The Great Recession in Europe: design and distributional effects of automatic stabilisers and discretional consolidation measures

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Canazei, 7 January 2013

Background

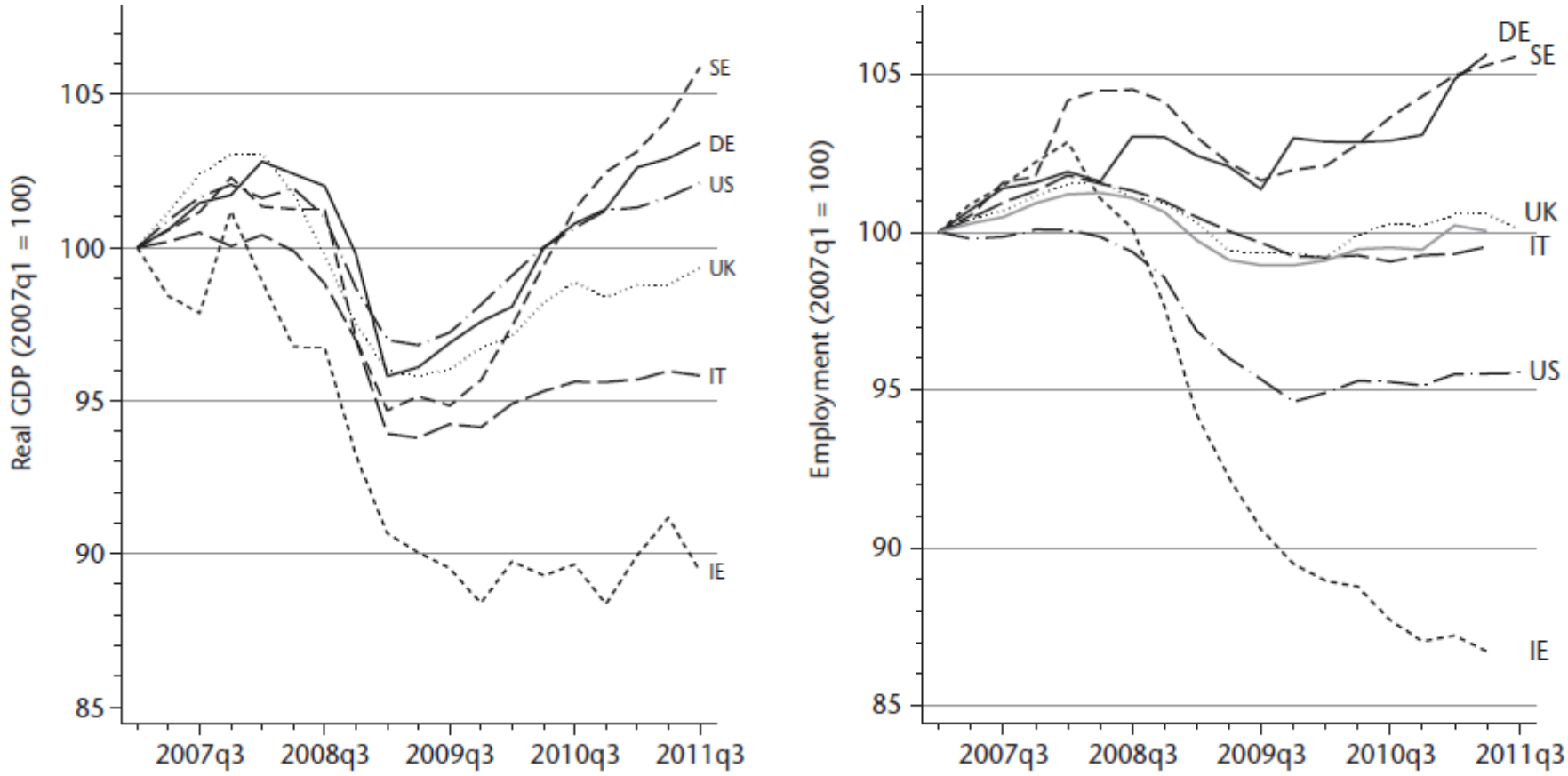
- Fernandez Salgado M., F. Figari, H. Sutherland, A. Tumino (2012), **Welfare compensation for unemployment in the Great Recession**, EUROMOD Working Paper Series 3/2012

- Avram S., C. Leventi, H. Levy, J. Navicke, M. Matsaganis, E. Militaru, A. Paulus, O. Rastrigina, H. Sutherland (2012), **The distributional effects of fiscal consolidation in nine EU countries**, Social Situation Observatory Research Note 1/2012

The context

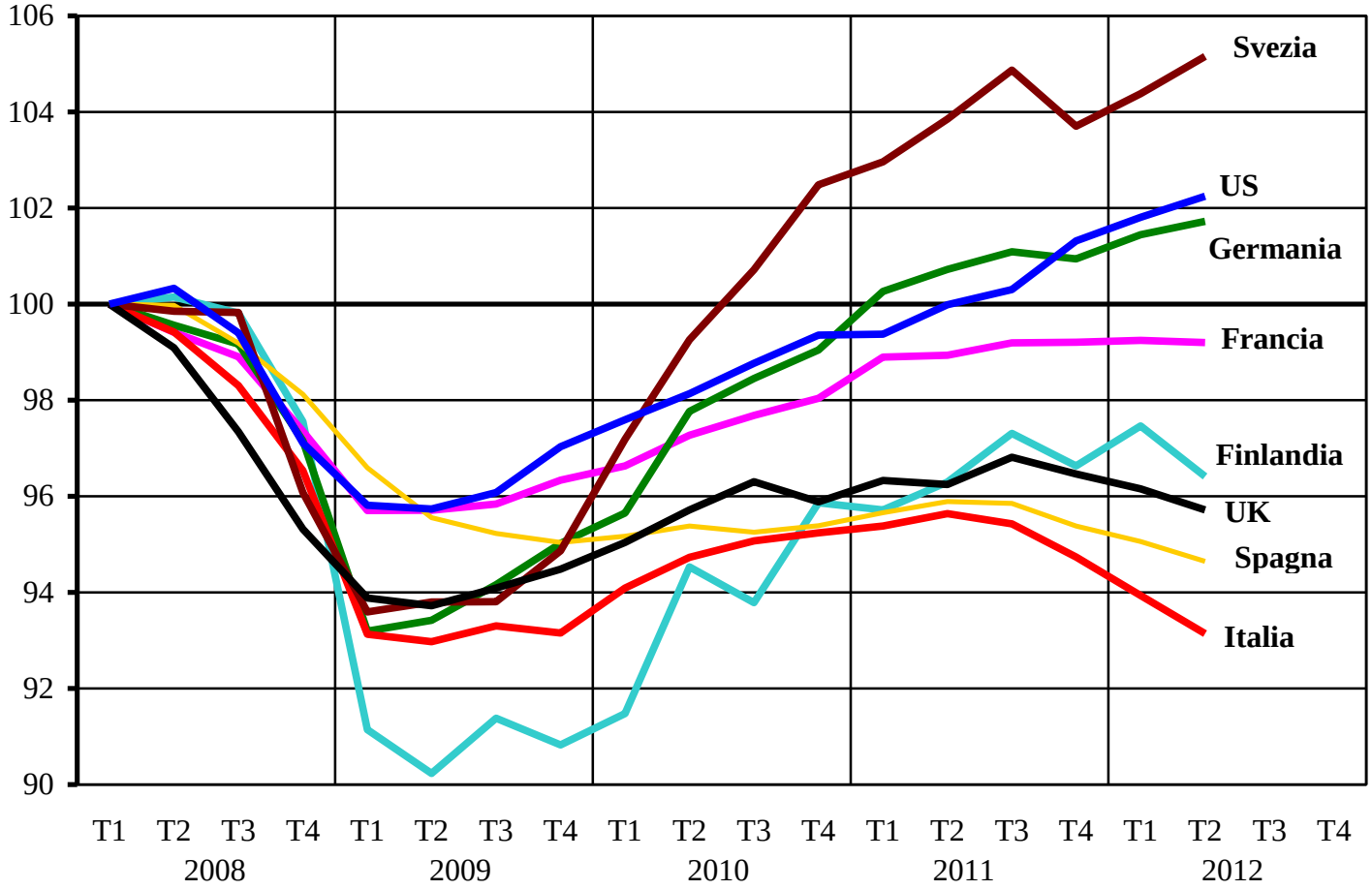
- Great Recession…
  - Heterogeneous impact on GDP and Unemployment
  - The double dip
  - Deterioration of Public Finance indicators
  - Consequences on household income

Real GDP and employment



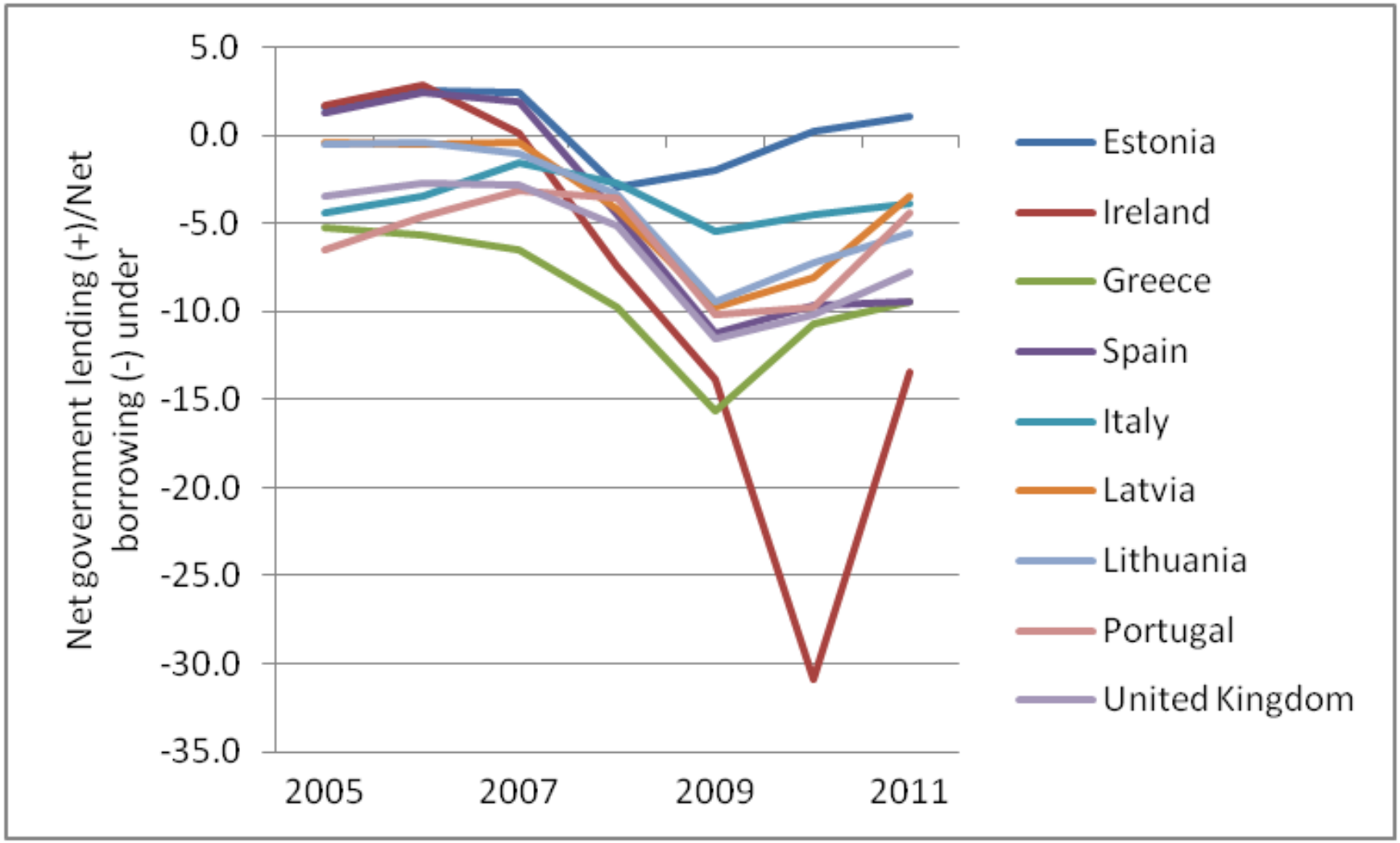
Source: Jenkins, Brandolini, Micklewright and Nolan, 2013.

The double dip

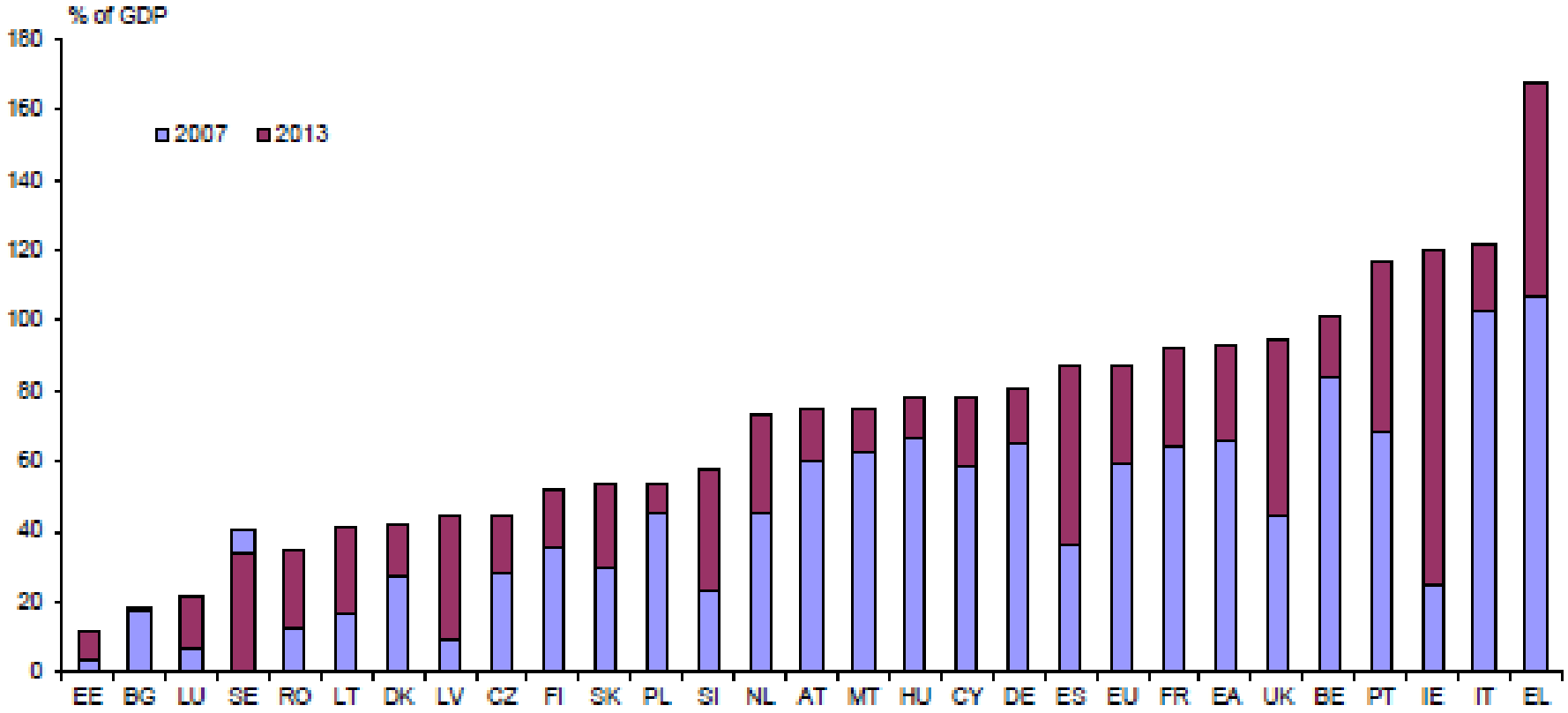


Source: Brandolini (2012) on OECD data.

The deterioration of public finance: 2005-2011
Public deficits



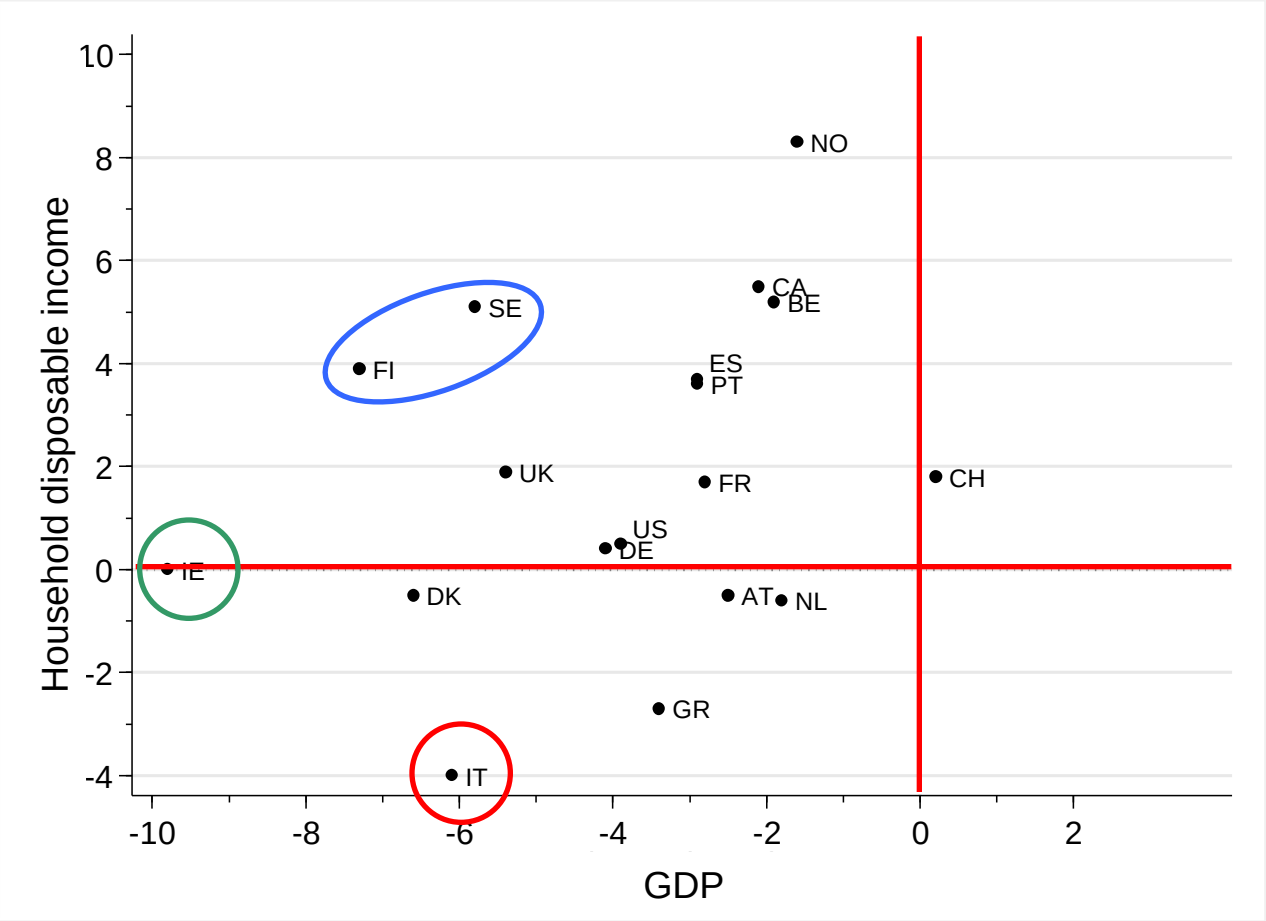
The deterioration of public finance: 2005-2013
General government debt



Great recession and household income

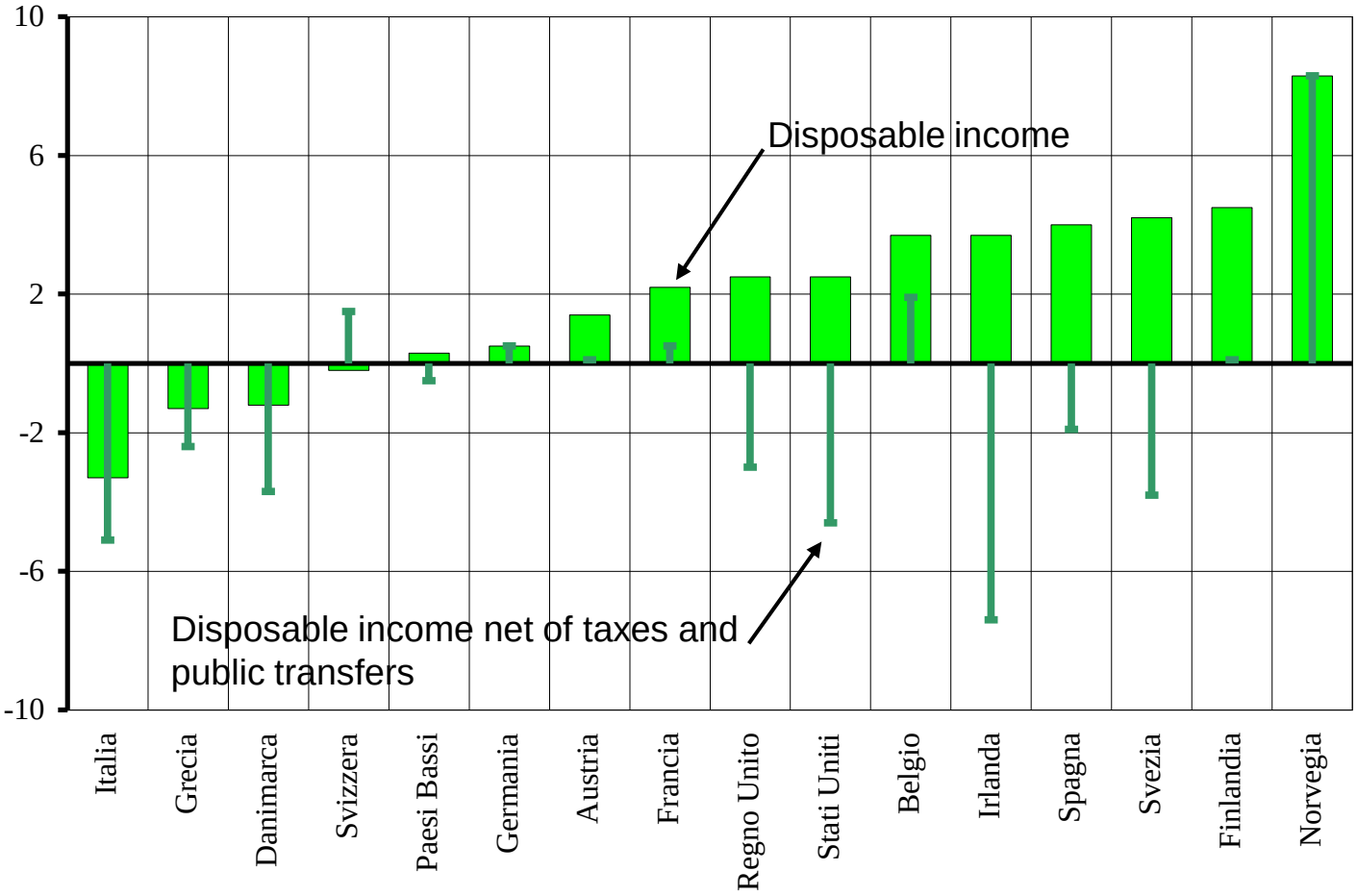
- Crisis affects labour markets even after GDP recovers and household income
  - Those becoming unemployed during the crisis face a high risk of staying long in unemployment with a direct impact on the well-being of individuals and their families (Keeley and Love, 2010)
  - Long-lasting impacts on household incomes (Jenkins et al. 2013)
  - Usual indicators might have serious difficulties in capturing the effects of the crisis (Nolan 2009) and evolution in the overall income distribution can hide the changes in income of particular groups (Aaberge et al. 2000, Jenkins et al. 2013)

% change in real GDP and real Household Income: 2008-09



Source: Jenkins, Brandolini, Micklewright and Nolan, 2013.

% change in household income: 2008-09



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The context

- Great Recession…
  - Heterogeneous impact on GDP and Unemployment
  - The double dip
  - Deterioration of Public Finance indicators
  - Consequences on household income
- … and public intervention
  - Automatic stabilisers (Dolls et al. 2012)
  - Discretionary policy measures (Fiscal consolidation or Austerity measures)

Approach I

- Counterfactual scenarios based on a microsimulation approach
  - What does it happen to household incomes in the presence of a macroeconomic shock or a new policy?
  - Based on micro data representative of the national population, it uses as a benchmark the real income distribution observed at a given time… but allow us to analyse something not observed in the data.
    - Need to assess the social impact of the crisis in a timely fashion: longitudinal data not available (yet)
    - Need to predict the direct cushioning effect of the social protection schemes (Atkinson 2009)
  - Focus on a specific aspect of a macroeconomic shock, i.e. the lost of job, (or a new policy set - austerity measures), highlighting the direct compensation provided by the tax-benefit system rather than that arising from other adaptive changes in individual behaviour and other household incomes

Approach II

- Automatic stabilisers
  - Dolls et al. (2012) simulate a symmetric (income) and an asymmetric (unemployment) shock
    - Pre-crisis data
    - Effects on the overall population
  - Counterfactual scenario to consider what happens if an individual loses her job (baseline: in job)
    - Short and long term
    - “Stress test” the tax-benefit system (Atkinson 2009) to see how welfare systems protect people from an extreme shock, offering relative protection and preventing to falling below an absolute income threshold
- Austerity measures
  - Counterfactual scenario to consider what would have happened in 2012 without Austerity measures (baseline: actual 2012 system)

EUROMOD

- A multi-country tax-benefit microsimulation for the EU:
  - 27 EU countries
  - (mainly) using the EU-SILC as input data
- Yearly update (policy and data, up to very recent policy system)
- Simulation of
  - Income taxes, employee and employer SICs, benefits that depend on current income and observed characteristics
  - Plus unemployment benefits, with assumptions
  - Remaining benefits (e.g. contributory pensions, disability benefits) taken from input data and updated to policy year where necessary
  - (non cash income and indirect taxes only for selected countries)
- Free for research purposes subject to obtaining microdata access permission (ISER University of Essex)

Great Recession and automatic stabilisation

Great Recession and automatic stabilisation

- The aim is to assess the extent to which tax-benefit systems provide an automatic income stabilisation for those who became unemployed at the onset of the Great Recession
  - Welfare compensation to unemployment
- Clear link between unemployment shock, income stabilisation, and economic insecurity of those affected by unemployment
- Automatic stabilisers represented around half of the public finance deterioration in 2009 (European Commission 2012)

- Dolls et al. (2012): great variety across countries (and between EU and US)
- We focus on those who became unemployed at the onset of the recession

Coverage and data

- Six EU countries (BE, EE, ES, IT, NL, UK)
  - Different macroeconomic shocks during the Great Recession
  - Different unemployment protection schemes and overall tax-benefit system
- Data
  - National SILC (BE, EE, IT), EU-SILC (ES), FRS (UK)
  - 2006 incomes updated to 2009 (UK 2008/9)
- Labour Force Survey
  - EU-LFS 2009
- Policy year: 2009

Counterfactual scenarios I

- Take into account predicted changes in market income due to unemployment
  - Matching individuals who experienced a transition from employment to unemployment between 2008 and 2009 from LFS data based on observed individual and household characteristics (Coarsened Exact Matching, Iacus et al., 2011)
  - Matching based on determinants of unemployment (age, gender, education, citizenship, economic activity, industry, region of residence) plus number of household members (adult and children), number of employed people in the household
  - Coarsened exact matching allows to guarantee, to a great extent, the joint combination of the observable characteristics

Counterfactual scenarios II

- Two counterfactual scenarios
  - Short term: distinguishing between new unemployed entitled and not entitled to receive unemployment benefits
  - Longer term: eligibility for unemployment benefits exhausted
- Calculate new tax liabilities and benefit entitlements; and hence new household disposable income
- Individual effects depend on
  - Eligibility for UB (simulated based on current earnings and available info on contributory history); the rest of the tax-benefit system (full take-up)
  - Household composition; remaining earnings (and other household incomes).

Unemployment welfare systems

		Scheme	Duration	Subject to Tax / SICs
BE	UB Insurance	60% p.e.; family additions, ceilings	unlimited	yes / no
EE	UB Insurance	40-50% p.e.; ceilings	9 months	yes / no
ES	UB Insurance	60-70% p.e.; family additions, ceilings	4 to 24 months	yes / yes
IT	UB Insurance	40-60% p.e.; ceilings	8 to 12 months	yes / no
NL	UB Insurance	70-75% p.e.; ceilings	3 to 38 months	yes / yes
UK	UB Insurance	Flat-rate (€ 61 to € 76 pw)	6 months	yes / no

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	UB Assistance	Means tested at individual level	6 to 18 months	yes / no
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Income stabilisation indicators

- Relative Resilience
  - Net Replacement Rate: ratio between household disposable income after and before the shock

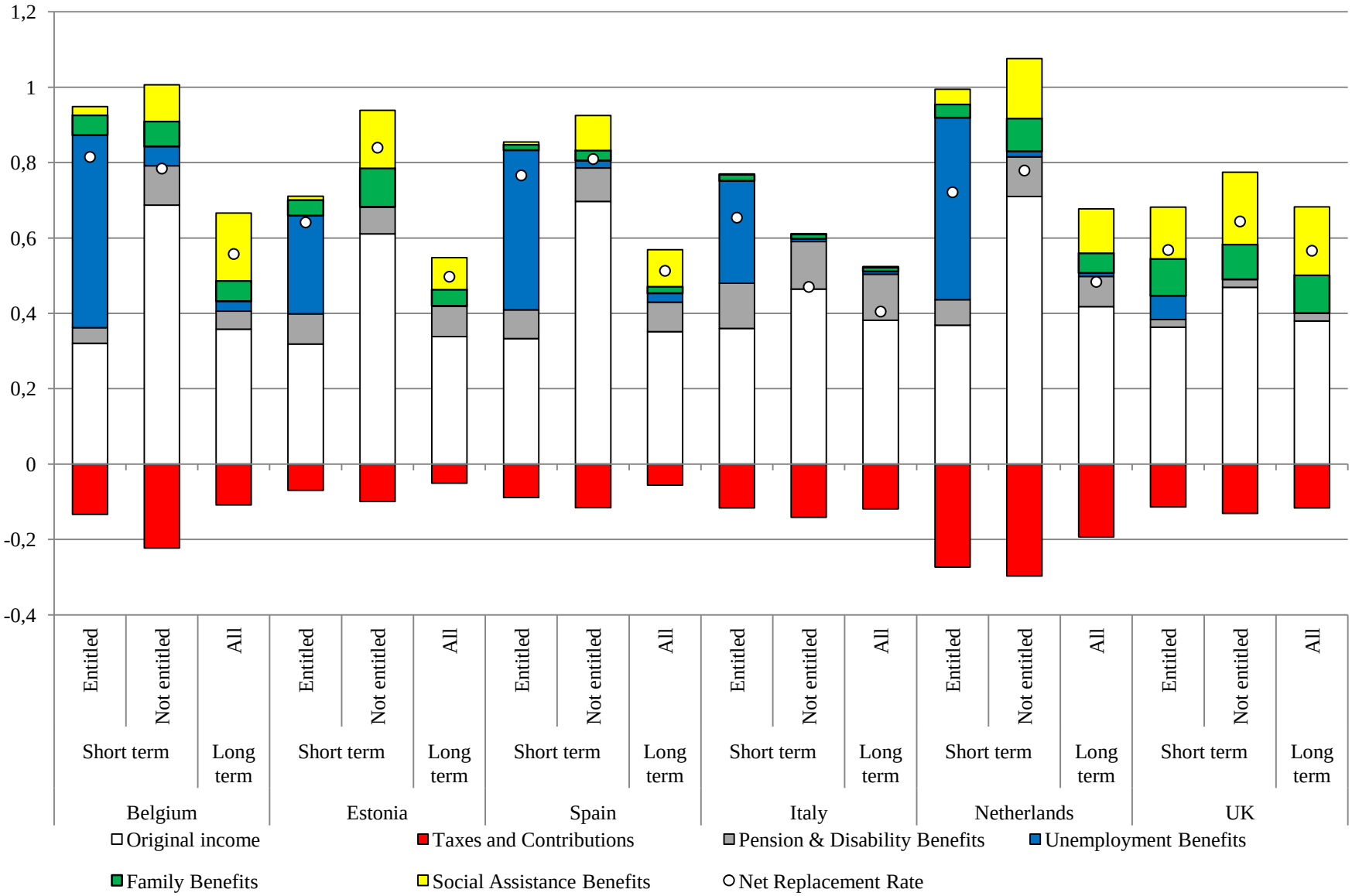
$$\frac{Y_{post}}{Y_{pre}}$$

  - Compensation rate: proportion of net earnings lost due to unemployment compensated by public transfers net of taxes

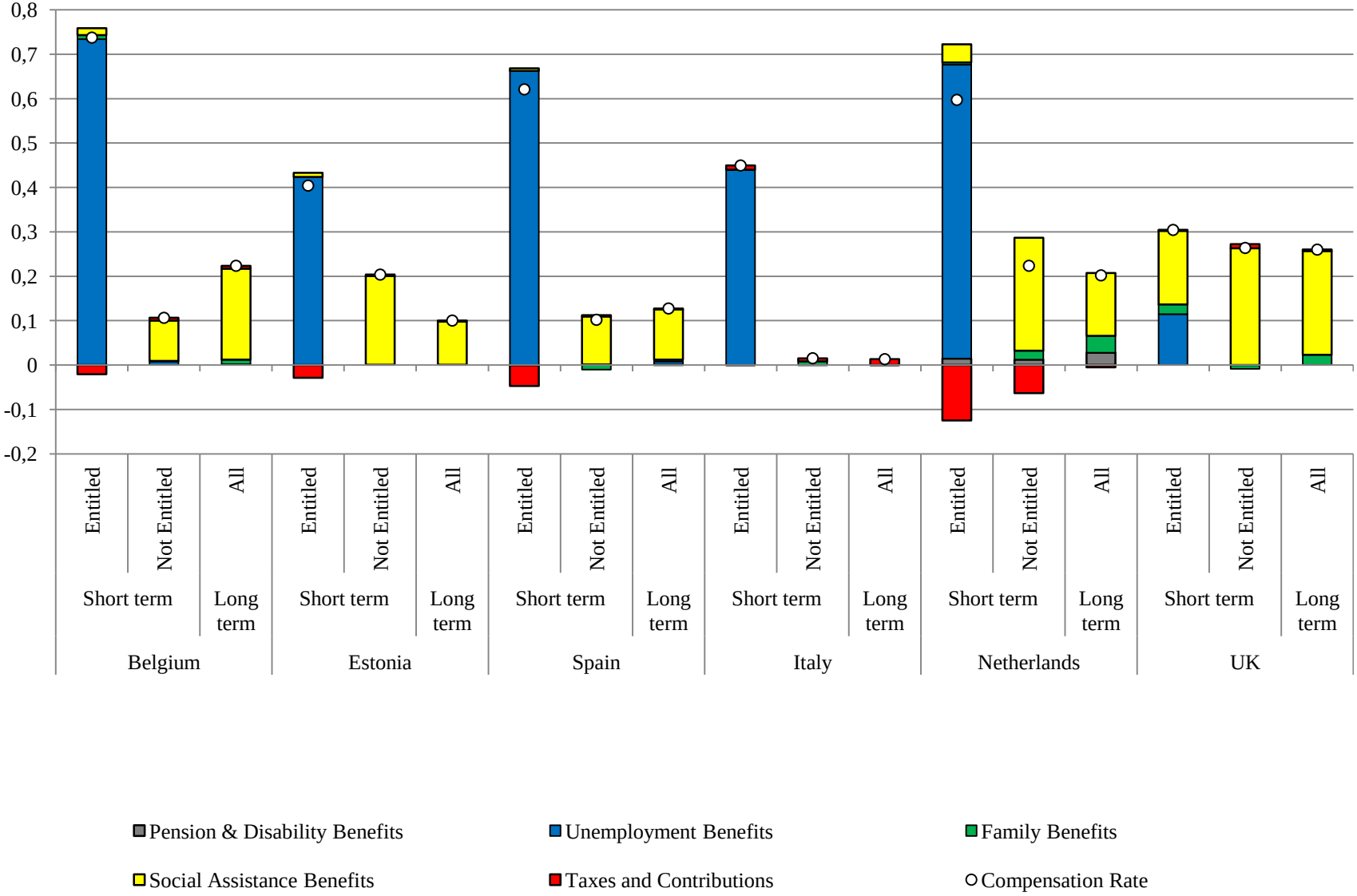
$$\frac{\left(B_{post}-B_{pre}\right)-\left(T_{(\bar{E}_{post})}-T_{(\bar{E}_{pre})}\right)}{\left(E_{pre}-T_{(E_{pre})}\right)-\left(E_{post}-T_{(E_{post})}\right)}$$

- Absolute Resilience
  - Risk of falling below a low absolute income threshold defined as 60% of median (Equivalent to change in poverty status with fixed threshold)

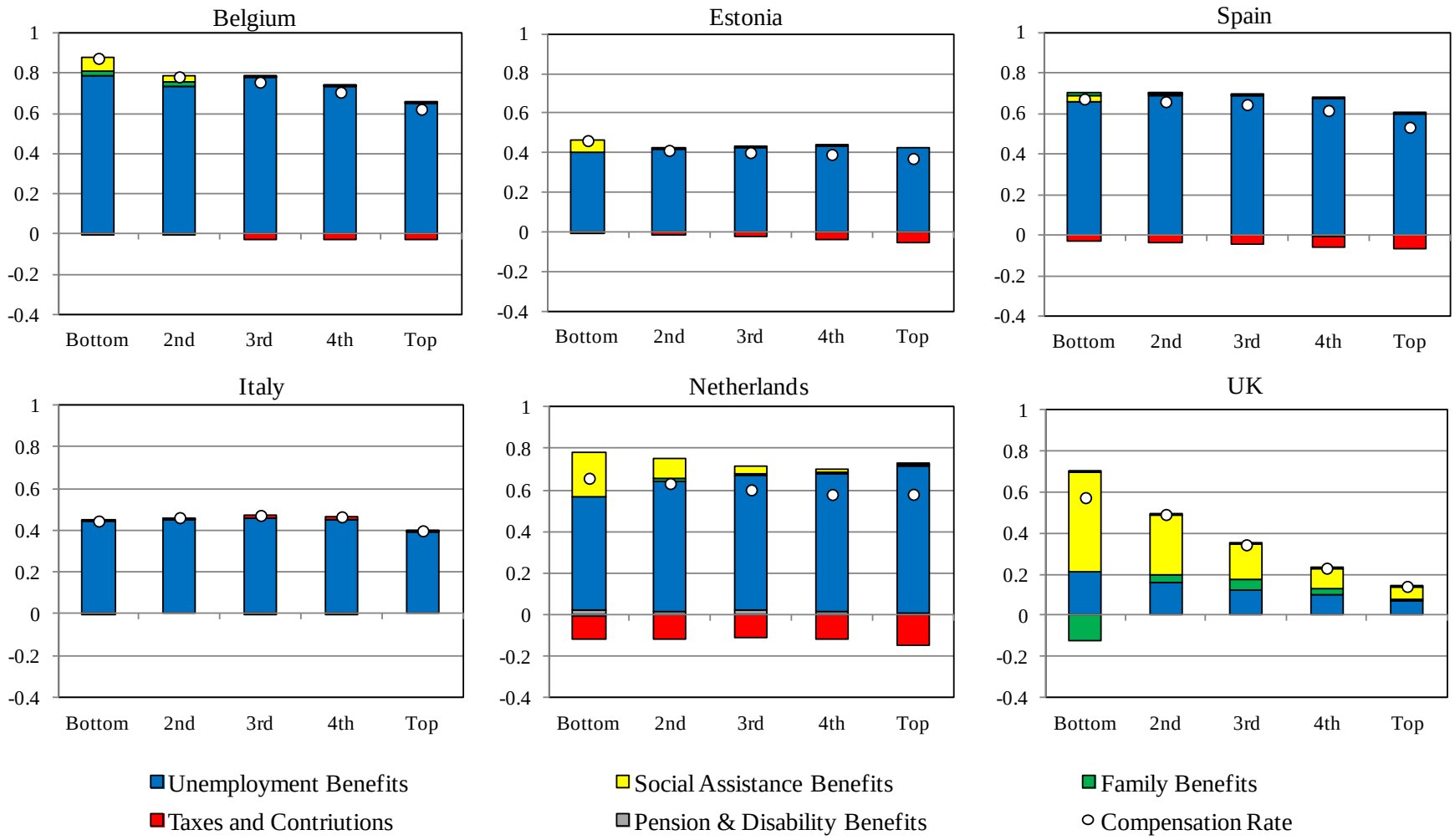
Average Net Replacement Rate



Average Compensation Rate



Average Compensation Rate (entitled to UBs)



Absolute resilience, with UBs

Are the new unemployed protected from falling below the poverty line?

		Belgium	Estonia	Spain	Italy	Netherlands	UK
Short term							
Entitled to UB	Poor in work	0.04	0.12	0.09	0.10	0.02	0.03
	At risk	0.11	0.27	0.17	0.30	0.18	0.44
	Protected	0.85	0.61	0.74	0.61	0.80	0.52
Not Entitled	Poor in work	0.15	0.36	0.21	0.19	0.13	0.08
	At risk	0.22	0.19	0.16	0.36	0.22	0.34
	Protected	0.63	0.45	0.62	0.46	0.65	0.58
Long term							
All households	Poor in work	0.05	0.13	0.10	0.11	0.03	0.04
	At risk	0.51	0.53	0.51	0.45	0.50	0.46
	Protected	0.44	0.34	0.39	0.44	0.46	0.50
Sole earner households	Poor in work	0.09	0.28	0.22	0.22	0.05	0.09
	At risk	0.78	0.69	0.66	0.65	0.74	0.66
	Protected	0.13	0.04	0.13	0.12	0.21	0.26

Notes: The poverty threshold is fixed at 60% of baseline median household disposable equivalised income. Source: EUROMOD version F4.23.

Conclusions

- Differences across countries in the impact of economic downturn on unemployment risk and in the protection offered by the welfare systems
  - Need to look at the social protection system as a whole
  - Long-lasting effects of the crisis will put minimum income schemes in several EU countries to a severe test: to meet the challenge, social safety nets must become stronger and tighter (Cantillon 2012; Figari et al. 2012)

- An open issue: guaranteeing a reasonable level of protection for all potentially unemployed people (at reasonable levels) or higher stabilization of income for those more attached to the labour market
  - UBs as efficient shock absorber and play a counter-cyclical role in boosting internal demand and consumption (Dolls et al. 2012)

The distributional effects of fiscal consolidation in 9 EU countries

Motivation

- The economic crisis and the fiscal consolidation measures have an impact on income distribution:
  - inequality, and any driver of growth in it, matters in its own right (Jenkins et al., 2013)
  - prospects for macroeconomic recovery depend on composition of fiscal adjustment (Alesina e Ardagna, 2012)
  - political acceptability (Persson e Tabellini, 2003)

Motivation

- Fiscal consolidation literature is mainly macro-oriented and often overlooking the distributional effects
  - *"The crucial question, however, remains the impact of fiscal consolidations on the distribution of disposable income. On this, there is very little information, because very rarely does the timing of income-distribution surveys allow an analysis of its evolution before and after a fiscal consolidation, and because there are well-known difficulties in assessing the impact of the various budget items on income distribution"* (Perotti, AER, 1996)

Introduction

- We provide ex ante estimates of the distributional impact of fiscal consolidation measures implemented in the EU countries since the start of the Great Recession and up to mid-2012
- Focus on **measures** of fiscal consolidation with a direct impact on **income distribution**
  - Public wages, public pensions, cash benefits, direct taxes/SIC
  - VAT
- A follow up to last year first comparative study (Callan et al. 2011)

Methodological issues

- Emphasis on consistent cross-country analysis
- Counterfactual: How would tax-benefit systems have evolved by now (2012) without fiscal consolidation?
  - Pre-FC policies indexed using national rules/conventions
  - Compare with actual 2012 systems
- Period: all fiscal consolidation up to mid-2012
- Measures of fiscal consolidation
  - Fiscal measures aimed to cut the public deficit or limit its growth
  - Exclude measures part of other policy agenda, rolling back of stimulus measures and expired measures
- [Adjustment for labour market changes]
  - Simulating transitions into and out of unemployment using info from LFS

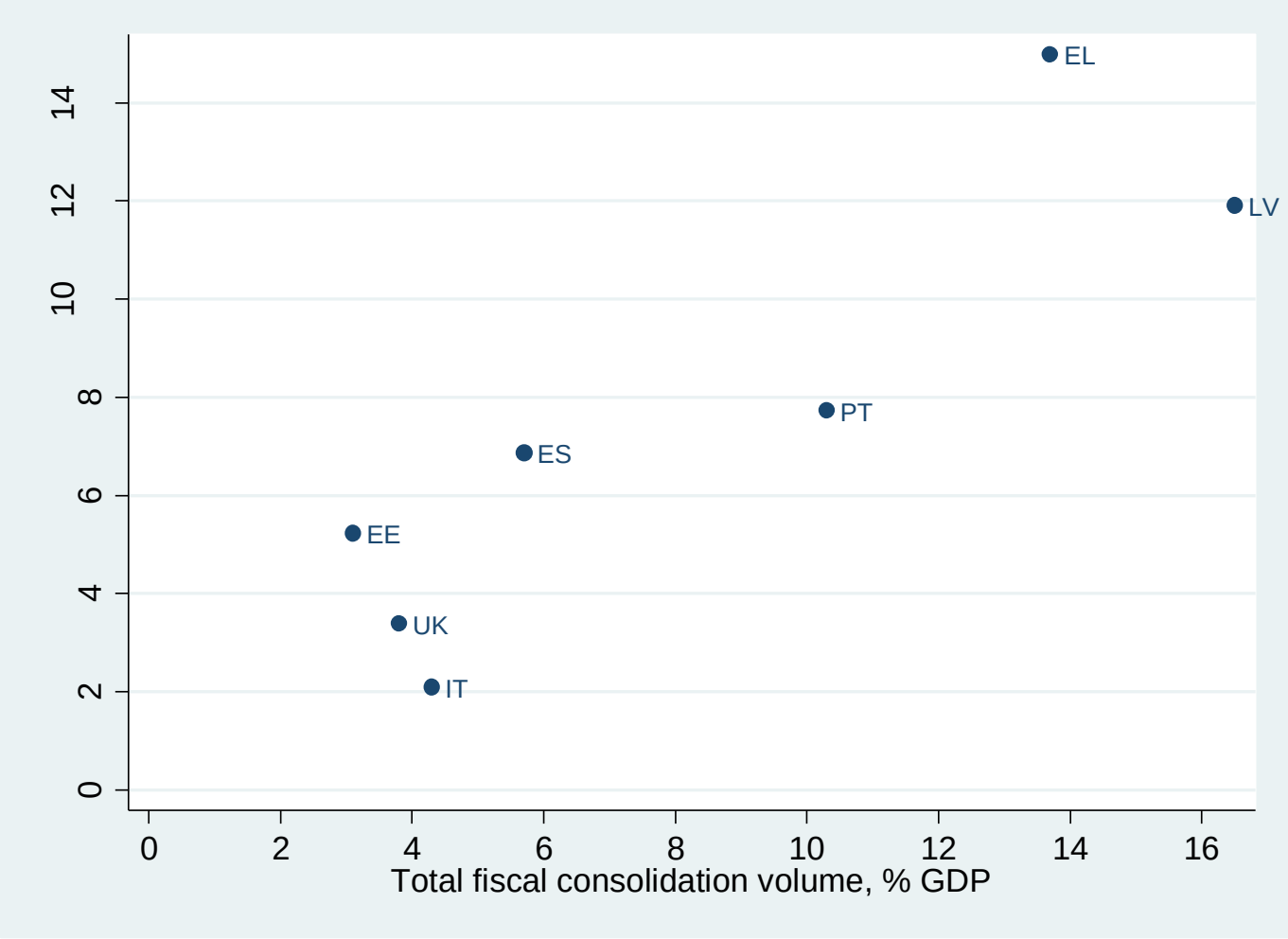
Coverage and data

- 9 countries: Estonia (EE), Greece (EL), Spain (ES), Italy (IT), Latvia (LV), Lithuania (LT), Portugal (PT), Romania (RO) and the UK
- Data: 2008 EU-SILC
  - Market incomes adjusted to 2012 levels
- Measures introduced since 2009-10 (except IT: 2011)
  - Majority: cuts in public wages (or freezing)
  - All: cuts in public pensions/benefits (or freezing)
  - Majority: increased income taxes and worker SIC
  - Some: property taxes
  - All: increased standard rate of VAT
- Interactions between policy instruments
  - Taxes on public wages and (some) benefits; means-testing

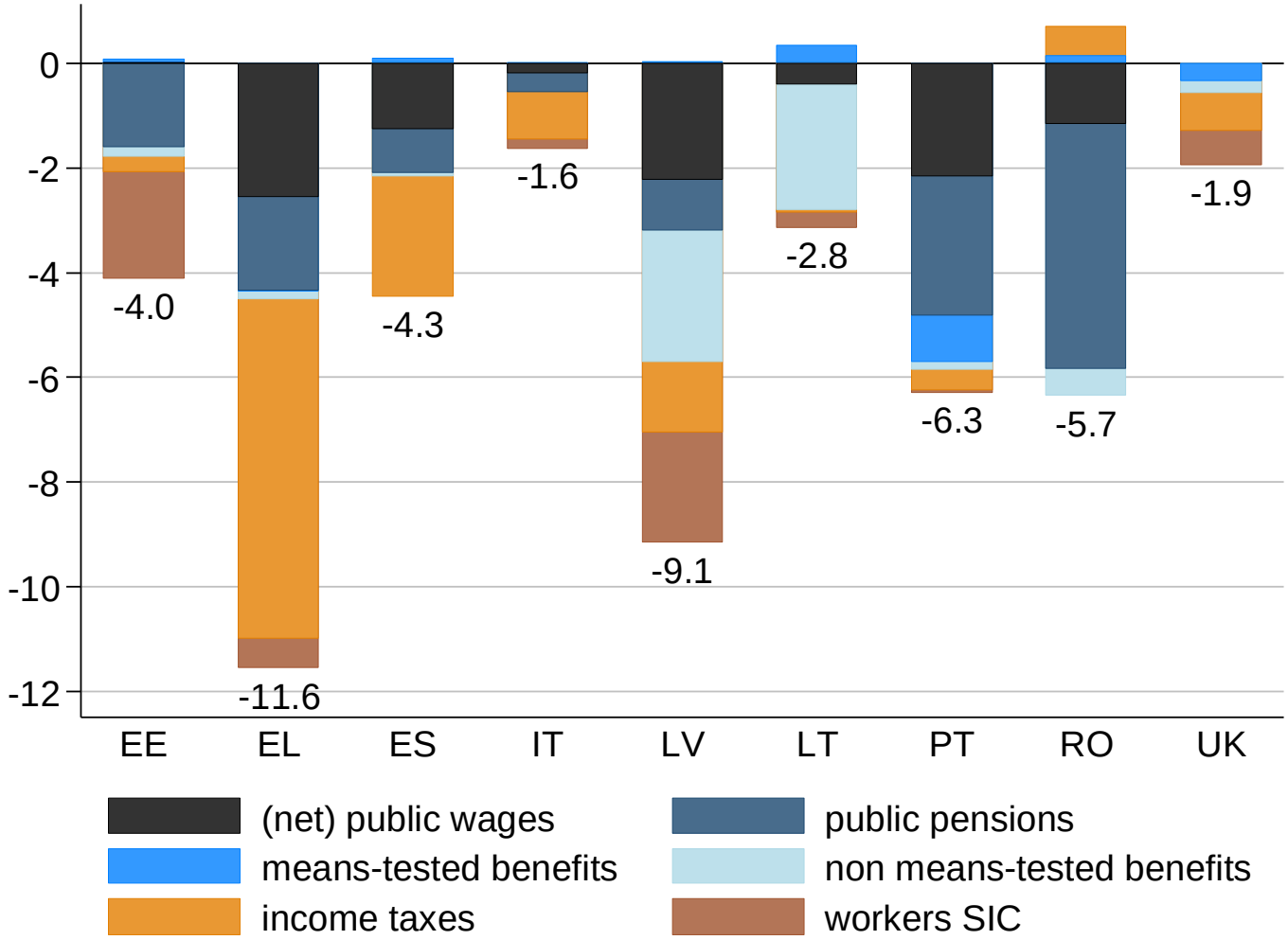
Types of fiscal consolidation measure: summary

Country/ Start of FC measures	EE 09	EL 10	ES 10	IT 11	LV 09	LT 09	PT 09	RO 10	UK 09
Cuts in **benefits or public pensions** (or freezing)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Increased **income taxes** and/or reduced tax concessions	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Increased worker **social insurance contributions** (SICs)	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes
Public sector **pay cuts** (or freezing)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	(Yes)
Increased **employer SICs**	Yes	Yes	No	Yes	No	No	No	No	Yes
Increased **property taxes**	No	Yes	(Yes)	Yes	(Yes)	(Yes)	No	(Yes)	No
Increased standard rate of **VAT**	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Household incomes and total fiscal consolidation

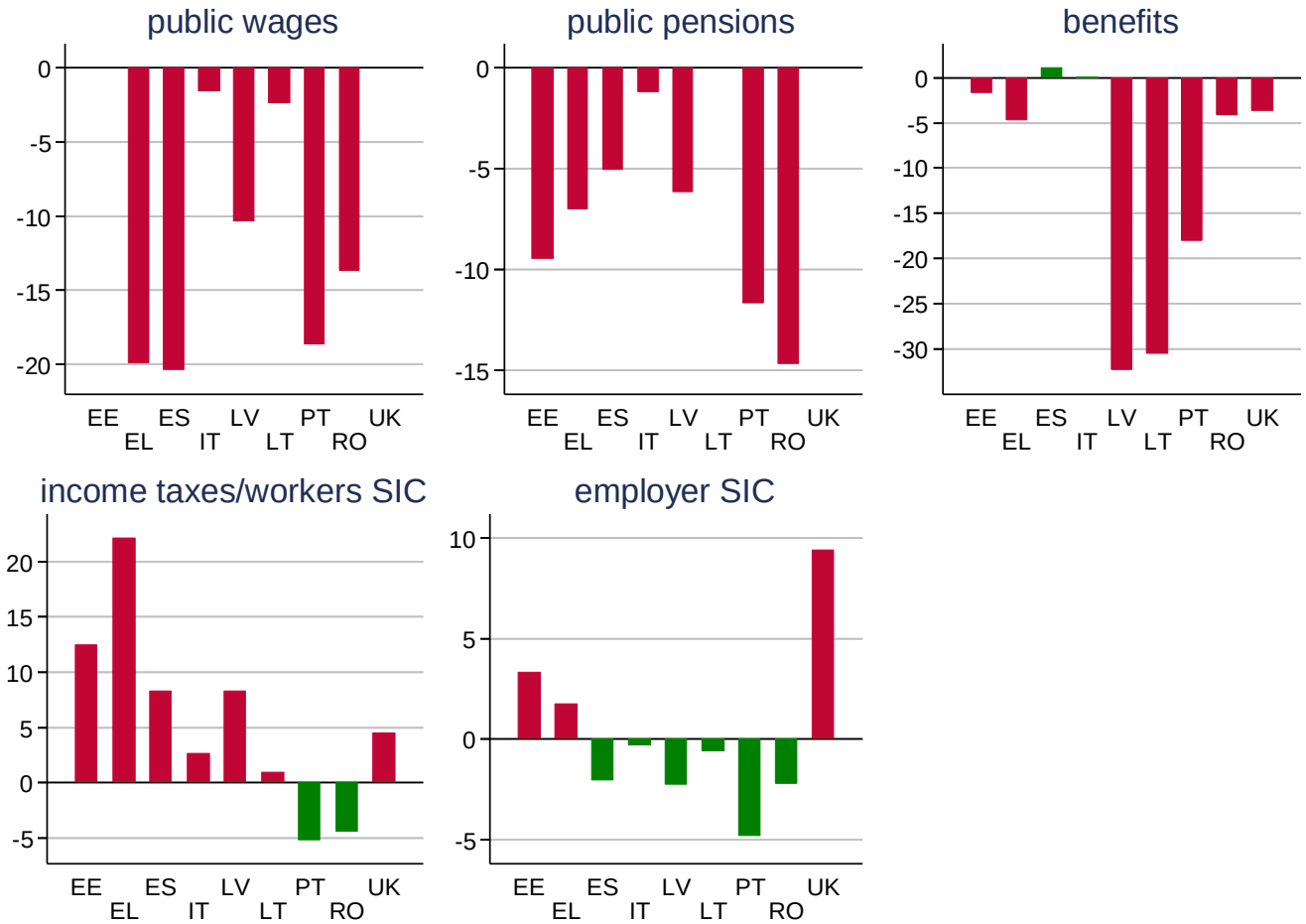


Aggregate change in household disposable income by income component %



Extent of changes by income component %

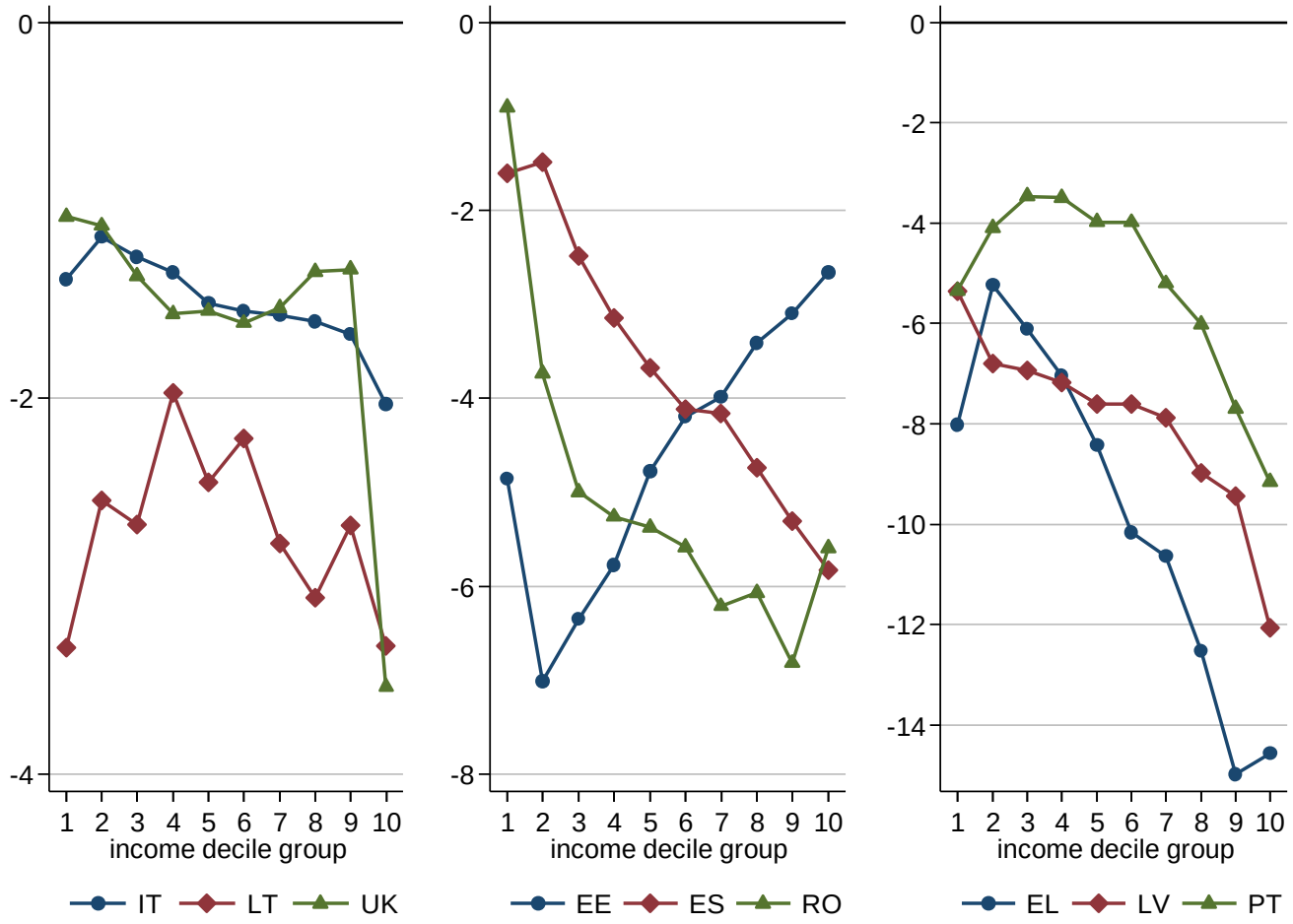
Interval for grid lines: 5pp



Note: results for taxes and benefits also include effects due to the changes in public wages.

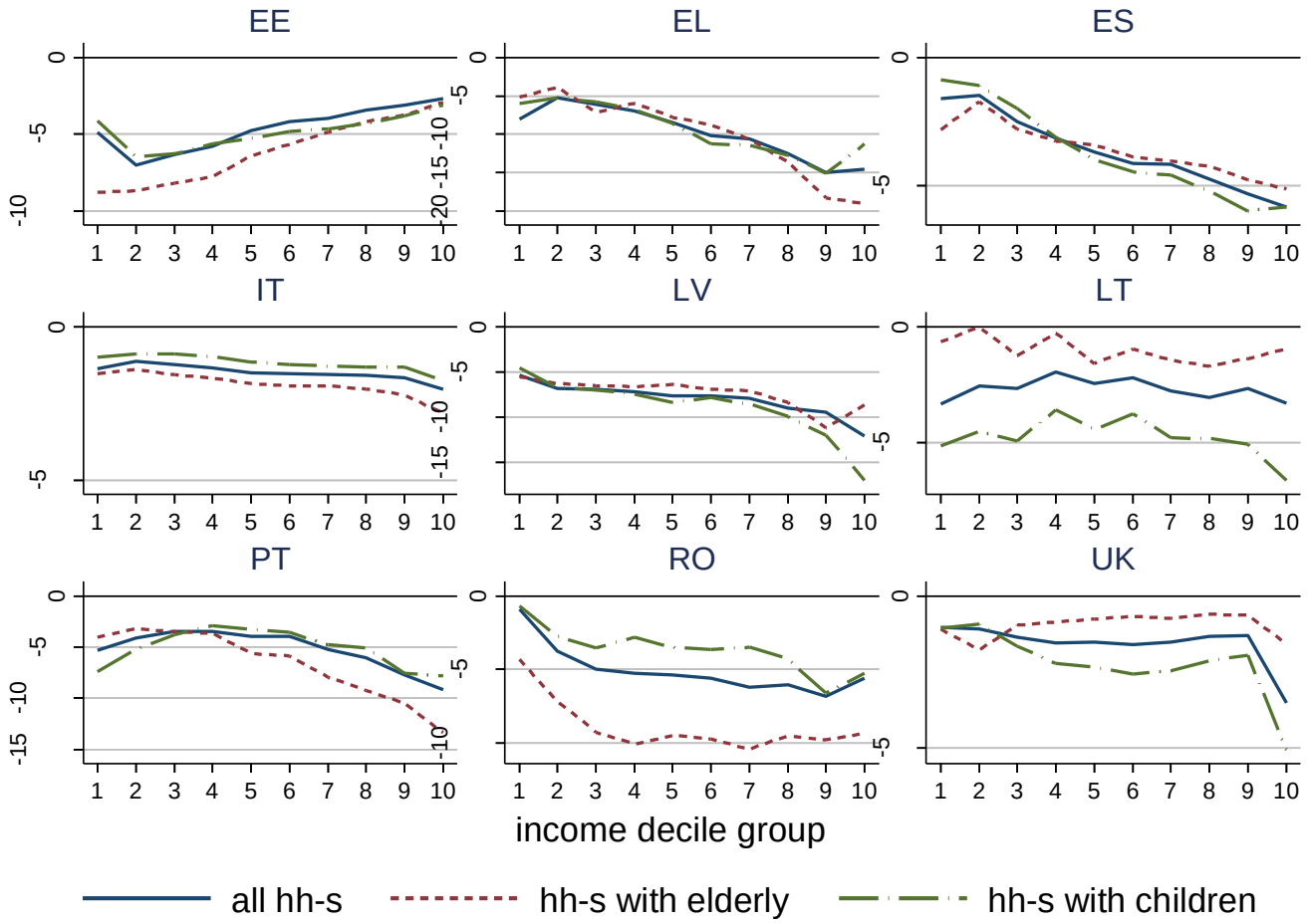
Change in household disposable income by income decile group %

Interval for grid lines: 2pp



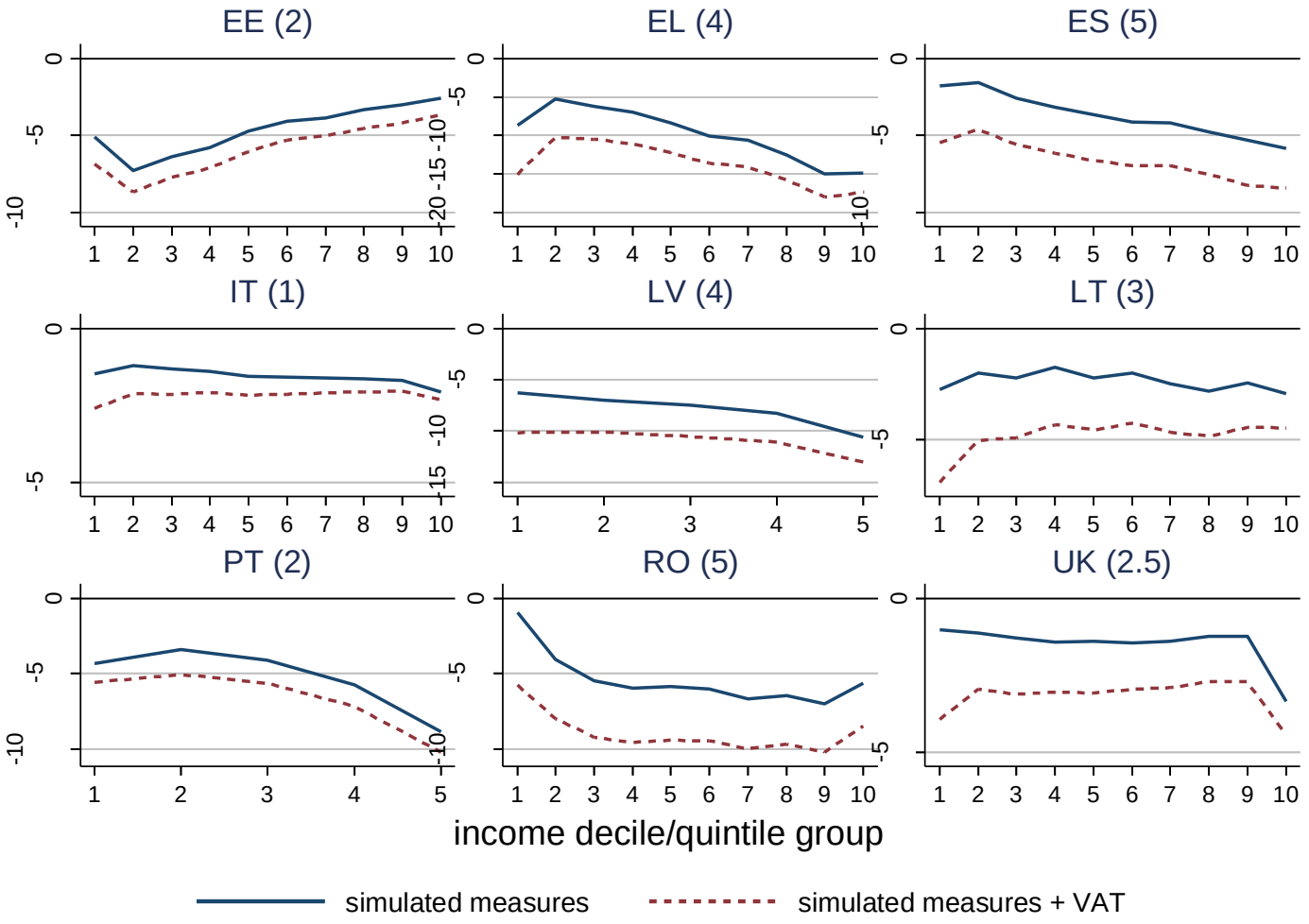
Change in hh disposable income by household type (and by decile group) %

Interval for grid lines: 5pp



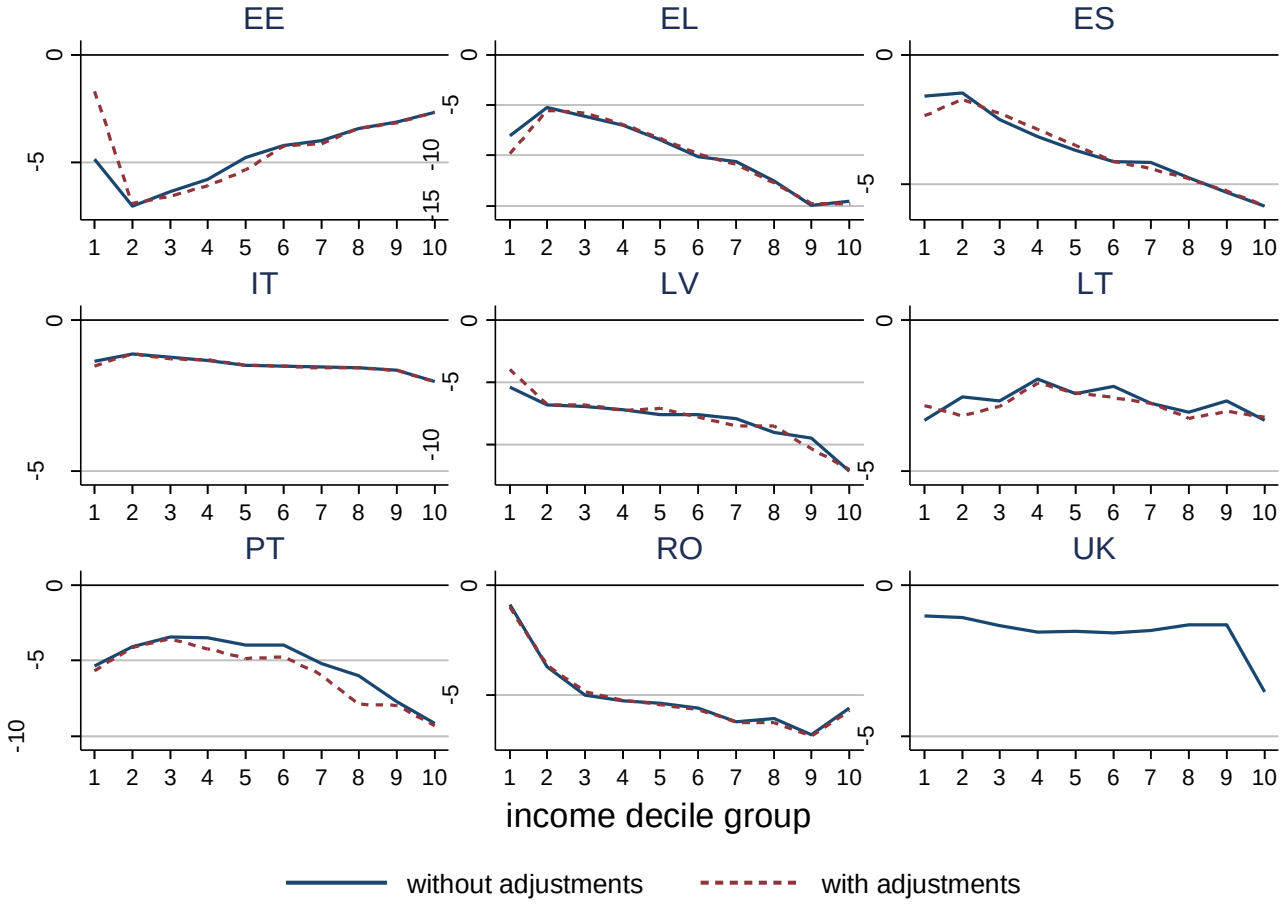
What differences do VAT increases make?

Interval for grid lines: 5pp



Distribution of Austerity measures taking into account Labour Market Adjustments

Interval for grid lines: 5pp



Summary

- Very different design and distributional implications of gov-s choices about fiscal consolidation: effects on income up to mid 2012

Progressive	**Greece** – though large even for bottom decile **Spain** – low income pensioners lose more **Italy** – flat with VAT **Latvia** – top decile children lose more **Romania** – pensioners lose more **UK** – top decile and children lose more
Inverted U-shape	**Lithuania** – children lose more, regressive with VAT **Portugal** – low income children lose more
Regressive	**Estonia** – especially for pensioners

Further research

- Stress teat approach allows us to measure some economic aspects of well-being
  - Risk of unemployment component of the Economic Security domain of the Index of Economic Well-being (Osberg and Sharpe, 2005, 2009)
    - Individual risk of job loss
    - Personal entitlment to UB
    - Individual level of replacement income

- Combining the stress test approach and the analysis of austerity measures in order to have an overall picture of the fiscal consolidation effects and the direct consequences of the wider recession (Leventy and Matsaganis 2011 for Greece)

- Link to the macro literature on fiscal consolidation: does composition matter?

Thank you!

Acknowledgements and further information

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- For more information see www.iser.essex.ac.uk/euromod

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