

# Comments on "Potential output and private investment in a late-crisis world" by Roberto Garcia-Saltos and Daniel Leigh

Zsolt Darvas

Bruegel

29 April 2015, Brussels, Bruegel

# Potential output estimates: some issues 1.

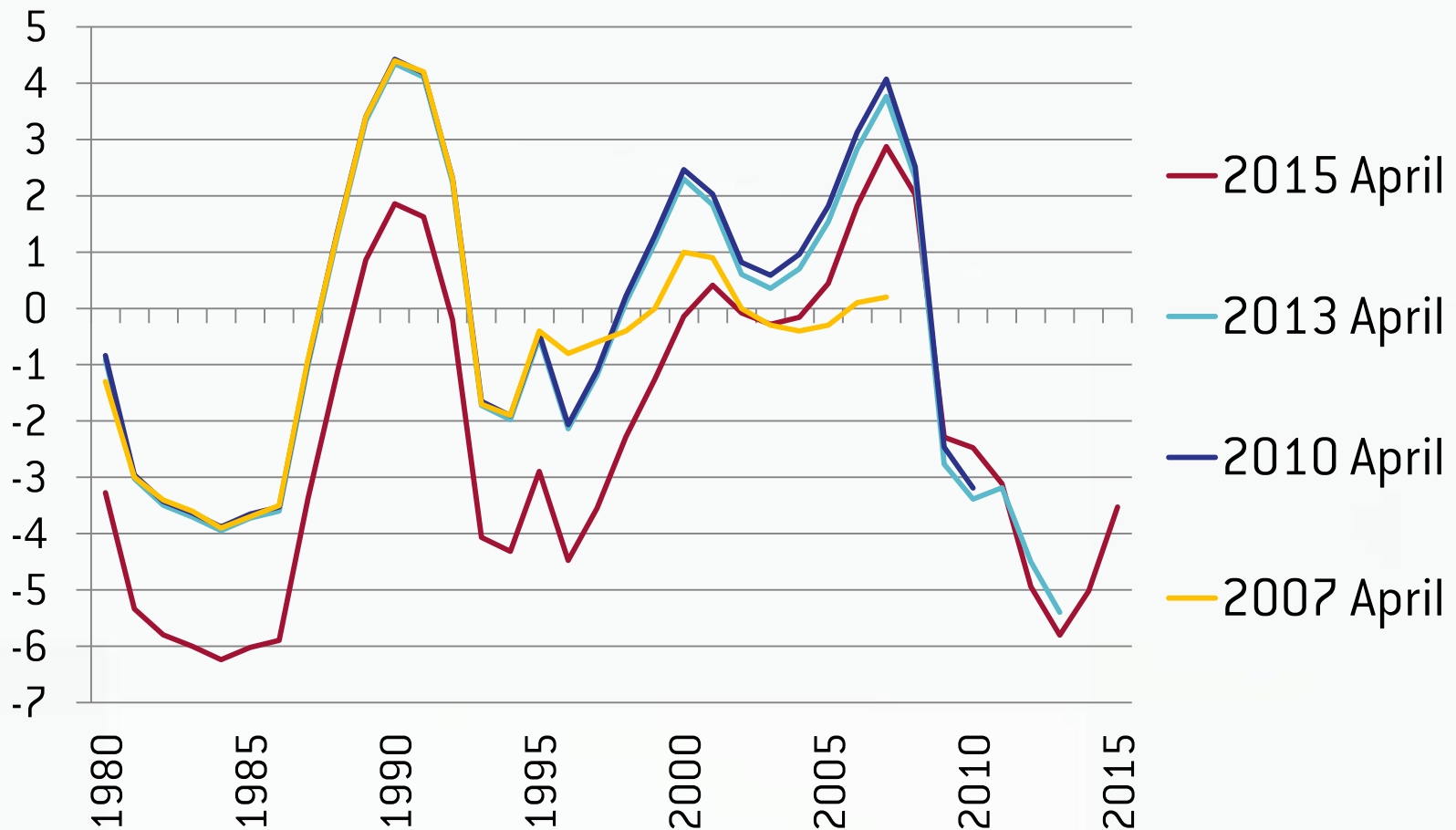
- **Conclusions as good as the underlying estimate**
- **Methodology is built around a production function**, based on:
  - potential employment (NAIRU, trend participation rate, working age population)
  - actual capital stock
  - trend productivity (TFP as residual)
- **Problems:**
  - Uncertainty of NAIRU estimates
  - Are all forms of capital equally productive and is capital reallocation across branches of the economy smooth?
  - Should TFP and potential output be smooth? New-Keynesian definition: output corresponding to flexible price level → more volatile than actual output

## Potential output estimates: some issues 2.

- **Open economy considerations**
  - Tradable goods blurs the relationship between excess demand and employment/inflation. Acceleration of inflation may be postponed by exchange rate developments or a favourable market sentiment
  - Cross-country spillovers
- **Model of Darvas and Simon (2014)**
  - the effects of excess demand is not symmetric across the tradable and non-tradable sectors, because foreign supply can fill the gap between demand and supply in the tradable sector, but not in the non-tradable sector
  - excess demand may manifest itself in the deterioration of the trade balance, parallel to, or even without, the increase of inflation
  - Consider the output gap of the rest of the world

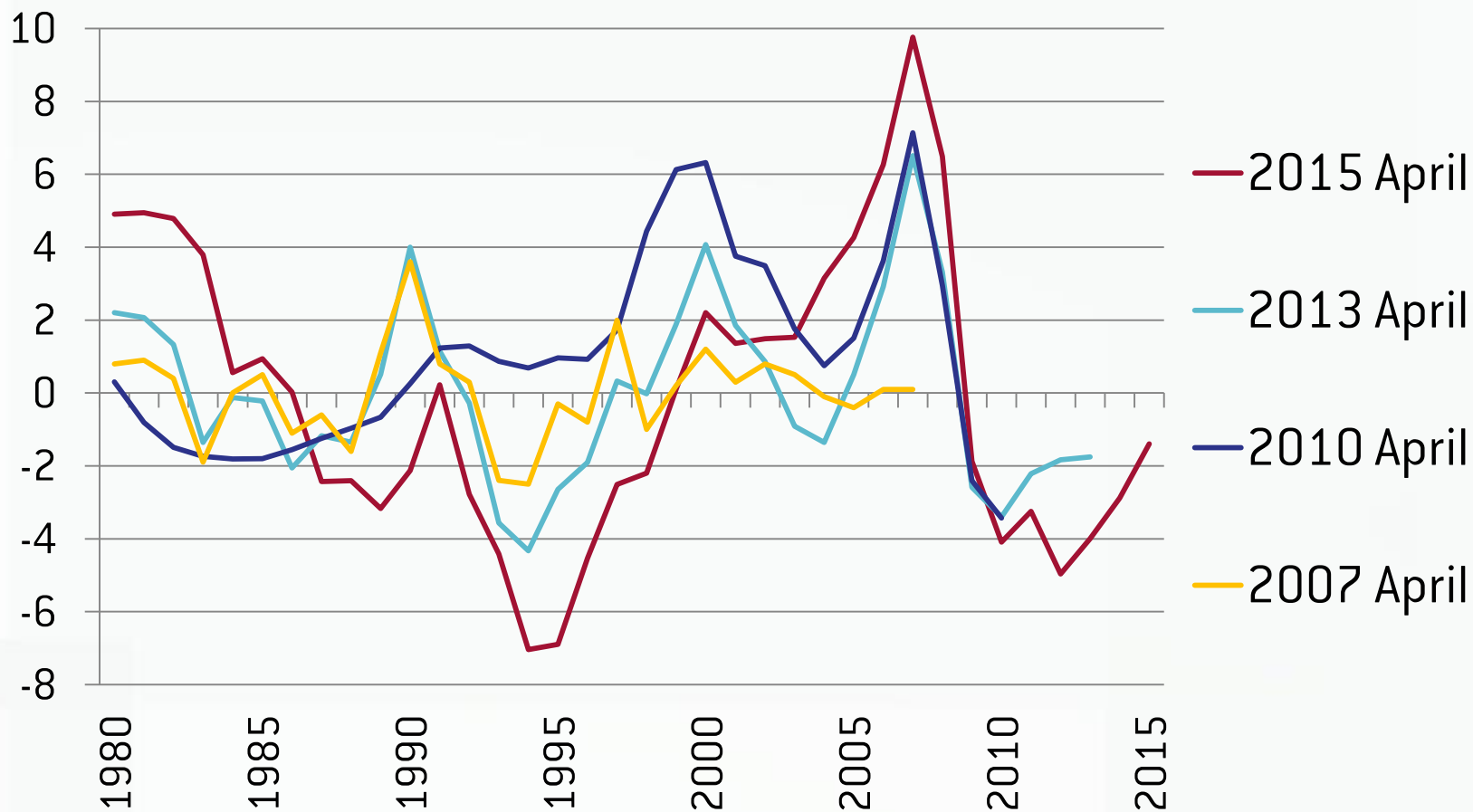
# Spain: revision of IMF's output gap estimates

Spain: Output gap estimates by the IMF at different dates



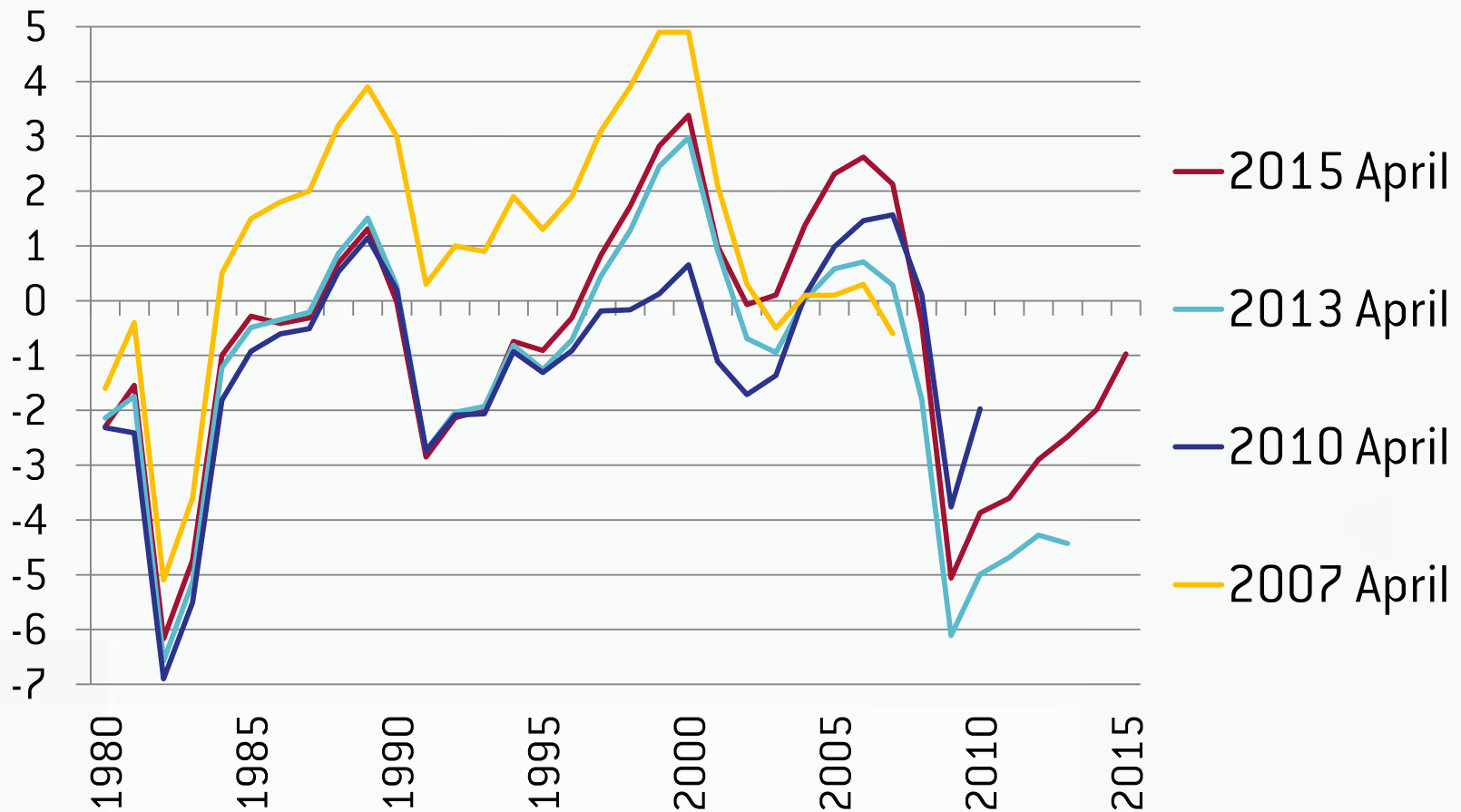
# Ireland: revision of IMF's output gap estimates

Ireland: Output gap estimates by the IMF at different dates



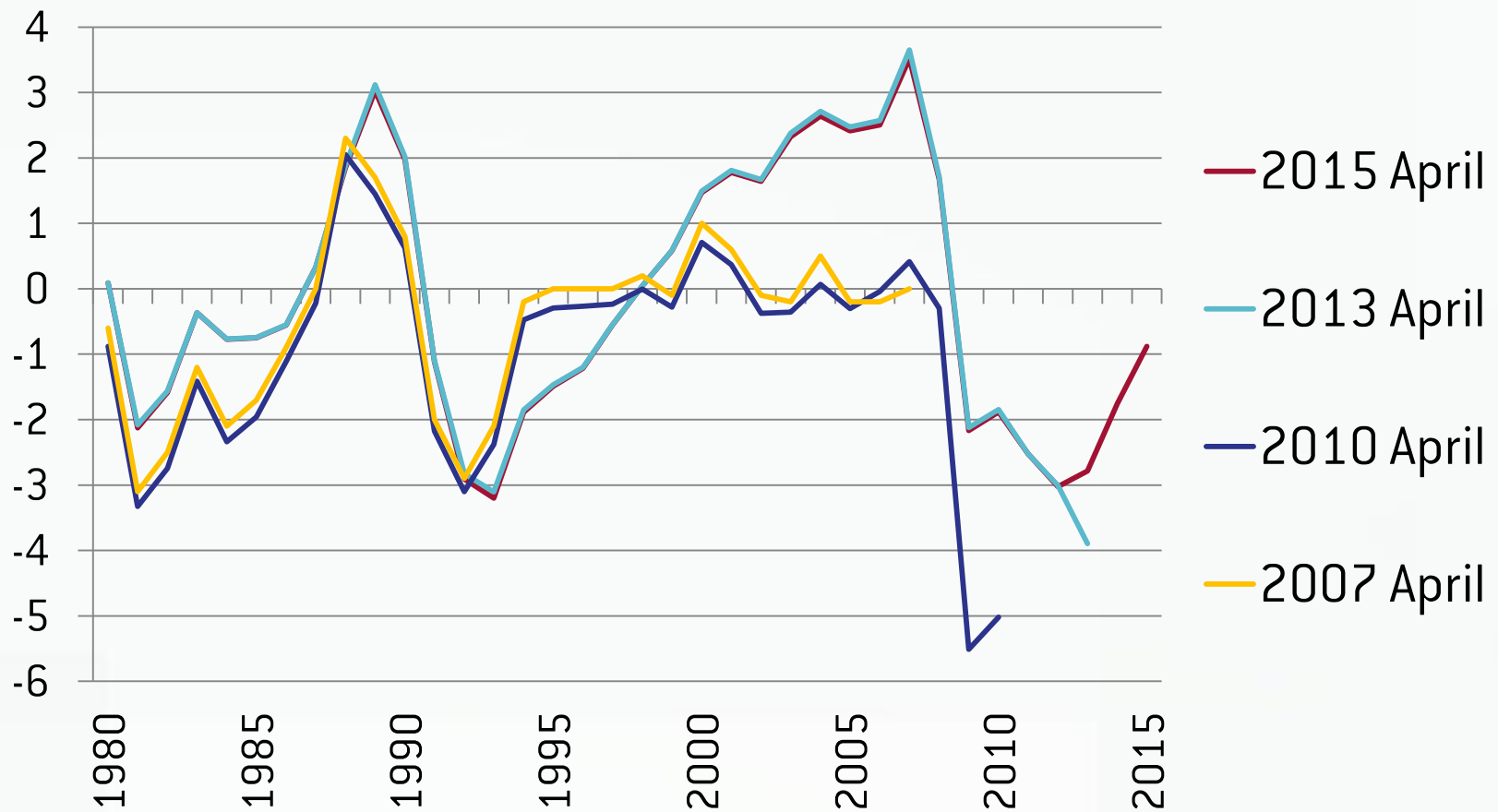
# United States: revision of IMF's output gap estimates

US: Output gap estimates by the IMF at different dates



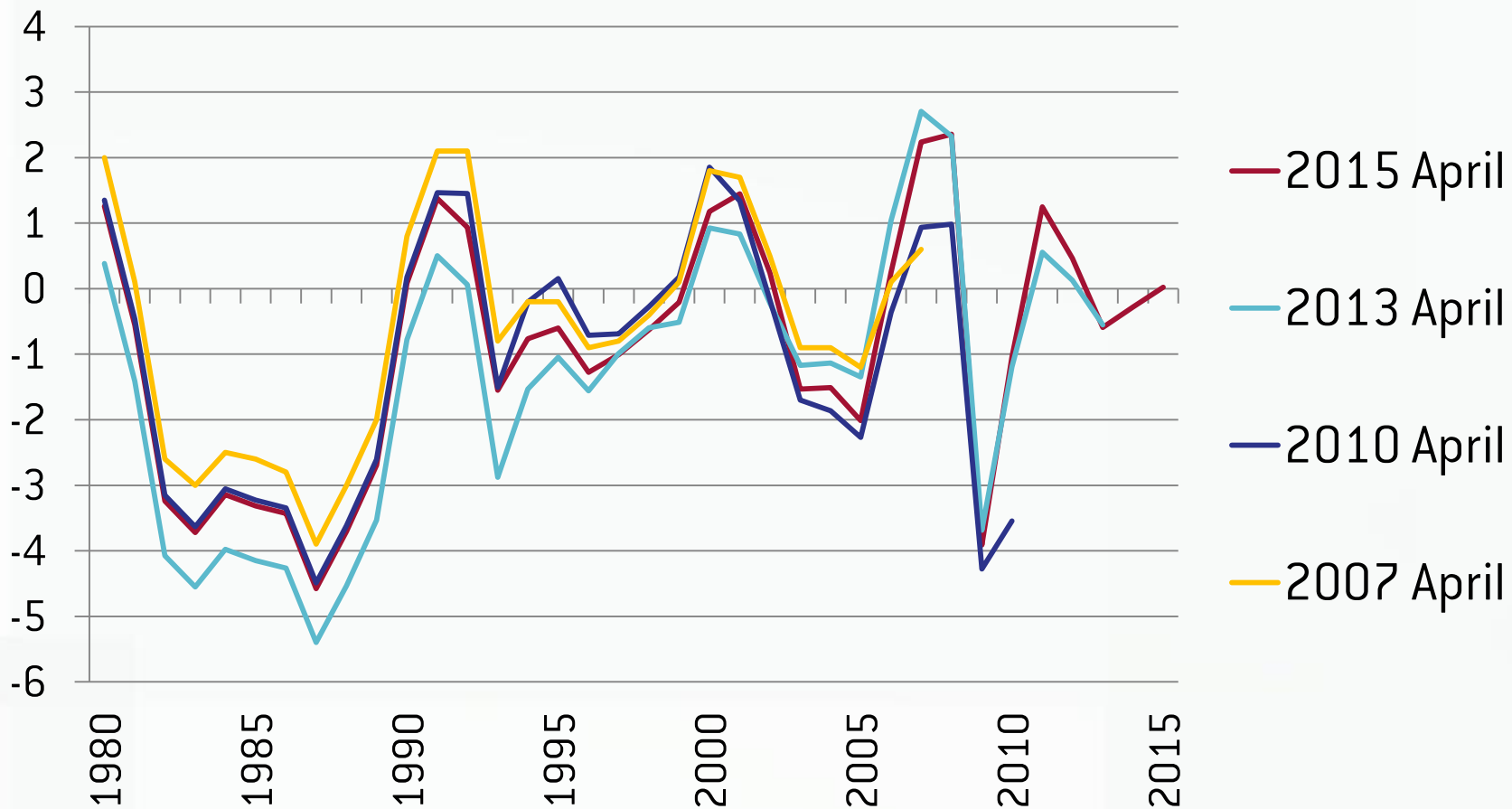
# United Kingdom: revision of IMF's output gap estimates

**UK: Output gap estimates by the IMF at different dates**



# Germany: revision of IMF's output gap estimates

Germany: Output gap estimates by the IMF at different dates





# Sketch of the Darvas and Simon (2014) model

## *Observation equations*

- **The economic model (observation equations of the state-space representation):**

$$\pi_t = \beta_0 + \beta(L)\pi_t + \beta_{gap}(y_t - \bar{y}_t) - \beta_{rer}(r_t - \bar{r}_t)$$

$$\tau_t - \bar{\tau}_t = \gamma_0 - \gamma_{gap}(y_t - \bar{y}_t) + \gamma_{wgap}(y_t^{(w)} - \bar{y}_t^{(w)}) - \gamma(L)(r_t - \bar{r}_t)$$

where

$\pi_t$  inflation rate

$\tau_t$  current account balance/GDP;  $\bar{\tau}_t$  is its intertemporal optimum

$y_t$  log of GDP;  $\bar{y}_t$  sustainable output

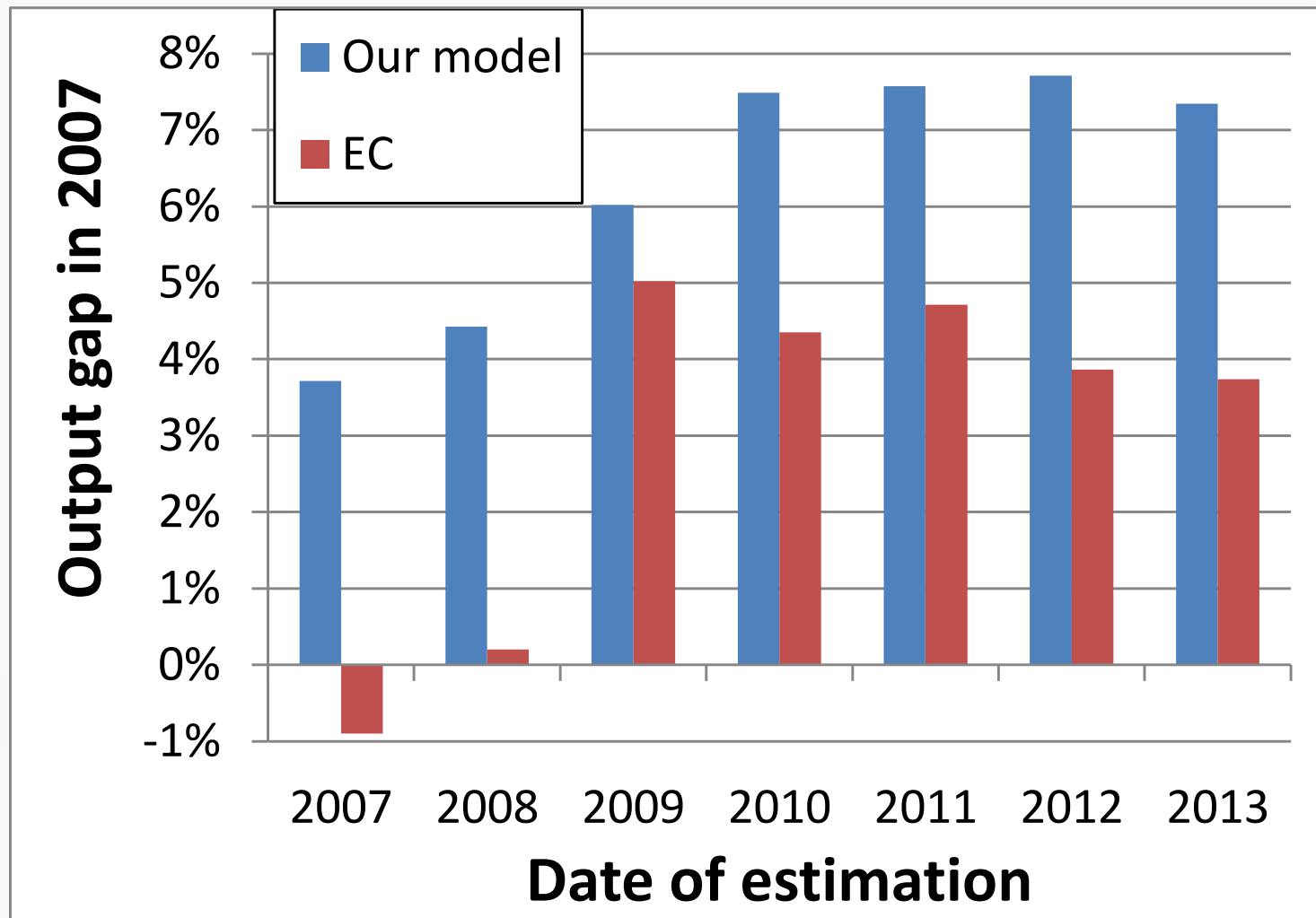
$r_t$  log of real exchange rate;  $\bar{r}_t$  equilibrium real exchange rate

→ Note: verticality of the long-term Phillips-curve:  $\beta(1)=1$  &  $\beta_0=0$

# Estimates for the 2007 output gap at different dates

*Comparison of Darvas and Simon with European Commission estimates*

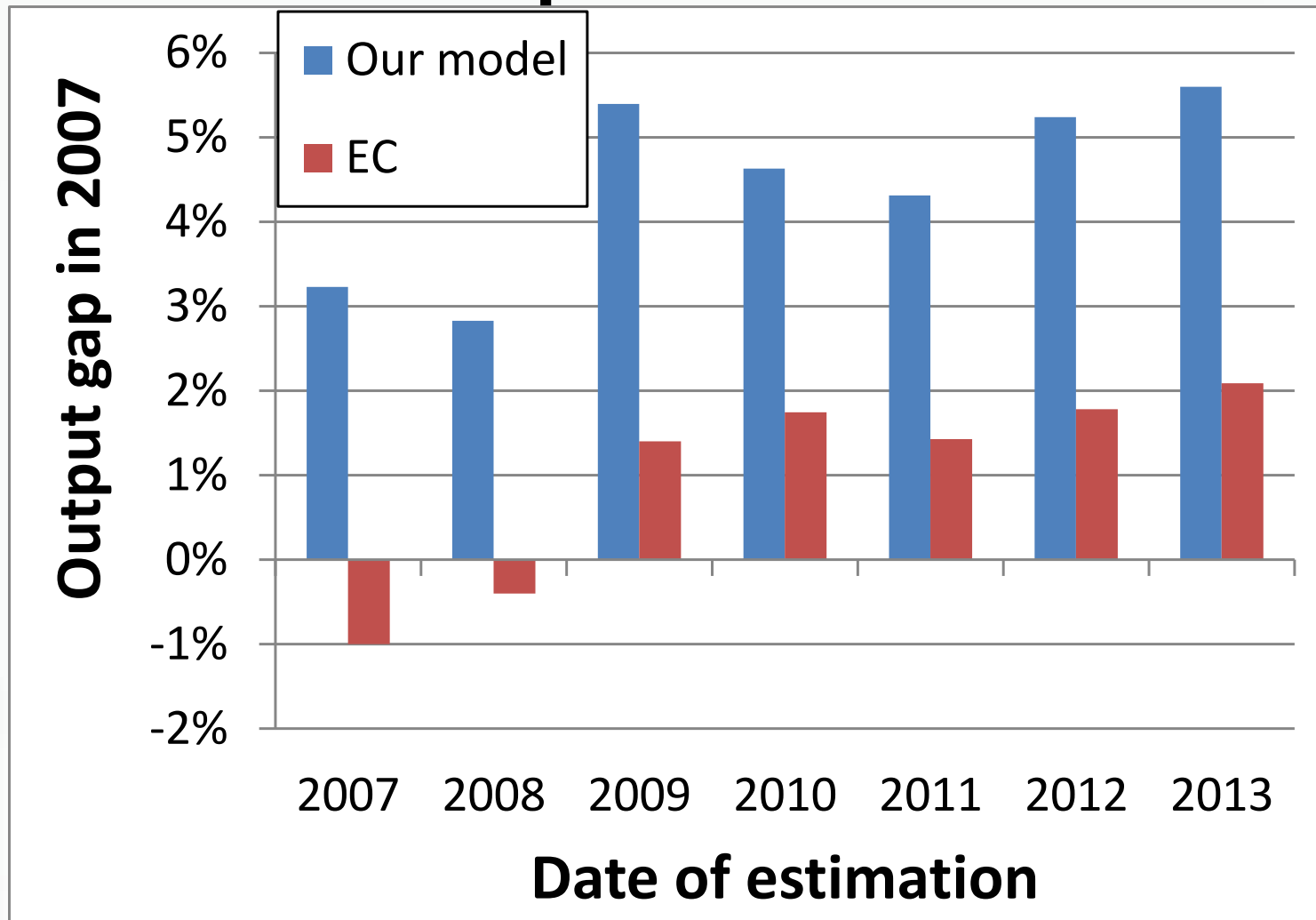
## Ireland



# Estimates for the 2007 output gap at different dates

*Comparison of Darvas and Simon with European Commission estimates*

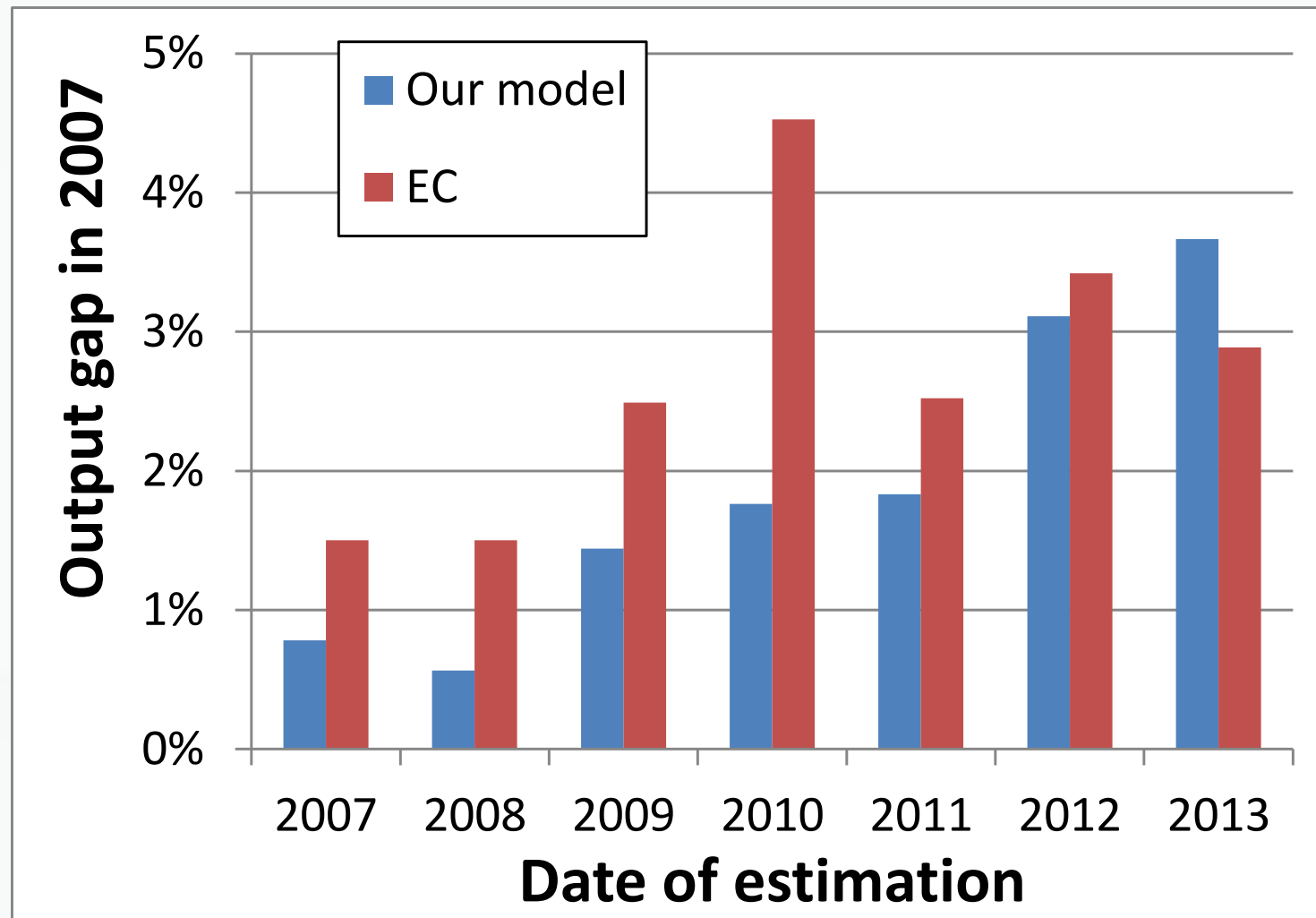
## Spain



# Estimates for the 2007 output gap at different dates

*Comparison of Darvas and Simon with European Commission estimates*

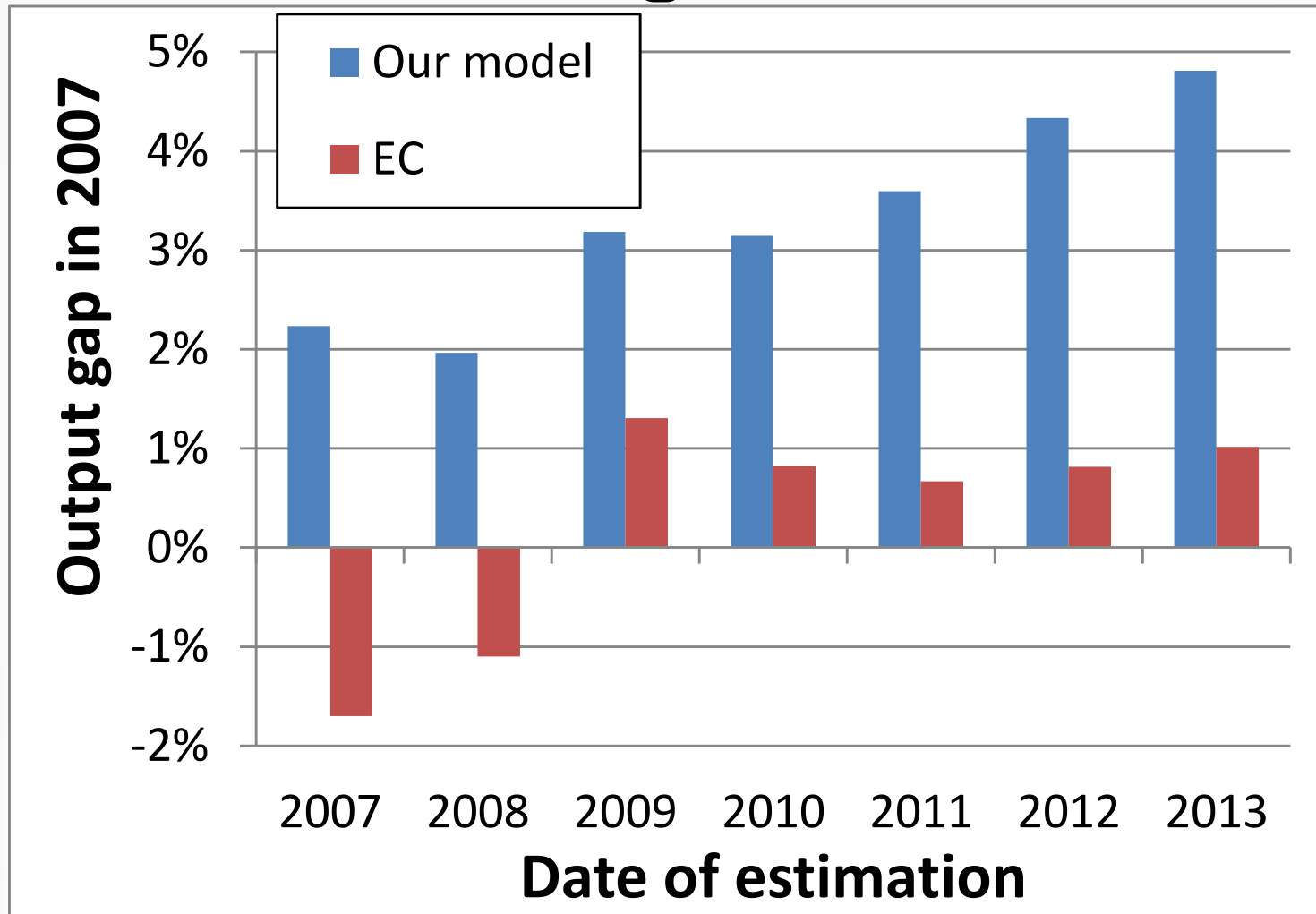
## Greece



# Estimates for the 2007 output gap at different dates

*Comparison of Darvas and Simon with European Commission estimates*

## Portugal



# Some further comments

- **What explains the movements of:**
  - TFP
  - potential labour
  - capital?
- **Policy measures to boost potential growth**

**Thank you for your attention**

*[zsolt.darvas@bruegel.org](mailto:zsolt.darvas@bruegel.org)*