



CALL FOR TENDERS - JRC/SVQ/2020/OP/1081

TECHNICAL SUPPORT FOR THE DEVELOPMENT AND UPDATE OF EUROMOD – 10 LOTS

- Lot 1: Support to EUROMOD for Greece*
- Lot 2: Support to EUROMOD for Croatia*
- Lot 3: Support to EUROMOD for Lithuania*
- Lot 4: Support to EUROMOD for Luxembourg*
- Lot 5: Support to EUROMOD for Austria*
- Lot 6: Support to EUROMOD for Romania*
- Lot 7: Support to EUROMOD for Slovenia*
- Lot 8: Support to EUROMOD for Sweden*
- Lot 9: Support to EUROMOD for Germany*
- Lot 10: Support to EUROMOD for United Kingdom*

TENDER SPECIFICATIONS

Part 2: Technical Specifications

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1 BACKGROUND AND RATIONALE

1.1 *The Directorate and the Unit*

The Directorate Growth and Innovation of the Joint Research Centre (JRC) of the European Commission, based in Seville (Spain), is closely involved in creating a strong and resilient Economic and Monetary Union, ensuring stable financial markets, as well as strengthening and deepening the Single Market including the Digital Single Market. It assists in the development of policies for trade and modern manufacturing as well as in the analysis how to achieve equitable access to education and training. This is to include an examination of the key issues to open, digital science as well as to open innovation and to the characteristics of innovation ecosystems. It is also to include the analysis of the impact of regional funding. The Directorate serves the Economic and Monetary, Employment and Social, Taxation, Competition, Enterprise and Industry, Information Technologies, Regions and Cohesion, Single Market, Trade, Education, Training and Youth, Customs and Audio-Visual Media policy areas.

The Fiscal Policy Analysis Unit (JRC B.2) of the Directorate Growth and Innovation assesses tax policies and structural reforms to support the action plan for a fair and efficient taxation in the EU. Tax policies of all member states are analysed with respect to efficiency and equity as well as the associated regulatory burdens. The key modelling tool is EUROMOD, the microsimulation model for the European Union, which is being used to address broad thematic issues as well as to support policy recommendations for the fiscal and economic surveillance carried out by the Commission services in the context of the European Semester. A description of the research carried out by the JRC B.2 Unit is available at the following website: <https://ec.europa.eu/jrc/en/research-topic/fiscal-policy-analysis>.

1.2 *Policy background*

EUROMOD is a tax-benefit microsimulation model, which covers in a consistent manner the Member States of the European Union. The model allows to study the effects of taxes and social benefits on household incomes and work incentives for the population of each country and for the EU as a whole. EUROMOD is unique in its area as it features a great flexibility in the scope of its simulation and ensures cross-country consistency of the modelling approach and comparability of the results.

The model has increasingly been used by the Commission services over the past few years, particularly so in the European Semester context. Additionally, the model represents a valuable research infrastructure for the academic community in the area of fiscal policy analysis, with highly cited research conducted using EUROMOD being published in top journals.

The maintenance and development of the EUROMOD microsimulation model, initially based at the University of Essex, is being progressively transferred to the JRC during a transition period of 3 years which started in February 2018.

From 2021, the Commission will be responsible for the development and update of the EUROMOD modules relative to all EU countries plus United Kingdom. The present Technical Specifications cover the modules for Greece, Croatia, Lithuania, Luxembourg, Austria, Romania, Slovenia, Sweden, Germany and United Kingdom.

1.3 Research context

In its current state, EUROMOD simulations cover direct tax liabilities and monetary benefits paid/received by individuals and households in the Member States of the EU.

In its original form, the maintenance and development of the model is split between the Essex Core Team and the National Teams placed in each Member State. The Essex Core Team performs "centralised tasks" such as coordinating the work of the National Teams in order to ensure cross country consistency and, in various cases, coding into EUROMOD the different tax benefit rules (or at least providing support to National Teams for these tasks). National Teams role is of primary importance as they collect and document each year the national tax-benefit rules in place and code them into EUROMOD (or at least they provide this information to the Essex Core Team). National Teams also prepare the EUROMOD input datasets by performing the splitting of social benefits via imputation procedures or using complementary national SILC data, and imputing any missing variable, although the latter is done in few cases by the Essex team. The National Teams and the Essex Core Team perform jointly the tasks involving the documentation and the validation of the work.

The JRC is gradually assuming a role similar to the one of the University of Essex with the aim of replacing it in the future development and maintenance of the model. In order to minimise disruption to the model activities the Commission intends to keep the model organisation as similar as possible to the one employed by the University of Essex at least until the end of the transition phase, when the Commission will become fully responsible for the development and update of EUROMOD.

2 AIM AND OBJECTIVES OF THIS CONTRACT

The contract's objective is to provide JRC Seville with specific expertise that supports the development and update of the country modules of Greece, Croatia, Lithuania, Luxembourg, Austria, Romania, Slovenia, Sweden, Germany and United Kingdom.

3 APPROACH, SCOPE AND ACTIVITIES

The yearly process of development and update of the EUROMOD microsimulation involves a number of activities summarised in the following work plan. The activities are performed yearly, with project years running from 1st February to 31st December.

The list of activities makes reference to EUROMOD country reports, which can be downloaded from the EUROMOD website (<https://www.euromod.ac.uk/using-euromod/country-reports>)

Activity 1. Input micro-data update

Aim: Generating and documenting the EUROMOD input data based on most recent wave of European Statistics on Income and Living Conditions SILC, following an assessment of the choice between User Database (UDB) and National SILC

The EUROMOD input dataset is produced each year on the basis on microdata from the most recent wave of the European Statistics on Income and Living Conditions survey (EU-SILC). The process of production of the EUROMOD input dataset follows the tasks described below:

1.1. Assessment of choice between UDB and National SILC

An assessment is made on the following options as a basis for the EUROMOD input dataset:

- a) employing data from the National Version of SILC, released by the national statistical offices;
- b) employing UDB released by EUROSTAT;
- c) employing a combination of a) and b), where UDB data are enriched with variables from the National Version of SILC.

The evaluation takes into account factors such as availability of the data to the Contracting Authority and the Contractor, advantages in terms of data quality and accessibility by other researchers. The evaluation also explores the level of aggregation of social benefits variables in the UDB-SILC, identifying the various components subsequently aggregated by EUROSTAT.

1.2. Preparation of country-specific do-files and generation of the EUROMOD input data.

Once the choice between national version of SILC, the UDB SILC, or their combination is made, the EUROMOD input dataset is generated following guidelines and best practices provided by the Contracting Authority. The material provided by the Contracting Authority includes STATA do-files templates, to be used as a starting point for the generation of the EUROMOD input dataset.

1.3. Document in DRDs and Section 3 of Country Reports.

The data are documented in two separate documents.

- The Data Requirement Document (DRD), whose template is provided by the Contracting Authority, describes the EUROMOD input dataset. The information provided includes sample size, names and descriptions of the variables and summary statistics.
- Section 3 of the EUROMOD Country Report. This section contains a description of the process of data derivation starting from the SILC microdata. The section also describes imputations and benefit splitting.

It is the responsibility of the Contractor to gain access to the relevant microdata. The Contractor must ensure to be recognised by EUROSTAT as a research entity with access to UDB-SILC micro-data by the beginning of each project year. The list of institutions recognised by EUROSTAT with access to the UDB-SILC data can be consulted at the following website:

<http://ec.europa.eu/eurostat/documents/203647/771732/Recognised-research-entities.pdf/7b59b2fb-d53d-4049-8dc7-42f44a565e70>

Activity 2. Documenting policy rules

Aim: Collecting and documenting in the Country Report the sets of policy rules in place as of the 30th of June of the project year. Collecting uprating factors and document them in the Country Report.

- 2.1.** Collection of policy rules in force on June 30th of the project year and document them in sections 1 and 2 of the EUROMOD Country Report.
- 2.2.** Collection of the uprating indexes and documentation in Section 3 of the Country Report.

Activity 3. Implementing policy rules in EUROMOD

Aim: Implement policy rules in EUROMOD following the EUROMOD Modelling Conventions (ECM) guidelines. Implement uprating factors in EUROMOD and document them in the Country Report

- 3.1.** Implementation and microvalidation of the policy rules in EUROMOD following EMC guidelines provided by the Contracting Authority.
- 3.2.** Implementation of the uprating indexes.

Activity 4. Documenting and testing the model

Aim: Documenting and testing the model. Preparing model releases

- 4.1. Revision and maintenance of documented guidelines, conventions, protocols etc.
- 4.2. Collection of external statistics for use in macrovalidation (see section 4 of EUROMOD Country Report for more information).
- 4.3. Macrovalidation against external statistics and documentation of comparisons in Section 4 of the Country Report. Both the baseline policy year, defined as the policy year corresponding to the income reference period of the newly produced EUROMOD input dataset, and all the subsequent policy years will be macrovalidated following EMC guidelines provided by the Contracting Authority.
- 4.4. Checking for consistency across countries (and policy years within a country) and preparation and assembly of beta “internal” release of EUROMOD with updated components added.
- 4.5. Correction of errors in beta version and preparation and assembly of final “public” release of EUROMOD with updated components added.
- 4.6. Finalisation of the Country Report for the newly created dataset by filling in the macrovalidation section. Maintain a “master” version of EUROMOD.

Activity 5. Key indicators: calculation and validation

Aim: Conduct dissemination activities of model's outputs.

- 5.1. Calculation and checking of Marginal Effective tax rates (METRs)
 - 5.1.1. Calculation of Marginal Effective tax rates (METRs)
 - 5.1.2. Checking /validating METRs
- 5.2.
 - 5.2.1. Computation of the distributional effects of policy changes between the most recent policy year and the previous year using the newly produced EUROMOD input dataset which feeds the Policy Effects Report. See EUROMOD Country Report and the EUROMOD Working Paper EM4/18 "*Effects of tax-benefit policy changes across the income distributions of the EU-28 countries: 2016-2017*" for an example.
 - 5.2.2. Analysis of the distributional effects of policy changes between the most recent policy year and the previous year using the newly produced EUROMOD input dataset which feeds the Policy Effects Report. The Contracting Authority provides guidelines for the activity. See EUROMOD Country Report and the EUROMOD Working Paper EM4/18 "*Effects of tax-benefit policy changes across the income distributions of the EU-28 countries: 2016-2017*" for an example.
- 5.3. Preparation of three statistical outputs/reports using the beta “internal” release of EUROMOD;
 - 5.3.1. Webstatistics
 - 5.3.2. Baseline report
 - 5.3.3. Policy effects report
- 5.4. Circulate to internal and external teams for comment and verification.
- 5.5. Add explanations to the outputs/reports where necessary.
- 5.6. Include final national “policy effects” analysis in an appendix to the Country Reports.
- 5.7. Finalise the 3 statistical outputs/reports and publish on the web

Activity 6. Additional activities

Aim: Correcting any errors in previous datasets and/or implementing the adjustments needed to ensure compatibility with the latest implementation.

- 6.1. Correction of any errors in previous datasets and/or implementation of the adjustments needed to ensure compatibility with the latest implementation.
- 6.2. Correction of any errors in previous version of EUROMOD and/or implementation of the adjustments needed to ensure compatibility with the latest implementation.
- 6.3. Participation to the project's annual meeting.

4 TASKS

For each Lot the Contractor must perform one or more of the activities reproduced below. The task numbers refer to the activity list in Section 3. Activities not listed in the Table 1 below will be carried out by the Contracting Authority. The template and guidelines listed in Section 3 will be provided to the Contractor by the Contracting Authority. Tasks are performed yearly through a Specific Contract implementing the Framework Contract, with project years running from 1st February to 31st December.

Table 1: List of tasks

Activity No.	Task No.	Description of work
1. Input micro-data update	1.1	Assessment of choice between UDB, National SILC or combination of these.
	1.2	Prepare country-specific do-files and generate EUROMOD input data
	1.3	Document the data in DRDs and section 3 of Country Reports
2. Documenting policy rules	2.1	Collection of policy rules in force on June 30th of the project year and documentation in sections 1 and 2 of the EUROMOD Country Report
	2.2	Collection of the uprating indexes and documentation in the section 3 of the Country Report.
3. Implementing policy rules in EUROMOD	3.1	Implementation and microvalidation of the policy rules in EUROMOD following EMC guidelines provided to the Contractor by the Contracting Authority.
	3.2	Implementation of the uprating indexes in EUROMOD
4. Documenting and testing the model	4.2	Collection of external statistics for macrovalidation
	4.3	Macrovalidation of the baseline and subsequent policy years
	4.6	Finalisation of the Country Report for the newly created dataset by filling in the macrovalidation section (Section 4)
5. Key indicators: calculation and validation	5.1.1	Calculation of Marginal Effective tax rates (METRs)
	5.1.2	Checking /validating METRs
	5.2.1	Computation of the distributional effects of policy changes between the most recent policy year and the previous year using the newly produced EUROMOD input dataset which feeds the Policy Effects Report. See EUROMOD Country Report and the EUROMOD Working Paper EM4/18 " <i>Effects of tax-benefit policy changes across the income distributions of the EU-28 countries: 2016-2017</i> " for an example.

	5.2.2	Analysis and validation of the distributional effects of policy changes between the most recent policy year and the previous year using the newly produced EUROMOD input dataset which feeds the Policy Effects Report. The Contracting Authority will provide guidelines for the task.
	5.5	Add explanations to the outputs/reports where necessary
6. Additional activities	6.1	Correction of any errors in previous datasets or adjustments needed to ensure compatibility with the latest implementation.
	6.2	Correction of any errors in previous version of EUROMOD and/or implementation of the adjustments needed to ensure compatibility with the latest implementation.
	6.3	Participation to the project's annual meeting.

5 DELIVERABLES

The Contractor must provide the following deliverables: The tasks described in Table 1 are linked to tangible deliverables listed in Table 2. Similar to tasks, deliverables are to be produced yearly following the process of model maintenance and update. Only deliverables linked to contracted tasks will be required. In the event that only some of the tasks linked to a deliverable are contracted, the Contracting Authority will perform the non-contracted tasks and provide the relevant material for the deliverable to be prepared.

Table 2: Deliverables

Delivery No	Deliverables	Indicative delivery date	Format of the deliverable
D1	EUROMOD input dataset	April - June	Data in a single txt file; DRD; updated do-files used for the derivation of the EUROMOD input dataset
D2	Update of policy description	April, with possibility of revising to take into account changes happening by the 30th of June	Word document based on previous year country report with policy changes in track changes
D3	Implementation of policy rules in EUROMOD	April	Updated xml files
D4	Interim report – Completed sections 1-3 of Country Report ready for review	June - July	Word document
D5	Final report- Country report finalised (Section 4 of the Country Report)	December	Word document
D6	Correction of errors	April - December	Xml files for model revisions/ txt files for revised input dataset

D1. EUROMOD input dataset

Deliverable 1 is linked to tasks 1.1, 1.2, 1.3. The Contractor must deliver a EUROMOD input dataset based on EU-SILC data. The dataset will be in txt format and will be documented in the Data Requirement Document (DRD),

whose template will be provided by the Contracting Authority. The Contractor must deliver the STATA do-files used to derive the EUROMOD input dataset.

The Contractor must also provide provisional uprating factors for the latest policy year (task 2.2 and 3.2, although these could be further updated for deliverables D2 and D3).

D2. Update of policy description

Deliverable 2 is linked to tasks 2.1 and 2.2. The Contractor must collect information on policy rules in force on June 30th of the project year and the uprating indexes following the guidelines provided by the Contracting Authority.

D3. Implementation of policy rules in EUROMOD

Deliverable 3 is linked to tasks 3.1 and 3.2. The Contractor must implement policy rules and uprating factors in EUROMOD. The Contractor will deliver the updated relevant EUROMOD xml files.

D4. Interim report – Completed sections 1-3 of Country Report ready for review

Deliverable 4 is linked to tasks 1.1, 1.2 and 1.3 and 2.1 and 2.2. The Contractor will document the policy rules in sections 1 and 2 of the EUROMOD Country Report, and the EUROMOD input dataset and the uprating indexes in section 3 of the Country Report.

D5. Final report- Country report finalised

Deliverable 5 is linked to tasks 4.2, 4.3, 4.6, 5.1.1, 5.1.2, 5.2.1, 5.2.2 and 5.5. The Contractor must collect macrovalidation statistics, perform the macrovalidation and document it in the Section 4 of the Country Report. The process of model macrovalidation, as well as the calculation and the checking of key indicators such as the Marginal Effective Tax Rates, will facilitate the process of correction of possible errors in the model and/or in the data. The Contractor will solve issues related to the data and/or policy implementation (according to the specific tasks indicated in the specific contract), and will update the corresponding documentation. The Contractor must analyse the distributional effects of policy changes between the most recent policy year and the previous year using the newly produced EUROMOD input dataset. This activity will be conducted with the support of the Contracting Authority, and will feed into a specific section of the EUROMOD country report. The Contractor will finalise the EUROMOD country report, which will be the final deliverable of the process of update and maintenance.

D6. Correction of errors

Deliverable 6 is related to tasks 6.1 and 6.2, and will only be requested if issues arise with previous versions of data/model implementation which can be identified either as errors or which threaten the compatibility with the latest implementation/guidelines. In this case, the Contractor will solve the issues according to the tasks indicated in the specific contract, providing the Contracting Authority with the updated xml files and/or data files.

The timetable of milestones indicates when a group of tasks will be finished to the satisfaction of both the Contractor and the Contracting Authority. Thus interim deadlines need to be agreed informally to allow time for review and revisions of the model components so that each milestone can be achieved on time. It is important that this timetable is adhered to and that the mutual nature of the responsibilities is recognised. Any unexpected delays should be discussed with the other party as soon as possible. The Contractor will notify the Contracting Authority of eventual delays in performing the deliverables listed in Table 2. Such notification should take place at the latest two weeks before the due date of each deliverable. The notification should be accompanied by an explanation of the cause of the delay and actions taken in order to ensure correct delivery together with a date for this delivery.

The JRC will have 15 working days to review all deliverables and send its comments to the Contractor. The Contractor will then have 15 working days for providing the final version of all deliverables.

6 COORDINATION AND MEETINGS

The Contractor must carry out the service in close co-ordination with the relevant Commission staff (JRC-Seville-B2 Unit). Email exchanges, telephone calls and/or videoconferences between the Contractor and the JRC staff will be organised regularly to coordinate and monitor the work of the Contractor. Working meetings can also be organised, if appropriate, with location in the city where the Contractor is based.

In addition, 3 meetings will be organised in the frame of each specific contract, including:

M1. Kick-off meeting (phone or videoconference)

The JRC-Seville will organise a meeting by phone/videoconference to present the detailed work plan and to discuss the overall approach. The meeting will take place within 2 weeks from the date that the specific contract enters into force.

M2. Interim meeting (if applicable)

If required by any of the parties, an interim meeting may be organised to monitor the state of the work and discuss the interim report and/or potential issues and improvements. The meeting can be organised by tele/videoconference, in person with location in the home institution of the Contractor or at the annual project meeting.

M3. Annual project meeting (face to face)

A representative of the Contractor must be present at the project's annual meeting, organised by the JRC-Seville, to actively participate by presenting parts of the work done if requested. The location of the meeting is to be decided by the JRC-Seville and will be communicated to the Contractor in due time.

Given the uncertainty of the location and timing of the meetings M2 and M3, the costs related to travel, accommodation and daily allowances will be covered by the Commission separately from the contract.

The working language at all of these meetings will be English.

7 CALENDAR OF DELIVERABLES AND MEETINGS

The following is a summary table of the tentative yearly time schedule for the different activities and deliverables.

Deliverable / Meeting	Title	Months
M1	Kick-off meeting	T0 + 0.5
D1	EUROMOD input dataset	T0 + 2 to 4 (Indicative April - June)

D2	Update of policy description	T0 + 2 to 4 (Indicative April -June)
D3	Implementation of policy rules in EUROMOD	T0 + 2 to 4 (Indicative April)
D4	Interim report	T0 + 4 to 5 (Indicative June - July)
M2	Interim meeting	From the acceptance of D4 + 0.5
M3	Annual project meeting	T0 + 7 to 8
D5	Final report	T0 + 10 (Indicative December)
D6	Correction of errors	T0 + 10 (Indicative December)

T0 corresponds to the date on which the specific contract enters into force.

8 QUALITY ASSURANCE

The Contractor must establish robust means to ensure business continuity, reliability, validity and comparability of the information collected as well as the quality of its deliverables.

The work delivered by the Contractor must be of such quality that it can be used to support policy making.

9 DURATION

The total duration of the framework contract is 48 months: it will initially be 24 months following signature of the last party, with automatic renewal up to two times for 12 months each, unless one of the parties receives *formal notification* to the contrary at least three months before the end of the ongoing duration.

The duration of the specific contracts implementing the framework contract will be indicated in Article 2 of the specific contracts and in the corresponding Technical Specifications. As an orientation, their duration may be of 10 months each.

10 LANGUAGE

The language of all deliverables meetings, presentations, and exchanges will be English.

It is expected that the written text in the deliverables is of high standard scientific language, ideas are expressed in a clear and logically structured way. The text of all deliverables will be strictly assessed according to these criteria in the review process.

11 STRUCTURE AND REQUIREMENTS OF THE INTERIM AND FINAL DELIVERABLES

The interim and final report(s) shall follow the structure and graphic requirements of the existing EUROMOD country report (<https://www.euromod.ac.uk/using-euromod/country-reports>), taking into account also the guidelines provided by the Contracting Authority at the kick-off meeting.