

Using EUROMOD to “nowcast” the distribution of income in the European Union

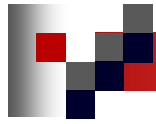
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DG-EMPL conference
Microsimulation for Policymaking in Times of Crisis
21st November 2012, Brussels



What is the aim?

- To address the need for statistics on the current economic situation of EU citizens given the 2-3-year time lag in the production of statistics based on EU-SILC micro-data
- To provide estimates of the direction and scale of movement of key income indicators (median household disposable income, risk-of-poverty, income inequality) since the latest SILC
- To predict what the SILC statistics will show when data on incomes “now” are available. (Not to estimate the actual current income distribution)
- Not a substitute for more timely data collection and processing
- To develop methods that can be applied in all EU27, carried out quickly and updated easily when new data become available



The nowcast

- Using microsimulation (EUROMOD) based on 2008 SILC micro-data plus macro-level statistics that are available for the recent past.
- A methodological paper for the Eurostat NetSILC2 conference in December: nowcasting the 2012 situation using 2008 EU-SILC.
- Some first results: “nowcasts” for 2012 for 8 countries
 - Estonia, Greece, Spain, Italy, Latvia, Lithuania, Portugal and Romania



The Microsimulation Toolbox

1. Start with **calibration** of EUROMOD simulated income to SILC income in the survey income year on a household-by-household basis
 2. **Updating market incomes:** 2008 EU-SILC micro-data with market incomes updated to 2012
 3. **Data adjustments to account for labour market change:** using LFS 2007-2011
 4. **Policy simulations:** EUROMOD 2012 tax-benefit policies
 5. Data adjustments to account for demographic and other compositional changes
 6. Ad hoc and specific adjustments (e.g. increasing pension age)
- We can evaluate the method by comparing 2008, 2009 and 2010 income predictions with what the SILC shows

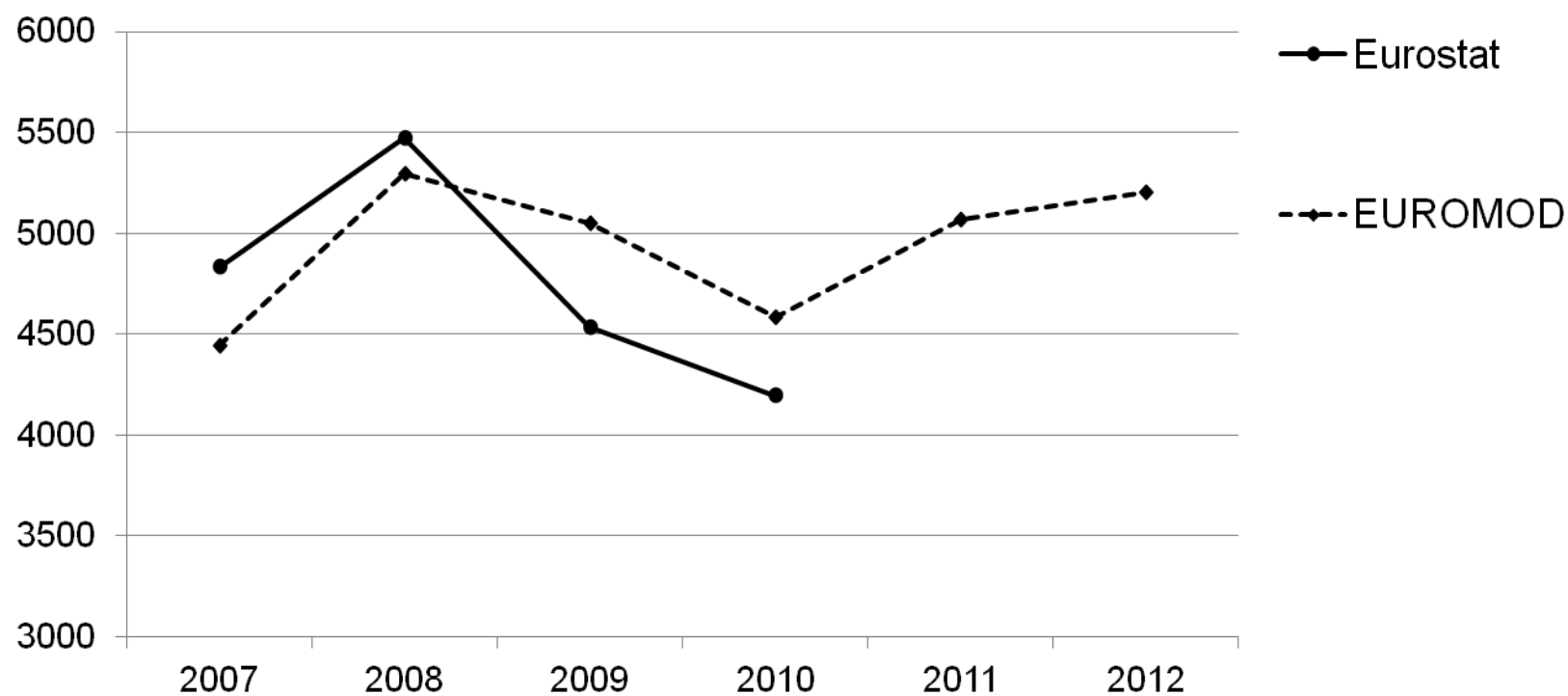


Accounting for labour market change

- Explicit simulation of individual labour market transitions
 - Using EUROMOD to calculate income after transition
- Based on information on employment change from LFS data
 - 2007-2011 annual statistics (kept at 2011 levels for 2012)
 - Employment concepts do not align perfectly between SILC and LFS
 - Aim is not to align LFS and EUROMOD-SILC, but model relative changes
 - Change in employment within 18 strata (age, gender, educational attainment)
 - Also model changes in proportions of long-term unemployed
 - Random draws within strata replicated 200 times

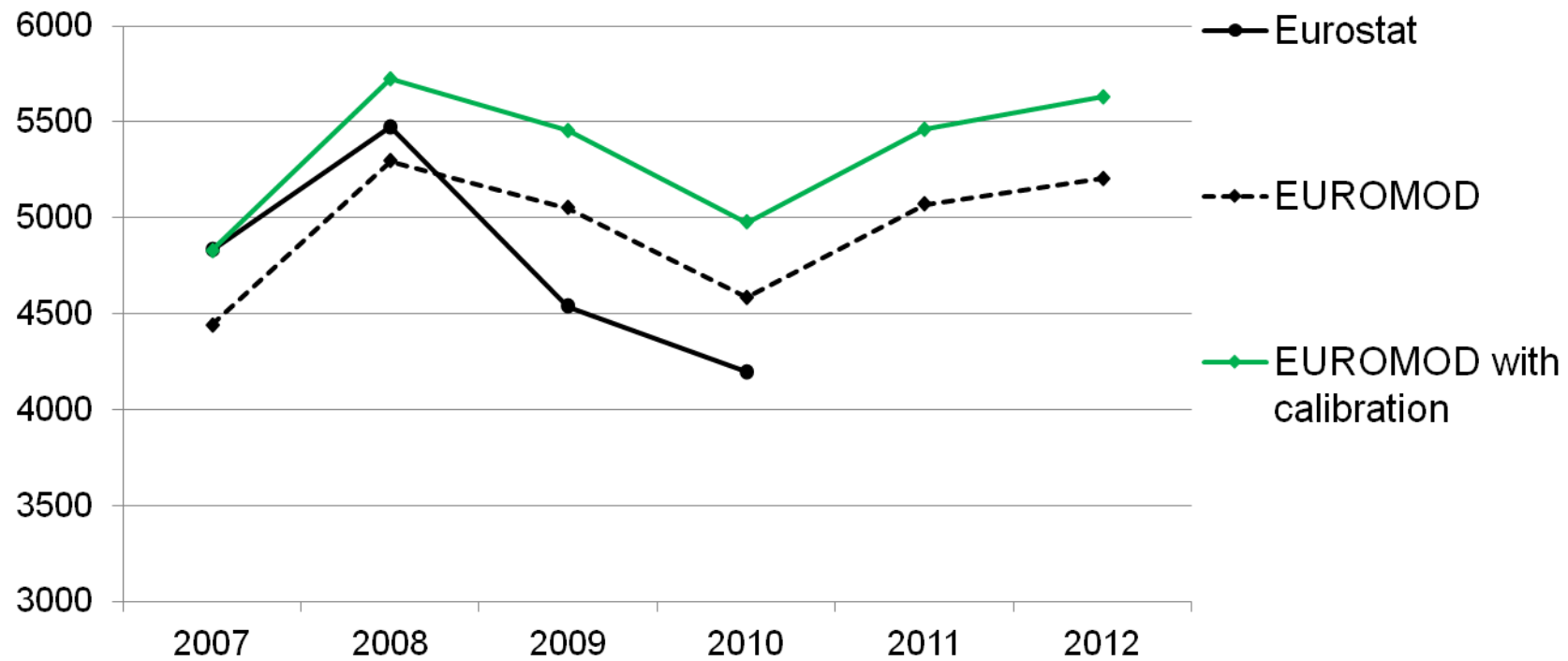
Median income (equivalised household, in Euro/year)

Latvia



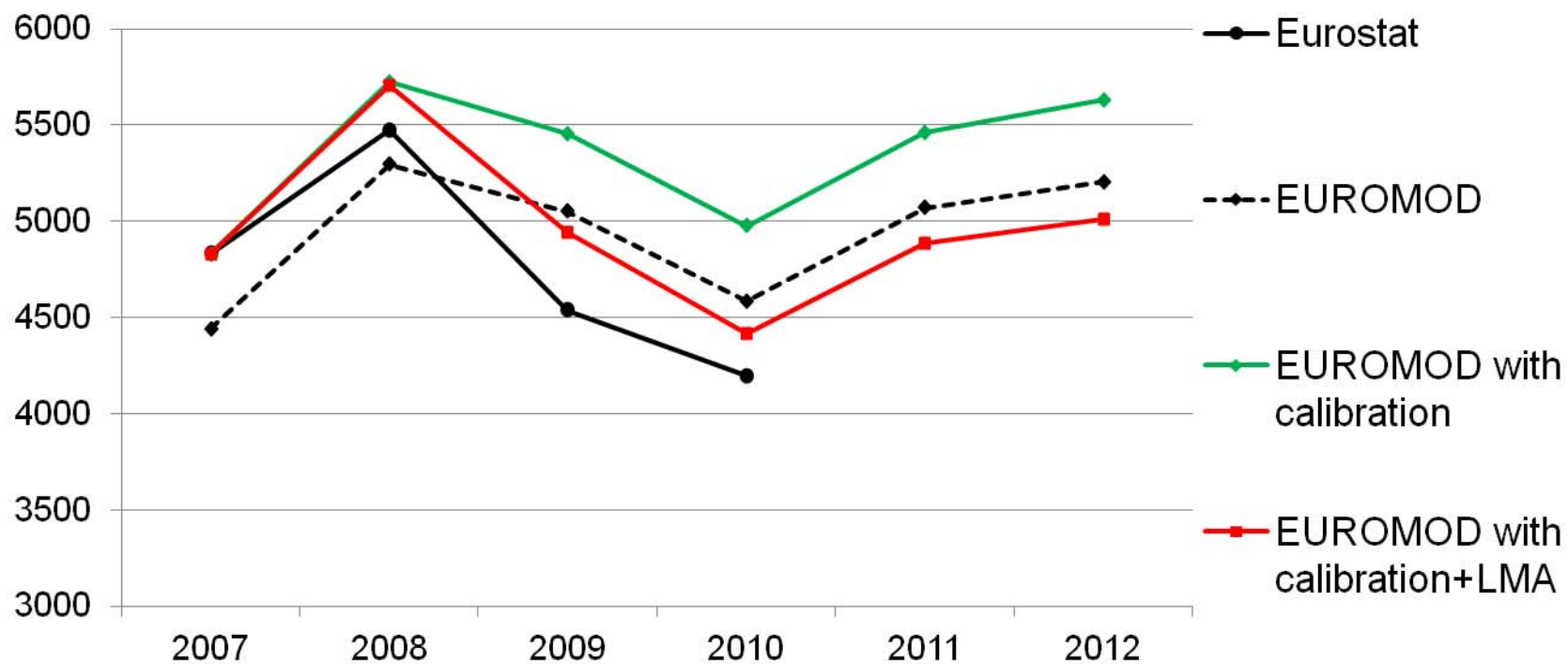
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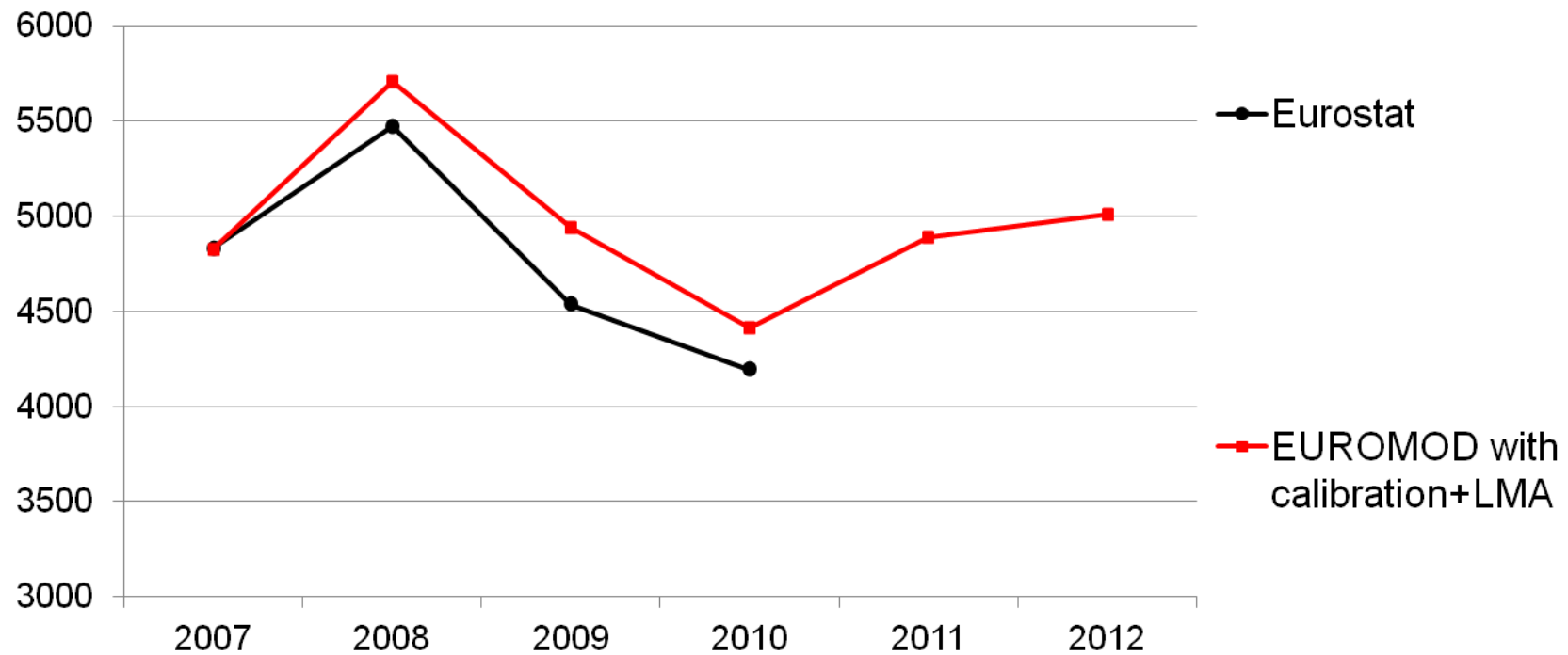
Median income (equivalised household, in Euro/year)

Latvia

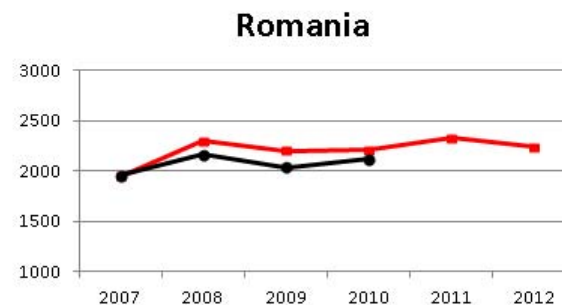
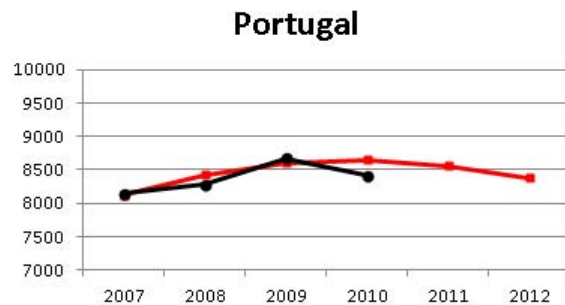
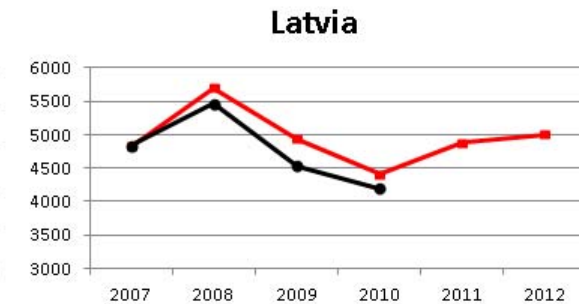
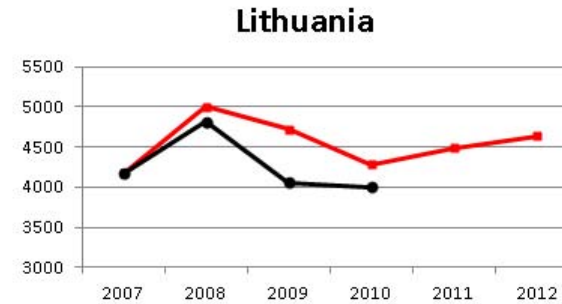
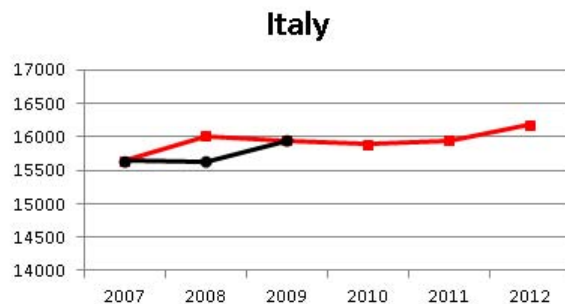
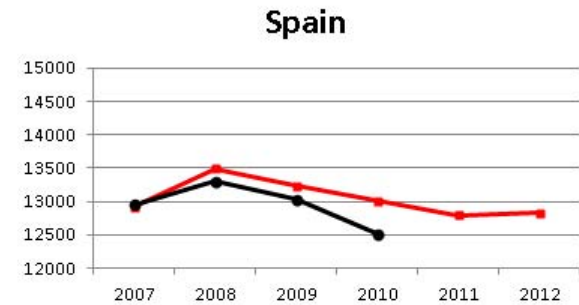
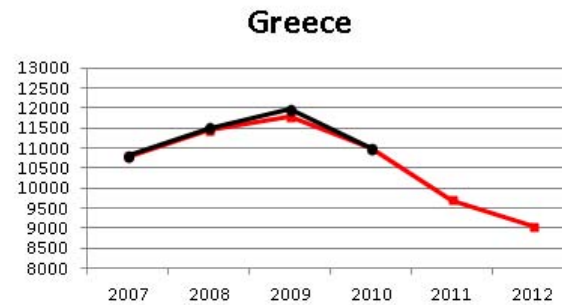
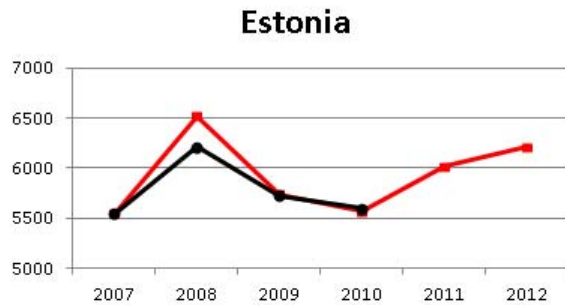


Median income (equivalised household, in Euro/year)

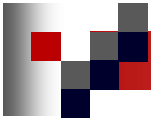
Latvia



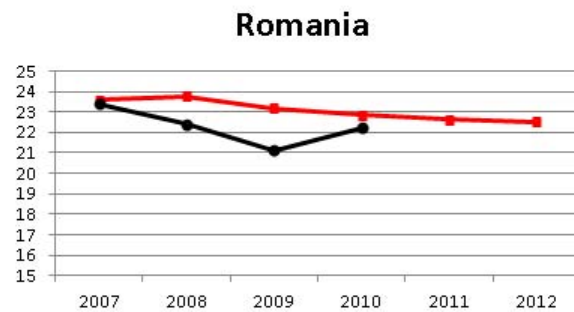
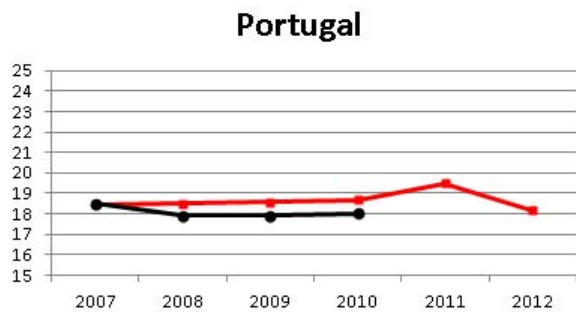
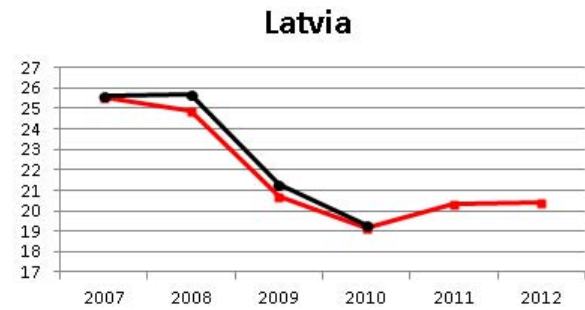
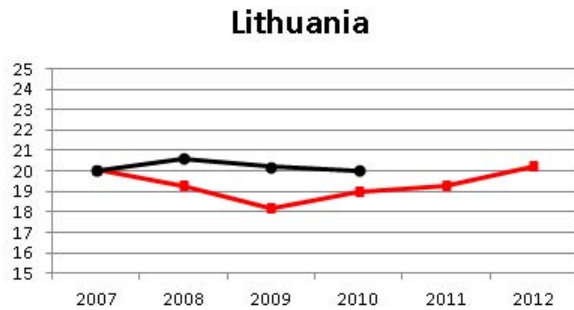
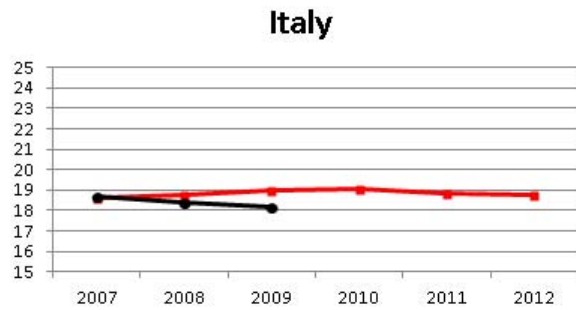
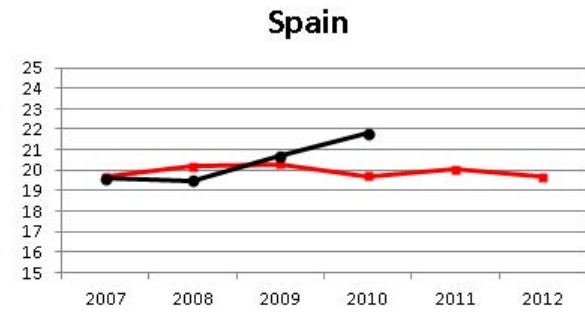
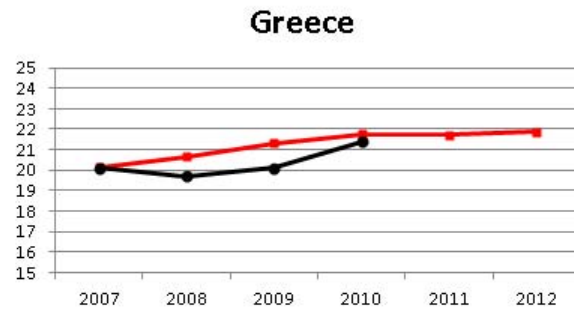
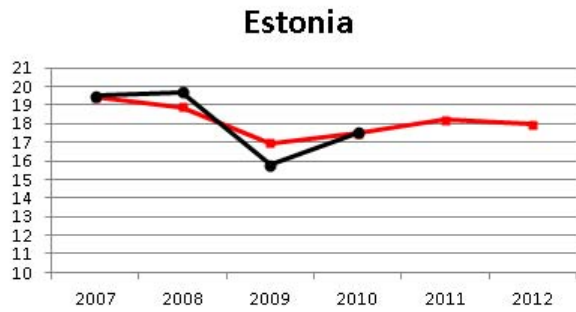
Median income (equivalised household, in Euro/year)



Eurostat
 EUROMOD nowcast



Risk of poverty (60% median)



—●— Eurostat
—■— EUROMOD nowcast



Nowcast 2012

Change in indicator since income year of latest SILC statistics

	Median	Gini (ppts)	AROP60 (all) ppts	AROP60 (<18) ppts	AROP60 (65+) ppts	Period
Estonia	12%	-0.3	0.6	-1.5	7.7	2010-12
Greece	-18%	1.6	0.1	2.3	-8.8	2010-12
Spain	-1%	0.1	0.0	1.0	-3.3	2010-12
Italy	1%	0.2	-0.2	-0.2	0.0	2009-12
Lithuania	8%	0.0	1.3	3.4	1.4	2010-12
Latvia	14%	0.9	1.3	-0.2	7.8	2010-12
Portugal	-3%	-1.4	-0.5	0.0	-2.1	2010-12
Romania	2%	-0.3	-0.3	0.0	-0.3	2010-12



Policy points

- Median income is mainly driven by changes in employment income: EL, PT – pay cuts in public and private sector; EE, LV, LT – post-cuts recovery
- Pensioners are usually protected when employment income falls (EL, ES, PT), but penalized when growth is resumed (EE, LV)
- LT is exception: pensions were cut in the crisis and restored afterwards, but child poverty is affected by cuts in child-related benefits.
- More work is needed to relate nowcast results to other policy changes



Reflections, caveats and next steps

- The nowcasts do not capture all changes
 - Changes in annual earnings except on average (within sectors in some countries)
 - Changes in household composition, either on trend or as a reaction to the crisis, policy reforms etc
 - Changes in demographics
- They could capture more, with the right timely macro-statistics
- We have chosen a particularly difficult period in which to test the methodbut this is a time when it is important to know about the current conditions and the direction of change
- Microsimulation (EUROMOD) offers the potential to
 - Understand which changes made the most difference
 - Consider alternative policy scenarios.