Macroeconomic Elements in Forecasting Regional Growth: the MASST3 Model

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Key message of the paper

The general approaches to the interpretation of regional growth are based on the convinction that:

- macroeconomic elements are space invariant;
- regional growth depends on local, endogenous, territoral elements.

Instead, the paper argues the importance of:

- macroeconomic elements, besides territorial ones, in forecasting regional growth and convergence processes;
- there is a necessity of regional growth forecasting models for the lack of ex-ante conceptual reasoning on which type of regions is more resilient to the crisis.

Reasons and aim of the paper (1)

As a result of the recent economic crisis, ***the role of macroeconomic elements in forecasting regional growth models increases its importance***.

National economies have entered the crisis with a different level of sovereign debt, different public deficits, different availability of public resources, and therefore different chances of recovery and growth.

Austerity measures “suggested” by the Union cause limitations to some national economies, especially in those countries where the stability and growth pact exerts strong pressures on national debts and deficits.

Reasons and aim of the paper (2)

Despite general beliefs, macroeconomic trends are highly differentiated at regional level, and **explain much of the differential growth among European regions and of the convergence process going on in Europe**.

The aim of the paper is ***to show conceptually and empirically the feedbacks on regional performances coming from the constraints on public deficits and debt***.

The paper will demonstrate that ***an ex-ante conceptual reasoning on which type of regions is more resilient to the crisis is impossible***, and this explains the importance of macroeconomic regional growth forecasting models.

Reasons for a regional dimension of macroeconomic trends (1)

Macroeconomic elements have differentiated international and intra-national regional impacts on growth.

Reasons for international regional impacts:

- regions belong to different nations, with different macroeconomic conditions.

Reasons for a regional dimension of macroeconomic trends (2)

Reasons for intra-national regional impacts can be explained through demand side aspects, and not only supply side ones.

The increase in the spread led to:

- a strong control on public expenditure and on its reduction was imposed by the EU, especially in vicious countries. The effects of such a reduction are expected to be stronger in those regions with a higher share of public demand with respect to the private one, the former being generally the poorer and less productive regions;

Reasons for a regional dimension of macroeconomic trends (3)

- private investments decreased as a consequence of the increase in interest rates on private investment activities, penalizing private actors, and particularly productive regions;
- credit crunch came as a consequence of the financial intermediaries’ decision to prefer the public to the private sector, when guarantees existed on sovereign default; the real sector and the most productive regions hosting it were once again penalized more than others.

An ex-ante conceptual reasoning on which type of regions is more resilient to the crisis is impossible!

Reasons for a regional dimension of macroeconomic trends (4)

The nature of the regional economy does not help either in conceptually interpreting regional resilience to the crisis.

International, open trade, regions for sure suffer from the decrease in the world demand, but have a strong structure of the supply able to show higher resilience.

The closeness of peripheral regions protects them from the world demand decline; these regions suffer from a weak and rigid supply structure, unable to react and to adjust to structural changes brought about by the crisis.

Reasons for a regional dimension of macroeconomic trends (5)

Financial areas – in general large urban areas, specialized in high-value service functions (like international-level finance and insurance) – were more exposed to the crisis in the first phase, when the financial sector was hit.

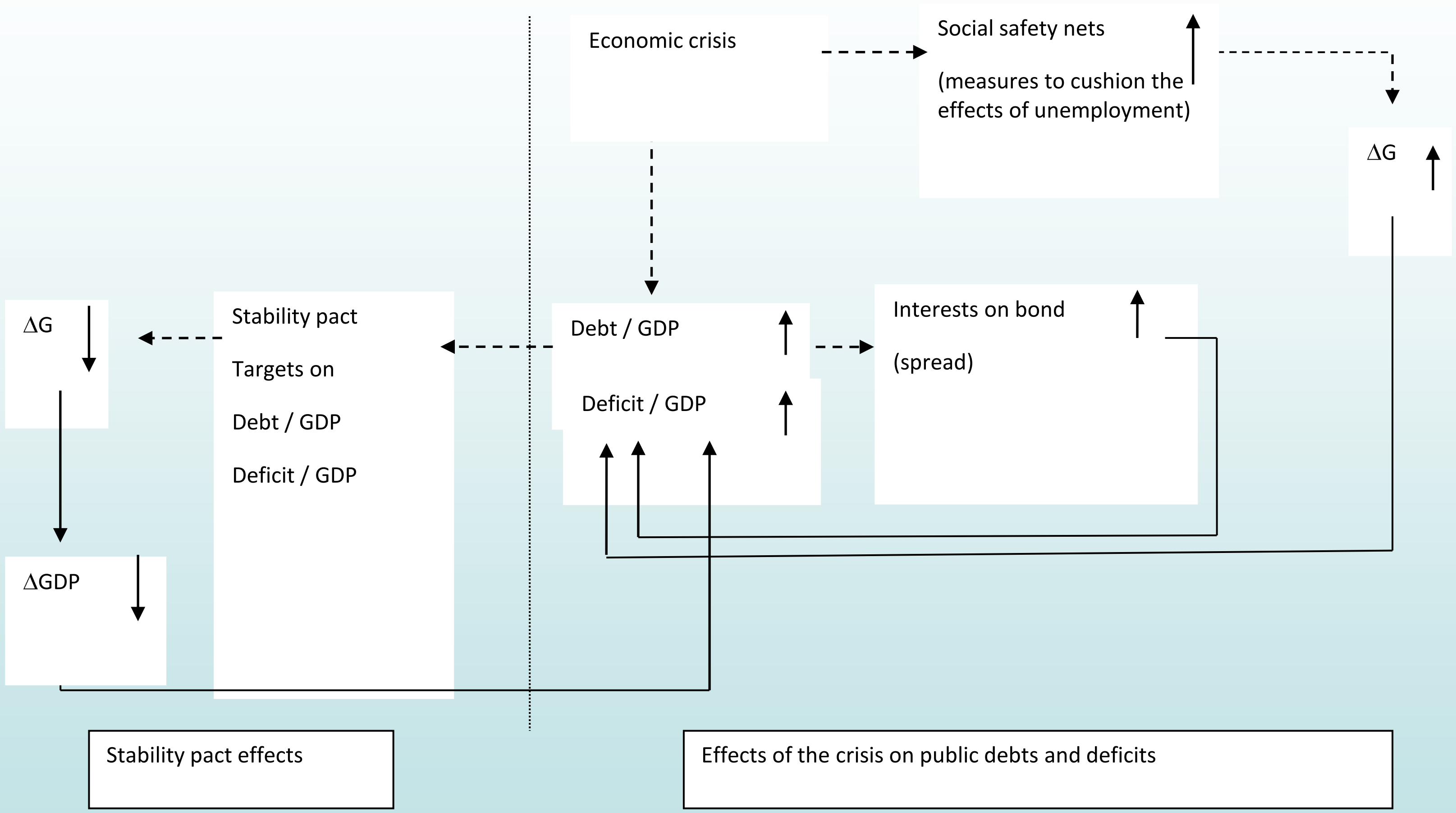
Industrial areas were more exposed in the second phase of the crisis, when the economic downturn involved rapidly the real sector through the credit crunch and the consequent shrinking of global demand, and as a consequence generated higher pressure on industry and in general on ‘exposed’ sectors.

Regional growth forecasting models: the MASST3 model

Macroeconomic constraints on deficits and debts are very powerful and may jeopardise the convergence process of many lagging countries, in spite of their cost advantage (as in the case of Greece, Portugal and most of southern European countries).

This consideration highlights the necessity to endogeneize public expenditures growth rate, and its mechanisms, in a regional growth forecasting model.

Public expenditure growth rate



Endogenous public expenditure growth rate

$$\Delta G_{nt} = const + \beta_1 (deficit_{nt} / GDP_{nt} - target) + \beta_2 outgap_{nt} + \beta_3 \Delta GDP_{nt-1}$$

The output gap is defined as the difference between potential and actual GDP (these can be respectively defined as Y^* and Y).

$$outgap_{nt} = GDP_{pot,nt} - GDP_{nt} = GDP^*_{nt} - GDP_{nt}$$

Positive values for this measure suggest idle production capacity: this implies that the growth of aggregate supply is outpacing the growth of aggregate demand.

$$deficit_{nt} = (G_{nt} + \mathrm{int}onbond_{nt} * debt / GDP_{nt} * GDP_{nt}) - taxrates_{nt} * GDP_{nt}$$

Baseline scenario: the convergence process interrupted

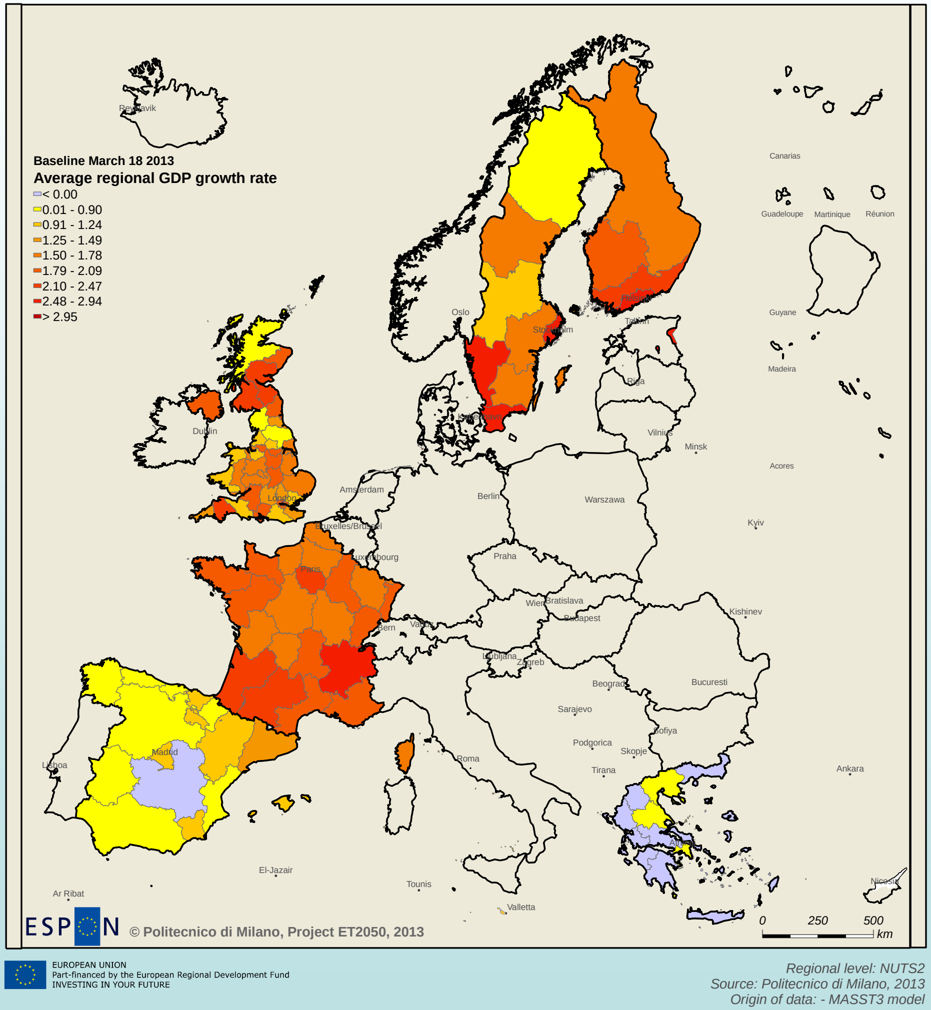
A Baseline scenario is defined as a scenario with (see ESPON ET2050):

- no change in policies implemented up to 2030,

and

- the general slow economic recovery starting in 2016.

Baseline scenario: the costs of the crisis



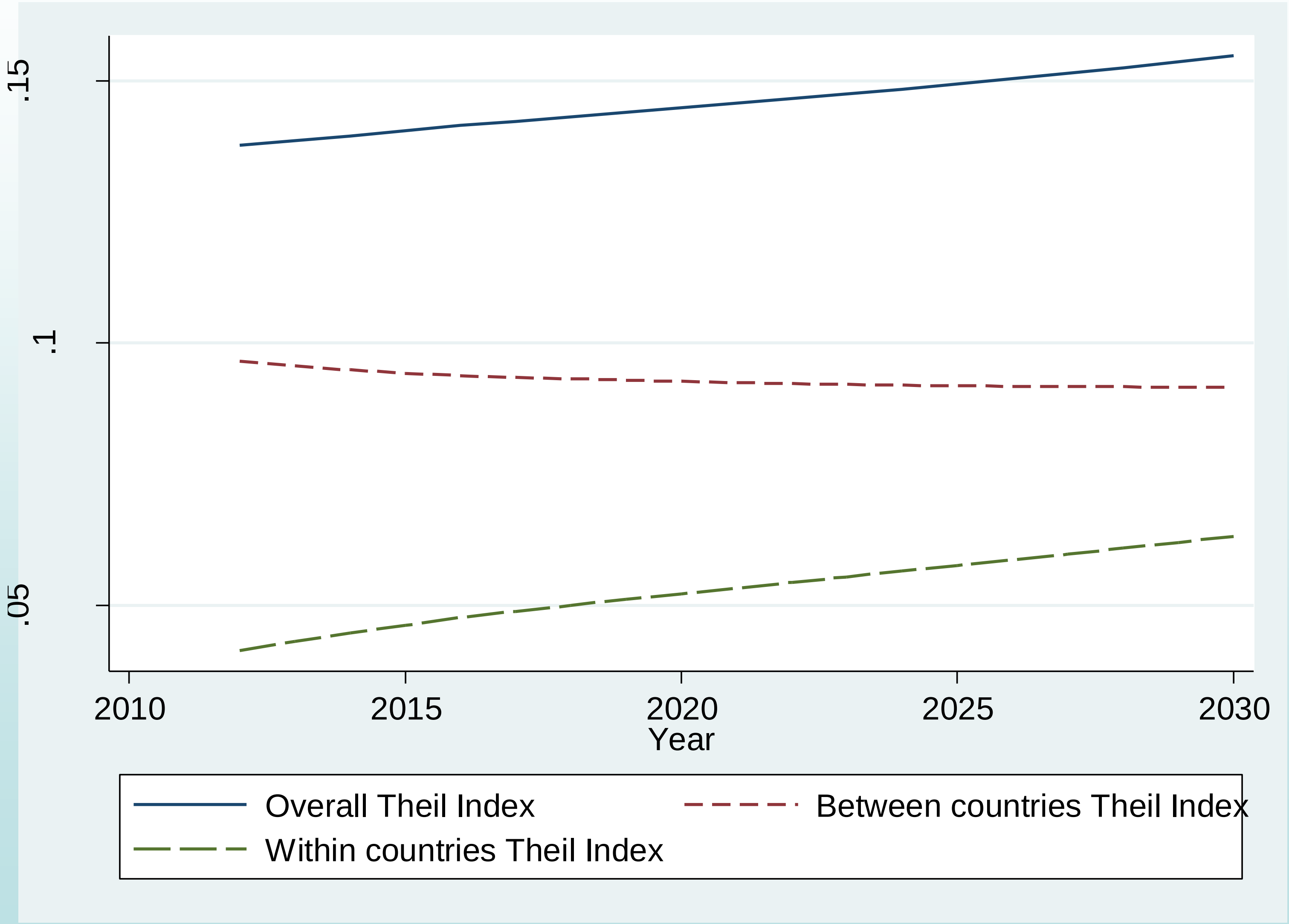
Two speed Europe; Southern peripheral countries grow less than Northern countries.

Southern European countries discount the difficult present conditions on their future evolutionary trajectories.

Eastern European countries still grow more than the EU 15, but this is not enough to catch up the GDP per capita levels of the Western countries in 2030.

Overall intra-national regional disparities increase.

Convergence trends interrupted



THANK YOU VERY MUCH FOR YOUR ATTENTION!