that the illness is serious and long-lasting, the sickness benefit can still be set equal to 100% of his lost wages.

Once the number of illness days in the counter are exhausted, the civil servant can also enter a request to be declared permanently unfit. This request is judged by a pension-commission and if they support the request, the civil servant

retires, independent of his age. In this case the civil servant will receive a retirement benefit that depends on his lost wages, the level of disability and the family situation of the civil servant.⁴³

All of these benefits are paid by the employer and thus are outside the social security budget.⁴⁴

For the sake of computation of these benefits, we will assume that all civil servants with statutory service, that are entitled to this benefit, independent of the state in which they are, i.e. with or without exhaustion of the number of days counter and with or without retirement benefit, receive a benefit of 100% of their lost wage.

Hence, to reconstruct this benefit for civil servants in statutory service, we need to know whether the civil servant is entitled to this benefit and if he is, we need to know:

- the number of days for which the civil servant receives this benefit throughout the quarter,
- their lost wage.

If a sick or disabled, that is insured as a wage earner on the public labour market and in statutory service, receives a sickness or disability benefit, we also set the variable SICK_ELIGPUB1_QT equal to 1.

Construction rule for SICK_ELIGPUB1_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, we will set SICK_ELIGPUB1_QT equal to 1 conditional on values of four exogenous variables.

The variables we use reveal that the individual is known as sick or disabled by the employer (CODASM_QT, BARB100A, BARB200_QT and BARB000_QT). In Table 23 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPUB1_QT.

⁴³ FOD Sociale Zekerheid (2002), p. 227-228.

⁴⁴ The costs, carried by the employer, will appear in the budget of the either federal or local public service.

Table 23: Values of exogenous variables used to create the variable SICK_ELIGPUB1_QT

Value of SICK_ELIGPUB1_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	1, 10, 82
1	BARB100A_QT	Performance code of performances registered by the RSZPPO	RSZPPO	110, 150, 151
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	210, 211
1	BARB000_QT	Performance code of performances registered by the RSZPPO	RSZPPO	53

The number of days per quarter that the sick or disabled civil servant receives this sickness or disability benefit will be stored in the variable SICK_DAYSPUB1_QT.

Construction rule for SICK_DAYSPUB1_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives a sickness or disability benefit, i.e. SICK_ELIGPUB1_QT is equal to 1, we will construct the variable SICK_DAYSPUB1_QT as the sum of the variables JRSASM_QT (provided by the RSZ) and the variables P_DG100A, P_DG200 and P_DG000_QT (provided by the RSZPPO). These variables cover the number of equated days, throughout the given quarter, that correspond with the sickness or disability status of the civil servant in statutory service, i.e. the different performance codes, used to construct the eligibility conditions in Table 23.

If the value of SICK_DAYSPUB1_QT, is larger than 13 times 7, we set this variable equal to 91.

For all individuals in the sample we have an indication of their lost daily wage in the variable SICK_LDAYWAGE_DAY.

With all these reconstructed variables we can now reconstruct the sickness or disability benefit. We reconstruct a daily benefit and a quarterly benefit and store the results as well in the variables SICK_BENPUB1_DAY and SICK_BENPUB1_QT respectively. The latter variable covers the amount of the benefit, received by the sick or disabled, independent of whom pays. To distinguish the payments from the budget of the sickness and disability system, from those made by the employer we also construct a variable SICK_EMPBPUB1_QT that covers the benefit paid by the employer.

Construction rule for SICK_BENPUB1_DAY, SICK_BENPUB1_QT and SICK_EMPBPUB1_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives a sickness or disability benefit, i.e. SICK_ELIGPUB1_QT is equal to 1, we determine the value of SICK_BENPUB1_DAY first as 100% of the lost wage, i.e. the value in SICK_LDAYWAGE_DAY.

We then determine the values of SICK_BENPUB1_QT and SICK_EMPBPUB1_QT as the daily benefit times the number of days the individual received this benefit throughout the given quarter, i.e. the value of SICK_BENPUB1_DAY times the value of SICK_DAYS PUB1_QT.

The value of 100%, applied on the lost wage to compute the daily benefit, is integrated in the model in the form of the parameter SICK_PEPUBSIC_DAY.

5.2.2 MATERNITY BENEFITS

In general women, who will be giving birth to a child, are entitled to a maternity benefit during 15 weeks spread around the birth of the child. This period might start 7 weeks before the theoretical date of birth.

Maternity benefits for civil servants with statutory service are computed as 100% of the lost wages.⁴⁵

These benefits are paid by the employer and thus are outside the social security budget.⁴⁶

To reconstruct this benefit for civil servants in statutory service, we need to know whether the civil servant is entitled to this benefit and if she is, we need to know:

- the number of days for which she receives this benefit in the given quarter,
- their lost wage.

⁴⁵ FOD Sociale Zekerheid (2002), p. 237-238.

⁴⁶ The costs, carried by the employer, will appear in the budget of the either federal or local public service.

If the individual is insured as a wage earner on the public labour market, is in statutory service and should receive a maternity benefit, we set the variable SICK_ELIGPUB2_QT equal to 1 as well.

Construction rule for SICK_ELIGPUB2_QT (continued):

If an individual is insured as a wage earner on the public labour market and is in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, we will set SICK_ELIGPUB2_QT equal to 1 conditional on values of two exogenous variables.

The variables we use reveal that the individual is known as a person on maternity leave by the employer (CODASM_QT or BARB200_QT). In Table 24 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPUB2_QT.

Table 24: Values of exogenous variables used to create the variable SICK_ELIGPUB2_QT

Value of SICK_ELIGPUB2_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	6, 7, 8
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	241, 245

We will reconstruct the number of days the person is already on maternity leave and store this result in the variable SICK_DAYS PUB2_QT as well.

Construction rule for SICK_DAYS PUB2_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives a maternity benefit, i.e. SICK_ELIGPUB2_QT is equal to 1, we determine SICK_DAYS PUB2_QT as the sum of the exogenous variables that cover the equated days registered in a given quarter.

For civil servants working for a federal institution, we rely on the variable JRSASM_QT, provided by the RSZ. This variable covers the number of equated days, registered in a given quarter, that correspond with a given status.

For civil servants, working for a local authority, we can rely on the variable P_DG200_QT, provided by the RSZPPO. This variable covers the number of days that correspond with the code observed for the variable BARB200_QT.

We set the number of days in sickness equal to the observed number of equated days, i.e. the sum of JRSASM_QT and P_DG200_QT.

If the value of SICK_DAYSPUB2_QT after this operation is larger than 13 times 5, we set SICK_DAYSPUB2_QT equal to 13 times 5.

For all individuals in the sample we have an indication of their lost daily wage in the variable SICK_LDAYWAGE_DAY.

With all these reconstructed variables we can now reconstruct the maternity benefits. We apply here the same principles as those used for the sickness and disability benefit. This means that we reconstruct a daily benefit, a quarterly benefit and the benefit paid by the employer. We store these results in the variables SICK_BENPUB2_DAY, SICK_BENPUB2_QT and SICK_EMPBPUB2_QT.

Construction rule for SICK_BENPUB2_DAY, SICK_BENPUB2_QT and SICK_EMPBPUB2_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives a maternity benefit, i.e. SICK_ELIGPUB2_QT is equal to 1, we determine the value of SICK_BENPUB2_DAY first as 100% of the lost wage, i.e. the value in SICK_LDAYWAGE_DAY.

We then determine the values of SICK_BENPUB2_QT and SICK_EMPBPUB2_QT as the daily benefit times the number of days the individual received this benefit throughout the given quarter, i.e. the value of SICK_BENPUB2_DAY times the value of SICK_DAYSPUB2_QT.

The value of 100%, applied on the lost wage to compute the daily benefit, is integrated in the model in the form of the parameter SICK_PEPUBMAT_DAY.

5.2.3 BENEFITS IN CASE OF INDUSTRIAL ACCIDENTS

To determine benefits in case of industrial accidents of civil servants with statutory service, one distinguishes periods of temporary disablement from those of permanent disablement.

In case of temporary disablement, the civil servant receives 100% of his lost wages, throughout the whole period of disablement. If the civil servant becomes permanently disabled because of an industrial accident, he receives a life annuity. The annuity depends on the lost but limited wages, the degree of disability and the level of the disability pension.⁴⁷

⁴⁷ FOD Sociale Zekerheid (2002), p. 457-458.

For the sake of computation of these benefits, we assume that all civil servants, receiving a benefit for industrial accidents, are temporarily disabled.

Again, these benefits are paid by the employer and thus are outside the social security budget.⁴⁸

To reconstruct this benefit for civil servants in statutory service, we need to know whether the civil servant is entitled to this benefit and if so, we need to know:

- the number of days for which she receives this benefit in the given quarter,
- their lost wage.

If the individual is insured as a wage earner on the public labour market, is in statutory service and should receive a benefit for industrial accidents, we set the variable SICK_ELIGPUB3_QT equal to 1 as well.

Construction rule for SICK_ELIGPUB3_QT (continued):

If an individual is insured as a wage earner on the public labour market and is in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, we will set SICK_ELIGPUB3_QT equal to 1 conditional on values of three exogenous variables.

The variables we use reveal that the individual is known as a person entitled to benefits for industrial accidents. In Table 25 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPUB3_QT.

⁴⁸ These payments, carried by the employer, will appear in the budget of the either federal or local public service.

Table 25: Values of exogenous variables used to create the variable SICK_ELIGPUB3_QT

Value of SICK_ELIGPUB3_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	2, 4
1	BARB100A_QT	Performance code of performances registered by the RSZPPO	RSZPPO	111
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	221, 231

We will reconstruct the number of days the person receives a benefit for industrial accidents in the given quarter and store this result in the variable SICK_DAYSPUB3_QT as well.

Construction rule for SICK_DAYSPUB3_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives benefits for industrial accidents, i.e. SICK_ELIGPUB3_QT is equal to 1, we determine SICK_DAYSPUB3_QT as the sum of the exogenous variables that cover the equated days registered in a given quarter.

For civil servants working for a federal institution, we rely on the variable JRSASM_QT, provided by the RSZ. For civil servants, working for a local authority, we can rely on the variables P_DG100A_QT and P_DG200_QT, provided by the RSZPPO. These variables cover the number of days that correspond with the codes observed for the variables BARB100A and BARB200_QT.

We set the number of days in sickness equal to the observed number of equated days, i.e. the sum of JRSASM_QT, P_DG100A_QT and P_DG200_QT.

If the value of SICK_DAYSPUB3_QT after this operation is larger than 13 times, we set SICK_DAYSPUB3_QT equal to 13 times 5.

For all individuals in the sample we have an indication of their lost daily wage in the variable SICK_LDAYWAGE_DAY.

With all these reconstructed variables we can now reconstruct the benefits for industrial accidents. To do so, we reconstruct a daily benefit, a quarterly benefit and the benefit paid by the employer. We store these results in the variables SICK_BENPUB3_DAY, SICK_BENPUB3_QT and SICK_EMPBPUB3_QT.

Construction rule for SICK_BENPUB3_DAY, SICK_BENPUB3_QT and SICK_EMPBPUB3_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives benefits for industrial accidents, i.e. SICK_ELIGPUB3_QT is equal to 1, we determine the value of SICK_BENPUB3_DAY first as 100% of the lost wage, i.e. the value in SICK_LDAYWAGE_DAY.

We then determine the values of SICK_BENPUB3_QT and SICK_EMPBPUB3_QT as the daily benefit times the number of days the individual received this benefit throughout the given quarter, i.e. the value of SICK_BENPUB3_DAY times the value of SICK_DAYS PUB3_QT.

The value of 100%, applied on the lost wage to compute the daily benefit, is integrated in the model in the form of the parameter SICK_PEPUBIND_DAY.

5.2.4 BENEFITS IN CASE OF OCCUPATIONAL DISEASES

To determine benefits in case of occupational diseases of civil servants with statutory service, one also distinguishes periods of temporary disablement from those of permanent disablement.

In case of temporary disablement, the civil servant receives 100% of his lost wages, throughout the whole period of disablement. If the civil servant becomes permanently disabled because of an occupational disease, he receives a life annuity. The annuity depends on the lost but limited wages, the degree of disability and the level of the disability pension.⁴⁹

For the sake of computation of these benefits, we assume that all civil servants, receiving a benefit for occupational diseases, are temporarily disabled.

Again, these benefits are paid by the employer and thus are outside the social security budget.⁵⁰

To reconstruct this benefit for civil servants in statutory service, we need to know whether the civil servant is entitled to this benefit and if so, we need to know:

- the number of days for which she receives this benefit in the given quarter,

⁴⁹ FOD Sociale Zekerheid (2002), p. 457-458.

⁵⁰ These payments, carried by the employer, will appear in the budget of the either federal or local public service.

- their lost wage.

If the individual is insured as a wage earner on the public labour market, is in statutory service and should receive a benefit for occupational diseases, we set the variable SICK_ELIGPUB4_QT equal to 1 as well.

Construction rule for SICK_ELIGPUB4_QT (continued):

If an individual is insured as a wage earner on the public labour market and is in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, we will set SICK_ELIGPUB4_QT equal to 1 conditional on values of three exogenous variables.

The variables we use reveal that the individual is known as a person entitled to benefits for occupational diseases. In Table 26 we illustrate how values of these exogenous variables are translated into values of SICK_ELIGPUB4_QT.

Table 26: Values of exogenous variables used to create the variable SICK_ELIGPUB4_QT

Value of SICK_ELIGPUB4_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	CODASM_QT	Code of the type of assimilated working days that are most observed in the given quarter	RSZ	3, 5
1	BARB100A_QT	Performance code of performances registered by the RSZPPO	RSZPPO	112
1	BARB200_QT	Performance code of performances registered by the RSZPPO	RSZPPO	222, 232

We will reconstruct the number of days the person receives a benefit for occupational diseases in the given quarter and store this result in the variable SICK_DAYS PUB4_QT as well.

Construction rule for SICK_DAYS PUB4_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives benefits for occupational diseases, i.e. SICK_ELIGPUB4_QT is equal to 1, we determine SICK_DAYS PUB4_QT as the sum of the exogenous variables that cover the equated days registered in a given quarter.

For civil servants working for a federal institution, we rely on the variable JRSASM_QT, provided by the RSZ. For civil servants, working for a local authority, we can rely on the variables P_DG100A_QT and P_DG200_QT, provided by the RSZPPO. These variables cover the number of days that correspond with the codes observed for the variables BARB100A and BARB200_QT.

We set the number of days in sickness equal to the observed number of equated days, i.e. the sum of JRSASM_QT, P_DG100A_QT and P_DG200_QT.

If the value of SICK_DAYSPUB4_QT after this operation is larger than 13 times 5 or if SICK_DAYSPUB4_QT is still equal to 0, we set SICK_DAYSPUB4_QT equal to 13 times 5.

For all individuals in the sample we have an indication of their lost daily wage in the variable SICK_LDAYWAGE_DAY.

With all these variables we can now reconstruct the benefits for occupational diseases. To do so, we reconstruct a daily benefit, a quarterly benefit and the benefit paid by the employer. We store these results in the variables SICK_BENPUB4_DAY, SICK_BENPUB4_QT and SICK_EMPBPUB4_QT.

Construction rule for SICK_BENPUB4_DAY, SICK_BENPUB4_QT and SICK_EMPBPUB4_QT (continued):

If an individual is on the public labour market and in statutory service, i.e. if SICK_TYPEINSU_PUB_QT is equal to 3 or 4, and if this individual receives benefits for occupational diseases, i.e. SICK_ELIGPUB4_QT is equal to 1, we determine the value of SICK_BENPUB4_DAY first as 100% of the lost wage, i.e. the value in SICK_LDAYWAGE_DAY.

We then determine the values of SICK_BENPUB4_QT and SICK_EMPBPUB4_QT as the daily benefit times the number of days the individual received this benefit throughout the given quarter, i.e. the value of SICK_BENPUB4_DAY times the value of SICK_DAYSPUB4_QT.

The value of 100%, applied on the lost wage to compute the daily benefit, is integrated in the model in the form of the parameter SICK_PEPUBOCC_DAY.

6 SICKNESS AND DISABILITY BENEFITS FOR THOSE INSURED AS SELF EMPLOYED

We will distinguish 2 types of benefits that sick or disabled, insured as self employed, might receive. These benefits are:

5. common sickness and disability benefits,
6. maternity benefits.

For each of these benefits we will reconstruct a) a variable that indicates whether the individual is eligible for these benefits and b) one that covers the recomputed benefit.

These indicators will be stored in the variables SICK_ELIGSELx_QT and SICK_BENSELx_QT, respectively, where x will be a number running from 1 to 2, covering the above two benefit types respectively.

6.1 SICKNESS AND DISABILITY BENEFITS

Self employed do not receive any benefit in their first month of sickness. From the second month on until the 12th month of sickness, they receive a lump sum amount per day of sickness, except for Sundays. This fixed amount differs for self employed with or without dependent family. From the 13th month of sickness on (i.e. the period of disability) self employed receive a lump sum amount per day as well, but the amount they receive per day is higher than the one paid to those in primary disablement. For self employed in disability one applies different lump sum benefits dependent on a) the family situation of the self employed and b) whether the self employed closed his business yes or no.⁵¹

The different lump sum amounts, that were applied on June 1st 2001, are summarised in Table 27.

Table 27: Level of daily lump sum benefits for self employed in case of sickness or disability on June 1st 2001⁵²

Category	With dependent family	Without dependent family
	(1)	(2)
1 From the 2 nd month until the 12 th month	€ 18,62	€ 15,12
From the 13 th month of sickness on		
2 General rule	€ 29,55	€ 22,16
3 Closure of the business of the self-employed	€ 31,31	€ 23,48

To reconstruct the quarterly benefits we need to know first whether the self employed receives a sickness or disability benefit and if he does, we need to know:

- how much months the sick or disabled is already sick,
- whether he closed his business yes or no,
- the household type of the sick or disabled,

⁵¹ See Van Eeckhoutte, W. (2001), p. 583.

⁵² See Van Eeckhoutte, W. (2001), p. 584.

- the number of days during the quarter for which the self employed receives this benefit.

If a sick or disabled, insured as a self employed, receives a sickness or disability benefit, we set the variable SICK_ELIGSEL1_QT equal to 1 in case of sickness and to 2 in case of disability.

Construction rule for SICK_ELIGSEL1_QT:

If an individual is insured as a self employed, i.e. if SICK_TYPEINSU_SELF_QT is not equal to 0, we will set SICK_ELIGSEL1_QT equal to 1 conditional on the value of RIZIVINA_STELSEL_INVALID_QT, an exogenous variable, provided by the RIZIV. In Table 28 we illustrate how values of RIZIVINA_STELSEL_INVALID_QT are translated into values of SICK_ELIGSEL1_QT.

Table 28: Values of exogenous variables used to create the variable SICK_ELIGSEL1_QT

Value of SICK_ELIGSEL1_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	No information available to identify primary disablement			
2	RIZIVINA_STELSEL_INVALID_QT	Code that indicates the type of RIZIV benefit received in the given quarter	RIZIV	2

The number of days for which the self employed receives a sickness or disability benefit in the given quarter, will be stored in the variable SICK_DAYSSEL1_QT.

Construction rule for SICK_DAYSSEL1_QT:

If an individual is insured as a self employed, i.e. if SICK_TYPEINSU_SELF_QT is not equal to 0, we can rely on two exogenous variables to reconstruct the number of days for which the individual receives a sickness or disability benefit.

If an individual is in disability, i.e. SICK_ELIGSEL1_QT is equal to 2, we could rely on the exogenous variables RIZIVINA_AANVANGS_INVALID_QT and RIZIVINA_EINDBETA_INVALID_QT, provided by the RIZIV. These variables cover the starting and the assumed ending date of the payments. However, we only

use the starting date of the payments and assume that the ending date of the payments is the last day of the quarter under analysis.⁵³

We then check how many days, starting from the starting date of the payments until the last day of the quarter under analysis, are situated within the quarter under analysis. This number of days is divided by 7 and then multiplied with 6. This result is rounded to above and is considered to be the number of days for which the individual receives a benefit in the given quarter.

If, after this operation, the value of SICK_DAYSSEL1_QT, would be larger than 13 times 6 we set SICK_DAYSSEL1_QT equal to 78.

We will reconstruct the number of weeks the sick is already sick at the end of the quarter of analysis and store this result in the variable SICK_WEEKSEL1_QT for those insured as a self employed, i.e. if SICK_TYPEINSU_SEL_QT is not equal to 0.

Construction rule for SICK_WEEKSEL1_QT:

If an individual is in disability, i.e. SICK_ELIGSEL1_QT is equal to 2, we can rely on the exogenous variable B_ZIEKTE_QT provided by the RIZIV. This variable covers the starting date of the period of sickness. We compute the number of weeks in sickness by taking the difference between the ending date of the quarter under analysis and the value in B_ZIEKTE_QT. This number is divided by 7 and rounded to above. If after this operation, the value of SICK_WEEKSEL1_QT would be smaller than 53 we set the value of SICK_WEEKSEL1_QT equal to 53. If SICK_WEEKSEL1_QT is still equal to 0 after this operation, we set the value of SICK_WEEKSEL1_QT equal to 53 plus 13.

Remark that we assume here that individuals, for whom we do not have additional information, are in disability already throughout the whole quarter that is being analysed.

If a self employed closed his business after the incident that induced the disability status, we will set the variable SICK_CLOSESEL_QT equal to 1.

Construction rule for SICK_CLOSESEL_QT:

To reconstruct the variable SICK_CLOSESEL_QT we rely on the type of payment the self employed received from the RIZIV. The exogenous variable that contains an identification of this is the variable RIZIVINA_BETALING_INVAL_QT. In Table 29 we illustrate how values of

⁵³ That we choose the last day of the quarter under analysis as the assumed ending date of the payments, instead of the value in RIZIVINA_EINDBETA_QT, is based on two arguments: a) the value in RIZIVINA_EINDBETA_QT is an estimated date, while the value in RIZIVINA_AANVANGS_QT is not, and b) the use of the last date of the quarter performed better in reconstructing the estimates of the benefits for 2001.

RIZIVINA_BETALING_INVALID_QT are translated into values of SICK_CLOSESEL_QT.

Table 29: Values of exogenous variables used to create the variable SICK_CLOSESEL_QT

Value of SICK_CLOSESEL_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	RIZIVINA_BETALING_INVALID_QT	Code that indicates the type of benefit paid in the given quarter	RIZIV	10A, 20A, 30A, 41A, 42A

Since the family type of the self employed has already been reconstructed, we have sufficient information to reconstruct the daily and quarterly benefit for sickness and disability benefits, paid to self employed. We store these benefits in the variables SICK_BENSEL1_DAY and SICK_BENSEL1_QT respectively.

Construction rule for SICK_BENSEL1_DAY and SICK_BENSEL1_QT:

If an individual is insured as a self employed, i.e. if SICK_TYPEINSU_SELF_QT is not equal to 0, and if this individual is entitled to sickness or disability benefits, i.e. SICK_ELIGSEL1_QT is equal to 1 or 2, we determine the value of SICK_BENSEL1_QT on a step by step basis. We compute a different daily benefit for each week the sick has been sick throughout the past quarter. The first week for which we compute a daily benefit is either equal to 1, if the individual is sick 13 weeks or less or equal to the number of weeks in sickness, i.e. the value of SICK_WEEKSEL1_QT, minus 13.

For each week we select the appropriate lump sum benefit from Table 27, conditional on the number of weeks in sickness (i.e. the value of SICK_WEEKSEL1_QT), the family situation (i.e. the value of SICK_FAMSIT_QT) and whether the self employed closed his business yes or no (i.e. the value of SICK_CLOSESEL_QT).

We then add the value of SICK_BENSEL1_DAY multiplied by 6 to the value of SICK_BENSEL1_QT, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

The values in Table 27 are integrated in the model, in the form of the parameter SICK_LSSELSIC_DAY, which is a matrix of 3 lines and 2 columns.

Certain self employed, can also receive a supplementary benefit for costs they make if they have to rely on a third person from the 4th month of sickness on.

The conditions to be satisfied by all sick or disabled that are entitled to these benefits are:⁵⁴

- that the self employed is incapable of performing a number of activities of normal life alone,
- that the self employed is not admitted to any kind of official nursing facility, locked up in prison or internalised in some social protection institution,
- that the incapability of performing these normal life activities has been recognised by the Geneeskundige Raad voor Invaliditeit/Conseil Médical de l'Invalidité.

A self employed that satisfies these conditions received a fixed supplement per day of € 5,06 on June 1st 2001.⁵⁵

If a sick or disabled, insured as a self employed, can receive a supplementary benefit for help of a third person, we set the variable SICK_ELTHSELF_QT equal to 1.

Construction rule for SICK_ELTHSELF_QT:

If an individual is insured as a self employed, i.e. if SICK_TYPEINSU_SELF_QT is not equal to 0, we will set SICK_ELTHSELF_QT equal to 1 conditional on the value of an exogenous variable.

The exogenous variable we use is the variable RIZIVINA_BETALING_INVALID_QT, provided by the RIZIV. This variable covers an indicator for the type of benefit that has been paid to the disabled. In Table 30 we illustrate how values of this exogenous variable are translated into values of SICK_ELTHSELF_QT.

Table 30: Values of exogenous variables used to create the variable SICK_ELTHSELF_QT

Value of SICK_ELTHSELF_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	RIZIVINA_BETALING_INVALID_QT	Code that indicates the type of benefit paid in the given quarter	RIZIV	11T, 21T, 31T, 41A, 42T, A1T, B1T, C1T, D1A, D2T

Since we know the number of weeks the self employed is in sickness, i.e. the variable SICK_WEEKSEL1_QT, we can reconstruct this lump sum benefit for help

⁵⁴ See Van Eeckhoutte, W. (2001), p. 584.

⁵⁵ See Van Eeckhoutte, W. (2001), p. 584.

of third persons. We store the quarterly benefit in the variable SICK_BETHSELF_QT.

Construction rule for SICK_BETHSELF_QT:

If a self employed is identified as a sick or disabled who can receive a lump sum benefit for help of a third person, i.e. SICK_ELTHSELF_QT is equal to 1 and if he is in the 4th month of sickness or more, we compute the quarterly benefits for help of a third person, i.e. SICK_BETHSELF_QT, on a step by step basis.

We first compute the number of weeks for which the self employed can receive a benefit throughout the given quarter. This number of weeks is equal to the number of days for which the individual receives a common sickness or disability benefit, i.e. the value of SICK_DAYSSEL1_QT, divided by 6 and rounded to above.

For each week that the individual receives a benefit we add 5,06 multiplied by 6 to the value of SICK_BETHSELF_QT, except in the last week that is analysed. In this case we add the daily benefit times the remaining number of days for which a benefit is received in the given quarter.

The lump sum value of 5,06 is integrated in the model in the form of the parameter SICK_THIRSELF_DAY.

6.2 MATERNITY BENEFITS

Individuals, insured as self employed, on maternity leave receive a fixed benefit per week during three weeks. On June 1st 2001, this fixed benefit was € 314,38.⁵⁶

In order to reconstruct this benefit we need to know whether the individual is entitled to such a maternity benefit, and if she does, we need to know for how many weeks the benefit was paid.

If the person, insured as a self employed, should receive a maternity benefit, we set the variable SICK_ELIGSEL2_QT equal to 1 if this individual is not in disability and equal to 2 if this individual is in disability.

Construction rule for SICK_ELIGSEL2_QT:

If an individual is insured as a self employed, i.e. if SICK_TYPEINSU_SELF_QT is not equal to 0, we will set SICK_ELIGSEL2_QT equal to 1 conditional on the values of an exogenous variable.

The variable we use reveals that the individual is known as a person on maternity leave by the RIZIV (RIZIVINA_STELSEL_MAT_QT). In Table 31 we

⁵⁶ See Van Eeckhoutte, W. (2001), p. 582.

illustrate how values of this exogenous variable are translated into values of SICK_ELIGSEL2_QT.

Table 31: Values of exogenous variables used to create the variable SICK_ELIGSEL2_QT

Value of SICK_ELIGSEL2_QT	Exogenous variable used	Label of exogenous variable used	Organisation that provides the variable	Value(s) of exogenous variable used
(1)	(2)	(3)	(4)	(5)
1	No information available to identify primary disablement			
2	RIZIVINA_STELSEL_MAT_QT	Code that indicates the type of RIZIV benefit received in the given quarter	RIZIV	4

We will reconstruct the number of weeks the person receives the maternity benefit throughout the given quarter and store this result in the variable SICK_WEEKSEL2_QT.

Construction rule for SICK_WEEKSEL2_QT:

If an individuals in not in disability, we do not have sufficient information to reconstruct this variable. Hence, the value of SICK_WEEKSEL2_QT remains 0 in these cases.

If an individual is in disability, i.e. SICK_ELIGSEL2_QT is equal to 2, we could rely on the exogenous variables RIZIVINA_AANVANGS_MAT_QT and RIZIVINA_EINDBETA_MAT_QT, provided by the RIZIV. These variables cover the starting and the assumed ending date of the payments. However, we only use the starting date of the payments and assume that the ending date of the payments is the last day of the quarter under analysis.⁵⁷

We then check how many days, starting from the starting date of the payments until the last day of the quarter under analysis, are situated within the quarter under analysis. This number of days is divided by 7 to obtain the number of weeks for which a benefit was paid. To obtain an integer number of weeks, the result of the division is rounded to the nearest larger integer.

If this computation method would lead to a number larger than 3 or if SICK_WEEKSEL2_QT would still be equal to 0 after this operation, we set the value of SICK_WEEKSEL2_QT equal to 3.

⁵⁷ That we choose the last day of the quarter under analysis as the assumed ending date of the payments, instead of the value in RIZIVINA_EINDBETA_QT, is based on two arguments: a) the value in RIZIVINA_EINDBETA_QT is an estimated date, while the value in RIZIVINA_AANVANGS_QT is not, and b) the use of the last date of the quarter performed better in reconstructing the estimates of the benefits for 2001.

With these reconstructed variables we can now reconstruct the maternity benefits. We will store the quarterly benefit in the variable SICK_BENSEL2_QT.

Construction rule for SICK_BENSEL2_QT:

If an individual is insured as a self employed, i.e. if SICK_TYPEINSU_SELF_QT is not equal to 0, and if this individual is entitled to maternity benefits, i.e. SICK_ELIGSEL2_QT is equal to 1 or 2, we compute the quarterly maternity benefit as the product of € 314,38 times the number of weeks the benefit is received, i.e. the value of SICK_WEEKSEL2_QT.

The value of € 314,38 is integrated in the model in the form of the parameter SICK_MATSELF_WEEK.

7 CONSTRUCTION OF SICKNESS AND DISABILITY CONCEPTS TO BE EXCHANGED TO OTHER MODULES

Throughout the preceding sections we reconstructed several benefit variables. Some of the other modules require aggregates of these benefit variables, produced by the SICK module. In this section we discuss the variables constructed to exchange to other modules. Before discussing these exchange concepts, we make an overview of the different benefit variables that have been reconstructed throughout the preceding sections. In Table 32 we list the name and the label of these reconstructed benefit variables and the section that discusses the construction of this concept.

Table 32: Benefit variables reconstructed with the SICK module

Type of benefit	Label	Section
Insured as wage earner on the private labour market		
Sickness and disability benefits		
SICK_BENPRI1_QT	Sickness and disability benefits received by the insured	4.1
SICK_EMPBPRI1_QT	Sickness and disability benefits paid by the employer	4.1
SICK_SUPPRI1_QT	Supplementary sickness benefit received by blue collar workers	4.1
SICK_EMPSPRI1_QT	Supplementary sickness benefit paid by the employer	4.1
SICK_BETHPRIV_QT	Supplementary sickness or disability benefit for the help of a third person	4.1
Maternity benefits		
SICK_BENPRI2_QT	Maternity benefits received by the insured	4.2
Benefits in case of industrial accidents		
SICK_BENPRI3_QT	Benefits for industrial accidents received by the insured	4.3
SICK_EMPBPRI3_QT	Benefits for industrial accidents paid by the employer	4.3
Benefits in case of occupational diseases		
SICK_BENPRI4_QT	Benefits for occupational diseases received by the insured	4.4
SICK_EMPBPRI4_QT	Benefits for occupational diseases paid by the employer	4.4
Insured as wage earner on the public labour market		
Sickness and disability benefits		
SICK_BENPUB1_QT	Sickness and disability benefits received by the insured	5.1.1; 5.2.1
SICK_EMPBPUB1_QT	Sickness and disability benefits paid by the employer	5.1.1; 5.2.1
SICK_SUPPUB1_QT	Supplementary sickness benefit received by blue collar workers	5.1.1; 5.2.1
SICK_EMPSPUB1_QT	Supplementary sickness benefit paid by the employer	5.1.1; 5.2.1
SICK_BETHPUB_QT	Supplementary sickness or disability benefit for the help of a third person	5.1.1; 5.2.1
Maternity benefits		
SICK_BENPUB2_QT	Maternity benefits received by the insured	5.1.2; 5.2.2
SICK_EMPBPUB2_QT	Maternity benefits paid by the employer	5.1.2; 5.2.2
Benefits in case of industrial accidents		
SICK_BENPUB3_QT	Benefits for industrial accidents received by the insured	5.1.3; 5.2.3
SICK_EMPBPUB3_QT	Benefits for industrial accidents paid by the employer	5.1.3; 5.2.3
Benefits in case of occupational diseases		

SICK_BENPUB4_QT	Benefits for occupational diseases received by the insured	5.1.4; 5.2.4
SICK_EMPBPUB4_QT	Benefits for occupational diseases paid by the employer	5.1.4; 5.2.4
Insured as self employed		
Sickness and disability benefits		
SICK_BENSEL1_QT	Sickness and disability benefits received by the insured	6.1
SICK_BETHSELF_QT	Supplementary sickness or disability benefit for the help of a third person	6.1
Maternity benefits		
SICK_BENSEL2_QT	Maternity benefits received by the insured	6.2

With these variables we reconstruct variables for the CONTRIB, SICK and UNEM module. We also use these variables to construct concepts that cover expenses made within the global budget of the social security system.

7.1 VARIABLES CONSTRUCTED FOR THE CONTRIB MODULE

The module that reconstructs the social security contributions requires the disability benefits of wage earners as input, since social security contributions are due on these disability benefits.⁵⁸ We will store these benefits in the variable SICK_DISABWEA_QT. For later purposes we also reconstruct a variable that covers all other sickness and disability benefits possibly received by an individual. We store the latter result in the variable SICK_ALOTHBEN_QT.

To identify whether an individual received disability benefits, we use the number of weeks the individual was sick. If SICK_WEEKPRI1_QT is larger than 52, we set SICK_DISABWEA_QT equal to SICK_BENPRI1_QT. If SICK_WEEKPUB1_QT is larger than 52 as well, we add SICK_BENPUB1_QT to the value of SICK_DISABWEA_QT.

Those who receive benefits in case of industrial accidents or occupational diseases also have to pay social security contributions on the benefits for either temporary or permanent disablement but not on the possible benefits for help of a third person.

We reconstruct the benefits in case of industrial accidents and occupational diseases on which contributions have to be paid, and store the result in the variables SICK_IND_QT and SICK_OCC_QT respectively. Since the benefits for help of a third person of people with either benefits for industrial accidents or occupational diseases are not reconstructed, the variables SICK_IND_QT and SICK_OCC_QT are constructed as follows:

$$SICK_IND_QT = SICK_BENPRI3_QT + SICK_BENPUB3_QT,$$

⁵⁸ Self employed do not pay contributions on their disability benefits (see Put (2001), item 1529).

$$\text{SICK_OCC_QT} = \text{SICK_BENPRI4_QT} + \text{SICK_BENPUB4_QT}.$$

We define all other benefits as the sum of all benefits received by the individual, minus the received disability benefits and the benefits for industrial accidents of occupational diseases, i.e.:

$$\begin{aligned} \text{SICK_ALOTHBEN_QT} = & \\ & \text{SICK_BENPRI1_QT} + \text{SICK_SUPPRI1_QT} + \text{SICK_BETHPRIV_QT} + \\ & \text{SICK_BENPRI2_QT} + \\ & \text{SICK_BENPRI3_QT} + \\ & \text{SICK_BENPRI4_QT} + \\ & \text{SICK_BENPUB1_QT} + \text{SICK_SUPPUB1_QT} + \text{SICK_BETHPUB_QT} + \\ & \text{SICK_BENPUB2_QT} + \\ & \text{SICK_BENPUB3_QT} + \\ & \text{SICK_BENPUB4_QT} + \\ & \text{SICK_BENSEL1_QT} + \text{SICK_BETHSELF_QT} + \\ & \text{SICK_BENSEL2_QT} - \\ & (\text{SICK_DISABWEA_QT} + \text{SICK_IND_QT} + \text{SICK_OCC_QT}) \end{aligned}$$

7.2 VARIABLES CONSTRUCTED FOR THE SICK MODULE

To check the income position of other household members, the SICK module requires an estimate of the sickness and disability benefits, received by any of the household members.

We store an aggregate of all possible benefits, received by an individual, in the variable SICK_TOTBEN_QT. We construct SICK_TOTBEN_QT as the sum of disability benefits and all other benefits, i.e. the variables SICK_DISABWEA_QT, SICK_ALOTHBEN_QT, SICK_IND_QT and SICK_OCC_QT.

Remark that a) we do not distinguish the benefits paid by the employer from those paid by the health insurance system, for this purpose and b) we include all benefits in this concept, independent of the type of insurance.

7.3 VARIABLES CONSTRUCTED FOR THE UNEM MODULE

To check the income position of other household members, the UNEM module requires an estimate of the sickness and disability benefits, received by any of the household members.

Different rules are applied on the benefits paid for industrial accidents and occupational diseases. We will store the sum of these benefits in the variable SICK_BENINOC_QT. The complement, containing all other benefits, will be stored in the variable SICK_NONEINOC_QT.

We construct the variable with benefits for industrial accidents and occupational diseases as the sum of these benefits received by those insured as wage earner on the private or public labour market.

We thus define SICK_BENINOC_QT as follows:

$$\begin{aligned} \text{SICK_BENINOC_QT} = & \\ & \text{SICK_BENPRI3_QT} + \\ & \text{SICK_BENPRI4_QT} + \\ & \text{SICK_BENPUB3_QT} + \\ & \text{SICK_BENPUB4_QT} \end{aligned}$$

The complement, i.e. the variable SICK_NONEINOC_QT is defined as the sum of all benefits minus these benefits for industrial accidents and occupational diseases, i.e. SICK_TOTBEN_QT - SICK_BENINOC_QT.

Remark that a) we do not distinguish the benefits paid by the employer from those paid by the health insurance system, for this purpose and b) we include all benefits in this concept, independent of the type of insurance.

7.4 VARIABLES CONSTRUCTED FOR THE FAMAL MODULE

To check the income position of other household members, the FAMAL module requires an estimate of the benefits for sickness and disability, received by any of the household members.

For this purpose we use the variable SICK_TOTBEN_QT.

In the FAMAL module we also need to know which system generated the disability benefits, if such benefits are paid. This in order to determine the appropriate value of the social supplement if the beneficiary is a disabled person. For this purpose we construct the variable SICK_DISABBEN_QT. This variable takes the value 1 if the disabled receives disability benefits as wage earner, 2 if he receives these benefits as civil servant and 3 if the disabled receives disability benefits as self employed.

To compute the family allowances, we also need to know the type of insurance from which the sick or disabled benefits. For this purpose we also exchange the variables SICK_TYPEINSU_PRIV_QT, SICK_TYPEINSU_PUB_QT and SICK_TYPEINSU_SELF_QT to the FAMAL module.

8 REFERENCES

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APPENDIX 1: WHAT HAS CHANGED IN THE LEGISLATION ON HEALTH INSURANCE SINCE THE YEAR 2001?

PATERNITY LEAVE

Since July 1st 2002 every employee has the right to paternity leave of 10 days after the birth of his child.⁵⁹ The employee has to take this leave within the period of 30 days starting the day of the birth. The first three days of his paternity leave the employee is entitled to his full wages paid by his employer. For the days after the first three days the employee is entitled to paternity benefits paid by the health insurance. The paternity benefits amount to 82% of the lost but limited wages of the employee. On July 1st 2002 the wages were limited to € 81,37 per day.⁶⁰ Prior to July 1st 2002 the employee was entitled to a paternity leave of only 3 days, for which he received his full wages.

⁵⁹ See FOD WASO (2006), *Vaderschapsverlof*.

⁶⁰ See RIZIV (2006), *Sociaal Verzekeren, Uitkeringsbedragen, vanaf 1 juli 2001*.

BREAST-FEEDING BREAKS

Since July 1st 2002 an employee has the right to suspend her activities to nurse her baby or to express milk.⁶¹ The break last a half hour. An employee working 4 hours a day or more is entitled to one break for that day. An employee working at least 7 hours and half is entitled to 2 breaks that day. During these breaks the employee is entitled to benefits in accordance to the maternity benefits (82% of the lost and unlimited wages).

MATERNITY BENEFITS FOR THE SELF-EMPLOYED

In 2001 the maternity benefits for self-employed were payable during 3 weeks. Since January 1st 2003 the maternity benefits are payable for 6 weeks.⁶² During this time the mother still receives a fixed amount. This amount was fixed at € 1.924,06 on January 1st 2003.

INTRODUCTION OF A MINIMUM RIGHT FOR EMPLOYEES IN PRIMARY DISABLEMENT

Since January 1st 2003 there are minimum benefits for employees in primary disablement from the 7th month of primary disablement on.⁶³ Before there were no minimum benefits, and for part-time employees or employees with low income this usually meant that they received very low benefits when they got sick. Since January 1st 2003, the minimum benefits, given in Table 33, are applied to compute benefits in case of employees in primary disablement from their 7th month of sickness on.

⁶¹ See RIZIV (2006), Verzekeringsinstellingen, Omzendbrieven naar de Verzekeringsinstellingen, Dienst voor uitkeringen, Borstvoedingspauzes van 1 juli 2002.

⁶² FOD Sociale Zekerheid (2003), p. 229.

⁶³ See RIZIV (2006), Sociaal Verzekerden, Uitkeringsbedragen, vanaf 1 januari 2003.

Table 33: Level of minimum benefits for employees in primary disablement since January 1st 2003⁶⁴

	Amount per day
Regular employees	
employees with dependent family	€ 37,23
single employees	€ 30,02
cohabitant employees	€ 26,65
Irregular employees	
employees with dependent family	€ 30,13
employees without dependent family	€ 22,60

Remark that throughout we have assumed that all those who enter the sickness or disability system, are full time workers. The computation rules in case of part time work are similar as those for full time work, except that if a wage is used, the part time instead of the full time wage is used. In order to compute the benefits for part time workers, we need to reconstruct a variable that indicates the degree of part time work, as compared to a full time worker.

⁶⁴ See RIZIV (2006), Sociaal Verzekeren, Uitkeringsbedragen, vanaf 1 januari 2003.

APPENDIX 2: THE CALCULATION OF INCOME NET OF PREPAYMENTS⁶⁵

In some cases we need income net of prepayments to compute the unemployment benefits. Different prepayment rules are applied on labour income and on certain non labour market incomes, such as pensions.⁶⁶ Since we only need to apply the rules on labour income, we discuss these rules in what follows.

To compute income net of prepayments, we start by constructing a gross taxable income concept. This gross taxable income is equal to gross income minus social security contributions paid on this gross income concept. We store annual gross taxable income in the variable SICK_GTINC_ANN.

Construction rule for SICK_GTINC_ANN:

How we compute this gross taxable income concept, depends on the income concept that is under study.

If we have to compute net wages to compute the supplement of blue collar workers, we define gross taxable income as:

$$\text{SICK_GTINC_ANN} = \text{SICK_LDAYWAGE_DAY} * 260 - 13,07 * \text{SICK_LDAYWAGE_DAY} * 260.$$

The percentage of 13,07% is integrated in the model in the form of the parameter SICK_SSCONT_QT.

Remark that we a) assume that on annual basis 260 days are rewarded for these blue collar workers and b) apply the same percentage for all individuals to compute the social security contributions on lost wages.

It is this gross taxable income concept that we use to compute the prepayments, paid on it.

PREPAYMENTS PAID ON LABOUR INCOME

Starting with the observation on annual gross taxable income, we compute the prepayments paid per quarter in three steps:

- computation of gross taxable wages per year,
- computation of net taxable wages per year,
- computation of the prepayments paid per year and per quarter.

⁶⁵ Ministerie van Financiën (2001).

⁶⁶ Ministerie van Financiën (2001).

DETERMINATION OF NET TAXABLE WAGES PER YEAR

To determine net taxable income, one subtracts from the gross taxable income the costs, made to earn this income. The costs subtracted differ in function of the gross taxable income. The scales and the rates applied to determine these costs, are listed in Table 34.

Table 34: Rates applied on gross taxable income of employees to determine a lump sum amount of expenses made to earn this income⁶⁷

Gross taxable income in EURO		Rate applied on gross taxable income
More than 0	but not more than 4.164,61	20%
More than 4.164,61	but not more than 8.354,01	10%
More than 8.354,01	but not more than 13.906,83	5%
More than 13.906,83	but not more than 55.470,32	3%
More than 55.470,32		0%

We compute net taxable income and store the result in the variable SICK_NTINC_ANN.

Construction rule for SICK_NTINC_ANN:

The value of SICK_NTINC_ANN is defined as the value of gross annual labour income, i.e. SICK_GTINC_ANN, minus the costs made to obtain this income. To compute the latter costs we apply the scale and the rates, listed in Table 34, on the gross annual labour income variable.

We integrate the values, listed in Table 34, in the module with the parameter SICK_COSTSCAL_ANN, which is a matrix with 5 lines and 3 columns.

DETERMINATION OF PREPAYMENTS

The basic prepayment taxes are determined by applying rates, differing in function of the net taxable income, on this net taxable income concept. The scales and the rates applied to determine the basic prepayment taxes on income earned in 2001, are listed in Table 35.

⁶⁷ See Ministerie van Financiën (2001), p 4;

Table 35: Rates applied on net taxable income of employees to determine the basic amount of prepayment taxes⁶⁸

Net taxable income in EURO		Rate applied on net taxable income
More than 0	but not more than 6.395,51	27,00%
More than 6.395,51	but not more than 8.477,96	32,40%
More than 8.477,96	but not more than 12.097,20	43,20%
More than 12.097,20	but not more than 27.838,44	48,60%
More than 27.838,44	but not more than 41.745,27	54,00%
More than 41.745,27	but not more than 61.229,70	56,70%
More than 61.229,70		59,40%

Construction rule for SICK_PREPAY_BASE_ANN:

The result, obtained by applying the brackets and rates, mentioned in Table 35 on the value of SICK_NTINC_ANN, will be stored in the variable SICK_PREPAY_BASE_ANN.

From the basic amount of prepayments one then subtracts a number of tax reductions. One tax reduction, applied on this basic amount of prepayments, is the tax reduction for dependent children. The lump sum amounts in function of the number of dependent children, deducted from the basic amount of prepayment taxes in 2001, are listed in Table 36.

Table 36: Lump sum amounts in function of the number of dependent children, deducted from the basic amount of prepayment taxes in 2001⁶⁹

Rank of the dependent child	Lump sum amount deducted of basic amount of prepayment taxes
1	304,91
2	505,70
3	1.383,24
4	1.847,31
5	1.933,57
6	1.933,57
7	1.933,57
8	2.064,46
9 or more	2.147,75

Construction rule for SICK_AMOUNT_REDCHILD_ANN and SICK_PREPAY_REDCHILD_ANN :

In order to compute the tax reduction for dependent children, we first compute the amount of income, exempted from the bottom up. This amount of exempted income corresponds with the sum of the values, listed in

⁶⁸ See Ministerie van Financiën (2001), Bijlage 1.

⁶⁹ See Ministerie van Financiën (2001), Bijlage 3.

Table 36, up till the number of dependent children, i.e. the value of PIT_DEPCHILD_ANN. We store this amount in the variable SICK_AMOUNT_REDCHILD_ANN.

To compute the tax reduction that corresponds with this amount of exempted income, we apply the brackets and rates, mentioned in Table 35 on the value of SICK_AMOUNT_REDCHILD_ANN. The result of this operation will be stored in the variable SICK_PREPAY_REDCHILD_ANN.

With the basic amount of prepayments and those attributed for dependent children, we can compute the annual and quarterly amount of prepayments, paid on the corresponding gross income concept. We will store the annual prepayment taxes in the variable SICK_PREPAY_ANN and the daily prepayment in the variable SICK_PREPAY_DAY.

Construction rule for SICK_PREPAY_ANN and SICK_PREPAY_DAY:

The value of annual prepayments is equal to the value of the basic prepayments minus the tax reduction because of dependent children, i.e.:

$$\text{SICK_PREPAY_ANN} = \text{SICK_PREPAY_BASE_ANN} - \text{SICK_PREPAY_REDCHILD_ANN}.$$

If the result of this subtraction would become negative, we set the annual prepayments equal to 0.

The daily amount of prepayments is then computed by dividing the annual amount by 260. We store this result in the variable SICK_PREPAY_DAY.

Remark that we do not apply any tax reduction, other than the tax reduction for dependent children, although they may exist and that we assume that the dependent children, produced by the PIT module, is the appropriate one to compute the prepayment taxes.

Remark that we apply the same rules to determine the prepayments paid on income obtained as a wage earner and as a self employed.

The values listed in Table 35 and Table 36 are integrated in the module in the form of the parameters SICK_TAXRATES_ANN and SICK_REDCHILD_ANN respectively.

APPENDIX 3: 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 sickness and disability benefits with the SICK module. Within the set of variables one can further distinguish endogenous from exogenous variables. Endogenous variables are variables that are constructed within the SICK 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 SICK and therefore remain fixed throughout the SICK 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 SICK 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
From datawarehouse	
NARGENIS	
NAREGNIS_HH_ID	Anonymised identification number of the household to which the individual belongs
NAREGNIS_DATBIRTH	Birth date of the individual in year and month
RSZ	
CODASM_QT	Code of the type of assimilated working days that are most observed during the trimester
JRSASM_QT	Total number of assimilated days during the trimester
RSZPPO	
BARB100A_QT	Performance code of performances at the RSZPPO: days really performed for concerning code
BARB200_QT	Performance code of performances at the RSZPPO: days of sickness or accident for which the employer does not pay a wage on which social security contributions have to be paid
BARB000_QT	Performance code of performances at the RSZPPO: days for which the job was suspended
P_DG100A_QT	Sum of all days with a performance code registered under BARB100A
P_DG200_QT	Sum of all days with a performance code registered under BARB200
P_DG000_QT	Sum of all days with a performance code registered under BARB000
RIZIV	
RIZIVINA_STELSEL_INVAL_QT	Type of disability system under which the individual is classified
RIZIVINA_BETALING_INVAL_QT	Type of disability benefit paid by the RIZIV
B_ZIEKTE_QT	Starting date of primary incapacity for work for an individual observed in disability
B_INVAL_QT	Starting date for the recognition as disabled by the Medical Council on Disability
E_INVAL_QT	Date on which the disability is assumed to end by the Medical Council on Disability
RIZIVINA_AANVANGS_INVAL_QT	Starting date of the payment of disability benefits
RIZIVINA_EINDBETA_INVAL_QT	Assumed ending date of the payment of disability benefits
AANWIJZ_QT	Information with respect to the family charge and the labour market position of the individual when the individual enters the request to become recognised as disabled
RIZIVINA_STELSEL_MAT_QT	Type of disability system under which the individual is classified
RIZIVINA_BETALING_MAT_QT	Type of disability benefit paid by the RIZIV
RIZIVINA_AANVANGS_MAT_QT	Starting date of the payment of disability benefits
RIZIVINA_EINDBETA_MAT_QT	Assumed ending date of the payment of disability benefits

FATFAO

FATFAO_DATONG_ANN	Date on which the industrial accident took place
FATFAO_BENEF_ANN	The individual receives a benefit because of an industrial accident in the given year
FATFAO_CSECACC_ANN	Variable distinguishing whether the individual is working in the private or public sector
FATFAO_BERCAT_ANN	Variable indicating the professional category of individual with a benefit for industrial accidents
FATFAO_PTBWOD_ANN	Degree of permanent disablement in case of an industrial accident
FATFAO_TWOPARD_ANN	Duration of temporary partial disablement because of industrial accident
FATFAO_TWOTOTD_ANN	Duration of temporary full disablement because of industrial accident

FBZFMB

FBZFMB_BENEF_QT	The individual receives a benefit because of an occupational disease in the given quarter
FBZFMB_SOORT_UI_QT	Type of benefit received by the individual with an occupational disease
FBZFMB_PERCENTA_QT	Degree of permanent disablement in case of an occupational disease
FBZFMB_BEG_ONGE_QT	Starting date of the occupational disease
FBZFMB_STOPZETI_QT	Estimated ending date of the occupational disease

CONSTRUCTED

MIMOSIS_GRINC_HOUR	Constructed income earned per hour
MIMOSIS_WEIGHT	Sample weight correction for non random selection

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
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_INCSELF_QT	Gross income earned as self employed
CONTRIB_SSPRIV_EMEE_QT	Social security contributions paid on CONTRIB_REVPRIV_QT
CONTRIB_SSPUB_EMEE_QT	Social security contributions paid on CONTRIB_REVPUB_QT
CONTRIB_SSESELF_EMER_QT	Social security contributions paid on CONTRIB_INCSELF_QT
CONTRIB_LABMSTAT_PRIV_QT	Labour market status of a wage earner on the private labour market
CONTRIB_LABMSTAT_PUB_QT	Labour market status of a wage earner on the public labour market

	market
CONTRIB_LABMSTAT_SELF_QT	Labour market status of a self employed
PENSWELF_AMOUNTP_QT	Gross amount of pensions received
FAMAL_AMOUNTF_QT	Gross amount of family allowances received by the recipient
UNEM_BENUN_QT	Gross amount of real unemployment benefits in a given quarter (no benefits paid by RVA as supplement to wage)
PIT_DEPCHILD_ANN	Number of dependent children in the tax unit of the individual
SICK_TOTBENPR_QT	Sum of benefits for sickness, disability, industrial accidents and occupational diseases estimated before benefits for sickness, disability, industrial accidents and occupational diseases have been estimated

ENDOGENOUS VARIABLES

Name	Label
SICK_RISKGLOB_QT	Indicator whether an individual is sick or disabled
SICK_YEAR_AGE	Age of the individual
SICK_REL_QT	Relationship of the individual with respect to other family members
SICK_DEPINC_QT	Variable containing an indication whether an individual is income dependent yes or no
SICK_HH_SIZE	Number of household members in the household of the sick or disabled
SICK_FAMSIT_QT	Family charge position of the sick or disabled
SICK_TYPEINSU_PRIV_QT	Insurance type of the sick or disabled in the wage earner regime on the private labour market
SICK_TYPEINSU_PUB_QT	Insurance type of the sick or disabled in the wage earner regime on the public labour market
SICK_TYPEINSU_SELF_QT	Insurance type of the sick or disabled as self employed
Sickness and disability private	
SICK_ELIGPRI1_QT	Individual receives a benefit for sickness or disability in the wage earner regime of the private labour market
SICK_WOWEPRIV_QT	Type of working week the sick or disabled is working in
SICK_DAYS PRI1_QT	Number of days the individual receives a benefit for sickness or disability in the given quarter (individual is insured as wage earner on the private labour market)
SICK_WEEKPRI1_QT	Number of weeks the individual already receives a benefit for sickness or disability (individual is insured as wage earner on the private labour market)
SICK_SOLEPRIV_QT	Sick or disabled lost his sole source of income when he became sick or disabled
SICK_REGWPRIV_QT	Individual was a regular worker before he became sick or disabled
SICK_BENPRI1_DAY	Daily benefit for sickness or disability for individual in the wage earner regime of the private labour market
SICK_BENPRI1_QT	Quarterly benefit for sickness or disability for individual in the wage earner regime of the private labour market
SICK_EMPBPRI1_QT	Part of the quarterly benefit for sickness or disability paid by the employer for individual insured as wage earner on the private labour market
SICK_LDAYWAGE_DAY	Daily wage lost when the individual became sick or disabled
SICK_SUPPRI1_DAY	Additional daily supplement for blue collar workers insured as wage earner on the private labour market
SICK_SUPPRI1_QT	Additional quarterly supplement for blue collar worker who is insured as wage earner on the private labour market
SICK_EMPSPRI1_QT	Part of the additional quarterly supplement paid by the employer for blue collar worker who is insured as wage earner on the private labour market
SICK_ELTHPRIV_QT	Individual receives a supplementary benefit for help of a third person and is insured as wage earner on the private labour market

SICK_BETHPRIV_QT	Daily supplement for help of a third person (individual is insured as wage earner on the private labour market)
SICK_BETHPRIV_DAY	Quarterly supplement for help of a third person (individual is insured as wage earner on the private labour market)
Maternity benefits private	
SICK_ELIGPRI2_QT	Individual receives a maternity benefit and is insured as wage earner on the private labour market
SICK_MATLPRI2_QT	Number of days the individual is on maternity leave at the beginning of the quarter (individual is insured as wage earner on the private labour market)
SICK_DAYS PRI2_QT	Number of days the individual receives a maternity benefit in the given quarter (individual is insured as wage earner on the private labour market)
SICK_BENPRI2_DAY	Maternity benefit per day for individual insured as wage earner on the private labour market
SICK_BENPRI2_QT	Maternity benefit per quarter for individual insured as wage earner on the private labour market
Industrial accidents private	
SICK_ELIGPRI3_QT	Individual receives a benefit for industrial accident and is insured as wage earner on the private labour market
SICK_TYDBPRI3_QT	Type of benefit for an industrial accident the individual, insured as wage earner on the private labour market, is entitled to
SICK_DAYS PRI3_QT	Number of days for which the individual receives a benefit for an industrial accident in the given quarter (individual is insured as wage earner on the private labour market)
SICK_WEEKPRI3_QT	Number of weeks the individual already receives a benefit for an industrial accident (individual is insured as wage earner on the private labour market)
SICK_DEGRPRI3_QT	Degree of disability because of industrial accident for individual insured as wage earner on the private labour market
SICK_BENPRI3_DAY	Benefit per day received in case of an industrial accident (individual is insured as wage earner on the private labour market)
SICK_BENPRI3_QT	Benefit per quarter received in case of an industrial accident (individual is insured as wage earner on the private labour market)
SICK_EMPBPRI3_QT	Part of the benefit per quarter received in case of an industrial accident and paid by the employer (individual is insured as wage earner on the private labour market)
Occupational diseases private	
SICK_ELIGPRI4_QT	Individual receives a benefit for occupational disease and is insured as wage earner on the private labour market
SICK_TYDBPRI4_QT	Type of benefit for an occupational disease the individual, insured as wage earner on the private labour market, is entitled to
SICK_DAYS PRI4_QT	Number of days for which the individual receives a benefit for an occupational disease in the given quarter (individual is insured as wage earner on the private labour market)
SICK_WEEKPRI4_QT	Number of weeks the individual already receives a benefit for an occupational disease (individual is insured as wage earner on the private labour market)

	earner on the private labour market)
SICK_DEGRPRI4_QT	Degree of disability because of industrial accident for individual insured as wage earner on the private labour market
SICK_BENPRI4_DAY	Benefit per day received in case of an occupational disease (individual is insured as wage earner on the private labour market)
SICK_BENPRI4_QT	Benefit per quarter received in case of an occupational disease (individual is insured as wage earner on the private labour market)
SICK_EMPBPRI4_QT	Part of the benefit per quarter received in case of an occupational disease and paid by the employer (individual is insured as wage earner on the private labour market)

Sickness and disability public

SICK_ELIGPUB1_QT	Individual receives a benefit for sickness or disability in the wage earner regime of the public labour market
SICK_WOWEPUB_QT	Type of working week the sick or disabled is working in
SICK_DAYS PUB1_QT	Number of days the individual receives a benefit for sickness or disability in the given quarter (individual is insured as wage earner on the public labour market)
SICK_WEEKPUB1_QT	Number of weeks the individual already receives a benefit for sickness or disability (individual is insured as wage earner on the public labour market)
SICK_SOLEPUB_QT	Sick or disabled lost his sole source of income when he became sick or disabled
SICK_REGWPUB_QT	Individual was a regular worker before he became sick or disabled
SICK_BENPUB1_DAY	Daily benefit for sickness or disability for individual in the wage earner regime of the public labour market
SICK_BENPUB1_QT	Quarterly benefit for sickness or disability for individual in the wage earner regime of the public labour market
SICK_EMPBPUB1_QT	Part of the quarterly benefit for sickness or disability paid by the employer for individual insured as wage earner on the public labour market
SICK_SUPPUB1_DAY	Additional daily supplement for blue collar workers insured as wage earner on the public labour market
SICK_SUPPUB1_QT	Additional quarterly supplement for blue collar worker who is insured as wage earner on the public labour market
SICK_EMPSPUB1_QT	Part of the additional quarterly supplement paid by the employer for blue collar worker who is insured as wage earner on the public labour market
SICK_ELTHPUB_QT	Individual receives a supplementary benefit for help of a third person and is insured as wage earner on the public labour market
SICK_BETHPUB_DAY	Daily supplement for help of a third person (individual is insured as wage earner on the public labour market)
SICK_BETHPUB_QT	Quarterly supplement for help of a third person (individual is insured as wage earner on the public labour market)

Maternity benefits public

SICK_ELIGPUB2_QT	Individual receives a maternity benefit and is insured as wage earner on the public labour market
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SICK_DAYSPUB2_QT	Number of days the individual receives a maternity benefit in the given quarter (individual is insured as wage earner on the public labour market)
SICK_MATLPUB2_QT	Number of days the individual is on maternity leave at the beginning of the quarter (individual is insured as wage earner on the public labour market)
SICK_BENPUB2_DAY	Maternity benefit per day for individual insured as wage earner on the public labour market
SICK_BENPUB2_QT	Maternity benefit per quarter for individual insured as wage earner on the public labour market
SICK_EMPBPUB2_QT	Individual receives a maternity benefit and is insured as wage earner on the public labour market

Industrial accidents public

SICK_ELIGPUB3_QT	Individual receives a benefit for industrial accident and is insured as wage earner on the public labour market
SICK_TYDBPUB3_QT	Type of benefit for an industrial accident the individual, insured as wage earner on the public labour market, is entitled to
SICK_DAYSPUB3_QT	Number of days for which the individual receives a benefit for an industrial accident in the given quarter (individual is insured as wage earner on the public labour market)
SICK_WEEKPUB3_QT	Number of weeks the individual already receives a benefit for an industrial accident (individual is insured as wage earner on the public labour market)
SICK_DEGRPUB3_QT	Degree of disability because of industrial accident for individual insured as wage earner on the public labour market
SICK_BENPUB3_DAY	Benefit per day received in case of an industrial accident (individual is insured as wage earner on the public labour market)
SICK_BENPUB3_QT	Benefit per quarter received in case of an industrial accident (individual is insured as wage earner on the public labour market)
SICK_EMPBPUB3_QT	Part of the benefit per quarter received in case of an industrial accident and paid by the employer (individual is insured as wage earner on the public labour market)

Occupational diseases public

SICK_ELIGPUB4_QT	Individual receives a benefit for occupational disease and is insured as wage earner on the public labour market
SICK_TYDBPUB4_QT	Type of benefit for an occupational disease the individual, insured as wage earner on the public labour market, is entitled to
SICK_DAYSPUB4_QT	Number of days for which the individual receives a benefit for an occupational disease in the given quarter (individual is insured as wage earner on the public labour market)
SICK_WEEKPUB4_QT	Number of weeks the individual already receives a benefit for an occupational disease (individual is insured as wage earner on the public labour market)
SICK_DEGRPUB4_QT	Degree of disability because of industrial accident for individual insured as wage earner on the public labour market

SICK_BENPUB4_DAY	Benefit per day received in case of an occupational disease (individual is insured as wage earner on the public labour market)
SICK_BENPUB4_QT	Benefit per quarter received in case of an occupational disease (individual is insured as wage earner on the public labour market)
SICK_EMPBPUB4_QT	Part of the benefit per quarter received in case of an occupational disease and paid by the employer (individual is insured as wage earner on the public labour market)

Sickness and disability self employed

SICK_ELIGSEL1_QT	Individual receives a benefit for sickness or disability in the self employed regime
SICK_BENSEL1_DAY	Daily benefit for sickness or disability for individual insured as self employed
SICK_BENSEL1_QT	Quarterly benefit for sickness or disability for individual insured as self employed
SICK_WEEKSEL1_QT	Number of weeks the individual already receives a benefit for sickness or invalidity (individual is insured as self employed)
SICK_DAYSSEL1_QT	Number of days the individual already receives a benefit for sickness or invalidity in the given quarter (individual is insured as self employed)
SICK_CLOSESEL_QT	The self employed closed his business after the incident that induced the disability status
SICK_BETHSELF_QT	Quarterly supplement for help of a third person (individual is insured as self employed)
SICK_ELTHSELF_QT	Individual receives a supplementary benefit for help of a third person and is insured as self employed

Maternity benefits self employed

SICK_ELIGSEL2_QT	Individual receives a maternity benefit and is insured as self employed
SICK_WEEKSEL2_QT	Number of weeks the individual receives a maternity benefit in the given quarter for individual insured as a self employed
SICK_BENSEL2_QT	Quarterly maternity benefit for individual insured as self employed

Prepayment variables

SICK_GTINC_ANN	Gross taxable income per year
SICK_NTINC_ANN	Net taxable income per year
SICK_PREPAY_BASE_ANN	Basic amount of prepayments paid per year
SICK_AMOUNT_REDCHILD_ANN	Annual amount of income, exempted from the bottom up, for dependent children
SICK_PREPAY_REDCHILD_ANN	Annual tax reduction because of dependent children
SICK_PREPAY_ANN	Annual amount of prepayments
SICK_PREPAY_DAY	Daily amount of prepayments

Reconstructed exchange concepts

SICK_TOTBEN_QT	Sum of benefits for sickness, disability, industrial accidents and occupational diseases
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
SICK_BENINOC_QT	Sum of benefits for industrial accidents and occupational diseases
SICK_NONEINOC_QT	Sum of benefits for sickness and disability
SICK_DISABBEN_QT	Identification of the fact that the individual receives disability benefits

PARAMETERS

Name	Label
SICK_FAMREL_QT	Matrix used to convert relationships of family members
SICK_WAGEDFQ1_QT	Income threshold used to determine whether household member is income dependent yes or no
SICK_LIMPRIV_DAY	Thresholds used to limit earnings per day in the private labour market system
SICK_PERCPRIV_DAY	Percentages and thresholds used to determine the daily benefit for sickness or disability in the private labour market system
SICK_SUPPRIV_DAY	Percentages used to determine the supplement of blue collar workers in case of sickness
SICK_THIRPRIV_DAY	Percentages and thresholds used to determine the daily benefit for help of a third person in case of disability for an individual insured as private labour market wage earner
SICK_MATPRIV_DAY	Percentages used to determine the daily maternity benefit in the private labour market system
SICK_INDACCLW_DAY	Threshold used to limit daily wages to determine the daily benefit for industrial accident in the private labour market system
SICK_INDACCPC_DAY	Percentages and thresholds used to determine the daily benefit for industrial accident in the private labour market system
SICK_OCCDISLW_DAY	Threshold used to limit daily wages to determine the daily benefit for occupational disease in the private labour market system
SICK_OCCDISPC_DAY	Percentages and thresholds used to determine the daily benefit for occupational disease in the private labour market system
SICK_PEPUBSIC_DAY	Percentage used to compute sickness or disability benefit for individual insured as statutory civil servant
SICK_PEPUBMAT_DAY	Percentage used to compute maternity benefits for individual insured as statutory civil servant
SICK_PEPUBIND_DAY	Percentage used to compute benefits for industrial accident for individual insured as statutory civil servant
SICK_PEPUBOCC_DAY	Percentage used to compute benefits for occupational disease for individual insured as statutory civil servant
SICK_LSSELSIC_DAY	Lump sum benefits for sickness or disability for individual insured as self employed
SICK_THIRSELF_DAY	Lump sum benefit for help of a third person for individual insured as self employed
SICK_MATSELF_WEEK	Lump sum maternity benefit paid per week to individual insured as self employed
Prepayment parameters	
SICK_SSCONT_QT	Percentage used to determine social security contributions paid on gross income
SICK_COSTSCAL_ANN	Percentages and thresholds used to determine professional costs in the prepayment computation
SICK_TAXRATES_ANN	Tax rates and thresholds used to determine annual taxes in the prepayment computation
SICK_REDCHILD_ANN	Tax credit for children in prepayment computation

