

## **Growing without Cohesion (Funds)**

**Vassilis Monastiriotis, London School of Economics**

### **Abstract**

Over the last 20 years a large literature has developed evaluating the effects of Cohesion Policy on regional growth and convergence. While the literature has told us a lot about whether and how Cohesion Funds work (Mohl and Hagen, 2010; Becker et al, 2012; Fratesi and Wishlade, 2017; Di Cataldo and Monastiriotis, 2018), attention on *\_how\_* regions grow - with or without Cohesion Funds - has been at best limited. In this paper we pursue a comparative examination of the long-term regional growth processes found across the European economic space (i.e., examining the drivers of regional growth) and examine how these vary across groups of regions with different types (or 'doses') of 'treatment' in terms of Cohesion Policy. To do so, we borrow methodologically from the wage-decomposition techniques typically utilised in the applied labour economics literature. We specify an extended growth equation which we estimate separately for different groups of regions and then implement a detailed Blinder-Oaxaca decomposition in order to identify the contribution of two different components to each group's growth performance: an 'endowment' component, which accounts for differences in performance due to differences in endowments (e.g., regional level of education or investment) and a 'productivities' component, which accounts for differences in performance that are due to the productivity of each of the different endowments considered. This analysis helps us unveil the fundamental differences in the growth process between Cohesion Policy's beneficiary and non-beneficiary regions. Drawing on this, we engage in a critical discussion of the 'suitability' of EU Cohesion Policy to support balanced growth across the EU, within the context of the wider EU industrial policy objectives (digital and green transitions, economic sovereignty, strategic autonomy).

### **Introduction**

The European Union's Cohesion Policy, with its pivotal role in fostering economic growth, regional convergence, and territorial cohesion, has been a subject of extensive academic scrutiny. The economic effects of EU Structural Funds have been evaluated through a myriad of methodological approaches, ranging from traditional qualitative case studies (e.g., Milio, 2007, *Regional Studies*) to panel-data econometric analyses (Mohl and Hagen, 2010, *RSUE*). More recent research has incorporated theory-based evaluations (Bachtler et al., 2017) and counterfactual econometric techniques (Becker et al., 2012, *EER*; Pellegrini et al., 2013, *PiRS*), providing a comprehensive understanding of the policy's impact on regional development.

A substantial body of evidence demonstrates that Cohesion Policy has positively contributed to the economic growth of recipient regions, typically characterized by their lagging development. However, the effects of these funds are increasingly understood to be contingent upon various contextual and structural factors. These include the targeting, concentration, and scale of investments, local administrative capacities, and the quality of government institutions (Crescenzi et al., 2017, *Regions*; Fratesi and Wishlade, 2017; Di Cataldo and Monastiriotis, 2018; Crescenzi and Giua, 2020, all in *Regional Studies*). Such insights underscore the

importance of considering the heterogeneity of regional contexts in evaluating the policy's effectiveness.

Traditionally, the literature has focused on identifying the effects of Cohesion Policy on the 'treated' regions, assessing how various conditioning factors influence the policy's outcomes. This approach often involves using regions that have not been main beneficiaries of Cohesion Policy (i.e., non-Objective 1 or non-Convergence regions) as control groups in counterfactual evaluations. Consequently, the experiences and growth trajectories of these control regions have received relatively marginal attention in the broader discourse.

This paper departs from the conventional 'impact assessment' framework, which primarily evaluates the effect of policy interventions on growth performance. Instead, it undertakes a comparative examination of long-term regional growth processes across the European economic space, focusing on the drivers of regional growth and how these drivers vary across different groups of regions with distinct types (or 'doses') of policy treatment.

Methodologically, this study borrows from the laboratory economics literature on wage-decomposition techniques. A growth equation is specified, either parsimoniously as a production function or extended to include various covariate 'drivers' of growth. The growth equation is estimated separately for different groups, with a focus on the elasticities, or 'productivities of drivers.' Various decomposition techniques (Blinder-Oaxaca; detailed decomposition; quantile regression; distribution decomposition) are applied to identify the contribution of different components to each group's growth performance. These components include:

1. **Endowment Effect:** Differences in performance due to differences in inputs (extensive margin), such as education, investment, and other endowments.
2. **Productivity Effect:** Differences in performance due to differences in elasticities (intensive margin).
3. **Natural Advantage:** The residual difference not accounted for by the aforementioned components, representing the 'purely unexplained' effect (fixed effect).

The goal of this analysis is to unveil the key differences in the growth processes between regions that have received Cohesion Funds and those that have not. Ultimately, this study aims to assess and discuss how the identified growth processes align with the priorities, principles, and tools of the new EU Cohesion Policy (2021-2027). The policy's recent shift towards wider objectives, such as digital and green transitions, strategic autonomy and economic sovereignty, as well as its rebalancing towards grants, financial instruments, and national goals, calls for a nuanced understanding of regional growth dynamics.

By examining the long-term growth processes across different regional contexts, this paper seeks to contribute to the ongoing policy debate on the future of EU Cohesion Policy. The findings are expected to provide valuable insights into how policy interventions can be tailored to support sustainable and inclusive growth across diverse regional landscapes, addressing both current and future challenges.

## Empirical findings

A first point of departure for the empirical analysis is the descriptive accounting of average growth rates in Cohesion ('treated') and non-Cohesion ('control') regions, using data for the period 2000-2020. This analysis reveals a clear growth advantage for regions that received Cohesion Policy funds, with one notable exception: the crisis period of 2007-2013, during which being a 'Cohesion' region represented a disadvantage. This trend persists regardless of how 'treated' regions are defined; and holds even after controlling for time and country fixed-effects. Additionally, while in per capita terms Cohesion regions experienced a growth disadvantage during the crisis, there was an observed advantage when population changes were factored in. These findings prompt further inquiry into the mechanisms behind the growth trajectories of both Cohesion and non-Cohesion regions. Understanding why Cohesion regions lagged during the crisis period, and how non-Cohesion regions sustained growth, is crucial for tailoring future policy interventions. Factors such as the effectiveness of local governance, investment targeting, and broader economic resilience likely play pivotal roles. This analysis underscores the complexity of regional economic dynamics and the need for nuanced, context-specific policy approaches to foster sustainable growth.

We extend this analysis by running group-specific growth equations, using an endogenous switching specification design, so as to control for the fact that the assignment of regions into each group (Cohesion versus the rest) is non-random. The choice of this design is vindicated by our results, which show a significant selection into treatment (Cohesion regions) even if selection into non-treatment is not statistically significant (see Table 1). Our analysis, using a parsimonious production model with capital growth and employment growth as the only right hand side variables, shows that in Cohesion regions – after controlling for selection – capital tends to be more productive (higher returns to investment) but labour tends to be less productive compared to non-treated regions. But they also reveal a 'built-in' growth advantage for Cohesion regions, essentially suggesting that "what makes you a 'Cohesion' region, makes you grow faster" – a statement which seems to be in accordance with the notion of neoclassical convergence.

Taking our data to the decomposition analysis, we get further insights on the growth process in the two groups of regions. The base-level analysis of the growth-equation decompositions (endogenous switching model on the parsimonious production function) shows a 'natural' growth advantage for 'Cohesion' regions (except for the crisis), as suggested above; which is however not due to composition (endowments), especially post-2006/7. Specifically, the analysis shows (Table 2) that Cohesion regions possess a disadvantage in 'mobilising' employment (esp. during the crisis), but this disadvantage is fully compensated by an advantage by the same regions in mobilising capital (in the same period). This suggests a process of capital deepening, as output (per worker) growth by capital rising faster than employment. Instead, Cohesion regions exhibit a significant disadvantage in the 'productivities' component: 'Cohesion' regions have less productive capital (except for the crisis period, where investment was perhaps the strongest growth-mobilising factor, overcompensating for the negative shock to the 'natural advantage'), while the productivity effect of employment growth is also disadvantageous (overall, and especially in the post-crisis period).

We get similar results when performing a decomposition analysis on an extended growth model, which includes additional right hand side variables (Table 3). The capital and labour endowment / mobilisation effects remain unchanged, and the same is true for the intensive margin (productivity effects of capital and labour). Unsurprisingly, however, the aggregate intensive/extensive margin effects change drastically in this extended model (as more

covariates are added, each with their own intensive/extensive dynamics). The total 'intensive margin' (including the constant) becomes much smaller from 2007 onwards; while shifts in the 'natural advantage' also seem much more dramatic. From the additional right hand side variables,

- EU funds naturally contribute positively at the extensive margin; but they are less productive in 'Cohesion' regions than elsewhere (except during the crisis).
- Industry concentration has no notable effect at the extensive margin (broad similarity between Cohesion and non-Cohesion regions in degree of diversity); but for Cohesion regions (vs the rest) more concentration means less growth (by an extremely large margin!), at least post-2006.
- Specialisation in Industry seems to work in the opposite direction (post-2006), largely counterbalancing the HHI effect
- Inactivity (as a proxy for unutilised labour) gives an advantage to Cohesion regions (recall: positive effect in the endogenous switching regressions), except for the crisis period; but inactivity is less growth-enhancing in Cohesion regions (except for the crisis) than in the non-Cohesion ones. Overall, then, inactivity represents a disadvantage for growth in Cohesion regions. It is the non-Cohesion regions where inactivity becomes a resource: more limited in quantity, but with a higher growth-enhancement potential.
- Concentrations of low levels of education (as a proxy for low human capital) create a (small) negative effect for Cohesion regions at the extensive margin (more low education there); but importantly also have a more detrimental effect at the intensive margin: Cohesion regions suffer more for every extra point of human capital deficit than do non-Cohesion regions.
- Concerning R&D, our results do not depict a disadvantage for Cohesion regions at the extensive margin (not sizeably less R&D-intensive). But they show that R&D is less growth-enhancing in Cohesion regions (note: overall effect also comes ambiguously negative / non-significant).
- Last, population density seems to create a favourable growth advantage for Cohesion regions – not particularly via the extensive margin, but mainly via the intensive margin, increasingly so over time. Agglomeration in Cohesion regions produces more growth than in non-Cohesion ones (where occasionally the effect of density is negative).

## **Discussion**

*Tbc*

## APPENDIX

**Table 1**

	ALL YEARS		2000-2006		2007-2013		2014-2020	
	Treated	Non-treated	Treated	Non-treated	Treated	Non-treated	Treated	Non-treated
<b>Obj1/Conv/Trans</b>								
Capital growth	0.0304*** (0.00184)	0.0213*** (0.000894)	0.00517 (0.00977)	0.0241*** (0.00341)	0.346*** (0.0325)	0.131*** (0.0275)	0.0300*** (0.00161)	0.0159*** (0.00119)
Empl growth	0.230*** (0.0336)	0.673*** (0.0260)	-0.0563 (0.0577)	0.289*** (0.0325)	0.265*** (0.0651)	0.668*** (0.0542)	0.111*** (0.0431)	1.088*** (0.0647)
Constant	-0.00790 (0.00534)	0.00313** (0.00148)	-0.0178*** (0.00460)	0.0116*** (0.00229)	-0.0361*** (0.00702)	0.00338* (0.00183)	0.0270*** (0.00582)	-0.0135*** (0.00171)
Selection	0.644*** (0.135)	0.105 (0.0911)	1.401*** (0.101)	0.106 (0.175)	0.450*** (0.133)	0.998*** (0.0996)	-0.122 (0.186)	-0.639*** (0.0868)
<b>Treated (75 pct'ile)</b>								
Capital growth	0.0275*** (0.00169)	0.0238*** (0.000958)	0.0163** (0.00750)	0.0204*** (0.00445)	0.323*** (0.0282)	0.117*** (0.0304)	0.0311*** (0.00163)	0.0159*** (0.00119)
Empl growth	0.385*** (0.0277)	0.480*** (0.0259)	0.138*** (0.0488)	0.171*** (0.0312)	0.287*** (0.0597)	0.675*** (0.0625)	0.106** (0.0434)	0.997*** (0.0635)
Constant	0.0115*** (0.00341)	0.00548*** (0.00158)	0.0232*** (0.00597)	0.0171*** (0.00238)	-0.0313*** (0.00567)	0.00842*** (0.00208)	0.0301*** (0.00595)	-0.0126*** (0.00172)
Selection	0.0239 (0.0910)	-0.00354 (0.0881)	-0.0226 (0.133)	-0.00698 (0.173)	0.386*** (0.127)	1.114*** (0.104)	-0.210 (0.189)	-0.640*** (0.0882)

**Table 2**

	ALL YEARS		2000-2006		2007-2013		2014-2020	
	Growth	%diff	Growth	%diff	Growth	%diff	Growth	%diff
Treated	1.91		3.53		0.57		1.62	
Non-treated	0.69		1.99		-0.05		0.13	
Difference	1.22	100%	1.54	100%	0.62	100%	1.49	100%
<b>Extensive margin</b>								
<b>(endowments)</b>	-0.17 ***	-14%	-0.09 **	-6%	0.01	2%	0.00	0%
Capital	0.04	3%	0.01	1%	0.39 ***	63%	0.05	3%
Labour	-0.21 ***	-17%	-0.10 ***	-7%	-0.38 ***	-61%	-0.05	-3%
<b>Intensive margin</b>								
<b>(productivities)</b>	-0.21 **	-17%	-0.68 **	-44%	1.54	249%	-1.21 ***	-81%
Capital	0.02 **	1%	-0.52 *	-34%	1.56 ***	251%	-0.38 ***	-25%
Labour	-0.23 ***	-19%	-0.16 **	-10%	-0.01	-2%	-0.83 ***	-56%
<b>Natural advantage</b>	1.59 ***	131%	2.31 ***	150%	-0.94 ***	-151%	2.70 ***	181%
<b>Total "productivities"</b>	1.38 ***	114%	1.63 ***	106%	0.61 ***	98%	1.49 ***	100%

**Table 3**

	ALL YEARS		2000-2006		2007-2013		2014-2020	
	Growth	%diff	Growth	%diff	Growth	%diff	Growth	%diff
Treated	1.83		3.44		0.57		1.62	
Non-treated	0.62		1.83		-0.07		0.21	
Difference	1.21	100%	1.61	100%	0.64	100%	1.42	100%
<b>Extensive margin</b>								
<b>(endowments)</b>	0.19 **	16%	0.45 ***	28%	0.42 **	65%	0.97 ***	68%
Capital (growth rate)	0.00	0%	0.01	1%	0.36 ***	56%	0.02	1%
Labour (growth rate)	-0.21 ***	-17%	-0.13 ***	-8%	-0.36 ***	-55%	-0.06	-5%
EU funds (share to gva)	0.15 ***	12%	0.07	4%	0.37 ***	57%	0.69 ***	49%
Concentration (HHI)	0.01	1%	-0.02	-1%	0.04	6%	-0.07	-5%
Industry share (empl)	0.11 ***	9%	0.01	1%	0.03	5%	0.10 *	7%
Inactivity rate	0.16 ***	14%	0.09 **	6%	-0.06	-10%	0.25 ***	18%
Share primary education	-0.05 **	-4%	-0.13 **	-8%	-0.04	-7%	-0.05 *	-3%
R&D (total, share to gva)	0.00	0%	0.53 ***	33%	0.07	11%	-0.02	-1%
Population density	0.03	3%	0.01	1%	0.01	2%	0.11	7%
<b>Intensive margin</b>								
<b>(productivities)</b>	-3.38 ***	-279%	1.09 ***	68%	1.95 **	302%	-6.38 ***	-450%
Capital (growth rate)	0.02 **	2%	-0.52 *	-32%	1.42 ***	220%	-0.39 ***	-27%
Labour (growth rate)	-0.24 ***	-20%	-0.18 **	-11%	0.00	0%	-0.91 ***	-64%
EU funds (share to gva)	-0.43 ***	-35%	-0.82 ***	-51%	-0.01	-1%	-0.30 ***	-21%
Concentration (HHI)	-4.19 **	-346%	4.05 *	251%	-3.32	-517%	-8.55 **	-604%
Industry share (empl)	2.65 ***	219%	1.35	84%	3.34 **	519%	5.42 ***	382%
Inactivity rate	-0.28	-23%	-2.96	-183%	0.96	150%	-1.51	-106%
Share primary education	-0.62 ***	-52%	1.09 **	68%	-0.49	-77%	-0.16	-11%
R&D (total, share to gva)	-0.44 ***	-36%	-0.89 ***	-55%	-0.02	-2%	-0.32 *	-22%
Population density	0.14 **	11%	-0.04	-2%	0.07	10%	0.33 ***	23%
<b>Natural advantage</b>	4.40	364%	0.08	5%	-1.72	-268%	6.83	482%
<b>Total "productivities"</b>	1.02 ***	84%	1.17 ***	72%	0.22 ***	35%	0.45 ***	32%