

# Validation and Country Report

Olga Rastrigina

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# Validation: micro & macro



# Micro validation

Important for checking that the model is correct!

- Check **eligibilities** and **amounts** of taxes and benefits simulated by the model (case-by-case validation for a selection of households)
- Compare **simulated values** against **recorded values** in the survey
- Check **descriptive statistics** of variables (min, max, mean)
- Check that some **basic indicators** make sense for all observations in the sample (e.g. average tax rate)



# Macro validation

Important to prove credibility of results! (include in the CR)

For each income component (original incomes and tax-benefit instruments) compare with external statistics:

- **aggregate sum** of income component
- **number of recipients/ payers** (individuals, households, children, etc.)
- **income distribution** (mean & median eq. disposable income, decile shares)
- **inequality measures** (Gini, S80/S20 ratio)
- **poverty measures** (at-risk-of poverty rate by age/gender)

**Identify reasons for discrepancy!**

# Tools for macro validation

1. Stata do-file template to produce macro-validation tables
2. Excel template to create 'nice' tables for the CR

Table 4.8-Tax benefit instruments simulated in EUROMOD -Annual amounts (Mil.)

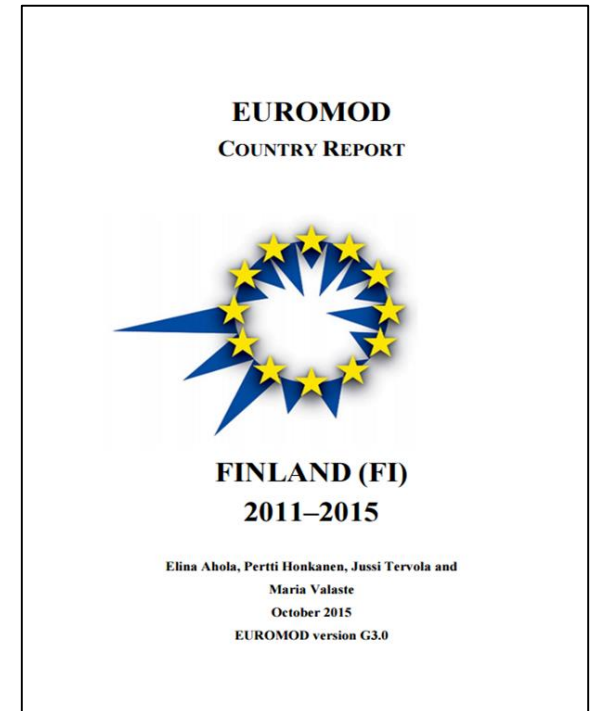
	EUROMOD		External		Ratio	
	2011	2012	2011	2012	2011	2012
<b>Benefits</b>						
Basic unemployment allowance	199	239	185	219	1.07	1.09
Child benefit	1,420	1,474	1,436	1,490	0.99	0.99
Pensioner housing allowance	531	549	420	442	1.26	1.24
Local authority income support	444	461	648	703	0.69	0.66
<b>Taxes and Social Insurance contributions</b>						
State tax on capital income	1,158	1,359	1,997	1,813	0.58	0.75
State tax on earned income	5,724	5,650	5,259	5,274	1.09	1.07
Municipal tax	17,137	17,540	16,436	17,002	1.04	1.03
Employees SIC	4,277	4,779	4,118	4,641	1.04	1.03
Self-employed SIC	889	956	1,043	1,144	0.85	0.84

# Country Reports



# Country Report

- Main document accompanying the model
- Provides information about:
  - tax-benefit system
  - model
  - underlying data
  - accuracy of estimation
- Covers years between the baseline and the latest simulated



EUROMOD country reports are available at:

<https://www.euromod.ac.uk/using-euromod/country-reports>

# Structure

## 1. Basic information

- background information
- brief description of policies

## 2. Simulation of taxes and benefits

- scope and order of simulation
- detailed description of simulated policies

## 3. Data

- description of original data
- data adjustment, imputations and assumptions

## 4. Validation

- validation of income components & income distribution





# 1.1 Background information

- Are policies different across regions or municipalities?
- When is the “fiscal year”?
- What is the state pension age?
- Definition of dependent children?
- Definition of socially protected groups?
- Is income taxed individually or jointly?
- Are different income sources taxed differently?
- Is there statutory indexation of tax thresholds/ benefits?
- How is income assessed for means-tested benefits?
- Any other important features



## 1.2 Brief description of policies

- All benefits, social insurance contributions, taxes
- Simulated and non-simulated!
- Excluding negligible and abolished instruments
- Only essential features (no detailed information!)
- One paragraph per instrument
- Name in the national language in brackets (optional)



## 2.1 Scope and order of simulation

- Which instruments are simulated?
- Which instruments are not simulated? why?
- The order of simulations (the spine)
- The names of simulated variables
- Differences across years

<b>Policy</b>	<b>2007-2013</b>	<b>Description</b>	<b>Main output</b>
<u>uprate_fi</u>	on	DEF: UPRATING FACTORS	
<u>ConstDef_fi</u>	on	DEF: CONSTANTS	
<u>ildef_fi</u>	on	DEF: INCOME CONCEPTS	
<u>tundef_fi</u>	on	DEF: ASSESSMENT UNITS	
<u>BTA_fi</u>	switch	SWITCH: Benefit Take-up Adjustment (default = ON)	
<u>yem_fi</u>	off	DEF: Minimum wage	
<u>neg_fi</u>	on	DEF: Recode negative income to zero	
<u>pmmtu_fi</u>	on (since 2011)	BEN: Guarantee pension	<u>pmmtu_s</u>
<u>tscee_fi</u>	on	TAX: Employee social contributions	<u>tscee_s</u>
<u>tscer_fi</u>	on	TAX: Employer social contributions	<u>tscer_s</u>
<u>tscse_fi</u>	on	TAX: Self-employed contributions for	<u>tscse_s</u>

## 2.2 Description of simulated policies

- **Benefits**

*Definitions/ Eligibility/ Income test/ Benefit amount*

- **Contributions**

*Liability/ Exemptions/ Income base/ Contribution rates*

- **Income tax**

*Tax unit/ Exemptions/ Allowances/ Tax base/ Tax schedule/  
Tax credits*

- **EUROMOD notes**

*Assumptions/ Deviations from policy rules/ Simplifications*



# 3.1 Description of Original Data

- Introduce the **original** data
- Provide links to quality reports (or similar)
- Provide short description of the content
- Coverage, weights, non-response rate, imputations, etc.

Table 3.1 EUROMOD database description

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## EUROMOD database

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Original name

Provider

Year of collection

Period of collection

Income reference period

Sample size

Response rate

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Notes:

## 3.2 Construction of EUROMOD input data

- Any adjustments made by the team?
- Any individuals/ households dropped?
- Any adjustments to weights?
- Any imputations/ corrections done?
- Net-to-gross imputation?
- Variable disaggregation?
- Other changes?



## 3.3 Updating income

- Description of updating factors
- Which indexes are used?
- For which monetary variables?
- Source of external statistics (link if available)

Index	2007	2008	2009	2010	2011	2012	2013	2014	Original source and comments
Harmonised CPI (index 2005=100)	117.3	135.2	139.6	137.9	143.7	147.0	149.7	152.9	Eurostat (link); 2014 - IMF forecasts (link)
Average monthly salary, gross, EUR	398.0	479.0	461.0	445.0	464.0	481.0	489.7	500.7	National Statistical Office (link), 2014 - national forecasts (link)

# 4.1 Macro validation

1. Number of employed & unemployed
2. Non-simulated (inputted) incomes
3. Simulated (outputted) incomes
4. Income distribution
5. Income inequality
6. Poverty rate





## 4.2 “Health” warnings

- Main caveats and limitations
- Extent and treatment of non-take-up and tax evasion
- Discrepancies in non-simulated market incomes which are likely to affect the simulation
- Major assumptions/ simplifications used in simulations
- Any other warnings

