



Open Family Policy Program

Methodology Report

EU-SILC CS

ver.0.2

Alžběta Bártová

Centre for Sociological Research

KU Leuven

2022



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 893008.

Table of content

1.	OPEN FAMILY POLICY PROGRAM AND PLATFORM	4
2.	LICENSE AND TERMS OF USE.....	4
3.	DATA MANAGEMENT	5
4.	LEGISLATIVE DATA.....	5
5.	CORE ASSUMPTIONS	6
5.1.	POPULATION ASSUMPTIONS.....	6
5.2.	POLICY ASSUMPTIONS	7
6.	TIME UNITS AND CONVERSION STANDARDS	8
6.1.	WEEK	8
6.2.	MONTH	9
6.3.	YEAR	9
7.	STANDARDIZATION OF THE EU-SILC VARIABLES.....	9
8.	POLICY VARIABLES	12
8.1.	MATERNITY LEAVE	12
8.2.	PATERNITY LEAVE	13
8.3.	PARENTAL LEAVE	14
9.	DATA SOURCES.....	15

1. Open Family Policy Program

The Open Family Policy Program (OFPP) translates family policy legislation into actionable code. This methodology report refers to OFPP v.0.2, which was developed to be used with the cross-sectional file of the European Union Statistics on Income and Living Conditions (EU-SILC). This version of the Program contains coding of the maternity, paternity, and parental leave policies in 28 European countries¹ between years 2013 and 2019. The OFPP is an open-source code that is freely available on GitHub and can be used, distributed, and modified in line with the license conditions (section 2.). The individual releases are also available on Zenodo.

Although the OFPP in its current form was specifically written for use with the EU-SILC cross-sectional data, its structure allows users to apply it on any other survey data. This action requires some adjustments to the source code. Some indications of where the changes may be necessary can be found in sections 5-7. Each file of the OFPP is annotated and provides further information on the policy characteristics that have not been coded due to data limitations. Users may use this information to adjust their code if they have access to more detailed survey data. However, this information is not exhaustive, and we recommend the users to always check either the original legislative data sources that we used for writing the Program (see section 9) or the legislation for more detail.

2. License and terms of use

The source code of the Open Family Policy Program is licensed under the GNU General Public License v3. This is a copyleft license that guarantees freedom to share and change the source code as long as attribution is given, and the code remains open for all its users. For more detail on the licence see the document ‘LICENSE’ in the [GitHub repository](#) ‘EU-SILC CS’. Please, make sure you familiarised yourself with the terms of the license before you publish with the original or modified version of the OFPP.

¹ Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

3. Data management

The Open Family Policy Program is written in Stata language and is organised in do-files. All do-files are annotated to summarize the policy rules and coding decisions. There are three main types of do-files: (1) main file, (2) standardization files, and (3) family policy coding files.

- (1) Main file: “MAIN_eusilc_cs.do” – runs the OFPP, data and code directories must be specified
- (2) Standardization files: “SD” prefix
 - a. “SD_merge_eusilc_cs.do” – transforms the original .csv files into .dta, creates labels
 - b. “SD_ML_vars.do”, “SD_PT_vars.do”, “SD_PL_vars.do” – create maternity, paternity and parental leave variables
 - c. “SD_standard_eusilc.do” – standardizes the EU-SILC variables to be compatible with the OFPP. For more information see section 7
 - d. “SD_uid_eusilc.do” – creates unique household and personal identifiers for respondents
 - e. “SD_partners_eusilc_cs.do” – identifies partners among respondents
 - f. “SD_nchild_eusilc_cs.do” – identifies the number of children (<18 years old) in each household
 - g. “SD_sample_eusilc_cs.do” – specifies the sample for the OFPP
- (3) Family policy coding files:

The prefixes of the family policy do-file correspond with the individual policies; ‘ML’ for maternity leave, ‘PT’ for paternity leave, and ‘PL’ for parental leave. The names of the files follow certain standards; *policy acronym_year_ISO 3166-1 alpha-2 country code_survey data*. For example, ML_2018_DK_eusilc_cs is a file containing code for maternity leave (ML) for the year 2018 in Denmark (DK), which can be run on EU-SILC (eusilc) cross-sectional data (cs). These files contain details on coding decisions of specific policies in each country.

4. Legislative data

The family policy coding is based on two main sources of legislative data. The primary source is the Comparative Tables produced by the Mutual Information System on Social Protection (MISSOC, ver. 07-01 for years 2013-2019). The data on maternity and paternity leave was collected from table IV. Maternity/Paternity. The data on parental leave was collected from

table IX. Family benefits (Parental leave and benefit). MISSOC is also the main source of data on social protection for the self-employed. The secondary source of legislative data is the Annual Reviews produced by the International Network on Leave Policies & Research (LP&R). In some cases, the original bill was used to code certain policies (e.g. Czechia, Slovakia). References to the specific legislation can be found in the do-files.

5. Core Assumptions

The OFPP operates on several core assumptions. One set of assumptions is related to the population that the program selects for the calculation of family policy entitlements. The second set of assumptions is related to the assumption about the policies and their uptake.

5.1. Population assumptions

The OFPP is designed to estimate family policy entitlements among *hypothetical parents*. The definition of hypothetical parents differs by gender and cohabitation status. Hypothetical parents are respondents of *childbearing age* who are understood as being at risk of having a biological child. We defined *childbearing age* by women's biological ability to have children (16-45 years old). The OFPP, therefore, selects female respondents who are between the age of 16 and 45. Although men can conceive a child far beyond this age threshold, their childbearing age was limited by the same age range as for women (i.e. 16-45). However, this condition only applies to single men. The selection of male respondents who cohabit with their partner was conditioned on the age of their female partner. Therefore, the OFPP selects cohabiting men of any age if their cohabiting female partner is between the age of 16 and 45. EU-SILC is a household survey, all respondents that fulfil the conditions are recognised as hypothetical parents. One household can have two and more hypothetical parents. Same-sex couples are excluded in this OFPP version.

The do-file 'SD_sample_eusilc_cs' contains the code for the sample selection based on these population assumptions. Users can use this do-file to adjust the population assumptions to better fit their research questions.

5.2. Policy assumptions

Leave benefits are often conditioned on *social insurance contributions*. These can be either compulsory or voluntary. Survey data often do not contain information on social insurance contributions. Instead, the OFPP uses economic activity as a proxy. If social insurance contributions are voluntary for any of the categories of economic activity, these respondents are coded as not eligible for the family policy.

Some countries require parents to pay their social insurance contributions or work for a certain amount of time before they become eligible for some family policies. We refer to this period as the *qualifying period* and it can vary in duration and *reference period*. We understand the reference period as the time frame within which the qualifying period can be fulfilled. For example, parents may need to work for 6 months (qualifying period) during 1 year before the expected due date (reference period). The OFPP does not distinguish the *reference period* as defined by the family policy legislations but instead uses the *income reference period* defined by the EU-SILC cross-sectional data. This refers to the 12 calendar months of the year preceding the year of the survey. For example, if EU-SILC data was collected in March 2018, the *income reference period* refers to January 2017 - December 2017. The *income reference period* is not the same for all countries in the EU-SILC sample. The United Kingdom uses the year of the survey as the *income reference period* and Ireland uses the 12 months before the data collection².

Some countries provide *extensions* to leave duration in case of multiple births, health complications during pregnancy or childbirth, and in case of a child's health issues or disability. The OFPP assumes healthy pregnancies, childbirths without complications, single pregnancies, and healthy newborn children. It, therefore, does not include any of the variation in leave duration due to these events. Parents in some countries have some *flexibility* in the way they use their leave entitlements. For example, mothers can choose the start of their maternity leave, or parents can choose when and how they will draw their parental leave entitlements (e.g. full-time or part-time, right after maternity leave or when the child is older). The OFPP does not account for this flexibility. In the case of prenatal maternity leave, it only includes those weeks that are compulsory for the mother. It also assumes that the leave entitlements are used on a full-time basis and consecutively.

² Wolff, P., Montaigne, F. & Gonzáles, G.R. (2010) Investing in Statistics: EU-SILC. In Atkinson, A.B. & Marlier, E. (Ed.) *Income and Living Conditions in Europe*. Publication Office of the European Commission.

Transferability of rights from one parent to another is a typical characteristic of leave policies. Some countries allow mothers to transfer (part) of their maternity leave to fathers under certain conditions. The situations that allow the transfer of maternity leave to fathers vary across countries. The most common reasons are mothers' health conditions, death, abandonment of the child or mothers' preference. The OFPP recognises only one reason for the transferability of maternity leave rights to the father and that is when the mother abandons her child. Where legislation allows fathers to use maternity leave in such conditions, these entitlements were assigned to single men.

Parental leaves are based either on individual non-transferable rights, individual transferable rights, or family rights. Some countries combine different types of rights to time off work within the parental leave scheme and for cash benefits. For instance, in Czechia the time off work guaranteed by parental leave is an individual non-transferable right, however, the right to cash benefits for time spent on caring for a child is based on the family right. In case of individual right, regardless of whether it is non-transferable or transferable, the OFPP assigns the share of entitlements to the individual parent. For family entitlement, the OFPP assigns all the entitlements to the mother.

These are the main policy assumptions the OFPP operates with. More details about the policy coding can be found in the annotation to the code in each do-file. These assumptions are adjustable in the policy coding do-files (i.e. do-files with policy prefixes such as ML, PT, PL).

6. Time units and conversion standards

Across countries, the duration of leave policies, the duration of benefit payment and the qualifying periods are defined in various time units. The variation in the use of different time units is not limited to the cross-country level but is common also within policies and countries. We created our standards for time conversions to ensure comparability across countries. Users should follow these standards when recalculating the time values into different units to ensure consistency and comparability. Any diversion from these standards should be reported.

6.1. Week

Only a small number of countries define a 'week'. Some countries specify *calendar week* or *working week*. However, many countries only refer to a "week". In such cases, the OFPP understands

“week” as the working week. When the number of days in a week are specified, the OFPP operates with this specific number.

6.2. Month

When months are converted into weeks, we use the average 4.3 weeks as a conversion measure ($52 \text{ weeks} / 12 \text{ months} = 4.33 \text{ weeks}$). When days are converted to months and vice versa, we use the average 21.7 working days in a month ($5 \text{ working days} * [52 \text{ weeks} / 12 \text{ months}] = 21.67 \text{ working days in a month}$).

6.3. Year

For conversions involving years, we follow the standard of 12 months, 52 weeks and 365 days in one year. The following table summarizes the conversion standards used by the OFPP.

Legislative sources	Conversion standards
Day	8 hours
Week (also working week) → hours	40 hours
Week (also working week) → days	5 days
Calendar week → days	7 days
Month → weeks	4.3 weeks
Month → days	21.7 working days
Calendar month → days	30 days
Year → months	12 months
Year → weeks	52 weeks
Year → days	365 days

7. Standardization of the EU-SILC variables

The OFPP uses variable names that are meant to be universal. This allows it to be easily adjustable to different social surveys. This section lists all the variables that are renamed or recoded for the Program.

OFPP variables	EU-SILC CS variables
gender “gender”	rb090 “Sex”
1 female	1 male
2 male	2 female

<p>econ_status “economic status”</p> <p>1 employed (pl031 = 1, 2)</p> <p>2 self-employed (pl031 = 3, 4)</p> <p>3 unemployed (pl031 = 5)</p> <p>4 inactive (pl031 = 6-11)</p>	<p>pl031 “Self-defined current economic status”</p> <p>1 employee working full-time</p> <p>2 employee working part-time</p> <p>3 self-employed working full-time (including family worker)</p> <p>4 self-employed working part-time (including family worker)</p> <p>5 unemployed</p> <p>6 pupil, student, further training, unpaid work experience</p> <p>7 in retirement or in early retirement or has given up business</p> <p>8 permanently disabled or/and unfit to work</p> <p>9 in compulsory military or community service</p> <p>10 fulfilling domestic tasks and care responsibilities</p> <p>11 other inactive person</p>
<p>duremp “duration of employment”</p> <p>Calculated as a total number of months in category “employed” over the 12 months.</p>	<p>pl211a-l “Main activity in January – December”</p> <p>categories identical with pl031</p>
<p>dursemp “duration of self-employment”</p> <p>Calculated as a total number of months in category “self-employed” over the 12 months.</p>	<p>pl211a-l “Main activity in January – December”</p> <p>categories identical with pl031</p>
<p>duredu “duration of education”</p> <p>Calculated as a total number of months in category “pupil, student, further training, unpaid work experience” over the 12 months.</p>	<p>pl211a-l “Main activity in January – December”</p> <p>categories identical with pl031</p>
<p>unemp_dur “duration of unemployment”</p> <p>Calculated as a total number of months in category “unemployed” over the 12 months.</p>	<p>pl211a-l “Main activity in January – December”</p> <p>categories identical with pl031</p>
<p>earning “monthly gross earning”</p> <p>Total earning from employment and self-employment divided by the total number of</p>	<p>py010g “Employee cash or near cash income”</p> <p>py050g “Cash profits or losses from self-employment”</p>

months spent in employment and self-employment in the 12 months.

age “age at the time of the interview”

rx010 “Age at the time of interview”

region “region”

db040 “Region”

parstat “partnership status”

pb200 “Consensual union”

1 single (pb200 = 3)

1 Yes, on a legal basis

2 married/cohabiting (pb200 = 1, 2)

2 Yes, without a legal basis

3 No

whours “working hours”

pl060 “Number of hours usually worked per week in main job”

8. Policy variables

The OFPP creates variables indicating eligibility for leave policy (eli), duration of leave (dur), and the amount of benefits (ben). Each variable has a prefix that corresponds with the policy acronym.

8.1. Maternity leave

ml_eli Eligibility for maternity leave

0 not eligible
1 eligible

Note: Single men are coded as eligible in case the legislation allows to transfer (part) of the maternity leave to the father if the mother abandons the child.

ml_dur1 Duration of compulsory prenatal maternity leave

0-999 weeks

Note: Only compulsory prenatal leave is included. Prenatal leave that can be taken after childbirth is included in ml_dur2.

ml_dur2 Duration of postnatal maternity leave

0-999 weeks

ml_ben1 Average maternity leave benefit per month

0-9999 Euro

Note: The benefits are calculated from gross earnings. The amount of benefits may change over the course of maternity leave. This variable provides the average amount of benefit across the whole maternity leave. The values are in Euros. In countries with national currencies, the values of benefits are primarily sourced from the MISSOC database. In those

cases when the value was not included in the MISSOC database, values published in the LP&R Annual Reviews were used instead.

ml_ben2 Maternity leave benefit (first month)

0-9999 Euro

Note: The benefits are calculated from gross earnings. This variable provides the amount of benefit in the first month of maternity leave. The values are in Euros.

8.2.Paternity leave

pt_eli Eligibility for paternity leave

0 eligible

1 not eligible

pt_dur Duration of paternity leave

0-999 weeks

pt_ben1 Average paternity leave benefit (monthly)

0-9999 Euro

Note: The benefits are calculated from gross earnings. The amount of benefits may change over the course of paternity leave. This variable provides the average amount of benefit across the whole paternity leave. The values are in Euros.

The duration of paternity leave is typically shorter than one month. The calculation of paternity leave benefits takes this into account. The paternity leave benefit is a composite indicator that is a sum of paternity leave benefit share and the earning share. For example, if paternity leave is 2 weeks long and compensates for 80% of earnings, the paternity leave benefit is calculated as follows: $[(0.8 * \text{earning}) * (2/4.3)] + [\text{earning} * ((4.3-2)/4.3)]$. If monthly earning

is € 1,000, the value of paternity leave benefit will be $[(0.8*1000) * (2/4.3)] + [1000 * ((4.3-2)/4.3)] = (800 * 0.465) + (1000 * 0.535) = 372 + 535 = 907$.

pt_ben2 Paternity leave benefit (first month)

0-9999 Euro

Note: The benefits are calculated from gross earnings. The duration of paternity leave is typically shorter than one month. The calculation of paternity leave benefits takes this into account. The paternity leave benefit is a composite indicator that is a sum of paternity leave benefit share and the earning share. For example, if paternity leave is 2 weeks long and compensates for 80% of earnings, the paternity leave benefit is calculated as follows: $[(0.8*earning) * (2/4.3)] + [earning * ((4.3-2)/4.3)]$. If monthly earning is € 1,000, the value of paternity leave benefit will be $[(0.8*1000) * (2/4.3)] + [1000 * ((4.3-2)/4.3)] = (800 * 0.465) + (1000 * 0.535) = 372 + 535 = 907$.

8.3. Parental leave

pl_eli Eligibility for parental leave

0 eligible

1 not eligible

pl_dur Duration of parental leave

0-999 weeks

pl_ben1 Average parental leave benefit (monthly)

0-9999 Euro

Note: The benefits are calculated from gross earnings. The amount of benefit may

change over the course of paternity leave. This variable provides the average amount of benefit across the whole paternity leave. The values are in Euros.

pl_ben2 Parental leave benefit (first month)

0-9999 Euro

Note: The benefits are calculated from gross earnings.

9. Data Sources

Blum, S., Koslowski, A., and Moss, P. (2017) *International Review of Leave Policies and Research 2017*. Available at: http://www.leavenetwork.org/lp_and_r_reports/

Blum, S., Koslowski, A., Macht, A., and Moss, P. (2018) *International Review of Leave Policies and Research 2018*. Available at: http://www.leavenetwork.org/lp_and_r_reports/

European Commission (2013) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2013-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048&y=1046&y=1044&y=1042>, accessed 19/08/2021.

European Commission (2013) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2013-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048&y=1046&y=1044&y=1042>, accessed 19/08/2021.

European Commission (2014) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2014-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048&y=1046&y=1044>, accessed 19/08/2021.

European Commission (2014) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2014-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048&y=1046&y=1044>, accessed 19/08/2021.

European Commission (2015) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2015-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048&y=1046>, accessed 19/08/2021.

European Commission (2015) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2015-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048&y=1046>, accessed 19/08/2021.

European Commission (2016) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2016-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048>, accessed 19/08/2021.

European Commission (2016) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2016-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050&y=1048>, accessed 19/08/2021.

European Commission (2017) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2017-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050>, accessed 19/08/2021.

European Commission (2017) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2017-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1050>, accessed 19/08/2021.

European Commission (2018) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2018-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1052>, accessed 19/08/2021.

European Commission (2018) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IX. Family benefits – Parental leave and benefit, v. 2018-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1052>, accessed 19/08/2021.

European Commission (2019) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IV. Maternity/Paternity, v. 2018-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1052&y=1054>, accessed 19/08/2021.

European Commission (2019) *MISSOC – Mutual Information System on Social Protection, Comparative tables: IX. Family benefits – Parental leave and benefit, v. 2018-07-01*. <https://www.missoc.org/missoc-database/comparative-tables/?y=1052&y=1054>, accessed 19/08/2021.

Koslowski, A., Blum, S., and Moss, P. (2016) *International Review of Leave Policies and Research 2016*. Available at: http://www.leavenetwork.org/lp_and_r_reports/

Koslowski, A., Blum, S., Dobrotić, I., Macht, A., and Moss, P. (2019) *International Review of Leave Policies and Research 2019*. Available at: http://www.leavenetwork.org/lp_and_r_reports/

Moss, P. (2013) *International Review of Leave Policies and Research 2013*. Available at: http://www.leavenetwork.org/lp_and_r_reports/

Moss, P. (2014) *International Review of Leave Policies and Research 2014*. Available at: http://www.leavenetwork.org/lp_and_r_reports/

Moss, P. (2015) *International Review of Leave Policies and Research 2015*. Available at:
http://www.leavenetwork.org/lp_and_r_reports/