

# REFORMING A POLICY IN EUROMOD:

## Increasing the Minimum Wage in Portugal

European Microsimulation Modelling for Policymaking

28 May 2015



# Reforming a policy



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# Which policy reform?

- **Minimum Wage (MW)** guarantees a minimum remuneration to all employees in Portugal
- In 2013, it amounted to **€485 per month** and it was payable **14 times a year**
- **Proposed policy reform:** increase the minimum wage by 20%

# EUROMOD User Interface



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# EUROMOD User Interface (UI)

- Stand-alone piece of software - Windows OS
- Mostly point and click but some hot keys are available (standard and specific)
- Key features:
  - ribbon bar with tabs
  - context menus
  - IntelliSense (suggestion of parameter values)
  - drag and drop
  - bookmarks and comments
  - built-in help



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# EUROMOD UI starting page

Run EUROMOD

Countries Country Tools Administration Tools Add-Ons Applications Help & Info

AT BE BG CY CZ DE DK EE EL ES FI FR HU IE IT LT LU LV MT NL PL PT RO SE SI SK SL UK



# Ribbon bar



Country files can be accessed by clicking on the corresponding flag on the tab *Countries*

# Working environment

Comments

Run EUROMOD

Countries Country Tools Administration Tools Add-Ons Applications Help & Info

UK AT BE BG CY CZ DE DK EE EL ES FI FR HU IE IT LT LU LV MT NL PL PT RO SE SI SK SL UK

Policy	Grp/No	UK_2012	UK_2013	UK_2014	Comment
5 ▶ • TUdef_uk		on	on	on	<b>DEF: ASSESSMENT UNITS</b>
6 ▶ • taken_uk		on	on	on	<b>DEF: settings for modelling benefit non take-up (switch</b>
7 ▶ • poad_uk		on	on	on	<b>BEN: changes in earnings and pensions due to increase in female state pension age</b>
8 ▶ • yse_uk		on			<b>DEF: recode to 0 negative self employed income</b>
9 ▶ • yem_uk		off			<b>DEF: Minimum wage</b>
10 ▶ • bdisc_uk		off			<b>BEN: DLA test (post 2011)</b>
11 ▶ • tscee_tscse_uk		on	on	on	<b>SIC: employee and self employed national insurance</b>
12 ▶ • tscer_uk		on	on	on	<b>SIC: employer national insurance contribution</b>
13 ▶ • bunct_uk		on	on	on	<b>BEN: contributory unemployment benefit (Job</b>
14 ▶ • boaht_uk		on	on	on	<b>BEN: pensioner's annual heating allowance (Winter Fuel</b>
15 ▶ • bch_uk		on	on	on	<b>BEN: child benefit</b>
16 ▶ • tin_uk		on	on	on	<b>TAX: personal income tax</b>
17 ▶ • bwkmt_bfamt_uk		on	on	off	<b>BEN: tax credits (Working Tax Credit and Child Tax Credit)</b>

Open country

Policy system

Policies



# Built-in help

The screenshot shows the EUROMOD software interface with the built-in help system open. The help window is titled "EUROMOD Help" and contains a table of contents on the left and a main content area on the right. The table of contents lists sections 15 through 15.1.10. The main content area displays the "EUROMOD Basic Concepts" page, which includes the title "EUROMOD Basic Concepts" and the text "What is EUROMOD?".

**EUROMOD Basic Concepts**

What is EUROMOD?

EUROMOD is a tax-benefit microsimulation model for the European Union (EU) that enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU as a whole. As well as calculating the effects of actual policies it is also used to evaluate the effects of tax-benefit policy reforms and other changes on poverty, inequality, incentives and government budgets.

15				
15.1				
15.1.1				
15.1.2				
15.1.3				
15.1.4				
15.1.5				
15.1.6				
15.1.7				
15.1.8				
15.1.9	output_var		bch	bch_s
15.1.10	TAX_UNIT		tu_bu_uk	tu_bu_uk

# Implementation of the policy reform in EUROMOD



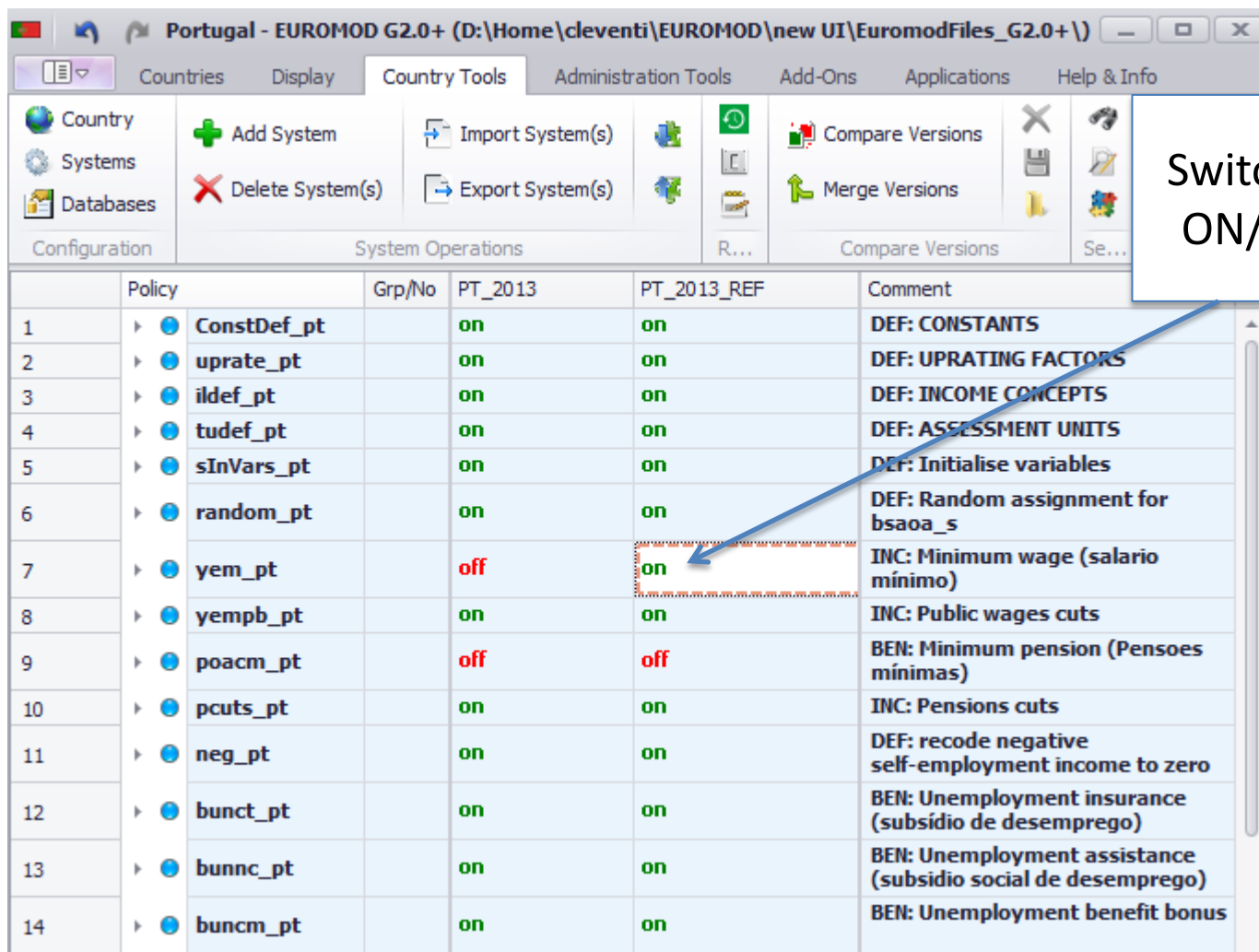
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# Create a new policy system based on PT\_2013 – we can call it PT\_2013\_REF

The screenshot shows the EUROMOD software interface for Portugal. The main window displays a list of policy systems under the 'Country Tools' tab. A 'Select Base System' dialog box is open, showing a list of systems from PT\_2009 to PT\_2008. The system PT\_2013 is selected, and an arrow points to it from a callout box that says 'Select existing system on which to base your simulation'. The background table shows various policy parameters and their values.

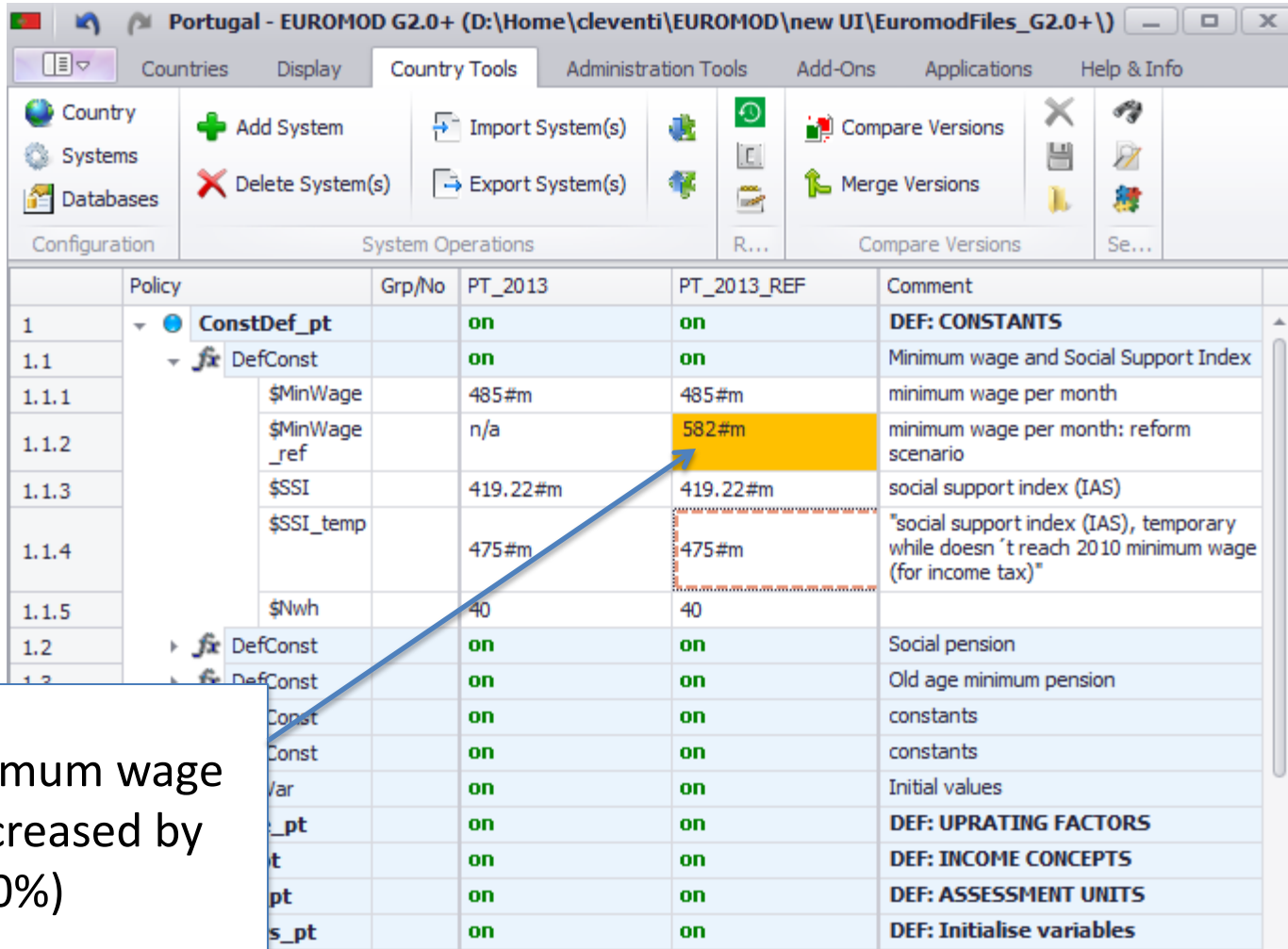
Policy	Grp/No	PT_2013	Comment
1	▶ ConstDef_pt		DEF: CONSTANTS
2	▶ uprate_pt		DEF: UPRATING FA
3	▶ ildef_pt		DEF: INCOME CONC
4	▶ tundef_pt		DEF: ASSESSMENT
5	▶ sInVars_pt		DEF: Initialise varia
6	▶ random_pt		DEF: Random assignment for bsaoa_s
7	▶ yem_pt		INC: Minimum wage (salario mínimo)
8	▶ yempb_pt		INC: Public wages cuts
9	▶ poacm_pt		BEN: Minimum pension (Pensões mínimas)
10	▶ pcuts_pt		INC: Pensions cuts
11	▶ neg_pt		DEF: recode negative self-employment income to zero
12	▶ bunct_pt		BEN: Unemployment insurance (subsídio de desemprego)
13	▶ bunnc_pt		BEN: Unemployment assistance (subsídio social de desemprego)
14	▶ buncm_pt		BEN: Unemployment benefit bonus

# Switch on the Minimum Wage policy (yem\_pt)



	Policy	Grp/No	PT_2013	PT_2013_REF	Comment
1	▶ ConstDef_pt		on	on	DEF: CONSTANTS
2	▶ uprate_pt		on	on	DEF: UPRATING FACTORS
3	▶ ildef_pt		on	on	DEF: INCOME CONCEPTS
4	▶ tundef_pt		on	on	DEF: ASSESSMENT UNITS
5	▶ sInVars_pt		on	on	DEF: Initialise variables
6	▶ random_pt		on	on	DEF: Random assignment for bsaoa_s
7	▶ yem_pt		off	on	INC: Minimum wage (salario mínimo)
8	▶ yempb_pt		on	on	INC: Public wages cuts
9	▶ poacm_pt		off	off	BEN: Minimum pension (Pensões mínimas)
10	▶ pcuts_pt		on	on	INC: Pensions cuts
11	▶ neg_pt		on	on	DEF: recode negative self-employment income to zero
12	▶ bunct_pt		on	on	BEN: Unemployment insurance (subsídio de desemprego)
13	▶ bunnc_pt		on	on	BEN: Unemployment assistance (subsídio social de desemprego)
14	▶ buncm_pt		on	on	BEN: Unemployment benefit bonus

# Add a constant with the new minimum wage level (\$MinWage\_ref)



	Policy	Grp/No	PT_2013	PT_2013_REF	Comment
1	ConstDef_pt		on	on	<b>DEF: CONSTANTS</b>
1.1	DefConst		on	on	Minimum wage and Social Support Index
1.1.1	\$MinWage		485#m	485#m	minimum wage per month
1.1.2	\$MinWage_ref		n/a	582#m	minimum wage per month: reform scenario
1.1.3	\$SSI		419.22#m	419.22#m	social support index (IAS)
1.1.4	\$SSI_temp		475#m	475#m	"social support index (IAS), temporary while doesn't reach 2010 minimum wage (for income tax)"
1.1.5	\$Nwh		40	40	
1.2	DefConst		on	on	Social pension
1.3	DefConst		on	on	Old age minimum pension
	Const		on	on	constants
	Const		on	on	constants
	var		on	on	Initial values
	_pt		on	on	<b>DEF: UPDATING FACTORS</b>
	t		on	on	<b>DEF: INCOME CONCEPTS</b>
	pt		on	on	<b>DEF: ASSESSMENT UNITS</b>
	s_pt		on	on	<b>DEF: Initialise variables</b>

New minimum wage level (increased by 20%)

# Use the new wage level in the Minimum Wage policy

	Policy	Grp/No	PT_2013	PT_2013_REF	Comment
7	▼ yem_pt		off	on	INC: Minimum wage (salario mínimo)
7.1	▶ fix DefVar		on	on	intermediate variables
7.2	▶ fix ArithOp		on	on	
7.3	▼ fix Elig		on	on	eligibility: only those with (positive) employment income
7.3.1		elig_cond	{yem>0}	{yem>0}	
7.3.2		TAX_UNIT	tu_individual_pt	tu_individual_pt	
7.4	▼ fix Max		on	on	calculate and apply minimum wage
7.4.1		who_m...	one	one	
7.4.2		val	yem	yem	
7.4.3		val	$\$Minwage * (lhw < min > \$Nwh) / \$Nwh * (yemmy / 12 * 14 / 12)$	$\$MinWage\_ref * (lhw < min > \$Nwh) / \$Nwh * (yemmy / 12 * 14 / 12)$	*calculate minimum hours in proportion to hours and months worked, but ignore overtime hours (note that this formula yields zero if lhw = 0 and yem > 0)*
7.4.4		output_...	yem	yem	(overwrite)
7.4.5		TAX_UNIT	tu_individual_pt	tu_individual_pt	

Minimum wage constant with the new MW level (\$MinWage\_ref)

# Run EUROMOD

Portugal - EUROMOD G2.0+ (D:\Home\cleventi\EUROMOD\new UI\EuromodFiles\_G2.0+)\n\nCountries: Portugal loaded\n\nRun EUROMOD\n\nMain | View / Filter / Add-Ons | Advanced Settings\n\nAT BE BG CY CZ DE DK EE EL ES FI\n\nSelect countries\n\nSelect all .....\n\nRun\n\n

Run	Country	System	Dataset
<input type="checkbox"/>	PT	PT_2009	PT_2010_a1.txt (Best Match)
<input type="checkbox"/>	PT	PT_2010	PT_2010_a1.txt (Best Match)
<input type="checkbox"/>	PT	PT_2011	PT_2010_a1.txt (Best Match)
<input type="checkbox"/>	PT	PT_2012	PT_2010_a1.txt (Best Match)
<input checked="" type="checkbox"/>	PT	PT_2013	PT_2010_a1.txt (Best Match)
<input type="checkbox"/>	PT	PT_2006	pt_2007_a3 (Best Match)
<input type="checkbox"/>	PT	PT_2007	pt_2008_a3 (Best Match)
<input type="checkbox"/>	PT	PT_2008	pt_2008_a3 (Best Match)
<input checked="" type="checkbox"/>	PT	PT_2013_REF	PT_2010_a1.txt (Best Match)

\n\nOutput path: D:\Home\cleventi\EUROMOD\new UI\EuromodFiles\_G2.0+\output

Run Baseline  
(PT\_2013) and  
Reform system  
(PT\_2013\_REF)

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# Implications of the reform

- Everyone's employment income **at** or **below** the old minimum wage level will be raised to the new minimum level
- People affected might:
  - be minimum wage earners
  - have under-reported their incomes/working hours in EU-SILC
  - be part of the informal economy etc.
- Assume full enforcement of policy
- Assume no behavioural responses



# Results

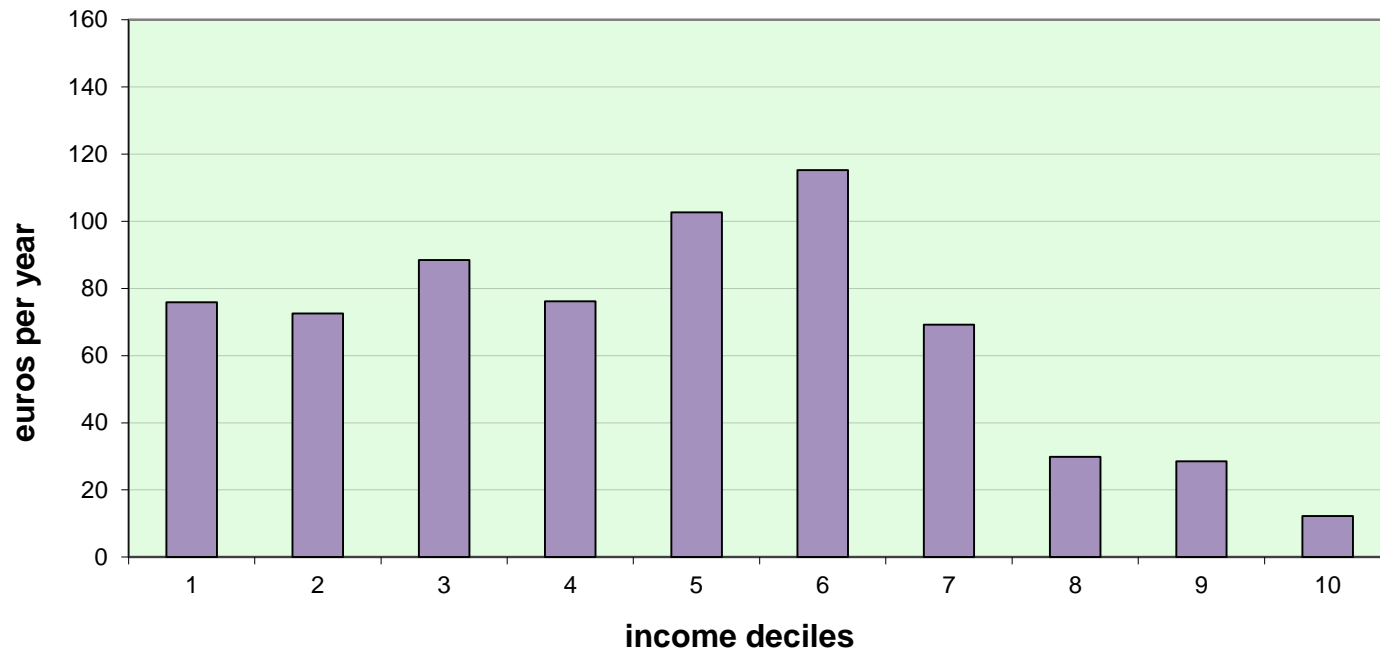


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# Results: Equivalised Household Disposable Income

## Changes in equivalised household disposable income



Notes: Income deciles were constructed according to the modified OECD equivalence scale, based on equivalised disposable income in the baseline scenario.

Source: EUROMOD (version G2.0+)

# Results: Poverty and inequality

	baseline	reform scenario
<b>At risk of poverty (%)</b>		
...using a fixed poverty line		
total population	16.4	15.9
male	15.5	15.0
female	17.3	16.7
<b>age</b>		
0 – 17	21.7	20.5
18 – 65	14.6	14.1
65+	17.6	17.5
<b>Inequality</b>		
Gini coefficient	0.306	0.303

Notes: The poverty rate is the proportion of population living in households with income below the poverty line. The poverty line is fixed at 60% of the baseline median.

Source: EUROMOD (version G2.0+).

# Thank you!

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