The renewal capacity of EU regions

Nicola, Pontarollo
Carolina, Serpieri

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Contents

Abstract ............................................................................................................................................. 2
1 Introduction ..................................................................................................................................... 3
2 Theoretical framework .................................................................................................................. 4
3 Data analysis and policy implications .......................................................................................... 5
4 Conclusions .................................................................................................................................... 9
References ........................................................................................................................................ 10
List of figures .................................................................................................................................... 11
Authors
Nicola Pontarollo, JRC European Commission
nicola.pontarollo@ec.europa.eu
Carolina Serpieri, JRC European Commission
carolina.serpieri@ec.europa.eu
Abstract

The consequences of the crisis were not uniform among regions and countries of the European Union (EU). This study provides a conceptual framework for one of the major dimensions of resilience, i.e., the renewal capacity. The empirical application of our conceptual framework to GDP per capita, employment rate and productivity identifies some well-identified spatial patterns. Introduction
1 Introduction

EU Policies are converging on the objective of strengthening the so-called “territorial cohesion”, by addressing leading regions to spread their potential over neighbourhoods or lagging regions to reinforce their economic system, and supporting local business clustering.

This priority has also expanded to the debate on resilience capacity, which has emerged with greater emphasis after the onset of the financial crisis. According to Martin and Sunley (2015), the concept of resilience is defined in a regional context as “the capacity of a regional or local economy to withstand or recover from market, competitive and environmental shocks to its developmental growth path”. Our study aims at providing a conceptual framework for one important dimension of resilience, i.e., the renewal capacity. In a second step, we measure the regional renewal capacity related to some key economic variables.
2 Theoretical framework

Martin (2012) identifies four main dimensions of resilience: i) resistance refers to how sensitive regional output and employment are to a shock; ii) recovery investigates how fast and comprehensively the region bounces back from a negative shock; iii) re-orientation concerns the extent to which a regional economy changes after a shock and iv) renewal examines the extent to which regional economies ‘renew’ their growth paths.

Our research interest focuses on the renewal capacity and aims at investigate to which extent EU regions managed to renew their growth path in response to 2008 crisis. Figure 1 illustrates our theoretical approach to conceptualize and measure the renewal capacity. The yellow rectangle represents the welfare gain or loss related to the extent to which regional economies ‘renew’ or not their growth paths and depends on the moment in time in which it is calculated.

![Figure 1 – Renewal capacity and welfare loss](image)

In our framework, to avoid time dependence, we measure the renewal capacity as the difference between the slopes of the trends before and after the crisis. A positive value represents a positive renewal capacity of the economy, and a negative value the absence of renewal capacity, i.e., a decline.

We measure the renewal capacity of the EU regions on some key economic indicators i.e., GDP per capita, employment rate and productivity, defined as GDP per employee. The methodology of Gutierrez et al. (2007) and the World Bank stepwise decomposition approach using the Shapley decomposition method (World Bank, 2010) have been applied to decompose GDP per capita into output per worker and employment.

The GDP per capita decomposition is defined as follows:

$$\Delta \log \left( \frac{GDP}{population} \right) = \Delta \log \left( \frac{GDP}{employment} \right) + \Delta \log \left( \frac{employment}{population} \right)$$ (1)
3 Data analysis and policy implications

Figure 2-4 illustrate the renewal capacity of the EU regions for the three economic variables above examined. Darker colours identify regions with a renewed growth path while lighter ones classify falling behind regions which failed to renew.

GDP per capita renewed capacity can be mainly sustained by productivity growth and/or by employment dynamics. As noted by Martin (2012), movements in employment tend to take much longer than output to recover from a recessionary shock. Moreover, regional local economies may resume output growth after a recession without recovering in employment (jobless recovery) but driven by productivity growth.

The analysis has demonstrated the presence of four clusters which share common features in the renewal capacity to the crisis:

- Greece has been severally affected by the negative shock and Greek regions failed to recover and renew their growth path in all the three dimensions covered.

- France, Germany, Great Britain, Denmark and Belgium were able to renew and grow faster than pre-2008 crisis levels. Growth and resilience capacity building process has reached in the pre-crisis period such crucial levels that the regions were able to recover from a negative shock and even renew to higher growth. The result is confirmed either for the labor market either in the business environment but with a more heterogeneous spatial pattern within countries.

- Regions belonging to Baltic Republics, Slovak, Romania, Hungary and Czech Republic demonstrated higher efficiency in recover and overcome pre-crisis productivity levels. A renewed GDP per capita growth is mainly sustained by productivity growth in these countries since employment pre-crisis levels failed to recover.

- A rising and renewed employment rate influenced GDP per capita growth in Spain, Italy, Ireland, Portugal and Bulgaria. Despite employment dynamics are usually slower to recover, we observe that in this clusters of regions they were faster than productivity which did not manage to restore pre-2008 levels. Renewal capacity to the crisis was not uniform among regions belonging to same countries.
Figure 2 – GDP per capita renewed capacity to the crisis in the EU
Figure 3 – Productivity renewed capacity to the crisis in the EU
Figure 4 – Employment renewed capacity to the crisis in the EU
4 Conclusions

The analysis provides a simple "handy" exploratory overview of the renewal capacity to the recent economic and financial crisis in the EU. Our findings suggest that well-grounded disparities in the renewal capacity exist among and within countries in the EU. This could potentially address territorially-oriented policy strategies in terms of reorienting their targets and financial instruments to the territories which would generate higher inclusive-related benefits for the whole countries. A mixture of different factors can improve and sustain a more efficient and robust renewal capacity, i.e., among others, stronger coordination among vertical and horizontal stakeholders, innovation-oriented business structure, more stable public finances, favourable political and labor environment.
References


List of figures

Figure 1 – Renewal capacity and welfare loss ................................................................. 4
Figure 2 – GDP per capita renewed capacity to the crisis in the EU ............................. 6
Figure 3 – Productivity renewed capacity to the crisis in the EU ................................. 7
Figure 4 – Employment renewed capacity to the crisis in the EU ............................... 8
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