

Panel Session: Brexit - Implications for the World Economy

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Introduction

- UK will trigger Article 50 of the Treaty of European Union before March 2017
 - Under Article 50 the timescale for negotiations is two years
- Considerable uncertainty as to the final agreement between the EU and UK
- Economic impact of Brexit will ultimately depend on the UK's new relationship with the EU

Agenda

- Most research has focussed on the impact of Brexit on the UK
- What about the impact on other countries?
- Impact of Brexit on Irish Economy
 - UK is (Rep. of) Ireland's closest economic partner
 - Ireland is likely to be hit particularly hard relative to other EU countries as a result of Brexit (Scoof *et al.*, 2015)
 - Barrett *et al.* (2015) identify four key economic linkages between Ireland and UK (trade, foreign direct investment, energy and migration) and argue that the most significant impact of Brexit will be on trade
- Model the impacts of various Brexit scenarios on Ireland using COSMO (**CO**re **S**tructural **MO**del of the Irish Economy)

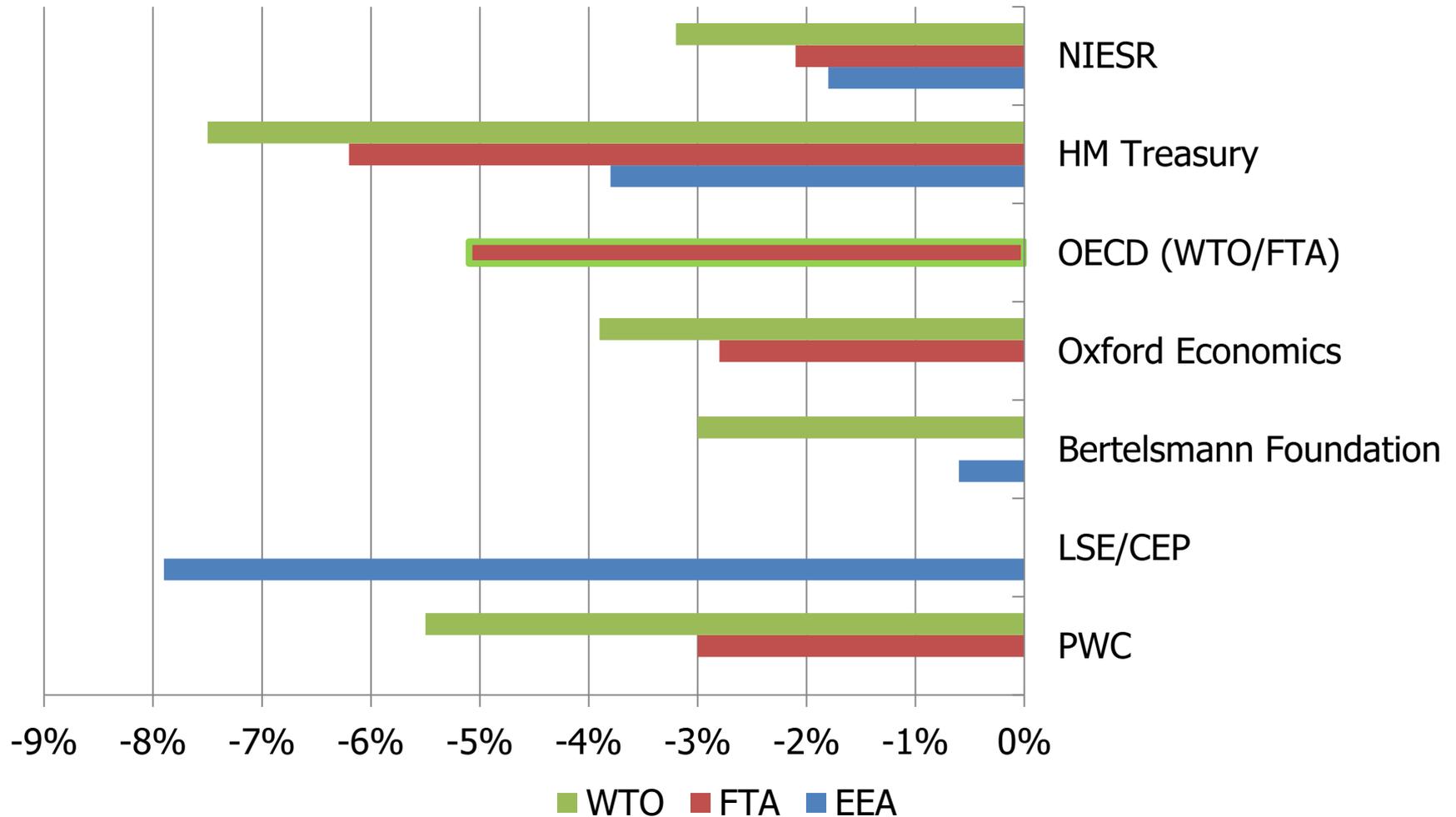
Possible Outcomes

- Existing options:
 - Norway (EEA)
 - Switzerland (series of bilateral agreements)
 - WTO rules
- Bespoke deal:
 - Continental partnership (Bruegel, 2016)

Macroeconomic Impact of Brexit on UK

- Strong (but not unanimous) consensus that leaving the EU will have negative impact on the UK
 - Short term (via uncertainty)
 - Long term impacts (via trade, FDI, migration..)
- Most studies consider a number of scenarios that cover the range of possible outcomes and compare them to a counterfactual of staying in the EU
 - Differ with respect to the underlying assumptions and the number of channels considered
- Several studies (OECD, HM Treasury, NIESR) use NIESR's multi-country NiGEM model

Long term impact of Brexit on UK GDP



Ireland's links with UK: Trade

- Exports to the UK account for a significant but declining share of Irish trade
 - 14% of goods and 20% of services exports are to UK
 - Closer to 50% in 1973 when Ireland and UK joined EEC
 - Compares with 40% of goods and 38% of services exports to the EU excl. UK
 - The importance of the UK as a trading partner differs significantly across sectors and products
- Imports from the UK are also significant
 - 26% of goods and 10% services imports are from UK
 - Compares with 35% of goods and 31% of services imports from EU excl. UK

Ireland's links with UK: Migration

- Long-standing freedom of movement for Irish and British citizens between the Republic of Ireland and the UK (predates EEC)
 - Uncertainty about future arrangements
- Large migratory flows between Ireland and the UK and these flows are in part related to economic conditions
- Migration has acted as an important 'safety valve' for the Irish economy in times of high unemployment (see e.g. Honohan, 1984; Honohan 1992)
- Brexit could divert immigration to Ireland
 - Migration can be part of a process of investment in human capital. Good English language skills are a valuable form of human capital.

Ireland's links with UK: FDI



- EU membership has been a key factor in attracting FDI to the UK
- The UK outside the EU would be less attractive because of uncertainty and reduced EU market access
- On the basis of patterns of the location choice of new FDI projects in Europe over the past ten years, the expected additional attractiveness of Ireland to new FDI projects is likely to be small (Barrett *et al.* 2015)
- Corporate tax reforms in the UK are likely to increase the attractiveness of the UK to FDI while their negative impact on Ireland's attractiveness is expected to be small (Barrett *et al.* 2015)

What is COSMO?

- **CO**re **S**tructural **MO**del of the Irish economy
- Theoretical structure with econometrically estimated parameters and dynamics
- Designed for medium-term projections and scenario studies
- Single country model
- ROW exogenous (projections of key external variables from NIESRs NiGEM model)
- Explicit modelling of both current production and demand
- 3 production sectors (traded, non-traded and government)

COSMO Structure – Capacity

- Underlying production function drives medium-term growth
- Productive capacity in each sector (TR, NT, GV) is described by a 3-factor normalised nested (KE) L CES production function:

$$Y_i = \gamma_{1i} [\delta_{1i} Z_i^{-\rho_{1i}} + (1 - \delta_{1i})(L_i e^{\lambda_i t})^{-\rho_{1i}}]^{-1/\rho_{1i}}$$

$$Z_i = \gamma_{2i} [\delta_{2i} K_i^{-\rho_{2i}} + (1 - \delta_{2i}) E_i^{-\rho_{2i}}]^{-1/\rho_{2i}}$$

- Estimated/ calibrated for each sector using approach from Barrell and Pain (1997)
- Factor demands derived from FOC of sectoral production function profit max condition

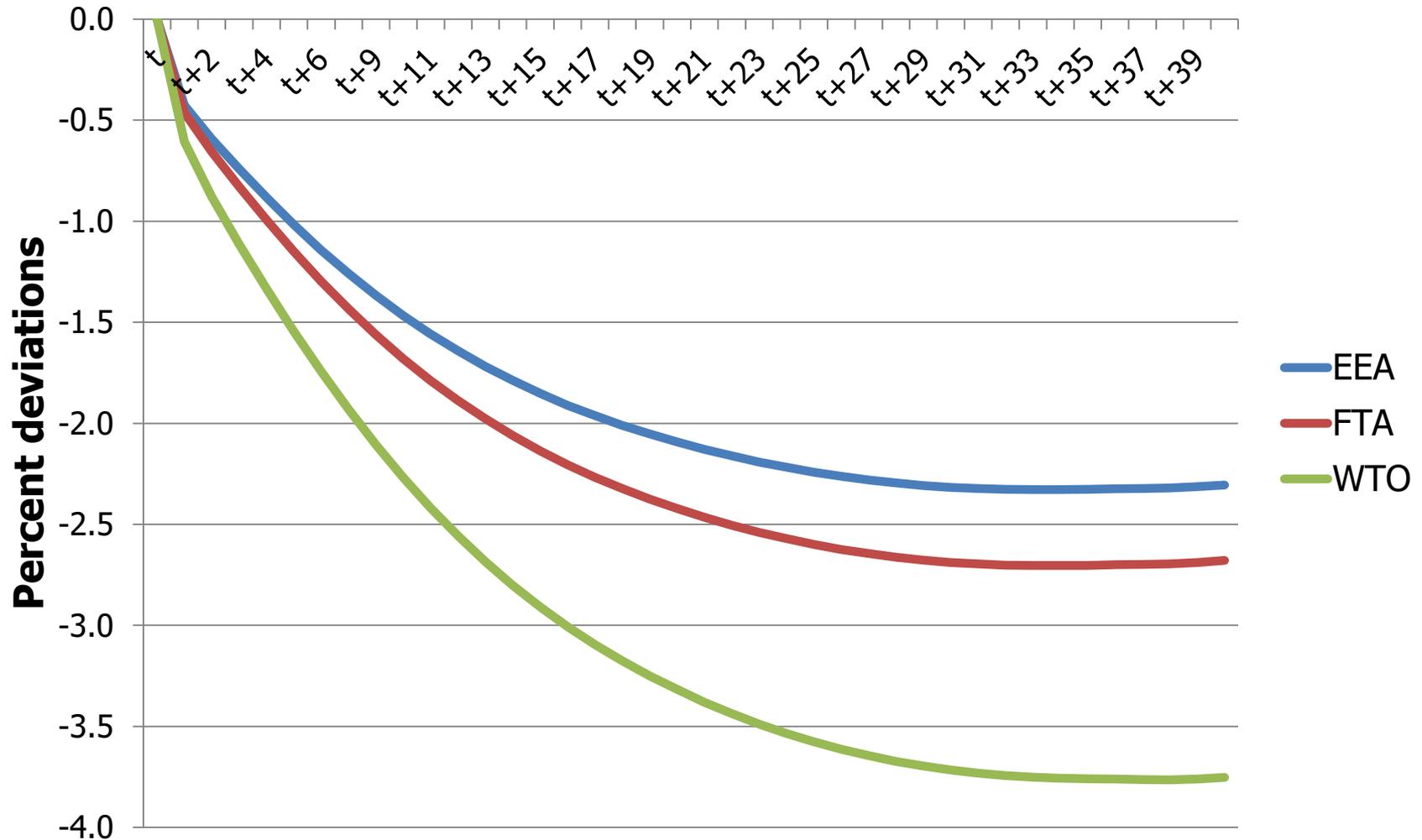
COSMO: Core economic actors

- Households consume and supply labour
 - Consumption = $f(\text{post-tax income, housing and net financial wealth})$
 - Labour Supply = $f(\text{population of working age, participation, migration})$
- Firms produce, employ labour and invest
 - Traded production = $f(\text{external demand, competitiveness})$
 - Bradley and FitzGerald, 1988; Bradley, FitzGerald and Kearney, 1993
 - Non-traded production = $f(\text{domestic demand})$
 - Bradley, FitzGerald and Kearney, 1991
 - Government production = policy choice

Modelling the Impact of Brexit

- NIESRs three long term Brexit scenarios provide three alternative international environments for Ireland
- We compare these scenarios to a 'no-Brexit' baseline to isolate the effects on the Irish economy
- Do not impose any balanced budget/solvency rules
- Ignore potential migration impacts

Impact on the level of Real Output in Ireland



Impact of Brexit on Ireland after 10 years

	EEA	FTA	WTO
<i><u>Percent deviation from Baseline:</u></i>			
Gross value added at basic prices	-2.3	-2.7	-3.8
Gross value added at basic prices, Traded sector	-2.6	-3.0	-4.3
Gross value added at basic prices, Non-traded sector	-2.3	-2.7	-3.6
Exports of goods and services	-3.0	-3.5	-4.9
Personal consumption of goods and services	-2.2	-2.5	-3.4
Employed persons, thousands	-1.2	-1.4	-2.0
Average wage, Thousands €	-2.2	-2.5	-3.6
<i><u>Deviation from Baseline:</u></i>			
Personal Consumption Deflator, %	-0.2	-0.2	-0.3
Personal savings rate, %	-0.3	-0.3	-0.5
Unemployment rate, %	1.2	1.4	1.9
General Government Balance, % GDP	-0.6	-0.8	-1.0

Impact of Brexit on Ireland

- Simulation results show that Brexit could have strong negative impacts on Ireland
- Central Bank of Ireland (2016) adopt a different approach (Bayesian Vector Autoregression) and found that the level of Irish GDP would be 3.2 percent below a no-Brexit baseline after ten years in a WTO Brexit scenario
- Morgenroth (2015) estimated that Irish exports would be 3.6 per cent lower in a FTA type scenario using a gravity model