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MIMOSIS: MICROsimulation MODEL for Belgian  
Social Insurance Systems  
**Modelling rules for module on family  
allowances**

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## **Abstract**

This note discusses the rules, used to simulate the family allowances in MIMOSIS.<sup>1</sup> The subset of MIMOSIS that covers the family allowance computation rules, is called the FAMAL module.

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

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

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## Introduction

In order to compute the family allowances 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 FAMAL module. Names of variables and parameters will appear with capital letters. The names of endogenous variables and parameters start with the string FAMAL\_. Unless indicated otherwise, the default value of an endogenous variable is 0.

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

Family allowances differ conditional on some characteristics of the child and of the person that generates the right. In section 1 we discuss how these characteristics have been reconstructed. The computation of the family allowances itself is then discussed in section 2.

## 1 IDENTIFICATION VARIABLES NECESSARY TO COMPUTE FAMILY ALLOWANCES<sup>2</sup>

There are different persons who intervene in the determination of family allowances: the beneficiary, the recipient and the beneficiary child. The **beneficiary** is the person who opens the right on the allowance, while the **recipient** is the person to whom the allowance is paid. The **beneficiary child** is the child for which the allowance is paid.

For each of these individuals we need to identify some elements in order to compute the family allowances. We start by identifying the beneficiary and the recipient of each person that could potentially be a beneficiary child.

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<sup>2</sup> For these identification purposes we mainly rely on a description of the rules applied for wage earners (see FOD Sociale Zekerheid (2002), Titel VI, sectie I).

## 1.1 IDENTIFICATION OF THE BENEFICIARY AND RECIPIENT OF CHILD BENEFITS

The **beneficiary** and the beneficiary child have to have some relationship.<sup>3</sup> In general the beneficiary will be a) an ascendant of the beneficiary child and b) he will share the same house with this beneficiary child.<sup>4</sup> But, exceptions to both principles are possible.

A beneficiary might open the right on child benefits for his brothers, sisters, cousins or even for individuals with which there is no blood relationship at all if he can prove that he has some duty of support for the beneficiary child. In certain cases the beneficiary child and the beneficiary can even be the same individual. This could for example be the case for orphans or for emancipated children.<sup>5</sup>

It might also be that the beneficiary opens the right on child benefits for individuals that do no longer share the same house with the beneficiary. This might, for example, be the case if brothers or sisters of the beneficiary are living in another household.<sup>6</sup>

The **recipient** is, in principle, the mother of the child.<sup>7</sup> If the mother does not raise the child itself the benefits are, in principle, paid to the person who takes up this duty of care.<sup>8</sup>

Child allowances can be paid until the child reaches the age of 25. The benefit will be paid then until the month where the child reaches the age of 25.<sup>9</sup>

We will identify the identity of the beneficiary and the recipient of the family allowances of each individual that at least satisfies the family tie condition and the maximal age condition and therefore is a potential beneficiary child.

Hence, in order to check the above conditions we need to know the age of each individual in the sample. We will store the age of each individual, expressed in years, in the variable `FAMAL_YEAR_AGE`. Next to this we also compute the age in number of months on January 1<sup>st</sup> 2002. We store the latter value in the variable `FAMAL_MONTH_AGE`.

### **Construction rule for `FAMAL_YEAR_AGE` and `FAMAL_MONTH_AGE`:**

We compute the age, starting from the exogenous variable `NAREGNIS_DATBIRTH`, which is a variable provided by the National Register. This variable contains the year and month of birth but not the exact day. The

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<sup>3</sup> See FOD Sociale Zekerheid (2002), p. 382-383.

<sup>4</sup> Both to the house sharing as to the ascendant condition exceptions are possible.

<sup>5</sup> See FOD Sociale Zekerheid (2002), p. 378-380.

<sup>6</sup> See FOD Sociale Zekerheid (2002), p. 383.

<sup>7</sup> See FOD Sociale Zekerheid (2002), p. 388.

<sup>8</sup> See FOD Sociale Zekerheid (2002), p. 388.

<sup>9</sup> See FOD Sociale Zekerheid (2002), p. 383-384 and K.U.Leuven (2006).

last day for which a value could be registered, was December 31<sup>st</sup> 2001. Hence, we determine the age, expressed in years, by subtracting the year part of this registered date from 2001.

To determine the age, expressed in number of months, on January 1<sup>st</sup> 2002, we first multiply the age, expressed in number of years (i.e. FAMAL\_YEAR\_AGE) by 12. To this value we add 12 minus the value of the month of birth, that can be derived from NAREGNIS\_DATBIRTH as well.

For each household member A that satisfies the age condition, i.e. is a potential beneficiary child, we will identify a unique individual B with which this individual A has the necessary relationship so that we can consider individual B as the beneficiary. We store the individual identification number of the beneficiary in the variable FAMAL\_BENEFID\_QT. This variable will contain, at the level of the potential beneficiary child, an anonymous identification number that points, in general, to another individual. In some exceptional cases it might contain the individual identification number of the beneficiary child itself.

#### **Construction rule for FAMAL\_BENEFID\_QT:**

For all individuals in the sample we know which individuals are member of the same sociological household (by aid of the exogenous variable NAREGNIS\_HH\_ID) and whom of the individuals is either head of this household (by aid of the exogenous variable NAREGNIS\_RELATION) and who is the partner of this head of the sociological household (by aid of the exogenous variables FAMREL\_RELATION and FAMREL\_FAMILY that are provided by the module FAMREL<sup>10</sup>).

For all individuals that are 25 or younger, except if they are head of a sociological household or partner of this head, we identify the identity of the beneficiary.<sup>11</sup>

To identify the identity of the beneficiary we first rely on the exogenous variables RH\_RKW\_2001QT and RH\_RSVZ\_2001QT. These variables are respectively provided by the RKW and the RSVZ and contain a fictive number, registered by these organisations responsible for the management of the family allowance system.

We only use this exogenous identification information if the observed beneficiary is part of the same sociological household of the potential beneficiary child. By doing this, we avoid that we identify beneficiaries who are outside our sample. Although the beneficiary might live outside the household in reality, it would complicate the computation of the child benefits if we would

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<sup>10</sup> In Decoster, De Swerdt, Orsini and Van Camp (2007) we explain how these variables are constructed.

<sup>11</sup> Remark that we exclude that the head of the sociological household or his partner is still a beneficiary child for another beneficiary.



not know his identity.<sup>12</sup> We therefore prefer to have a stand in beneficiary for which we can identify the information, necessary to compute the benefits.

If, at this stage, the identity of the beneficiary has not been identified yet, we assume that the head of the sociological household is the beneficiary of each other household member, except his own partner, that is 25 or younger.

Remark that we assume here that the head of the sociological household can prove some duty of support for all the household members of 25 or younger.

Remark also that this assumption might have debatable consequences for the treatment of grandchildren. Consider a sociological household where both the child of the head of the sociological household and a child of this child are part of the household. If, at a later stage, it turns out that the child no longer is a beneficiary child, but the grandchild still is, our assumption makes the grandparent the beneficiary and not the child (i.e. the true parent).

The identification of the recipient is closely related to that of the beneficiary. For each potential beneficiary child, we store the individual identification number of the recipient in the variable FAMAL\_RECIPID\_QT.

#### **Construction rule for FAMAL\_RECIPID\_QT:**

For all individuals that are 25 or younger, except if they are head of a sociological household or partner of this head, we identify the identity of the recipient.

In order to identify the recipient we dispose of the exogenous variables BT\_RKW\_2001QT and BT\_RSVZ\_2001QT, also provided by the RKW and the RSVZ respectively. Again we use these variables to identify the recipient only if the recipient and the child are part of the same sociological household.

If after this operation we were not able to identify the identity of the recipient we make the head of the sociological household the recipient of the benefits if the head of the household does not form a couple with a female partner. If the head of the household has a female partner (with which he is either legally married or forms a de facto couple) we make the female partner the recipient of the potential child benefits.

We can identify partners by aid of the exogenous variables FAMREL\_RELATION, FAMREL\_FAMILY and FAMREL\_COUPLE that are provided by the module FAMREL.

Remark that as a consequence of our identification procedure, the beneficiary, the recipient and the beneficiary child are members of the same sociological

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<sup>12</sup> An alternative solution would be to avoid the use of this exogenous information only if the individual is outside our sample instead of outside the household. We chose the latter solution to treat all households in the same way.

household according to the National Register. This implies that all these individuals are registered as living at the same address.

## **1.2 IDENTIFICATION OF THE CONTRIBUTION SCHEME OF THE BENEFICIARY**

In general the beneficiary opens the right on family allowances if his employer or he himself (if he is self employed) pays or has been paying social security contributions.<sup>13</sup> The rules, relevant for the computation of the family allowances, depend on the regime to which the beneficiary or the employer of the beneficiary contributed.

One can pay social security contributions as wage earner on the private labour market, as wage earner on the public labour market (either in statutory service or not in statutory service) or as self employed. For the computation of the family allowances we should distinguish three contribution schemes: a) wage earners on the private labour market and wage earners on the public labour market but without statutory service, b) wage earners on the public labour market with statutory service and c) self employed. For later reference purposes we will refer to group a) as the wage earners and to group b) as civil servants.

The contribution scheme is determined through information on either the current contribution scheme (if the individual is active on the labour market) or the contribution scheme that generated the replacement income that the beneficiary is currently receiving.<sup>14</sup> In case the beneficiary is currently not active on the labour market but is receiving a replacement income he can open the right on child benefits if he a) is sick or disabled or is inactive because of an industrial accident or professional disease, b) is unemployed or c) is pensioned.<sup>15</sup>

We will identify the three different contribution schemes of the beneficiary by the aid of several different exogenous variables and store the result in the variable FAMAL\_BENSCHM\_QT at the level of the beneficiary. This variable can take three values, apart from the default value 0, i.e. 1) wage earner, 2) civil servant and 3) self employed.

### **Construction rule for FAMAL\_BENSCHM\_QT:**

#### Identification if individual is currently active on the labour market

If an individual has been identified as beneficiary, i.e. his individual identification number appears in the variable FAMAL\_BENEFID\_QT, we first check his current labour market position.

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<sup>13</sup> See FOD Sociale Zekerheid (2002), p. 378-382 and 402-403.

<sup>14</sup> See FOD Sociale Zekerheid (2002), p. 378-382 and 402-403.

<sup>15</sup> See FOD Sociale Zekerheid (2002), p. 378-382 and 402-403.

We obtain information on the current labour market position of each individual from the module CONTRIB, which computes the social security contributions.

From this module we obtain both variables that identify the contribution scheme and the contributions paid by each individual. The variables we will use to identify the relevant contribution scheme of the family allowance beneficiary are listed in Table 1.

Table 1: Variables from the CONTRIB module used to identify the benefit scheme of the beneficiary of family allowances

Variable	Label
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
CONTRIB_LABMSTAT_SELF_QT	Labour market status of a self employed
CONTRIB_SSPRIV_EMEE_QT	Social security contributions paid on sum of gross labour income, holiday earnings and other supplements, earned as wage earner on the private labour market
CONTRIB_SSPUB_EMEE_QT	Social security contributions paid on sum of gross labour income, holiday earnings and other supplements, earned as wage earner on the public labour market
CONTRIB_SSSELF_EMER_QT	Social security contributions paid on gross income earned as self employed

The different values that the variables CONTRIB\_LABMSTAT\_PRIV\_QT, CONTRIB\_LABMSTAT\_PUB\_QT and CONTRIB\_LABMSTAT\_SELF\_QT can take, are listed in Table 2, Table 3 and Table 4.

Table 2: Variable values of CONTRIB\_LABMSTAT\_PRIV\_QT

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

Table 3: Variable values of CONTRIB\_LABMSTAT\_PUB\_QT

Value of CONTRIB_LABMSTAT_PUB_QT	Label of CONTRIB_LABMSTAT_PUB_QT
1	Blue collar worker without statutory service
2	White collar worker without statutory service
3	Blue collar worker with statutory service
4	White collar worker with statutory service

Table 4: Variable values of CONTRIB\_LABMSTAT\_SELF\_QT

Value of CONTRIB_LABMSTAT_SELF_QT	Label of CONTRIB_LABMSTAT_SELF_QT
1	Individual has a self employed activity

One individual can, at the same time, pay contributions as wage earner in the private and public labour market and as self employed if he develops a labour market activity in each of these three fields. To identify the value of FAMAL\_BENSCHHEM\_QT, we therefore first look at the height of the contributions that have been paid in the given quarter, i.e. the values of the variables CONTRIBUTION\_SS\_PRIV\_EMEE\_QT, CONTRIBUTION\_SS\_PUB\_EMEE\_QT and CONTRIBUTION\_SS\_SELF\_EMER\_QT.

Conditional on the maximum of these three variables, we will use the corresponding labour market status. FAMAL\_BENSCHHEM\_QT will then be set equal to 1, i.e. a wage earner, if either CONTRIBUTION\_LABMSTAT\_PRIV\_QT or CONTRIBUTION\_LABMSTAT\_PUB\_QT takes the value 1 or 2. FAMAL\_BENSCHHEM\_QT will be set equal to 2, i.e. a civil servant, if CONTRIBUTION\_LABMSTAT\_PUB\_QT takes the value 3 or 4. FAMAL\_BENSCHHEM\_QT will be set equal to 3 if CONTRIBUTION\_LABMSTAT\_SELF\_QT is equal to 1.

If after the above operation, FAMAL\_BENSCHHEM\_QT would still be equal to 0, but one of the labour market statuses would be different from 0, we continue the identification of the beneficiary scheme, conditional on the labour market status only. We will first check the private labour market status, then the public labour market status and finally the self employed status and apply the same conversion rules as those applied when the contribution variables were different from 0.

If after this operation the contribution scheme of the beneficiary is still not identified we check whether this individual receives a replacement income. If this is the case we rely on the contribution scheme that generated this replacement income to identify the beneficiary scheme.

#### Identification of the benefit scheme if the individual is currently receiving replacement income

The different modules of the model produce information on the different replacement incomes that an individual can receive.

From the module on unemployment benefits, i.e. the UNEM module, we obtain a variable that contains the gross amount of all unemployment benefits either paid by the employer or through the social security system. This information is stored in the variable UNEM\_TOTBEN\_QT. If the value of this variable is larger than 0 and the variable FAMAL\_BENSCHHEM\_QT is still equal to 0, we assume that the potential beneficiary paid contributions as employee, i.e. we set FAMAL\_BENSCHHEM\_QT equal to 1.

From the module on sickness and disability benefits, i.e. the SICK module, we obtain three variables that 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. These three variables are SICK\_TYPEINSU\_PRIV\_QT,

SICK\_TYPEINSU\_PUB\_QT and SICK\_TYPEINSU\_SELF\_QT respectively. We list the values of these variables in Table 5, Table 6 and Table 7 respectively:

Table 5: Variable values and value-labels of SICK\_TYPEINSU\_PRIV\_QT

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

Table 6: Variable values and value-labels of SICK\_TYPEINSU\_PUB\_QT

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

Table 7: Variable values and value-labels of SICK\_TYPEINSU\_SELF\_QT

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

These sickness and disability insurance types do not have “conflicting” values, i.e. for each individual only one of these three variables will have a positive value at maximum.

If FAMAL\_BENSCHM\_QT is still equal to 0 after the above identification steps, we set FAMAL\_BENSCHM\_QT equal to 1, i.e. a wage earner, if either SICK\_TYPEINSU\_PRIV\_QT or SICK\_TYPEINSU\_PUB\_QT takes the value 1 or 2. FAMAL\_BENSCHM\_QT will be set equal to 2, i.e. a civil servant, if SICK\_TYPEINSU\_PUB\_QT takes the value 3 or 4. FAMAL\_BENSCHM\_QT will be set equal to 3 if SICK\_TYPEINSU\_SELF\_QT is equal to 1.

From the module on pension benefits, i.e. the PENSSELF module, we obtain a variable that covers the pension benefit scheme. We list the values of this variable PENSSELF\_BENSCHM\_QT in Table 8.

Table 8: Variable values and value labels of PENSSELF\_BENSCHM\_QT

Value of PENSSELF_BENSCHM_QT	Label of PENSSELF_BENSCHM_QT
1	Individual is insured as wage earner
2	Individual is insured as civil servant
3	Individual is insured as self employed
4	Pension benefits could not be classified

We set FAMAL\_BENSCHM\_QT equal to the value of PENSWEF\_BENSCHM\_QT if FAMAL\_BENSCHM\_QT is not identified at this stage.

### **1.3 IDENTIFICATION OF CHILDREN ELIGIBLE FOR CHILD ALLOWANCES**

In order to identify whether the child is eligible for child benefits, two conditions have to be satisfied: 1) an age condition and 2) an income condition. The age condition is itself conditional on some other characteristics of either the beneficiary child or the beneficiary.

Child allowances are granted from the month that follows the month of birth. In the wage earners and self-employed scheme, child allowances are granted, in principle, until August 31<sup>st</sup> of the year during which they reach the age of 18.<sup>16</sup> The limiting age is increased to 21 for handicapped children and to 25 years for apprentices (leerjongens) and students.<sup>17</sup> In the latter cases the payment of the benefit stops after the month one reaches the postulated age.<sup>18</sup>

In the civil servant scheme, the maximum age is 21 without further restrictions. The limiting age is increased to 25 year for apprentices and students as well.

If an individual is 18 or above the child that is potentially eligible for child benefits according to his age, loses this right if this individual starts receiving unemployment benefits<sup>19</sup> or is working and gains a certain amount of income. If the individual is working, the monthly threshold applied on gross income is € 409,03.<sup>20</sup>

In order to check the above conditions, we need to know whether the dependent person is said to have a handicap yes or no. We will store an identification of this in the variable FAMAL\_HANDICAP\_ANN. This variable will be set equal to 1 if the person has a handicap.

#### **Construction rule for FAMAL\_HANDICAP\_ANN:**

At this stage the available data set does not contain information on possible handicaps of people. Hence, the variable FAMAL\_HANDICAP\_ANN will be set equal to 0 for all individuals in the sample.

In order to check the above conditions, we also need to know whether an individual receives unemployment benefits. We can derive this from the variable

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<sup>16</sup> See FOD Sociale Zekerheid (2002), p. 383.

<sup>17</sup> In order to be eligible the child should be strictly younger than 25 (see FOD Sociale Zekerheid (2002), p. 386).

<sup>18</sup> See K.U.Leuven (2006).

<sup>19</sup> See FOD Sociale Zekerheid (2002), p. 387.

<sup>20</sup> This ceiling was applied in December 2001, see FOD Sociale Zekerheid (2002), p. 384.

UNEM\_TOTBEN\_QT, that we obtain from the module on unemployment benefits. Apart from that we also need to know whether an individual gains income on the labour market. We store the sum of all labour market income variables in the variable FAMAL\_LABMINC\_QT.

**Construction rule for FAMAL\_LABMINC\_QT:**

The income variables that we need to construct FAMAL\_LABMINC\_QT, are provided by the module on social security contributions. We list the necessary variables in Table 9.

Table 9: Income variables produced by different modules of the model used as input to check whether children satisfy the income conditions to be eligible for child benefits

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

We identify FAMAL\_LABMINC\_QT as the sum of the gross labour market income variables, mentioned in Table 9.

We finally need to know whether an individual is an apprentice or is still studying yes or no. We will set the variable FAMAL\_STUDENT\_ANN equal to 1 if either the individual is an apprentice or is still studying.

**Construction rule for FAMAL\_STUDENT\_ANN:**

We have no registered information to identify whether an individual has subscribed for any study program. We therefore identify students in an indirect way. All individuals that do not receive unemployment benefits, i.e. UNEM\_TOTBEN\_QT is equal to 0, who have less labour market income than € 409,03 and who are 25 or younger, will be considered as students.

With these reconstructed variables we are now able to identify for each child the month of the year for which payments of child benefits start and in which month of the year these payments would end. We store the number of the starting and ending month in the variables FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN respectively.

To construct these variables we need the following variables as input FAMAL\_YEAR\_AGE, FAMAL\_HANDICAP\_ANN, FAMAL\_STUDENT\_ANN, UNEM\_TOTBEN\_QT, FAMAL\_LABMINC\_QT, FAMAL\_BENSCHM\_QT, NAREGNIS\_DATBIRTH.

### Construction rule for FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN:

In a first step we identify, for each potential beneficiary child, the values of these variables without checking the income conditions on the variables UNEM\_TOTBEN\_QT and FAMAL\_LABMINC\_QT.

Identification if the benefit scheme of the beneficiary is a) not identified, b) is wage earner or c) self employed without checking income conditions of the beneficiary child

In Table 10 we list variables and the variable values that we use in this first step to identify the starting and ending month of the payments, i.e. the values of FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN, if we a) were not able to identify the benefit scheme of the beneficiary, if b) the beneficiary is a wage earner or c) the beneficiary is self employed.<sup>21</sup>

Table 10: Variables and variable values used to identify FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN without checking the necessary income conditions of the child if the beneficiary has a benefit scheme of wage earner, self employed or not identified

FAMAL_YEAR_A GE	FAMAL_HANDIC AP_ANN	FAMAL_STUDEN T_ANN	FAMAL_STARTP AY_ANN	FAMAL_ENDPAY _ANN
(1)	(2)	(3)	(4)	(5)
0	0 or 1	0 or 1	Month of birth + 1	12
Between 0 and 18	0 or 1	0 or 1	1	12
18	0	0	1	8
18	0	1	1	12
18	1	0 or 1	1	12
19 or 20	0	0	0	0
19 or 20	0	1	1	12
19 or 20	1	0 or 1	1	12
21	0	0	0	0
21	0	1	1	12
21	1	0	1	Month of birth
21	1	1	1	12
22, 23, 24	0 or 1	0	0	0
22, 23, 24	0 or 1	1	1	12
25	0 or 1	0	0	0
25	0 or 1	1	1	Month of birth

<sup>21</sup> We identify the variables FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN also for cases where no contributions have been paid at all, although child benefits are not necessarily granted in this case. We will therefore correct these variable values later on.



Identification if the beneficiary has a benefit scheme of a civil servant without checking income conditions of the beneficiary child

In Table 11 we list variables and the variable values that we use to identify the starting and ending month of the payments, i.e. the values of FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN, if the beneficiary is a civil servant without checking the necessary income conditions for the child.

Table 11: Variables and variable values used to identify FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN without checking the necessary income conditions of the child if the beneficiary has a benefit scheme of a civil servant

FAMAL_YEAR_A GE	FAMAL_HANDIC AP_ANN	FAMAL_STUDEN T_ANN	FAMAL_STARTP AY_ANN	FAMAL_ENDPAY _ANN
(1)	(2)	(3)	(4)	(5)
0	0 or 1	0 or 1	Month of birth + 1	12
Between 0 and 21	0 or 1	0 or 1	1	12
21	0 or 1	0	1	Month of birth
21	0 or 1	1	1	12
22, 23, 24	0 or 1	0	0	0
22, 23, 24	0 or 1	1	1	12
25	0 or 1	0	0	0
25	0 or 1	1	1	Month of birth

Check of the income conditions of the beneficiary child

Next to these individual characteristics, of both the beneficiary and the beneficiary child, the beneficiary child also has to satisfy some income conditions, in order to be a beneficiary child. While the preceding conditions were tested on variables that were assumed to have a constant value throughout the whole year, we dispose of two quarterly income variables, i.e. UNEM\_TOTBEN\_QT, FAMAL\_LABMINC\_QT, to check the income conditions to be satisfied by the beneficiary child.

If either UNEM\_TOTBEN\_QT is larger than 0 or FAMAL\_LABMINC\_QT is larger than 3 times 409,03 we switch the value of FAMAL\_STRATPAY\_ANN and FAMAL\_ENDPAY\_ANN to 0 if it was set equal to 12 according to the preceding conditions (see Table 10 and Table 11).

We integrate the income ceilings of 0 and 409,03 (limits applied on unemployment and labour income respectively) in the module in the form of the parameters FAMAL\_CHILUNEL\_MONTH and FAMAL\_CHILINCL\_MONTH respectively.

Remark that as a consequence of the data we dispose of, we assume that benefits will be paid on a quarterly basis, although in reality the tests and the corresponding payments are applied on a monthly basis.

With the constructed variables FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN we can also reconstruct a variable that contains, for each individual in the sample, an identification of the fact that this individual is a beneficiary child for child allowances, yes or no, in the given quarter. We will store the identification of this in the variable FAMAL\_CHILELIG\_QT.

**Construction rule for FAMAL\_CHILELIG\_QT:**

To construct FAMAL\_CHILELIG\_QT we compare the value of FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN with the value of the first and last month of the quarter that is under analysis. If the value of FAMAL\_STARTPAY\_ANN is equal to or larger than the value of the first month of the quarter of analysis and the value of FAMAL\_ENDPAY\_ANN is larger than or equal to the last month of the quarter of analysis, then we set the value of FAMAL\_CHILELIG\_QT equal to 1.

## **1.4 IDENTIFICATION OF GUARANTEED CHILD ALLOWANCES**

In the above identification procedure we assumed that all children were beneficiary children, independent of the fact whether the beneficiary paid social security contributions yes or no (i.e. all variables were identified for cases where FAMAL\_BENSCHM\_QT was equal to 1, 2 or 3 but also for cases where it was equal 0).

In order to produce a realistic estimate of the child allowances, we still need to refine this identification procedure. If no contributions have been paid, an individual might still open the right on child allowances. The right he might open is the right on guaranteed child allowances.

The latter right is reserved to the most destitute families according to an earnings test. Family allowances are attributed if the quarterly income of the individual, who is in charge of the child, and the income of his partner<sup>22</sup> does not exceed the ceiling of € 3.203,45.<sup>23</sup> This quarterly income amount is increased by 20% for each dependent child from the second child on.

In principle, all means of existence are taken into account to apply this means test, except:

- family allowances allowed for other children,
- allowances from private or public assistance (leefloon etc.),
- alimony allowances (onderhoudsuitkeringen),

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<sup>22</sup> As partner one considers a person to whom the individual is either still legally married and from which one is not divorced de facto or the individual with which one forms a family (see FOD Sociale Zekerheid (2002), p. 410).

<sup>23</sup> This ceiling was applied in December 2001, see FOD Sociale Zekerheid (2002), p. 410.

- rents obtained by non insured pensioners,
- army indemnities,
- cadastral income.

To check these conditions we need to know for each individual the quarterly income that should be taken into account. We store this concept in the variable FAMAL\_INDINC\_QT.

#### **Construction rule for FAMAL\_INDINC\_QT:**

In order to construct FAMAL\_INDINC\_QT we use a number of income variables that we obtain from other modules that are included in the model. We list these variables and the name of the module that produces these variables as output, in Table 12.

Table 12: Income variables produced by different modules of the model used as input to check the guaranteed child allowance condition

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
PENSWELF_AMOUNTP_QT	PENSWELF	Gross amount of pensions received
SICK_TOTBEN_QT	SICK	Gross amount of sickness and disability benefits estimated before sickness and disability benefits are computed
UNEM_TOTBEN_QT	UNEM	Gross amount of unemployment benefits

We construct FAMAL\_INDINC\_QT as the sum of the concepts, listed in Table 12.

Apart from the income variable, we also need to know the number of dependent children each beneficiary has. We store this number in the variable FAMAL\_NUMDEPCH\_QT.

#### **Construction rule for FAMAL\_NUMDEPCH\_QT:**

For each beneficiary we can count how many individuals have been considered to be eligible for child benefits, by checking whether the value of FAMAL\_CHILELIG\_QT is equal to 1 or not. The value of FAMAL\_NUMDEPCH\_QT for a single beneficiary is equal to the number of times that FAMAL\_CHILELIG\_QT is equal to 1 for all children that have this beneficiary as their beneficiary.

We need the variables FAMAL\_INDINC\_QT and FAMAL\_NUMDEPCH\_QT as input to identify whether a beneficiary is entitled to the right on guaranteed child allowances or not. We store the latter result in the variable FAMAL\_BENGUARI\_QT.

**Construction rule for FAMAL\_BENGUARI\_QT:**

To reconstruct this variable we need to know a) whether the beneficiary has a partner or not, b) the income of the beneficiary and his partner (values of FAMAL\_INDINC\_QT) and c) the number of dependent children (values of FAMAL\_NUMDEPCH\_QT).

In order to identify the partner of an individual we make use of the relationship variables: FAMREL\_RELATION, FAMREL\_FAMTYPE and FAMREL\_COUPLE that are provided by the module FAMREL. For this exercise we will consider both legally married partners as partners living in de facto couples as individuals for which the income should be included in the means test.

If the sum of the values of FAMAL\_INDINC\_QT of both partners is smaller than  $3.203,45 + 20\%$  of  $3.203,45 * (\text{the number of dependent children of both partners} - 1)$ , then we set the value of FAMAL\_BENGUARI\_QT equal to 1.

We integrate the value of 20% and 3.203,45 in the module in the form of the parameters FAMAL\_GUARINPC\_QT and FAMAL\_GUARINAB\_QT respectively.

We can now exploit the fact that we know that the beneficiary is eligible for guaranteed child allowances or not, to adapt the previously defined variables FAMAL\_STARTPAY\_ANN, FAMAL\_ENDPAY\_ANN and FAMAL\_CHILELIG\_QT.

**Construction rule for FAMAL\_STARTPAY\_ANN, FAMAL\_ENDPAY\_ANN and FAMAL\_CHILELIG\_QT (continued):**

If, for a beneficiary, we were not able to identify his contribution scheme, i.e. FAMAL\_BENSCHM\_QT is equal to 0, and if the beneficiary is not entitled to guaranteed child allowances, i.e. FAMAL\_BENGUARI\_QT is equal to 0, then we set the values of FAMAL\_STARTPAY\_ANN, FAMAL\_ENDPAY\_ANN and FAMAL\_CHILELIG\_QT equal to 0 for each child that has this beneficiary as its beneficiary.

## **1.5 NUMBER OF MONTHS FOR WHICH A BENEFIT IS PAID IN THE GIVEN QUARTER**

With the FAMAL module we will produce family allowances received in a given quarter. To facilitate these computations we construct a variable that covers the number of months for which a benefit is paid in a given quarter. We store this result in the variable FAMAL\_NMONTHBE\_QT.

**Construction rule for FAMAL\_NMONTHBE\_QT:**

To identify the value of FAMAL\_NMONTHBE\_QT we compare the values of FAMAL\_STARTPAY\_ANN and FAMAL\_ENDPAY\_ANN with the number of the first and last month of the quarter that is being analysed. The number of months that will be stored in FAMAL\_NMONTHBE\_QT is the number of months that overlap between a) the identified period of payments in the given year and b) the quarter of analysis.

**1.6 IDENTIFICATION OF ORPHANS**

For the computation of family allowances it is important to know whether a child should be considered as an orphan or not. Children are considered as orphans if the surviving parent is not remarried and does not form a household with somebody who is not related with this parent up to the third degree.<sup>24</sup>

In order to identify orphans, we first have to identify the widows or widowers they are possibly related with. If an individual is considered to be a widow or widower, we set the variable FAMAL\_WIDOWER\_QT equal to 1.

**Construction rule for FAMAL\_WIDOWER\_QT:**

We have a direct observation of the fact that somebody is considered to be a widow or widower, from the variable NAREGNIS\_CIVIL. This variable is provided by the NIS and contains the civil status of an individual. If this variable takes the value 3, we set the variable FAMAL\_WIDOWER\_QT equal to 1.

Next to this we also observe the survival pension, that is paid to an individual. Information on this comes from the module PENSSELF in the form of the variable PENSSELF\_SURPENS\_QT. If the value of this variable is different from 0 and FAMAL\_WIDOWER\_QT is still equal to 0, we set FAMAL\_WIDOWER\_QT equal to 1.

We can now identify those individuals that are considered to be orphans according to the family allowance legislation. If a child is considered to be such an orphan we set the variable FAMAL\_ORPHAN\_QT equal to 1. If this orphan is also its own beneficiary, we set FAMAL\_ORPHAN\_QT equal to 2.

**Construction rule for FAMAL\_ORPHAN\_QT:**

For each widow or widower, i.e. an individual with value FAMAL\_WIDOWER\_QT equal to 1, we check whether this individual has a partner (either a partner with which he is legally married or forms a de facto couple) or whether there are members of the same family that are not relatives up to the third degree.

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<sup>24</sup> See FOD Sociale Zekerheid (2002), p. 373.

In order to identify both conditions we make use of the relationship variables: FAMREL\_RELATION, FAMREL\_FAMTYPE and FAMREL\_COUPLE that are provided by the module FAMREL. Partners have values 1 and 2 for FAMREL\_RELATION. To check whether this individual cohabitates with household members that are not relatives up to the third degree, we have to convert the values of FAMREL\_RELATION. For this purpose we use the conversion rules summarised in the matrix FAMAL\_FAMREL\_QT.<sup>25</sup>

If both conditions are not satisfied, we consider all children that have this widow or widower as beneficiary, as orphans, i.e. we set FAMAL\_ORPHAN\_QT equal to 1 for all these individuals.

If the individual identification number of the orphan is equal to the identification number of the beneficiary, i.e. FAMAL\_BENEFID\_QT, we set FAMAL\_ORPHAN\_QT equal to 2.

## **1.7 IDENTIFICATION OF THE BIRTH RANK OF A CHILD**

The calculation of birth allowances depends on the birth rank of the child. The amount of the birth allowance for a first-born child is higher than for the following births. From the second birth on, the amount of the birth allowance is always the same.

In case of multiple births (for example twins), the birth allowances given on behalf of each child are equivalent to the first-born allowance, independently of the rank of these newborn children.<sup>26</sup>

We will identify the birth rank of children and store an identification of this in the variable FAMAL\_BIRTRANK\_QT. This variable will be equal to 1 for children who generate the rank 1 birth allowance benefit (i.e. the first born child and/or multiple birth children). For all other newborn children this variable will be set equal to 2.

In order to determine the birth rank of a child, the recipient of the benefits is the relevant reference person.<sup>27</sup>

### **Construction rule for FAMAL\_BIRTRANK\_QT:**

If a child was born in the first two months of the quarter of analysis or in the last month before this quarter, we consider a child as a newborn child that can generate birth allowances in the given quarter.

To check this age condition we compute the age, expressed in number of months, at the first day of the last month of the quarter of analysis. We

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<sup>25</sup> In Decoster, De Swerdt, Orsini and Van Camp (2007) these conversion rules are specified (see Table 6).

<sup>26</sup> See FOD Sociale Zekerheid (2002), p. 371-372.

<sup>27</sup> See FOD Sociale Zekerheid (2002), p. 390.

compute this age, starting from the value observed in the variable FAMAL\_MONTH\_AGE, which contains the age, expressed in months, on January 1<sup>st</sup> 2002. If then, for example, the fourth quarter is being analysed, we subtract 1 from FAMAL\_MONTH\_AGE to obtain the age, expressed in months on December 1<sup>st</sup> 2001. For quarters 3, 2 and 1 we subtract respectively 4, 7 and 10 from FAMAL\_MONTH\_AGE to obtain the age, expressed in months, relevant for that quarter.

If the child is either 1, 2 or 3 months old on the first day of the last month of the quarter of analysis, we consider this child as a newborn child for which child benefits could be paid in the given quarter.

If this child is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT equal to 1, and if the recipient has a) no other children or b) the child is part of a multiple birth, we set the birth rank of this child equal to 1. All other newborn children get a rank of 2.

The children of a recipient are identified here as all the individuals for which the recipient is a recipient (i.e. for which the recipients identification number appears in the variable FAMAL\_RECIPID\_QT). Hence, we do not distinguish those that are eligible for child benefits and those who are not to check how many children the recipient has.

## 1.8 IDENTIFICATION OF THE RANK OF A CHILD

Child benefits are differentiated according to the rank of the child. The rank of each child is determined by ordering a set of beneficiary children according to their age. The oldest child is called to be of the 1<sup>st</sup> rank. The following child is called to be of the 2<sup>nd</sup> rank and the others are of the 3<sup>rd</sup> rank.

If the number of beneficiary children decreases, the remaining beneficiary children obtain a lower rank number. If, for example, in a family with 3 children, the oldest one (child of 1<sup>st</sup> rank) is no longer a beneficiary child, the second child's rank, who was 2<sup>nd</sup>, becomes 1<sup>st</sup> and the third child's rank, who was 3<sup>rd</sup>, becomes 2<sup>nd</sup>.

To determine the rank of a child, the recipient of the benefits is the relevant reference person to construct the set of children that are to be ordered.<sup>28</sup> Which beneficiary children belong to the set of children that should be ordered with respect to their age, depends on the number of **recipients** within the sociological household.<sup>29</sup>

If there is only one recipient in the sociological household, all beneficiary children make up a single set.

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<sup>28</sup> See FOD Sociale Zekerheid (2002), p. 390.

<sup>29</sup> See FOD Sociale Zekerheid (2002), p. 390-391.

If several recipients were identified in the same sociological household, all children are taken into account to calculate the rank if and only if the different recipients:

- have the same main address and
- are legally married or declared to form a household or are relatives of first, second or third degree.

In order to compute the rank of the different beneficiary children one does not take into account orphans who are their own beneficiary.<sup>30</sup>

We reconstruct the rank of each child and store this value in the variable FAMAL\_CBENRANK\_QT.

For later identification purposes we also identify whether the child that is eligible for benefits is single within the sociological household. If this is the case, we set FAMAL\_SINGCHIL\_QT equal to 1. Next to this we identify which child, that is eligible for child benefits, is the youngest one. We store an identification of this in the variable FAMAL\_YOUNGEST\_QT.

**Construction rule for FAMAL\_CBENRANK\_QT, FAMAL\_SINGCHIL\_QT and FAMAL\_YOUNGEST\_QT:**

We assume that if multiple recipients are present within the same sociological household, these recipients satisfy the necessary family tie conditions without imposing an explicit test for this. As a consequence all beneficiary children of the same sociological household make up a single set of individuals to determine their rank.

We order this set of beneficiary children, i.e. all those household members for which FAMAL\_CHILELIG\_QT is equal to 1, according to their age (i.e. the value of FAMAL\_YEAR\_AGE) from high to low age (i.e. highest age comes in the first position of the set).

We then run through this set of beneficiary children and determine the value of FAMAL\_CBENRANK\_QT, conditional on the position of the individual within the set of ordered beneficiary children. When running through this set of beneficiary children we exclude orphans who are their own beneficiary from the rank determination. Orphans who are their own beneficiary have a value of 2 for the variable FAMAL\_ORPHAN\_QT.

If the set of children, eligible for child benefits, consists of only one child, we set FAMAL\_SINGCHIL\_QT equal to 1 at the level of this eligible child.

We set FAMAL\_YOUNGEST\_QT equal to 1 for all children that have the same age as the individual that appears last in the ordered set of children eligible for child benefits.

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<sup>30</sup> See FOD Sociale Zekerheid (2002), p. 390.



## 2 COMPUTATION OF FAMILY ALLOWANCES

In the computation of the family allowances one can distinguish the computation of basic allowances and those of supplements. We discuss the computation of the basic allowances first and then treat the computation of supplements in a separate section.

### 2.1 BASIC ALLOWANCES

Four basic allowances can be distinguished in the 2001 family benefit legislation: a) birth allowances, b) adoption premium, c) ordinary child allowances and d) orphan allowances. In this section we discuss the computation of each of these allowances in this order.

#### 2.1.1 CALCULATION OF BIRTH ALLOWANCES

A birth allowance is paid for each newborn child who is eligible for child allowances. The amount of the birth allowance is higher for a first-born child than for other children. From the second and following births on, the amount of the birth allowance is always the same. A birth allowance can also be given in case of miscarriage as far as the pregnancy has lasted at least 180 days.

The allowance consists of a lump sum amount which is paid after declaring the birth of the child. Birth allowances are the same whatever the scheme coverage of an individual. The different amounts, paid conditional on the birth rank of the child, are listed in Table 13.

Table 13: Birth allowances on January 1<sup>st</sup> 2002<sup>31</sup>

Rank of birth	Amount of birth allowances in EUR
1 First-born	964,40
2 Following births	725,60

We compute these birth allowances and store the computed value, on the level of the beneficiary child, in the variable FAMAL\_BIRTHALL\_QT.

#### **Construction rule for FAMAL\_BIRTHALL\_QT:**

If a child is eligible for child benefits in the given quarter, i.e. FAMAL\_CHILELIG\_QT is equal to 1, and if it is eligible for birth allowances in the given quarter, i.e. FAMAL\_BIRTRANK\_QT differs from 0, we take the value of FAMAL\_BIRTHALL\_QT from Table 13, conditional on the value of FAMAL\_BIRTRANK\_QT.

<sup>31</sup> See FOD Sociale Zekerheid (2002), p. 372.

The amounts, listed in Table 13, are integrated in the model in the form of the parameter FAMAL\_BALLAMOU\_ANN, which is a vector with 2 lines and 1 column.

### **2.1.2 CALCULATION OF THE ADOPTION PREMIUM**

An adoption premium is granted at the moment of adoption if the adopting parent gives some formal expression to this act of adoption. This adoption premium is the same whatever the scheme coverage of an individual. The non-recurrent allowance amounted to € 964,40 on January 1<sup>st</sup> 2002.<sup>32</sup>

This adoption premium will be stored at the level of the beneficiary child in the variable FAMAL\_ADOPALL\_QT.

#### **Construction rule for FAMAL\_ADOPALL\_QT:**

We are not able to distinguish adopted from non adopted children, let alone that we can identify the moment of adoption. The variable FAMAL\_ADOPALL\_QT will thus be set equal to 0 for all individuals in the sample.

The amount of € 964,40 is integrated in the model in the form of the parameter FAMAL\_ADOPAMOU\_ANN.

### **2.1.3 CALCULATION OF ORDINARY CHILD ALLOWANCES**

These ordinary child allowances are paid for all children that are not orphans. The precise amounts that are paid, differ according to the contribution scheme of the beneficiary. We distinguish, in what follows, the computation rules for ordinary child allowances of a) wage earners, b) civil servants, c) self employed and d) those entitled to guaranteed child allowances.

#### **THE WAGE EARNERS SCHEME**

Ordinary child allowances in the wage earner scheme are paid monthly for each eligible child that is not an orphan. The amount of the child allowances increases progressively according to the child's rank. The monthly amounts of child allowances in the wage earner scheme, if the children are not "placed" (geplaatst) in the household, are listed in Table 14.<sup>33</sup>

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<sup>32</sup> See FOD Sociale Zekerheid (2002), p. 372.

<sup>33</sup> See FOD Sociale Zekerheid (2002), p. 372.

Table 14: Monthly amount of child allowances in the wage earner scheme on January 1<sup>st</sup> 2002<sup>34</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	71,18
2 2 <sup>nd</sup> rank	131,71
3 3 <sup>rd</sup> rank	196,66

We will assume that all children are non placed children so that we can use the amounts, listed in Table 14, for the computation of the ordinary child benefits in the wage earner scheme. We compute these allowances, paid on a quarterly basis, and store the computed value, on the level of the beneficiary child, in the variable FAMAL\_ORALLWEA\_QT.

#### **Construction rule for FAMAL\_ORALLWEA\_QT:**

For each child that is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether it is not an orphan, i.e. FAMAL\_ORPHAN\_QT is equal to 0.

If so, we check whether the beneficiary is a beneficiary in the wage earner scheme, i.e. the value for FAMAL\_BENSCHM\_QT of the beneficiary should be equal to 1.

If this is the case, we select the monthly benefit from Table 14, conditional on the rank of the child, i.e. the value of FAMAL\_CBENRANK\_QT. We multiply the selected monthly amount with the number of months for which this benefit is paid in the given quarter, i.e. the value of FAMAL\_NMONTHBE\_QT.

The result of the latter multiplication is stored in the variable FAMAL\_ORALLWEA\_QT.

The amounts, listed in Table 14, are integrated in the model in the form of the parameter FAMAL\_OWEAAMOU\_MONTH, which is a vector with 3 lines and 1 column.

### **THE CIVIL SERVANT SCHEME**

Ordinary child allowances in the civil servant scheme are paid monthly for each eligible child that is not an orphan. The amount of the child allowances increases progressively according to the child's rank. The amounts are equal to those applied for wage earners.<sup>35</sup> We list these monthly amounts in Table 15.

<sup>34</sup> See FOD Sociale Zekerheid (2002), p. 372.

<sup>35</sup> See FOD Sociale Zekerheid (2002), p. 405.

Table 15: Monthly amount of child allowances in the civil servant scheme on January 1<sup>st</sup> 2002<sup>36</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	71,18
2 2 <sup>nd</sup> rank	131,71
3 3 <sup>rd</sup> rank	196,66

The ordinary child allowances, paid on a quarterly basis in the civil servant scheme, are computed and stored on the level of the beneficiary child, in the variable FAMAL\_ORALLCIV\_QT.

#### **Construction rule for FAMAL\_ORALLCIV\_QT:**

For each child that is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether it is not an orphan, i.e. FAMAL\_ORPHAN\_QT is equal to 0.

If so, we check whether the beneficiary is a beneficiary in the civil servant scheme, i.e. the value for FAMAL\_BENSCHM\_QT of the beneficiary should be equal to 2.

If this is the case, we select the monthly benefit from Table 15, conditional on the rank of the child, i.e. the value of FAMAL\_CBENRANK\_QT. We multiply the selected monthly amount with the number of months for which this benefit is paid in the given quarter, i.e. the value of FAMAL\_NMONTHBE\_QT.

The result of the latter multiplication is stored in the variable FAMAL\_ORALLCIV\_QT.

The amounts, listed in Table 15, are integrated in the model in the form of the parameter FAMAL\_OCIVAMOU\_MONTH, which is a vector with 3 lines and 1 column.

#### **THE SELF-EMPLOYED SCHEME**

Ordinary child allowances in the self employed scheme are paid monthly for each eligible child that is not an orphan. The amount of the child allowances increases progressively according to the child's rank.

The amounts are equal to those applied for wage earners, except the amount applied for a child of the 1<sup>st</sup> rank.<sup>37</sup> We list the monthly amounts, applied in case of children that are not "placed" (geplaatst) in Table 16.

<sup>36</sup> See FOD Sociale Zekerheid (2002), p. 372.

<sup>37</sup> See FOD Sociale Zekerheid (2002), p. 403.

Table 16: Monthly amount of child allowances in the self employment scheme on January 1<sup>st</sup> 2002<sup>38</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	36,21
2 2 <sup>nd</sup> rank	131,71
3 3 <sup>rd</sup> rank	196,66

We assume that all children are non placed children so that we can use the amounts, listed in Table 16, for the computation of the ordinary child benefits in the self employed scheme. We store the amount, paid on a quarterly basis, in the variable FAMAL\_ORALLSEL\_QT.

#### **Construction rule for FAMAL\_ORALLSEL\_QT:**

For each child that is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether it is not an orphan, i.e. FAMAL\_ORPHAN\_QT is equal to 0.

If so, we check whether the beneficiary is a beneficiary in the self employed scheme, i.e. the value for FAMAL\_BENSCHM\_QT of the beneficiary should be equal to 3.

If this is the case, we select the monthly benefit from Table 16, conditional on the rank of the child, i.e. the value of FAMAL\_CBENRANK\_QT. We multiply the selected monthly amount with the number of months for which this benefit is paid in the given quarter, i.e. the value of FAMAL\_NMONTHBE\_QT.

The result of the latter multiplication is stored in the variable FAMAL\_ORALLSEL\_QT.

The amounts, listed in Table 16, are integrated in the model in the form of the parameter FAMAL\_OSELAMOU\_MONTH, which is a vector with 3 lines and 1 column.

### **THE GUARANTEED FAMILY ALLOWANCES**

If the beneficiary does not generate child benefits because he has contributed, but if he is entitled to guaranteed family allowances, one pays each month child allowances for each eligible child that is not an orphan. The amount of the child allowances increases progressively according to the child's rank. The amounts are equal to those applied for wage earners if the child did not generate child benefits in some of the contribution schemes in the preceding month.<sup>39</sup> We assume further that the ordinary guaranteed family allowances are always those applied in the wage earner scheme. We list the monthly amounts in Table 17.

<sup>38</sup> See FOD Sociale Zekerheid (2002), p. 372.

<sup>39</sup> See FOD Sociale Zekerheid (2002), p. 408.

Table 17: Monthly amount of child allowances if the beneficiary opens the right on guaranteed child allowances (amounts applied on January 1<sup>st</sup> 2002)<sup>40</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	71,18
2 2 <sup>nd</sup> rank	131,71
3 3 <sup>rd</sup> rank	196,66

The ordinary child allowances, paid on a quarterly basis in the guaranteed child allowance scheme, are computed and stored on the level of the beneficiary child, in the variable FAMAL\_ORALLGUA\_QT.

#### **Construction rule for FAMAL\_ORALLGUA\_QT:**

For each child that is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether it is not an orphan, i.e. FAMAL\_ORPHAN\_QT is equal to 0.

If so, we check whether the beneficiary is not a beneficiary in one of the three contribution schemes, i.e. FAMAL\_BENSCHM\_QT of the beneficiary should be equal to 0 and if he opens the right on guaranteed child allowances, i.e. FAMAL\_BENGUARI\_QT is equal to 1.

If this is the case, we select the monthly benefit from Table 17, conditional on the rank of the child, i.e. the value of FAMAL\_CBENRANK\_QT. We multiply the selected monthly amount with the number of months for which this benefit is paid in the given quarter, i.e. the value of FAMAL\_NMONTHBE\_QT.

The result of the latter multiplication is stored in the variable FAMAL\_ORALLGUA\_QT.

The amounts, listed in Table 17, are integrated in the model in the form of the parameter FAMAL\_OGUAAMOU\_MONTH, which is a vector with 3 lines and 1 column.

### **2.1.4 CALCULATION OF ORPHAN ALLOWANCES**

Orphan allowances, contrary to child allowances, do not depend on the children's rank. A lump sum amount per month is granted to each orphan. The amount granted per month for orphans on January 1<sup>st</sup> 2002 is € 273,46.<sup>41</sup>

The ordinary child allowances, paid on a quarterly basis for orphans, are computed and stored on the level of the beneficiary child, in the variable FAMAL\_ORALLORP\_QT.

<sup>40</sup> See FOD Sociale Zekerheid (2002), p. 372.

<sup>41</sup> See FOD Sociale Zekerheid (2002), p. 373 and p. 409.

### **Construction rule for FAMAL\_ORALLORP\_QT:**

For each child that is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether it is an orphan, i.e. FAMAL\_ORPHAN\_QT is equal to 1 or 2.

If so, we multiply 273,46 with the number of months for which the benefit is paid in the given quarter, i.e. the value of FAMAL\_NMONTHBE\_QT. The result of this multiplication is stored in the variable FAMAL\_ORALLORP\_QT.

We integrate the value of 273,46 in the model in the form of the parameter FAMAL\_OORPAMOU\_MONTH.

## **2.2 SUPPLEMENTS**

The basic allowances can be increased for different reasons. There exist supplements conditional on the age of the beneficiary child or conditional on the fact whether the beneficiary child has a handicap or not. Next to that, additional allowances can also be granted conditional on the social status of the beneficiary.

### **2.2.1 CALCULATION OF AGE SUPPLEMENTS**

The computation of these supplements differs, conditional on the contribution scheme of the beneficiary. The same rules are applied for a) wage earners, b) civil servants and c) in case of guaranteed child allowances. We therefore discuss the computation of these benefits as if it concerns a single system.

#### **THE WAGE EARNERS, CIVIL SERVANT AND GUARANTEED ALLOWANCES SCHEME**

The rules for computing the age supplement are the same for orphans as for other children.<sup>42</sup> The precise amount granted, differs conditional on the rank of the child.

If the child is of the 1<sup>st</sup> rank the age supplement is granted if the child a) is not handicapped and b) if it satisfies certain conditions on age and date of birth. We list the amounts and the conditions that applied on January 1<sup>st</sup> 2002 for these rank 1 children in Table 18.<sup>43</sup>

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<sup>42</sup> See FOD Sociale Zekerheid (2002), p. 373.

<sup>43</sup> We remark that if a child becomes rank 1 because it replaces an older child that leaves the household, higher age supplements than those mentioned in Table 18 are applied for certain children. We do not mention these amounts here since we are not able to identify these rank replacement situations.

Table 18: Monthly amount of age supplements for children of 1<sup>st</sup> rank who are not handicapped in the wage earner scheme, civil servant scheme and guaranteed child allowance scheme (amounts applied on January 1<sup>st</sup> 2002)<sup>44</sup>

Date of birth	Start age in years	Stop age in years	Amount of child allowances in EUR
1 Child born after December 31 <sup>st</sup> 1990	6	11	12,40
2 Child born after December 31 <sup>st</sup> 1990	12	17	18,88
3 Child born after December 31 <sup>st</sup> 1990	18	25	21,77
4 Child born between January 1 <sup>st</sup> 1985 and December 31 <sup>st</sup> 1990	0	17	24,73
5 Child born between January 1 <sup>st</sup> 1985 and December 31 <sup>st</sup> 1990	18	25	26,56
6 Child born between January 1 <sup>st</sup> 1981 and December 31 <sup>st</sup> 1984	0	17	37,79
7 Child born between January 1 <sup>st</sup> 1981 and December 31 <sup>st</sup> 1984	18	25	39,62
8 Child born before January 1 <sup>st</sup> 1981	0	25	41,70

If the child is of the second or third rank the age supplement is granted unconditional on the fact whether the child is handicapped or not. The child should only satisfy certain age conditions. We list the amounts and the conditions that applied on January 1<sup>st</sup> 2002 for these rank 2 and rank 3 children in Table 19.<sup>45</sup>

Table 19: Monthly amount of age supplements for children of rank 2 and rank 3 in the wage earner scheme, civil servant scheme and guaranteed child allowance scheme (amounts applied on January 1<sup>st</sup> 2002)<sup>46</sup>

Date of birth	Start age in years	Stop age in years	Amount of child allowances in EUR
1 -	6	11	24,73
2 -	12	17	37,79
3 -	18	25	48,05

The supplements are applied from the month that follows the month in which the child reaches the age limit.

We compute the age supplements, paid for each eligible child during a given quarter, and store the result in the variable FAMAL\_ASUPWEA\_QT.

#### **Construction rule for FAMAL\_ASUPWEA\_QT:**

For each child that is eligible for child benefits in a given quarter, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether the beneficiary has

<sup>44</sup> See FOD Sociale Zekerheid (2002), p. 373-374.

<sup>45</sup> We remark that our identification procedure prevents the identification of handicapped persons of older than 25 that still grant child benefits (see FOD Sociale Zekerheid (2002), p. 374).

<sup>46</sup> See FOD Sociale Zekerheid (2002), p. 373-374.



contributed as either a wage earner or civil servant (i.e. FAMAL\_BENSCHM\_QT is equal to 1 or 2) or if he opens the right on guaranteed child allowances (i.e. FAMAL\_BENQUARI\_QT is equal to 1).

If this is the case we check the rank of the child, by using the value of the variable FAMAL\_CBENRANK\_QT. If the child is of rank 1 we further check whether the child is handicapped or not, by using the value of FAMAL\_HANDICAP\_ANN.

If the child is not handicapped and of rank 1 or of rank 2 or 3, we have to select the appropriate monthly amount from Table 18 or Table 19, conditional on the age of the child. Since the variable FAMAL\_ASUPWEA\_QT covers a quarterly amount, we have to check the age conditions, that could result in an age supplement for a given child, for each of the three different months of the given quarter separately. Hence, for each eligible child that satisfies the other conditions, we loop over three possible months to check the age supplement conditions.

Our starting point for this check is the age of the child on January 1<sup>st</sup> 2002, expressed in number of months (i.e. the value of the variable FAMAL\_MONTH\_AGE). From this value we derive the age, expressed in number of months, on the first day of a given month, by subtracting from it (12 minus the month value plus 1). If, for example, we are analysing the 4<sup>th</sup> quarter, the age, expressed in number of months at the beginning of the month October, November and December is equal to FAMAL\_MONTH\_AGE - 3, FAMAL\_MONTH\_AGE - 2 and FAMAL\_MONTH\_AGE - 1 respectively.

For each month we compare the age of the child, expressed in number of months, with values derived from the values given in the columns Start age in years and Stop age in years in Table 18 or Table 19. For this check we multiply the values in the columns Start age in years and Stop age in years with 12. In principle we add 11 to the number of months obtained for stop age in months, except if the stop age in years is 25. In the latter case nothing is added.

If then the age of the child, expressed in number of months, is equal to or larger than the starting age expressed in number of months and is equal to or smaller than the stop age expressed in number of months, we say that this child satisfies the age supplement conditions. The precise values of the Start age in years and Stop age in years are selected, conditional on the value of the date of birth.

If a child satisfies all these necessary age supplement conditions, we select the appropriate monthly value from the last column of Table 18 or Table 19. We add this value to the value of FAMAL\_ASUPWEA\_QT, already obtained at that stage. Hence, after applying this exercise for the three possible months of the

given quarter, we obtain the accumulated age supplements, paid for that child, throughout the given quarter.

The last three columns of Table 18 and Table 19 are integrated in the model in the form of the parameters FAMAL\_ASWEAR1\_MONTH and FAMAL\_ASWEAR23\_MONTH which are matrixes that consist of 8 lines and 3 columns and 3 lines and 3 columns respectively. The dates, listed in the column Date of birth of Table 18, are fixed within the model.

### **THE SELF-EMPLOYED SCHEME**

The rules to compute age supplements of children of self employed beneficiaries are the same as those applied for the other beneficiary schemes, except that no supplements are granted for a) children that are single within the household and b) for the youngest child that grants child benefits.<sup>47</sup>

We compute the age supplements, paid for each eligible child of self employed beneficiary during a given quarter, and store the result in the variable FAMAL\_ASUPSEL\_QT.

#### **Construction rule for FAMAL\_ASUPSEL\_QT:**

For each child that is eligible for child benefits in a given quarter, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we first check whether the beneficiary has contributed as a self employed (i.e. FAMAL\_BENSCHM\_QT is equal to 3) and if he did not open the right on guaranteed child allowances (i.e. FAMAL\_BENGUARI\_QT is equal to 0).

If this is the case we first apply the same rules as those applied to determine the age supplements of children for which the beneficiary opens the rights as wage earner, civil servant or guaranteed allowances. This also implies that for the determination of the benefits the parameters FAMAL\_ASWEAR1\_MONTH and FAMAL\_ASWEAR23\_MONTH are used.

After these age supplements have been determined, we check whether the child is either single or the youngest child. We do this by checking the values of the variables FAMAL\_SINGCHIL\_QT and FAMAL\_YOUNGEST\_QT. If either one of these two variables is equal to 1 for the eligible child for which an age supplement is stored in FAMAL\_ASUPSEL\_QT, we switch FAMAL\_ASUPSEL\_QT back to 0 if the value of FAMAL\_ASSELFFS\_ANN is set equal to 0. If FAMAL\_ASSELFFS\_ANN is set equal to 1 these age supplements are not switched to 0.

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<sup>47</sup> See FOD Sociale Zekerheid (2002), p. 403-404.

## 2.2.2 CALCULATION OF SOCIAL SUPPLEMENTS

A supplement to the basic allowances can be granted, conditional on the social status of the beneficiary. Supplements are granted if the beneficiary is:

1. retired and receives a retirement pension,
2. not retired but receives a survival pension,<sup>48</sup>
3. unemployed is full time unemployed or in early retirement and is in unemployment for more than 6 months,
4. is disabled.<sup>49</sup>

The granted supplements differ conditional on the type of replacement income that the beneficiary receives. Three sets of supplements can be distinguished:

1. supplements granted to beneficiaries that are unemployed for more than 6 months or beneficiaries receiving pension benefits other than self employment pension benefits,
2. supplements granted to beneficiaries that receive self employment pension benefits,
3. supplements granted to beneficiaries who are disabled.

The supplements, granted in these three cases, for the respective ranks, are listed in Table 20, Table 21 and Table 22.

Table 20: Monthly supplements granted to beneficiaries that are unemployed for more than 6 months or beneficiaries receiving pension benefits other than self employment pension benefits (amounts applied on January 1<sup>st</sup> 2002)<sup>50</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	36,24
2 2 <sup>nd</sup> rank	22,46
3 3 <sup>rd</sup> rank	3,94

Table 21: Monthly supplements granted to beneficiaries that receive self employment pension benefits (amounts applied on January 1<sup>st</sup> 2002)<sup>51</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	21,20
2 2 <sup>nd</sup> rank	22,46
3 3 <sup>rd</sup> rank	3,94

<sup>48</sup> See FOD Sociale Zekerheid (2002), p. 374.

<sup>49</sup> See FOD Sociale Zekerheid (2002), p. 374.

<sup>50</sup> See FOD Sociale Zekerheid (2002), p. 374.

<sup>51</sup> See FOD Sociale Zekerheid (2002), p. 403.

Table 22: Monthly supplements granted to beneficiaries who are disabled (amounts applied on January 1<sup>st</sup> 2002)<sup>52</sup>

Rank	Amount of child allowances in EUR
1 1 <sup>st</sup> rank	77,97
2 2 <sup>nd</sup> rank	22,46
3 3 <sup>rd</sup> rank	3,94

The above supplements are only granted if all household members together receive a limited amount of replacement income only and if the partner of the beneficiary only earns a limited amount of income from a labour market activity. The total sum of household replacement income should not be more than € 1.575,99 a month and the partner of the beneficiary should not earn more than € 237,48 from a labour market activity (figures applied on January 1<sup>st</sup> 2002).<sup>53</sup>

To check the above conditions we have to know whether an individual that turns out to be a beneficiary of child benefits, receives one the aforementioned replacement incomes. We check this and store an identification of this in the variable FAMAL\_REPIBEN\_QT at the level of the beneficiary. This variable can take three values, apart from the default value 0, i.e. 1) if the beneficiary is unemployed for more than 6 months or receiving pension benefits other than self employment pension benefits, 2) if the beneficiary receives self employment pension benefits and 3) if the beneficiary is disabled.

#### **Construction rule for FAMAL\_REPIBEN\_QT:**

For each beneficiary, i.e. each individual for which its individual identification number appears in the variable FAMAL\_BENEFID\_QT, we check the values of a number of exogenous variables.

From the module on pension benefits, i.e. the PENSWELF module, we obtain a variable that covers the pension benefit scheme. The values of this variable PENSWELF\_BENSCHM\_QT are listed in Table 8. If the variable PENSWELF\_BENSCHM\_QT takes the value 1 or 2 (i.e. pension benefits mainly come from the wage earner or civil servant scheme) then we set FAMAL\_REPIBEN\_QT equal to 1. If PENSWELF\_BENSCHM\_QT is equal to 3, we set FAMAL\_REPIBEN\_QT equal to 2.

From the module on unemployment benefits, we obtain the variable UNEM\_FULL6MON\_QT, that covers the number of months the unemployed is in unemployment if he is either full time unemployed or in early retirement. If the value of this variable is larger than 6, we set FAMAL\_REPIBEN\_QT equal to 1.

From the module on sickness and disability benefits, we obtain a variable SICK\_DISABBEN\_QT which identifies whether the beneficiary either receives

<sup>52</sup> See FOD Sociale Zekerheid (2002), p. 374.

<sup>53</sup> See FOD Sociale Zekerheid (2002), p. 374.

disability benefits as wage earner (value = 1), as non statutory civil servant (value = 2) or if the beneficiary receives disability benefits as self employed (value = 3). If SICK\_DISABBEN\_QT differs from 0 for the beneficiary, we set FAMAL\_REPIBEN\_QT equal to 3. Remark that we do not check whether FAMAL\_REPIBEN\_QT is still equal to 0 at this stage, and thus choose for the most beneficial system of supplements.

To apply the above supplements, we also have to know whether the beneficiary lives in a household for which the relevant means tests are satisfied. If the household satisfies these means tests, we will switch the variable FAMAL\_REPIMEAN\_QT equal to 1.

#### **Construction rule for FAMAL\_REPIMEAN\_QT:**

For each beneficiary, i.e. each individual for which its individual identification number appears in the variable FAMAL\_BENEFID\_QT, that also satisfies the replacement income conditions (i.e. FAMAL\_REPIBEN\_QT is different from 0) we execute an additional means test.

First of all we make the sum of all replacement incomes of all members of the sociological household. If this sum is smaller than three times 1.575,99 we switch FAMAL\_REPIMEAN\_QT equal to 1. The sum of all replacement incomes of an individual is equal to FAMAL\_INDINC\_QT minus FAMAL\_LABMINC\_QT.

Next to this replacement income condition, we also check whether the beneficiary has a partner. We can identify partners by aid of the exogenous variables FAMREL\_RELATION, FAMREL\_FAMILY and FAMREL\_COUPLE that are provided by the module FAMREL. If there is a partner we check whether the labour income of this partner, i.e. the value of FAMAL\_LABMINC\_QT, is larger than three times 237,48. If this is the case, we switch the value of FAMAL\_REPIMEAN\_QT equal to 0.

We integrate the values of 1.575,99 and 237,48 in the model in the form of the parameter FAMAL\_REPLEVEL\_MONTH which is a vector with 2 lines and 1 column.

With these two reconstructed variables, i.e. FAMAL\_REPIBEN\_QT and FAMAL\_REPIMEAN\_QT, we have sufficient information to reconstruct the quarterly amount of social supplements paid for each eligible child. We store these quarterly amounts in the variable FAMAL\_SOCSAMOU\_QT.

#### **Construction rule for FAMAL\_SOCSAMOU\_QT:**

For each beneficiary, i.e. each individual for which its individual identification number appears in the variable FAMAL\_BENEFID\_QT, that also satisfies the replacement income conditions (i.e. FAMAL\_REPIBEN\_QT is different from 0) and the means test (i.e. FAMAL\_REPIMEAN\_QT is different from 0) we look up each child that is eligible for child benefits, for which this individual is

beneficiary (i.e. the identifier of the beneficiary should return in FAMAL\_BENEFID\_QT and FAMAL\_CHILELIG\_QT should be equal to 1.

We select the monthly supplement from Table 20, Table 21 or Table 22 conditional on a) the rank of the child (i.e. the value of FAMAL\_CBENRANK\_QT) and b) the type of replacement income received by the beneficiary (i.e. the value of FAMAL\_REPIBEN\_QT).

We multiply the selected monthly amount with the number of months for which family allowances are paid in the given quarter for that child, i.e. the value of FAMAL\_NMONTHBE\_QT. We store the result of this multiplication, at the level of the beneficiary child, in the variable FAMAL\_SOCSAMOU\_QT.

The values, listed in Table 20, Table 21 and Table 22 are integrated in the model in the form of the parameters FAMAL\_SOCSUP1\_MONTH, FAMAL\_SOCSUP2\_MONTH and FAMAL\_SOCSUP3\_MONTH respectively. These parameters are all vectors with 3 lines and 1 column.

### 2.2.3 CALCULATION OF SUPPLEMENTS FOR HANDICAPPED CHILDREN

Supplements for handicapped children can be added to the basic amount of child allowances and orphan allowances when the child, who is less than 21 years old, is recognised to have a disability of minimum 66%. The amount differs conditional on the degree of self sustainability (zelfredzaamheid) of the child.

If the child scores 0, 1, 2 or 3 on a predefined scale, the child is granted an additional amount of € 320,25 per month. If the child scores 4, 5 or 6 on this scale, it is granted an amount of € 350,55 per month and if it scores 7, 8 or 9 points an amount of € 374,74 is granted.<sup>54</sup>

In order to reconstruct these supplements, we need to know whether the child is recognised to have a disability of at least 66% and the degree of self sustainability. We store identifiers of this in the variables FAMAL\_DISA66PL\_QT and FAMAL\_HANDSCAL\_QT respectively.

#### **Construction rule for FAMAL\_DISA66PL\_QT and FAMAL\_HANDSCAL\_QT:**

At this stage we do not have exogenous variables that allow us to identify those variables. Hence, both variables are set equal to 0 for all individuals in the sample.

Once we know the degree of disability and self sustainability, we can reconstruct the quarterly supplement that is paid to children who are eligible for this supplement. We store this result in the variable FAMAL\_HANDAMOU\_QT.

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<sup>54</sup> See FOD Sociale Zekerheid (2002), p. 374-375.

### **Construction rule for FAMAL\_HANDAMOU\_QT:**

If a child is eligible for child benefits (i.e. FAMAL\_CHILELIG\_QT should be equal to 1) and disabled for more than 66% (i.e. FAMAL\_DISA66PL\_QT is equal to 1), we check the degree of self sustainability of the child (i.e. the value of the variable FAMAL\_HANDSCAL\_QT). Conditional on the value of FAMAL\_HANDSCAL\_QT we select the value of 320,25 (0, 1, 2 or 3), 350,55 (4, 5 or 6) or 374,74 (7, 8 or 9).

We multiply the selected monthly amount with the number of months for which family allowances are paid in the given quarter for that child, i.e. the value of FAMAL\_NMONTHBE\_QT. We store the result of this multiplication, at the level of the beneficiary child, in the variable FAMAL\_HANDAMOU\_QT.

We integrate the values 320,25, 350,55 and 374,74 in the model in the form of the parameter FAMAL\_HANDSUPL\_MONTH, which is a vector of 3 lines and 1 column.

## **3 CONSTRUCTION OF FAMILY ALLOWANCE 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 FAMAL module. In this section we discuss the variables constructed to exchange to other modules.

The modules on unemployment benefits, sickness and disability benefits and contributions, i.e. UNEM, SICK and CONTRIB, need the total amount of child benefits, received by a given recipient as input. We construct this concept and store the result in the variable FAMAL\_AMOUNTF\_QT.

For a child is eligible for child benefits, i.e. FAMAL\_CHILELIG\_QT is equal to 1, we look up the recipient of this child, i.e. the identification number stored in FAMAL\_RECIPID\_QT, and add to FAMAL\_AMOUNTF\_QT the content of the following concepts: FAMAL\_ORALLWEA\_QT, FAMAL\_ASUPWEA\_QT, FAMAL\_SOCSAMOU\_QT, FAMAL\_HANDAMOU\_QT, FAMAL\_ORALLORP\_QT, FAMAL\_BIRTHALL\_QT, FAMAL\_ADOPALL\_QT, FAMAL\_ORALLCIV\_QT, FAMAL\_ORALLSEL\_QT, FAMAL\_ASUPSEL\_QT, FAMAL\_ORALLGUA\_QT.

The module on the social benefits also needs a variable that identifies whether the child is eligible for child benefits as input. For this purpose we also exchange the reconstructed variable FAMAL\_CHILELIG\_QT.

## 4 REFERENCES

- [1] FOD Sociale Zekerheid (2002), *Beknopt overzicht van de sociale zekerheid in België*, Brussel: Federaal Ministerie van Sociale Zaken, Volksgezondheid en Leefmilieu, Bestuur van de Informatie en de Studiën.
- [2] K.U.Leuven (2006), Sociale Dienst, Studentenstatuut, Kinderbijslag ([http://www.kuleuven.be/sociale\\_dienst/statuut/index.htm](http://www.kuleuven.be/sociale_dienst/statuut/index.htm)).
- [3] Decoster, A, De Swerdt, K, Orsini, K, and Van Camp, G. (2007), MIMOSIS: Microsimulation MOdel for Belgian Social Insurance Systems, Household Composition and family relationships, *(reference to be completed: web-page)*.
- [4] RKW (2006), <http://www.onafts.fgov.be>

## APPENDIX 1: CHANGES IN THE LEGISLATION OF FAMILY ALLOWANCES SINCE THE YEAR 2001

In 2006 an additional supplement was paid for children aged 6 or older and younger than 18 if these children are still attending school.

The premium was paid only once in the given year, at fixed point in time. For the large majority this point in time was the month of August 2006. Children not yet 6 at that point in time received the supplement in the month following the month they reached the age of 6 in 2006.<sup>55</sup>

The supplement paid for children that are 6 or older but younger than 12 is € 51,00 and the supplement for children that are 12 or older but younger than 18 is € 70,00. These amounts are expressed in prices of October 2006.

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<sup>55</sup> See RKW (2006), Hoeveel kinderbijslag? -> Leeftijdstoelag.



## **APPENDIX 2: CLASSIFICATION OF VARIABLES AND PARAMETERS**

Throughout the main text we mentioned the names of variables and parameters that are used for the computation of the family allowances with the FAMAL module. Within the set of variables one can further distinguish endogenous from exogenous variables. Endogenous variables are variables that are constructed within the FAMAL 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 FAMAL and therefore remain fixed throughout the FAMAL 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 FAMAL module respectively. Each table consists of two columns that contain the following elements:

1. the name of the variable;
2. a label for this variable in English.

## EXOGENOUS VARIABLES

Name	Label
<b>From datawarehouse</b>	
<b>NARGENIS</b>	
NAREGNIS_DATBIRTH	Birth date of the individual in year and month
NAREGNIS_HH_ID	Anonymised identification number of the household to which the individual belongs
NAREGNIS_RELATION	Link between the individual and the head of the household on 1 January 2002
NAREGNIS_CIVIL	Civil status of the individual on 1 January 2002
NAREGNIS_SEX	Sex of the individual on 1 January 2002
<b>RKW</b>	
RH_RKW_2001QT	Anonymised identification number of the individual that grants the right on child benefits (the qualifying child) in the system of salaried workers
BT_RKW_2001QT	Anonymised identification number of the individual that receives the child benefits (the beneficiary) in the system of salaried workers
<b>RSVZ</b>	
RH_RSVZ_2001QT	Anonymised identification number of the individual that grants the right on child benefits (the qualifying child) in the system of self employed people
BT_RSVZ_2001QT	Anonymised identification number of the individual that receives the child benefits (the beneficiary) in the system of self employed people
<b>CONSTRUCTED</b>	
MIMOSIS_GRINC_HOUR	Constructed income earned per hour
MIMOSIS_GRINC_QT	Constructed income earned per quarter
MIMOSIS_WEIGHT	Sample weight correction for non random selection
<b>From other modules</b>	
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
CONTRIB_LABMSTAT_SELF_QT	Labour market status of a self employed
CONTRIB_SSPRIV_EMEE_QT	Employee social security contributions paid for employee in the private labour market
CONTRIB_SSPUB_EMEE_QT	Employee social security contributions paid for employee in the public labour market
CONTRIB_SSELF_EMER_QT	Social security contributions net of deductions paid by self employed
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	Labour income, earned as self employed
UNEM_TOTBEN_QT	Gross amount of unemployment benefits
UNEM_FULL6MON_QT	The number of months in unemployment if the unemployed is either full time unemployed or early retired (hence eligible for social supplement in child benefits)
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
SICK_TOTBEN_QT	Sum of benefits for sickness, disability, industrial accidents and occupational diseases
SICK_DISABBEN_QT	Identification of the fact that the beneficiary receives disability benefits
PENSWELF_BENSCHM_QT	Identification of the contribution scheme that generated the registered pension benefits.
PENSWELF_AMOUNTP_QT	The gross amount of all pension benefits, paid because of legal Belgian pension laws
PENSWELF_SURPENS_QT	The gross amount of all survival pension benefits, paid because of legal Belgian pension laws
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

## ENDOGENOUS VARIABLES

Name	Label
<b>Identification variables necessary to compute family allowances</b>	
FAMAL_YEAR_AGE	Age of the individual on January 1 <sup>st</sup> 2002 expressed in years
FAMAL_MONTH_AGE	Age of the individual on January 1 <sup>st</sup> 2002 expressed in months
FAMAL_BENEFID_QT	Individual identification number of the beneficiary of child benefits of the beneficiary child
FAMAL_RECIPID_QT	Individual identification number of the recipient of child benefits of the beneficiary child
FAMAL_BENSCHM_QT	Contribution scheme of beneficiary
FAMAL_HANDICAP_ANN	The individual is handicapped (yes=1, no=0)
FAMAL_LABMINC_QT	Sum of all gross labour market income sources obtained by the individual
FAMAL_STUDENT_ANN	The individual is a student (yes=1, no=0)
FAMAL_STARTPAY_ANN	First month of the year for which child receives child benefits (number from 1 to 12)
FAMAL_ENDPAY_ANN	Last month of the year for which child receives child benefits (number from 1 to 12)
FAMAL_CHILELIG_QT	Individual is eligible for child benefits (yes=1, no=0)
FAMAL_INDINC_QT	Sum of all individual income components (including labour market income and replacement income but no social benefits)
FAMAL_NUMDEPCH_QT	Number of dependent children of the beneficiary
FAMAL_BENGUARI_QT	The beneficiary satisfies the conditions to receive guaranteed child allowances (yes=1, no=0)
FAMAL_NMONTHBE_QT	Number of months for which benefits are paid during the quarter of analysis for the eligible child
FAMAL_WIDOWER_QT	Individual is considered to be a widow or widower (yes=1, no=0)
FAMAL_ORPHAN_QT	Individual is considered to be an orphan
FAMAL_BIRTRANK_QT	Birth rank of the eligible child
FAMAL_CBENRANK_QT	Rank of the eligible child to determine the ordinary child benefits
FAMAL_SINGCHIL_QT	The eligible child is the only eligible child in the sociological household
FAMAL_YOUNGEST_QT	The eligible child is the youngest child of all eligible children in the sociological household
<b>Computation of family allowances: basic allowances</b>	
FAMAL_BIRTHALL_QT	Amount of birth allowances in Euro paid for an eligible child during the quarter of analysis
FAMAL_ADOPALL_QT	Amount of adoption allowances in Euro paid for an eligible child during the quarter of analysis
FAMAL_ORALLWEA_QT	Amount of ordinary child allowances in Euro paid for an

	eligible child during the quarter of analysis if the beneficiary opened rights in the wage earner scheme
FAMAL_ORALLCIV_QT	Amount of ordinary child allowances in Euro paid for an eligible child during the quarter of analysis if the beneficiary opened rights in the civil servant scheme
FAMAL_ORALLSEL_QT	Amount of ordinary child allowances in Euro paid for an eligible child during the quarter of analysis if the beneficiary opened rights in the self employment scheme
FAMAL_ORALLGUA_QT	Amount of ordinary child allowances in Euro paid for an eligible child during the quarter of analysis if the beneficiary opened rights in the guaranteed child allowance scheme
FAMAL_ORALLORP_QT	Amount of ordinary child allowances in Euro paid for an eligible child during the quarter of analysis if the beneficiary child is an orphan
<b>Computation of family allowances: supplements</b>	
FAMAL_ASUPWEA_QT	Amount of age supplements in Euro paid for an eligible child during the quarter of analysis if the beneficiary opened rights in another than the self employed contribution scheme
FAMAL_ASUPSEL_QT	Amount of age supplements in Euro paid for an eligible child during the quarter of analysis if the beneficiary opened rights in the self employed contribution scheme
FAMAL_REPIBEN_QT	The beneficiary can be granted a social supplement because he receives on of the specified replacement incomes
FAMAL_REPIMEAN_QT	The beneficiary can be granted a social supplement because he lives in a household that satisfies the means test, applied when social supplements are granted
FAMAL_SOCSAMOU_QT	Amount of social supplements in Euro paid for an eligible child during the quarter of analysis if the beneficiary if the beneficiary receives some predefined type of replacement income and satisfies the necessary means test
FAMAL_DISA66PL_QT	The individual is disabled for more than 66%(yes=1, no=0)
FAMAL_HANDSCAL_QT	The individual is not self sustainable (scale from 0 to 9)
FAMAL_HANDAMOU_QT	Amount of supplements in Euro paid for an eligible child during the quarter of analysis if the eligible child is disabled for more than 66%
<b>Constructed exchange variables</b>	
FAMAL_AMOUNTF_QT	Total amount of child allowances and supplements received by recipient

## PARAMETERS

Name	Label
<b>Identification variables necessary to compute family allowances</b>	
FAMAL_FAMREL_QT	Matrix used to convert relationships of family members
FAMAL_CHILUNEL_MONTH	Income ceiling, expressed in Euro per month, applied on unemployment benefits to see whether the child is still eligible for child benefits
FAMAL_CHILINCL_MONTH	Income ceiling, expressed in Euro per month, applied on labour market income to see whether the child is still eligible for child benefits
FAMAL_GUARINPC_QT	Percentage used to increase the income ceiling that is applied to test whether a beneficiary is eligible for guaranteed child allowances
FAMAL_GUARINAB_QT	Basic income ceiling that is applied to test whether a beneficiary is eligible for guaranteed child allowances
<b>Computation of family allowances: basic allowances</b>	
FAMAL_BALLAMOU_ANN	Lump sum amounts, differentiated according to birth rank of the child, granted as birth allowances
FAMAL_ADOPAMOU_ANN	Lump sum amount granted as adoption allowance
FAMAL_OWEAAMOU_MONTH	Monthly amount, paid as child benefit if the beneficiary opened rights in the wage earner contribution scheme (amounts differ with the rank of the eligible child)
FAMAL_OCIVAMOU_MONTH	Monthly amount, paid as child benefit if the beneficiary opened rights in the civil servant contribution scheme (amounts differ with the rank of the eligible child)
FAMAL_OSELAMOU_MONTH	Monthly amount, paid as child benefit if the beneficiary opened rights in the self employed contribution scheme (amounts differ with the rank of the eligible child)
FAMAL_OGUAAMOU_MONTH	Monthly amount, paid as child benefit if the beneficiary opened rights in the guaranteed child allowance scheme (amounts differ with the rank of the eligible child)
FAMAL_OORPAMOU_MONTH	Monthly amount, paid as child benefit, if the beneficiary child is an orphan
<b>Computation of family allowances: supplements</b>	
FAMAL_ASWEAR1_MONTH	Monthly amount, used to determine age supplements of children of rank 1
FAMAL_ASWEAR23_MONTH	Monthly amount, used to determine age supplements of children of rank 2 and 3
FAMAL_REPLEVEL_MONTH	Income ceiling, expressed in Euro per month, used to test whether the beneficiary lives in a household that satisfies the means test for social supplements
FAMAL_SOCSUP1_MONTH	Monthly supplements granted to beneficiaries that are unemployed for more than 6 months or beneficiaries receiving pension benefits other than self employment pension benefits
FAMAL_SOCSUP2_MONTH	Monthly supplements granted to beneficiaries that receive

	self employment pension benefits
FAMAL_SOCSUP3_MONTH	Monthly supplements granted to beneficiaries who are disabled
FAMAL_HANDSUPL_MONTH	Monthly supplements granted to beneficiary children that are handicapped
FAMAL_ASSEFFS_ANN	If equal to 1, then apply the age supplement for the first or single children of self employed in a similar way as for others