



EUROMOD @ 20:

VERSATILE ENOUGH TO EVALUATE A TAX SHIFT

B. Capéau, A. Decoster, T. Strengs & T. Vanheukelom

Department of Economics KU Leuven

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Contact: andre.decoster@kuleuven.be

Plan of the talk

1. Aim of the talk
2. The tax shift package
3. Impact effects
 - distributional
 - budgetary
4. EM+ including indirect taxes
5. EM++ including labour supply effects
6. Conclusion

1. Aim of the talk

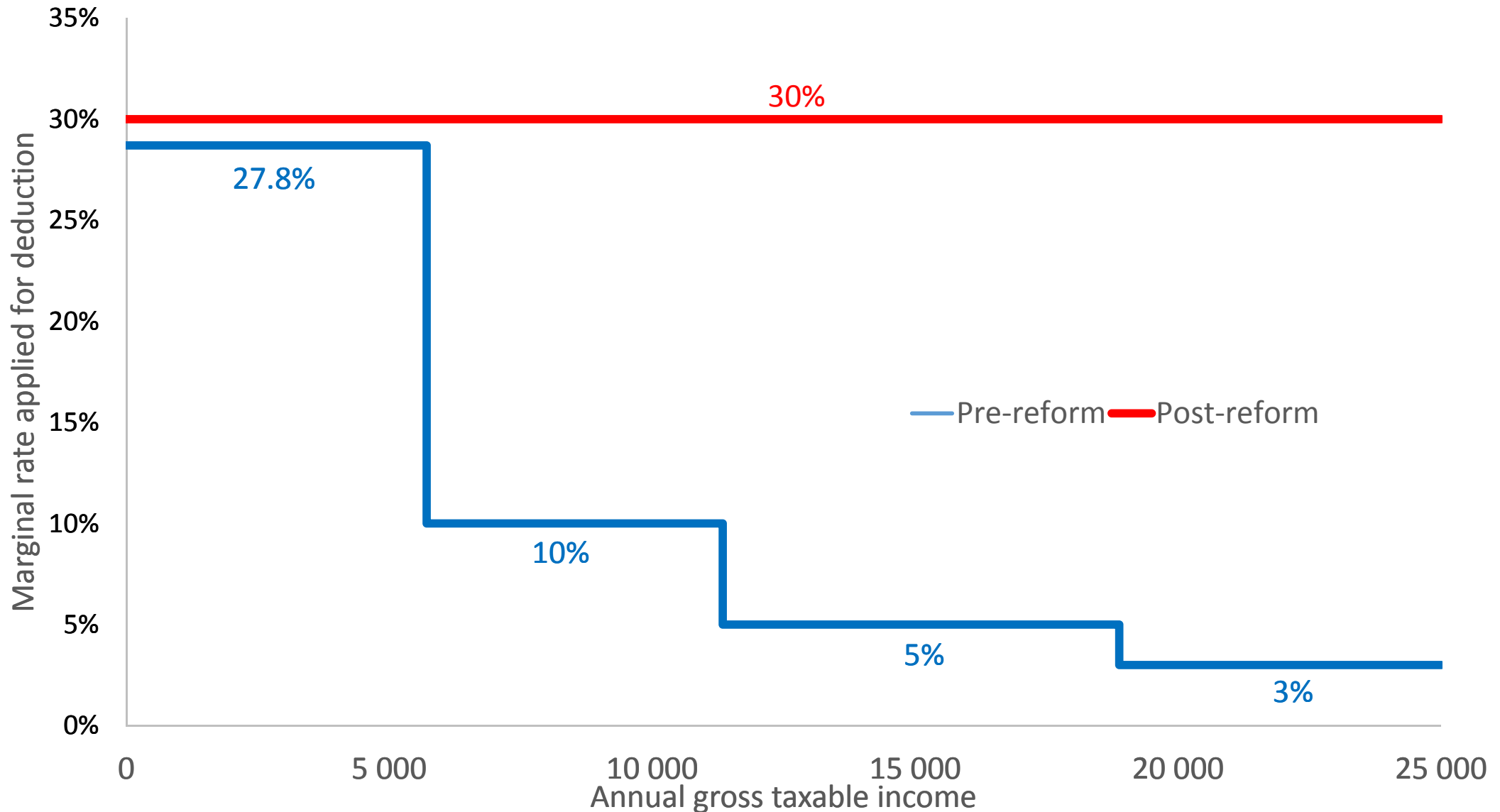
- EUROMOD @ 20:
so versatile one can (even?) evaluate a tax *shift*
- from personal income taxes & SSC, to
 - income from capital
 - **indirect taxes**
- mainly motivated by ‘efficiency’ (=> **employment**)
 - in which also ↓ **“SSC_er”** play important role

2. The package of the tax shift - expenditures

- Personal Income Tax:
 - Expansion of tax deductible professional expenses
 - Increase of tax free allowance (€7070 → €8261)
 - Phasing out of the 30% tax bracket
 - Increase of the lower limit of the 45% tax bracket
 - Expansion existing in-work tax credit 'fiscal workbonus'
- Social Security Contributions
 - employee: expansion of 'social workbonus'
 - employer: 33% → 25%

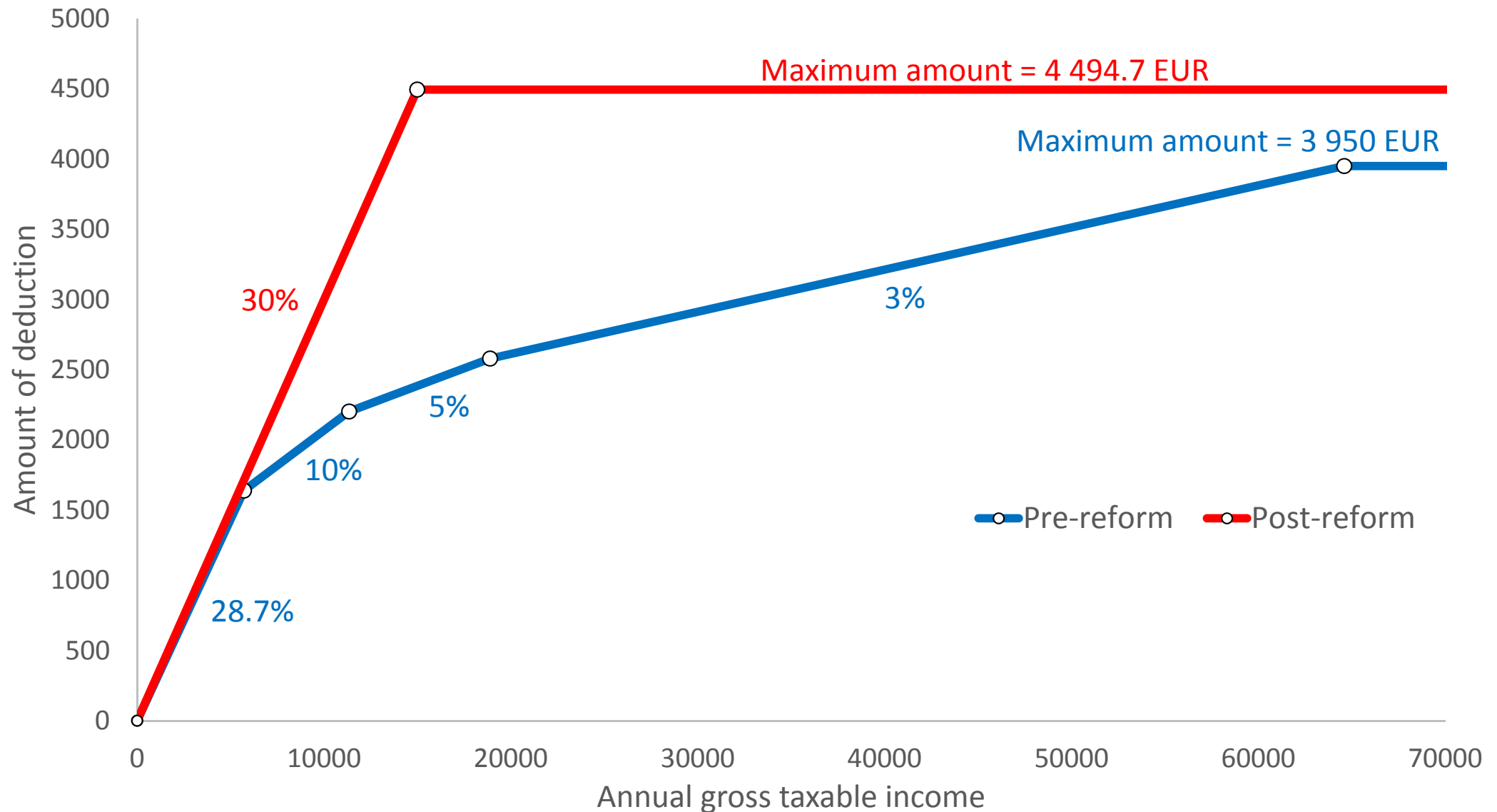
2. The package of the tax shift - expenditures

Expansion of tax deductible professional expenses



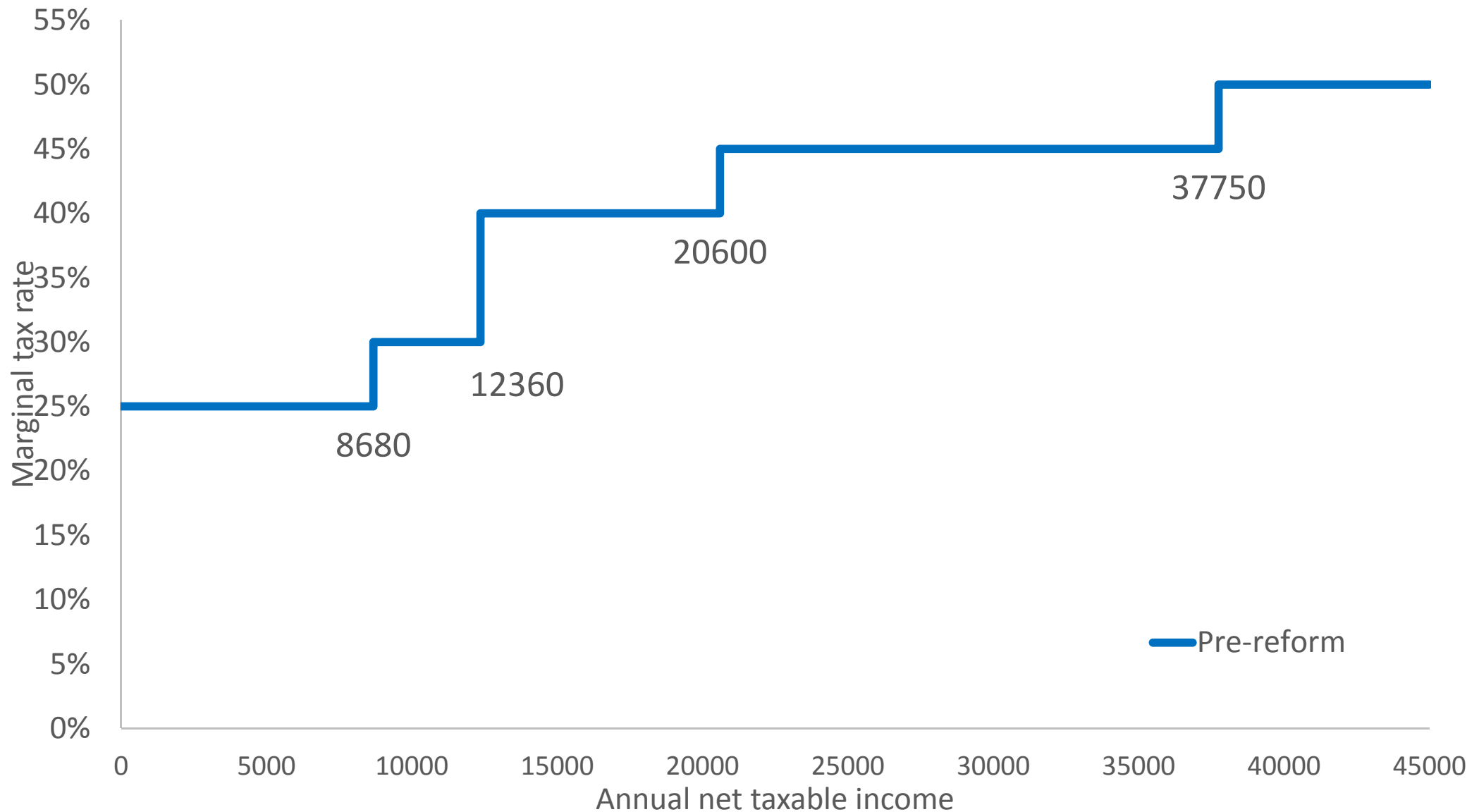
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Expansion of tax deductible professional expenses



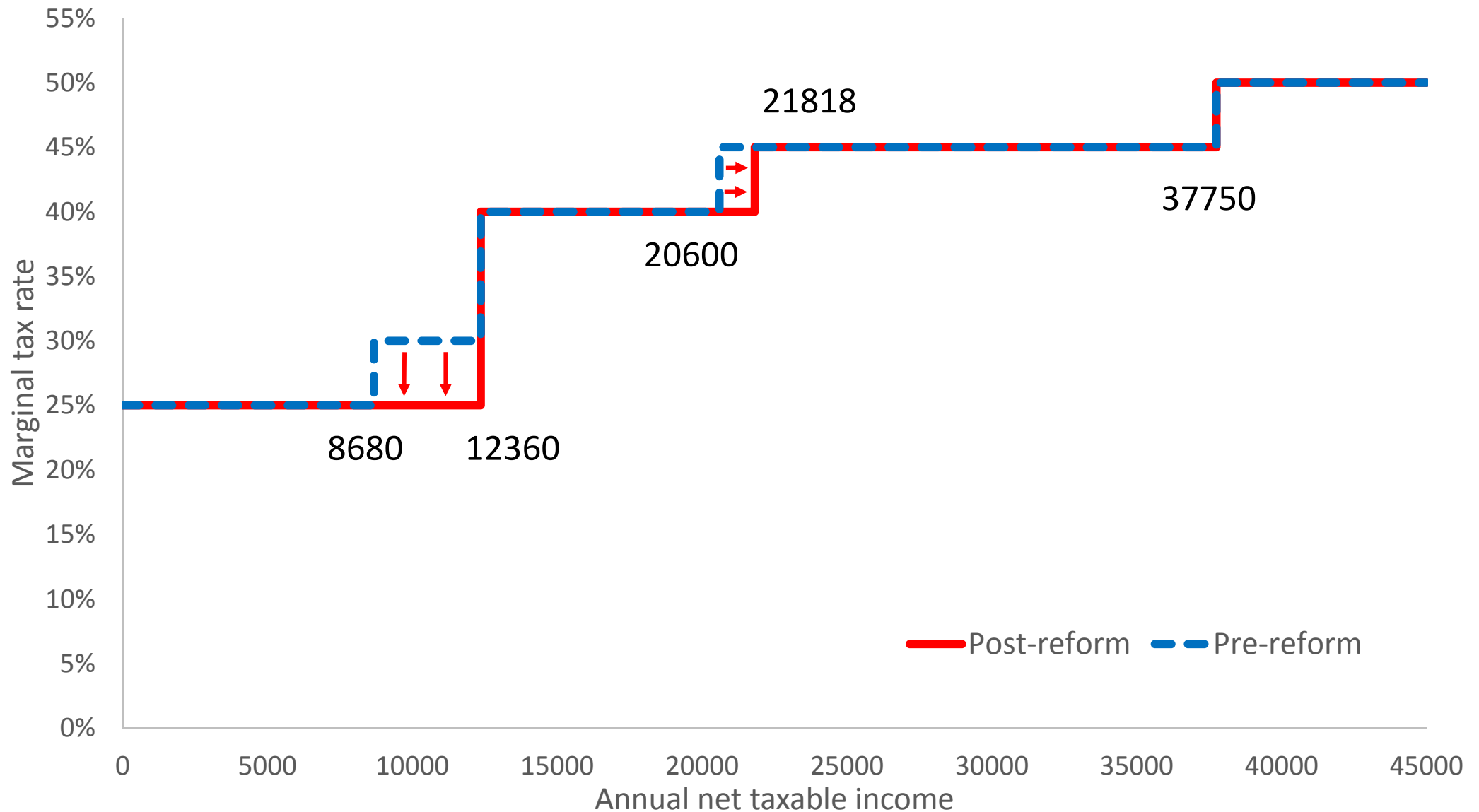
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Change in tax brackets and basic allowance



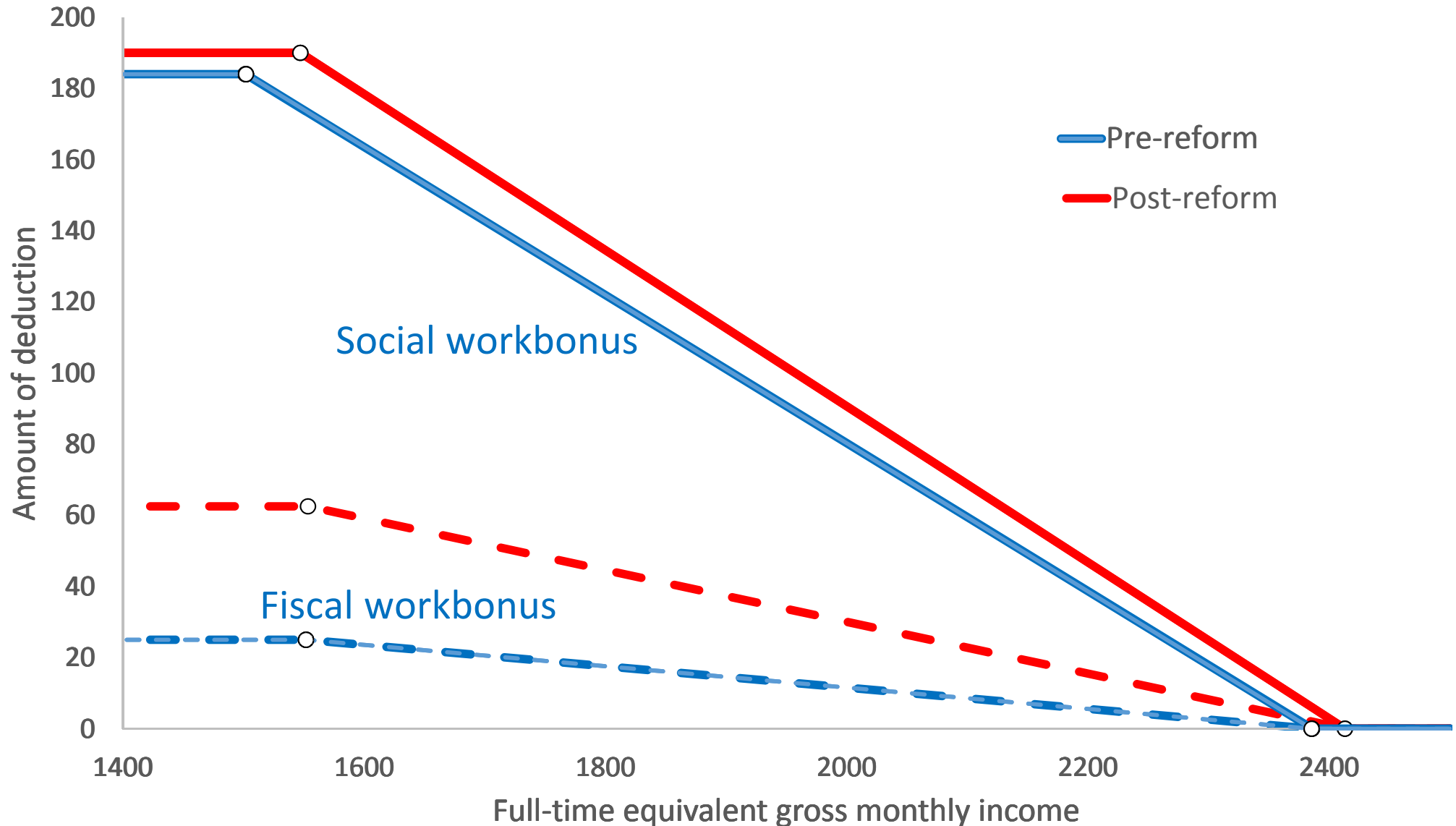
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Change in tax brackets and basic allowance



2. The package of the tax shift - expenditures

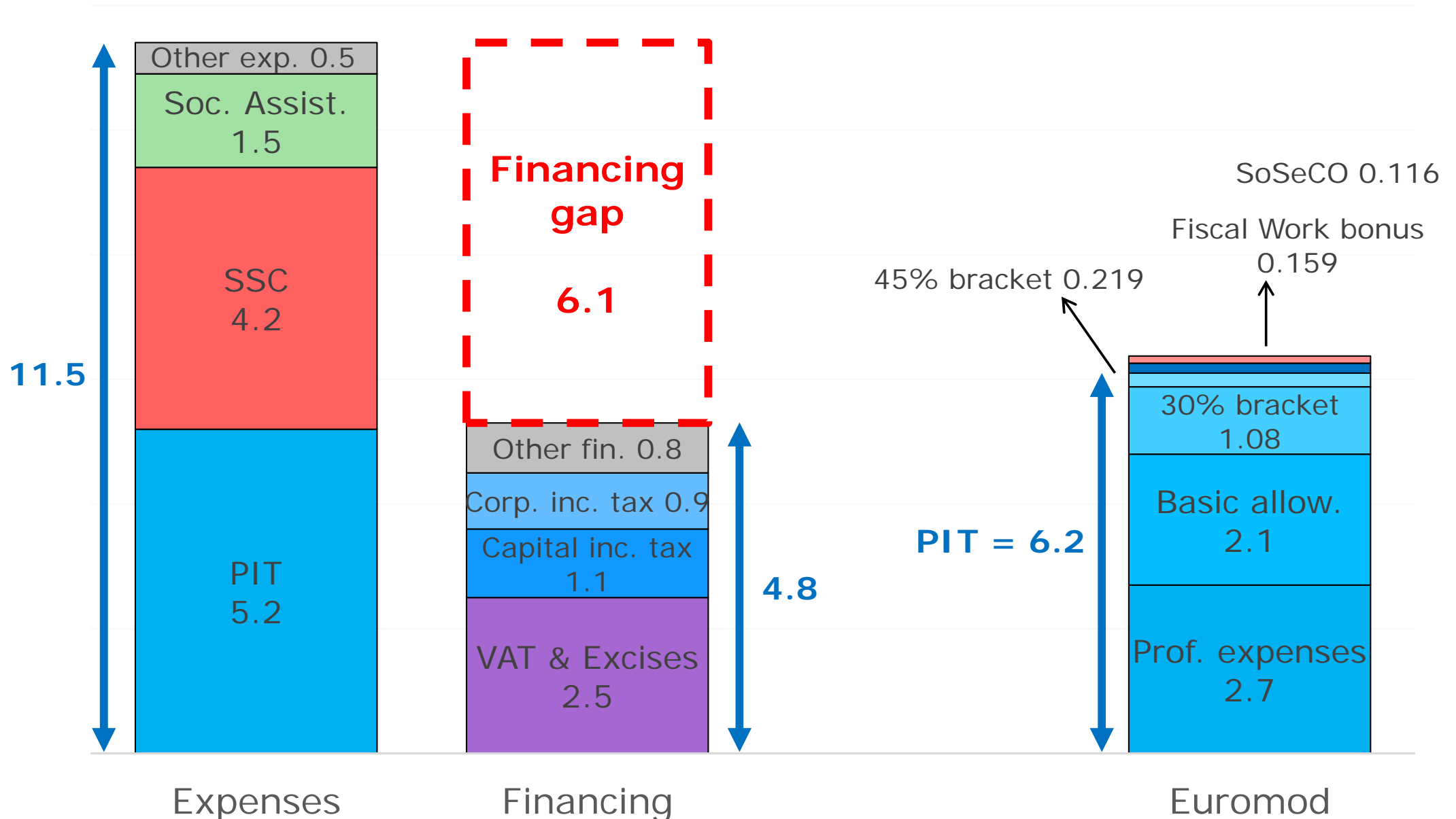
- Expansion 'social workbonus' + 'fiscal workbonus'



2. The package of the tax shift – financing side

- VAT electricity: 6% → 21%
- increase in excises on:
 - diesel fuel
 - tobacco
 - alcoholic drinks + sugar containing beverages
- capital income:
 - withholding tax 25% → 27%
 - speculation tax (small), and other small measures

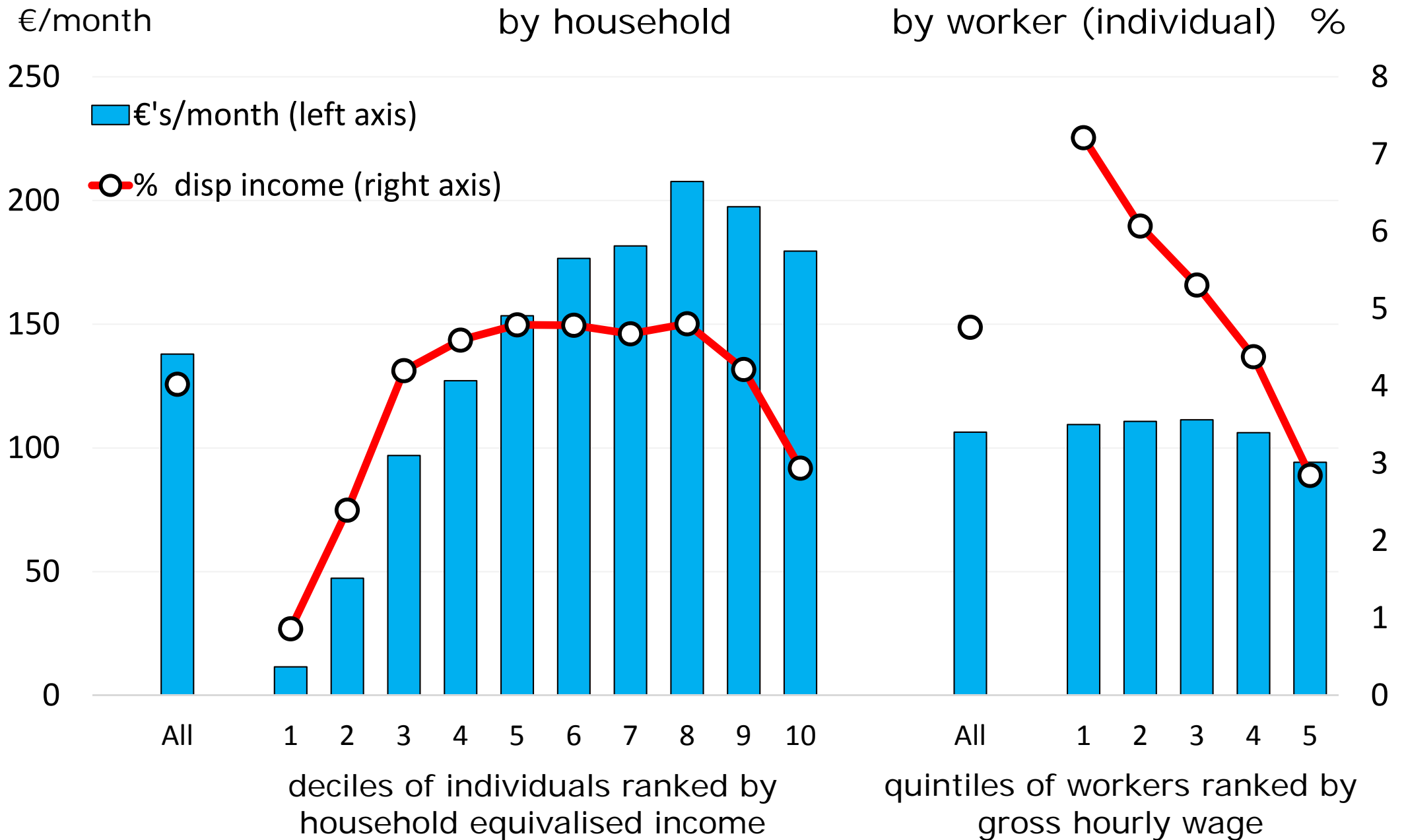
3. Impact effects: budgetary (bn euro's)



conclusion 1

- reform is **not revenue neutral**
- certainly impacts the distributional analysis
- → plan: design a revenue neutral scenario

3. Impact effects: distributional (1)



3. Impact effects: distributional (2)



conclusion 2

- reform is focussed on
 - working population
 - lower part
- “progressive” for subpopulation of working pop.
- “regressive” for whole population

- is without financing side: indirect taxes
- → extension 1

4. EM+ : including indirect taxes

- ongoing JRC-project
- pilot-version, preliminary
- SILC-income allocated over 16 broad categories of expenditures (+ savings)
- for which consumer prices determined, based on
 - rates of VAT
 - excise duties
 - constant producer prices

4. EM+ or: including indirect taxes

- macro-validation:
 - only VAT + excises paid by *household* sector
 - dependent on coverage by expenditure survey

4. EM+ macro-validation expenditures (mio €)

	National Accounts	SILC – Imputed	Coverage (%)
Food, non-alcoholic beverages	25 351	21 600	85.2
Alcoholic beverages	3 206	2 208	68.9
Tobacco	4 181	1 212	29.0
Clothing	9 104	7 536	82.8
Housing, rents	9 808	11 448	116.7
Private transport (car fuels)	14 135	9 312	65.9
All expenditures	174 488	142 945	81.9

4. EM+: validation ind. tax vs PIT & SSC (bn €)

	National Accounts	EM+	Ratio (%)
Personal Income Tax	45.5	44.7	98.4
Social Security Contributions	57.1	53.3	93.4
<i>Employees + Self Employed</i>	21.9	22.6	103.1
<i>Employers</i>	35.2	30.7	87.2
Indirect Taxes	35.7	17.0	47.6
VAT	27.5	14.6	53.0
Excises	8.2	2.4	29.6

4. EM+ or: including indirect taxes

- result of change in indirect taxes:

NBB/FPB in bn €'s	2.65
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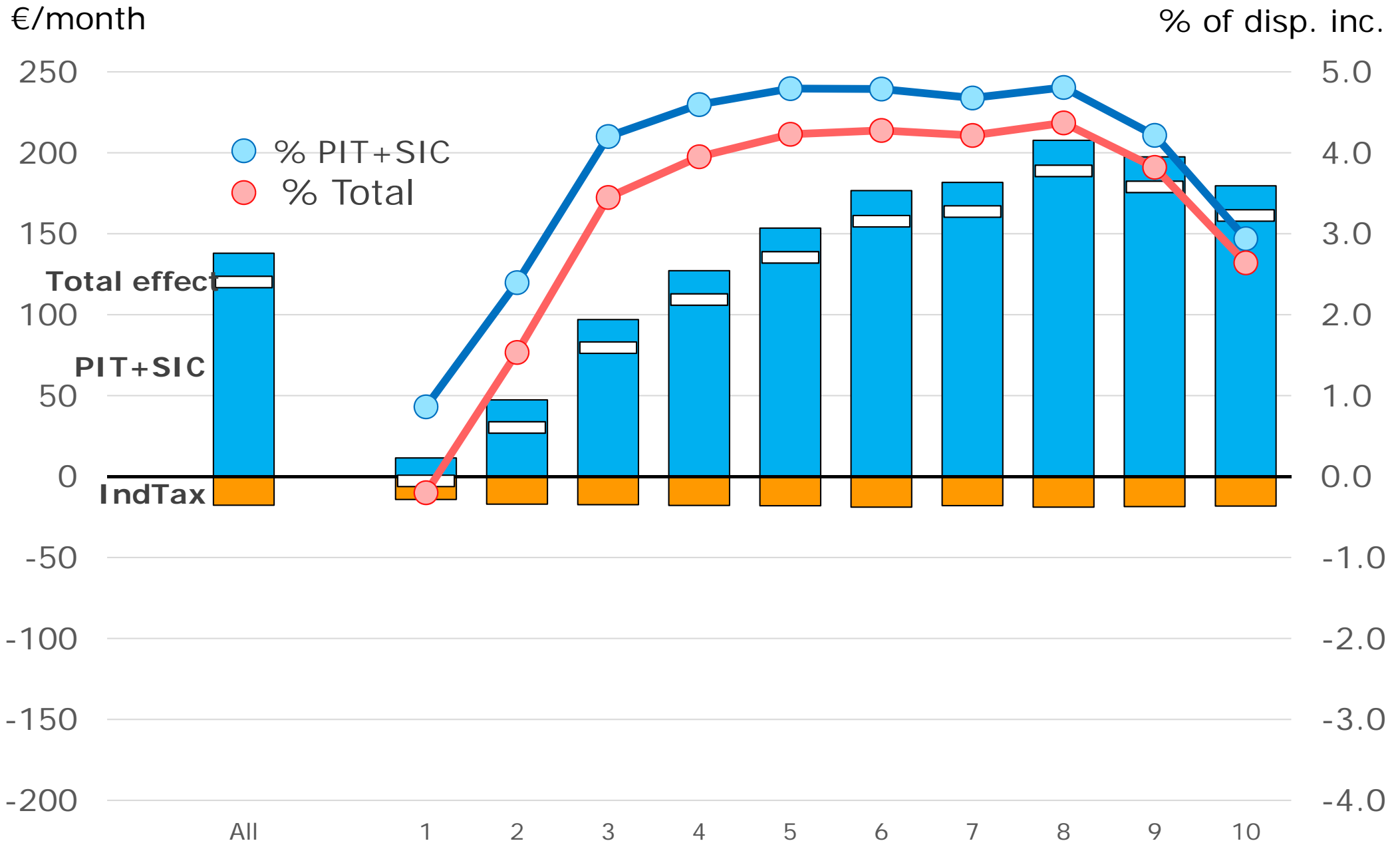
EUROMOD

in bn €'s	0.955
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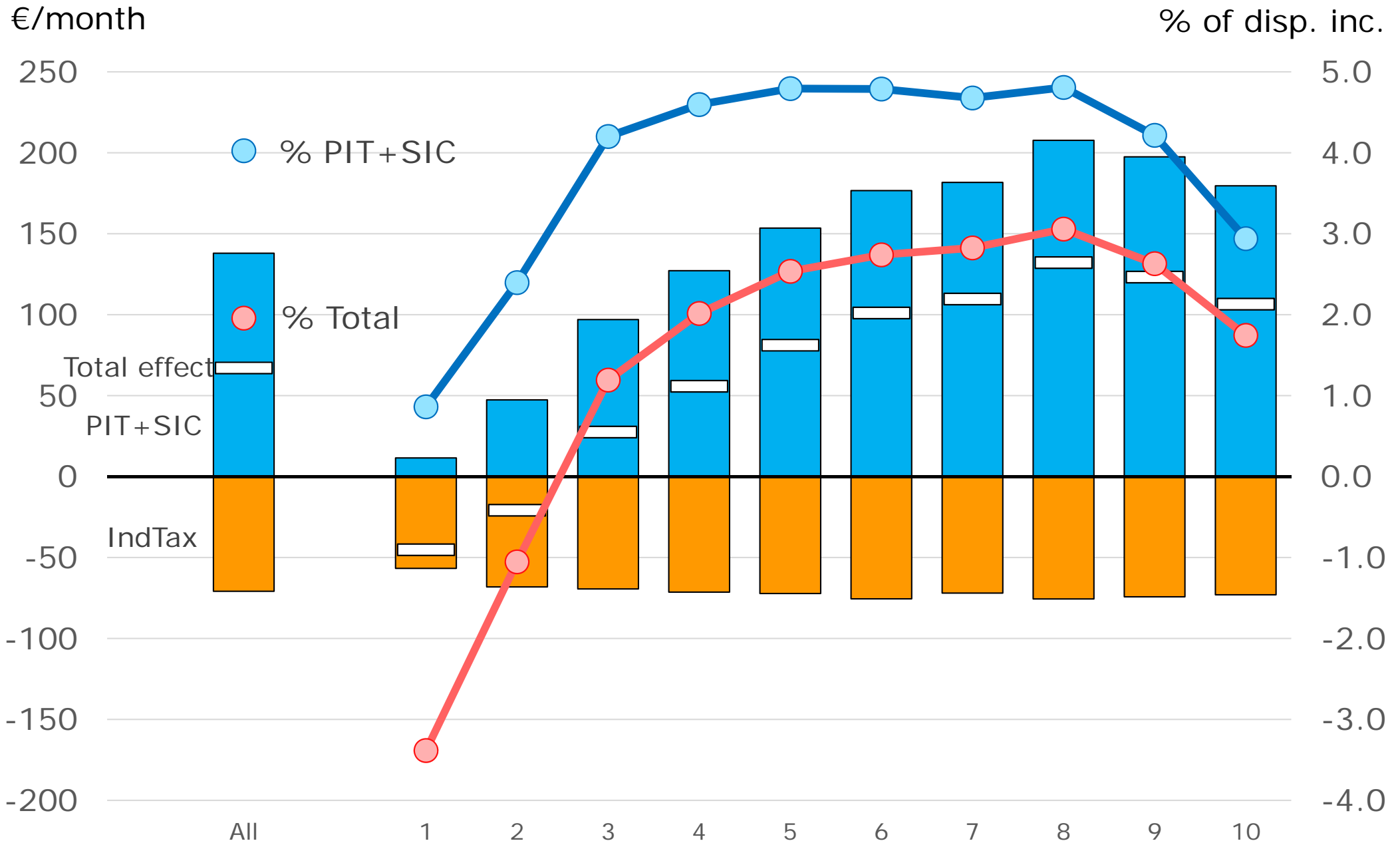
in €'s per month per household	17.7
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gain of PIT and SSC (employee)	137.9
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4. EM+ distributional effect indirect taxes



4. EM+ distributional effect indirect taxes



conclusion 3

- modelling of indirect taxes certainly relevant
 - VAT: the “revenue source”
 - “greening” of tax shift → increasing use of excise duties

- still challenges ahead:
 - ...
 - upgrading to National Accounts?
 - ...

5. EM++ including labour supply effects

- to take into account employment effects
- we use an estimated Labour Supply model
- type RURO (Dagsvik, Aaberge, Colombino, ...)
 - Random Utility
 - Random Opportunity
- see EM WP 4/16:

EUROMOD WORKING PAPER SERIES

EM 4/16

Getting tired of work, or re-tiring in absence of decent job opportunities? Some insights from an estimated Random Utility/Random Opportunity model on Belgian data

Bart Capéau and André Decoster

May 2016

6. EM++ including labour supply effects

- RURO, driven by
 - preferences (disposable income, leisure)
 - **heterogeneous opportunities**
- EUROMOD: crucial role in generating **choice sets**

- Model produces
 - effect on Labour Supply
 - cost recovery figures for the budget
 - distributional analysis, possibly based on welfare metrics (beyond disposable income)

6. EM++ including labour supply effects

we exploited **EUROMOD + RURO** in 5 scenario's:

What has been implemented in the 5 scenario's?	Scenario				
	0	1	2	3	4
personal income tax	RURO				
social security employees	RURO				
social security employer			w ↑		
indirect taxes					↑↑↑
labour demand				opp ↑	

6. EM++ including labour supply effects

	Scenario				
	0	1	2	3	4
	PIT, SSC_ee	+ Ind. Tax	↑ gross wages	↑ opp.	↑↑↑ Ind.Tax
change in FTE's	52.4	51.5	63.8	69.8	44.3
change in FTE's in % of basel.	2.4	2.4	3.0	3.2	2.0
initial cost of package (bn €)	-5.2	-4.8	-3.3	-4.8	-3.8
cost recovery (mio €)	841	764	1456	1682	361
cost recovery in %	16.2	15.8	30.1	34.8	9.5

6. EM++ including labour supply effects

	Scenario				
	0	1	2	3	4
	PIT, SSC_ee	+ Ind. Tax	↑ gross wages	↑ opp.	↑↑↑ Ind.Tax
cost recovery in mio €	841	764	1456	1682	361
PIT	-87	-116	137	186	-252
SSC	167	147	409	615	9
Benefits	-347	-347	-372	-434	-347
Indirect Taxes	415	386	538	447	258

6. EM++ including labour supply effects

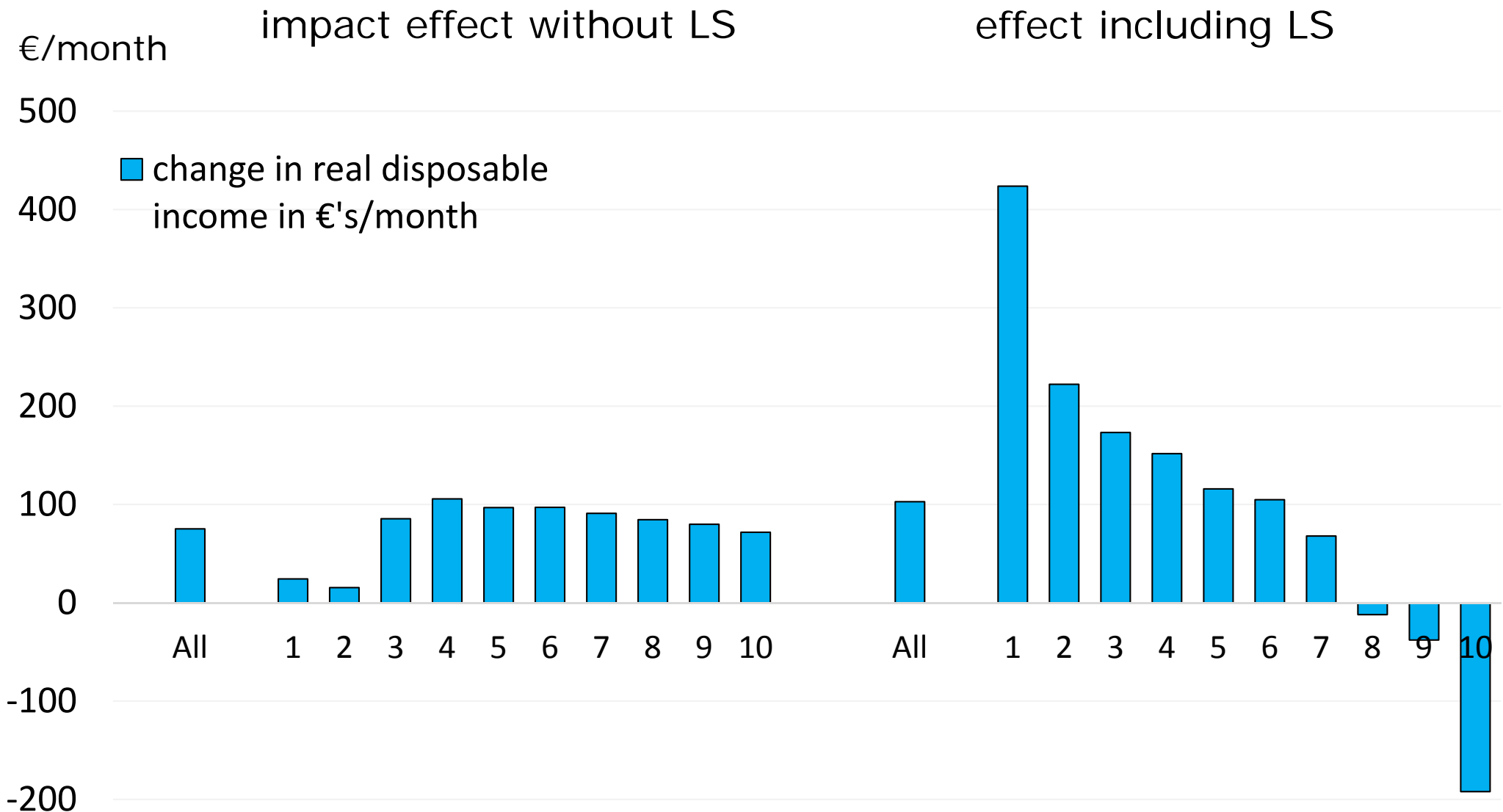
- Analysis for **scenario 3**
- total volume of labour supply \uparrow with 3.2%
- **participation rate** \uparrow from 82.0% to 84.8%
 - mainly at **bottom of income and wage distribution**
- number of hours worked \uparrow with 3.2%
 - but important **income effect for higher wages/incomes**
 - average # hours worked: \uparrow from 30.3 to 31.3
 - conditional on part. baseline: \downarrow **with 0.4**
 - mainly in higher wage classes: e.g. wage class [30-35]:
 \downarrow from 42.4 h/w to 39.5 h/w (\downarrow of 6.5%)

conclusion 4

- SSC_er & demand side: successfully linked to EM
- employment effects:
 - yes
 - but limited
- with (unexpected?) effect on revenues

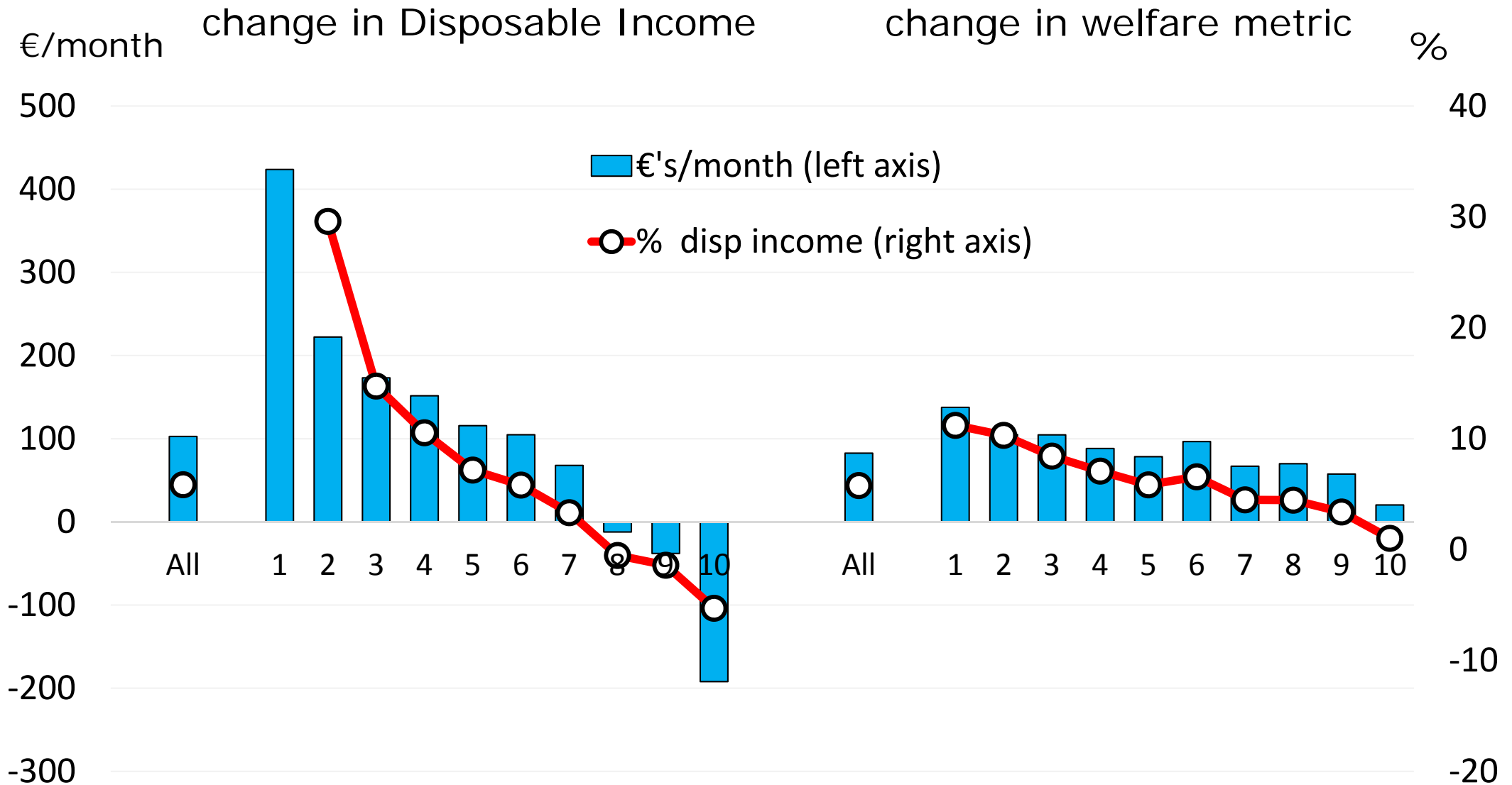
- ? do the employment effects also affect the distributional analysis?
 - !! analysis – now still - **limited to** the simulated **population available for the labour market**

6. Distributional analysis with and without LS



deciles of individuals ranked by individual disposable income

6. Distributional analysis: disp_y vs Rente-crit.

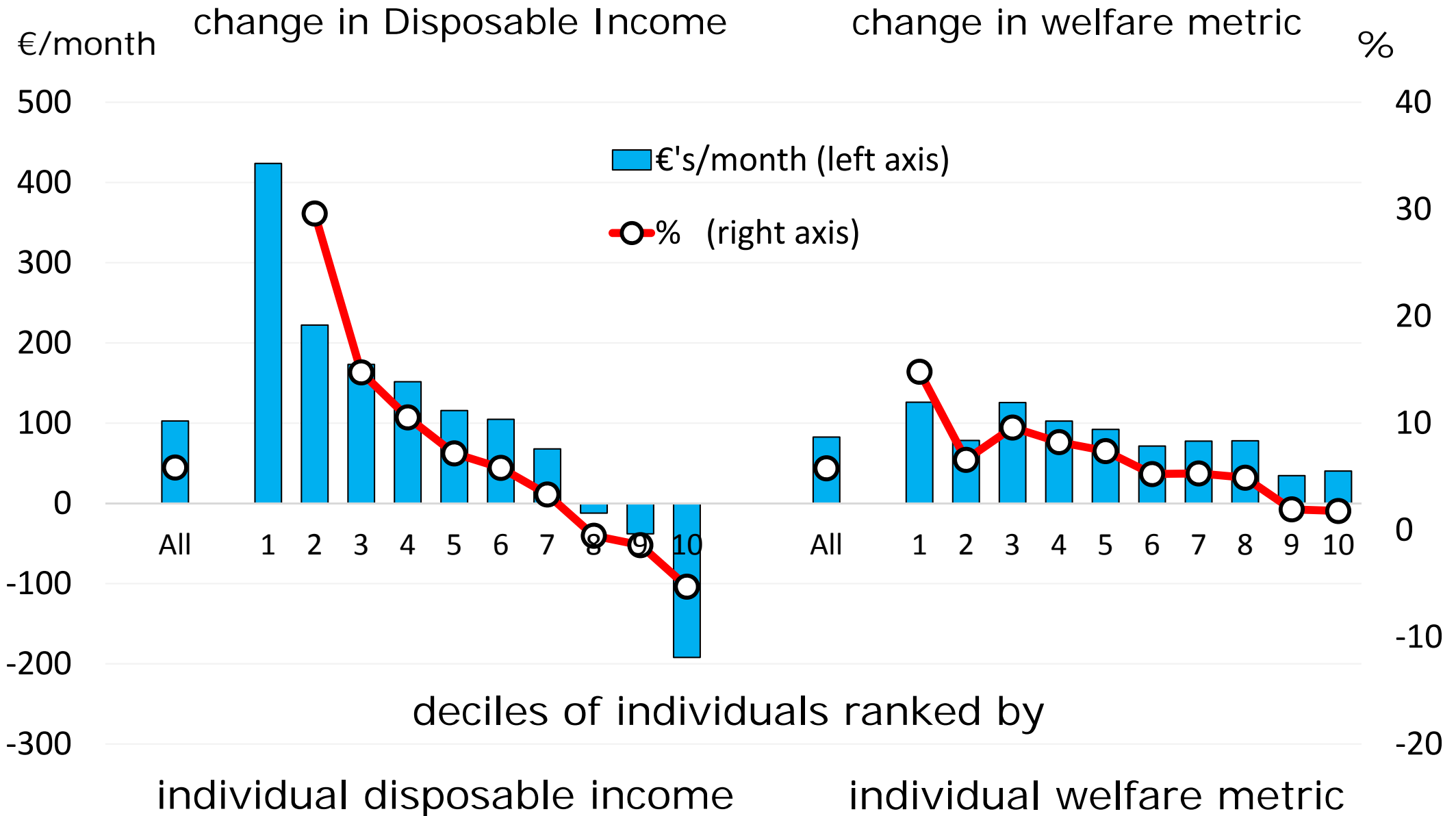


deciles of individuals ranked by individual disposable income

6. difference in ordering on income vs welfare

		Quintiles of Rente Criterion in Baseline					Total
		1	2	3	4	5	
Quintiles of disposable income in baseline	1	9.9	3.9	2.6	1.7	1.9	20.0
	2	6.0	6.7	3.5	2.3	1.6	20.0
	3	2.2	5.1	6.2	4.3	2.2	20.0
	4	1.6	2.8	4.9	6.6	4.1	20.0
	5	0.3	1.5	2.9	5.0	10.2	20.0
Total		20.0	20.0	20.1	19.9	20.0	100.0

6. Distributional analysis: ranked on Rente crit.



conclusion 6

- yes, employment effect important for distrib. anal.
 - for subpopulation: becomes “progressive”
- change in leisure → use welfare metric
 - still progressive
 - difference between leisure and involuntary unempl.

work ahead the coming 2(0) years

- welfare metric: include random term (poster)
- experiment further with the opportunity side
- integrate analysis of LS on modelled subpopulation with effects of tax reform for rest of population
- fine-tune indirect taxes in EUROMOD