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## THE EU COHESION POLICY AND THE FACTORS CONDITIONING SUCCESS AND FAILURE: EVIDENCE FROM 15 REGIONS

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### Introduction

Research on the ex-post evaluation of the impact of the Cohesion Policy of the European Union (EU) can be classified into two groups: case-study analyses – relying on qualitative methods and focusing on interventions in individual regions – and econometric analyses – based on increasingly sophisticated identification strategies applied on large samples of ‘beneficiary’ and ‘non-beneficiary’ regions. This paper presents some new evidence based on a ‘middle-ground’ approach. We focus on a small number of beneficiary areas (15 selected regions from various EU countries as specified in the data section), for which we observe a large number of characteristics and contextual features of the regional interventions (similar to a case-study approach); but we examine the effectiveness and economic impact (‘success and failure’) of these interventions by means of statistical tests that allow us to unveil the specific circumstances that may influence the capacity of the policy to achieve its objectives.

We look at the effect of various features of EU Cohesion spending on regional growth and, in a second step, we explore the impact of these features on evaluations by local experts of the achievements of the examined policy interventions. The results all point in the same direction: concentration of funding and effective targeting are key, both for the effectiveness and for the overall achievement of Cohesion Policy, beyond the specificities of each region and the heterogeneity of their local environments.

### Research on EU Cohesion Policy and Emerging Questions

Econometric research on the impact of EU Cohesion Policy has quickly developed over the past few years thanks to the wider availability to the public of detailed expenditure data (see Crescenzi and Giua, 2017 for a review). However, the main body of available evidence is still based on information concerning eligibility or allocations of funds (rather than actual expenditure) and, on the whole, the empirical literature on the topic is rather inconclusive. For example, some papers have found Objective 1 eligibility to be associated with higher regional GDP growth; while others have found no statistically significant impacts, especially when conditioning growth on other local and national factors. With regard to the latter, a range of possible conditioning factors have been identified in the literature including for example the type of prioritised expenditures (Rodríguez-Pose and Fratesi, 2004), territorial capital (Fratesi and Perucca, 2014), the alignment of expenditure with the underlying socio-economic structure and the coordination between different EU policies (Crescenzi et al, 2015) and the top-down vs. bottom-up nature of the various interventions (Crescenzi and Giua, 2016). Still, no consensus exists in the literature about either the relative or the absolute importance of these factors. The variety of conditioning factors identified in the literature, and the overall inconclusiveness of the results, motivate our exploration of the achievements of Cohesion Policy interventions using a unique dataset with extensive and detailed information on both regional conditions and policy interventions.

We explore two sets of questions. The first set concerns the growth effects of Cohesion Policy: (i) is there a link between the *level of expenditure* and growth performance in our sample of regions? (ii) is this effect non-linear, i.e., is there evidence of *threshold or saturation effects*? (iii) does the *composition* (diversification/concentration

into specific measures within priority areas) and *targeting* of expenditures (in specific priority areas) influence their effectiveness (growth effects)? (iv) is effectiveness conditioned by local features such as road infrastructure, level of development, sectoral specialisations, R&D spending, etc.? Second, drawing on our unique qualitative assessment of achievements, an additional set of questions deals with policy effectiveness in relation to specific features of the policy interventions: (v) do policy interventions achieve better results when expenditure is *concentrated* on a limited number of objectives and/or measures within objective categories? (vi) are *deviations from planned expenditures* detrimental to overall achievement? (vii) how important for this is the *alignment* between targeted objectives and perceived regional needs? and (viii) are the answers to these questions *different* for different regions and/or programming periods, i.e., are the results place- and time- dependent? We address these questions in what follows.

### Data and Approach

Formally speaking, identifying the *causal* effects of Cohesion Policy econometrically would require the application of highly advanced techniques on matched randomised samples of beneficiary and non-beneficiary regions (‘treated’ and ‘control’ cases). Our approach in this paper is different and exploits very deep information available for a limited number of regions. We rely in fact on data for a small sample of 15 ‘treated’ regions<sup>1</sup>, for which we have detailed information on expenditures (by programme, axis and measure) over four programming periods (from 1989 until 2013); and assess the effectiveness of Cohesion Policy in this ‘treated-only’ sample. Our objective is not to identify ‘causal effects’ in a formal sense but rather to understand the context and conditions under which the policy can achieve its objectives. Therefore we incorporate in our analysis a unique set of qualitative assessments – expert assessments informed by document analyses, interviews and focus groups

and triangulated with quantitative data by the authors – which provide detail on the specific *regional needs* that policy interventions ought to be targeting, the *actual objectives* targeted by these policy interventions, and their *overall achievements*. To collect this information in a way that is consistent across regions and programming periods, we grouped all measures implemented in our sample of regions into 8 categories of “targeted needs” and acquired a qualitative assessment for: a) the regional “needs” (i.e., of how important a need was in each region and programming period); b) the “objectives”, i.e., how important each category of intervention was in the priorities of the regional strategy in any given region and programming period; c) the “achievements” of the EU Cohesion Policy with reference to each need (i.e. how successful the policy was in each expenditure category, programming period and region); d) These three sets of assessments were quantified in a 5-point scale for use in the econometric analysis.

A simple growth regression framework is used in order to capture the correlation between expenditure and regional economic performance. Based

on this, our core analysis concerns the identification of the contribution of some key features of the policy interventions to the overall policy achievements in the 15 regions under analysis:

- Size of interventions: Total spending as a share of regional gross value added ;

- Concentration of resources and targeting: measured as the inverse of the coefficient of variation of expenditures across measures within each category, region and programming period captures whether interventions were narrowly focused or dispersed across a variety of different measures.

- Planning time-inconsistencies: measured as the difference between expenditure and allocations in order to capture the impact of ‘unexpected’ deviations from planned interventions.

- Targets-needs alignment: measured as the absolute distance in the assessment scores of the “objectives” and “needs” variables in order to capture the effect of optimal targeting (i.e., policy prioritising ‘true’ local needs).

Since the dependent variable in this specification is ordinal (with 5 ordered categories), we use an Ordered

Logit model estimated via Maximum Likelihood. The model includes fixed effects for regions and programming periods, as well as other controls (as appropriate) and various interaction terms that try to capture the differentiation of the effects of the above-listed features across space (regions) and time (programming periods).

## Analysis and Results

The empirical investigation produced a large number of results that cannot be presented in their entirety here. In this section we discuss the main findings. More detailed results can be made available upon request.

**Regional growth.** Our results reveal a strong positive association between the level of expenditure (as a share of regional GVA) and the rate of output growth for each region (see Table 1). In the fixed effects model the estimated coefficient (32.34) corresponds to an annualised growth elasticity of about 5.8%, suggesting that a rise in spending by 1 percentage point (approximately, a doubling of current average spending) could increase growth by 5.8 percentage points per annum. Although this effect

**Table 1**

	Growth	Growth	Growth	Growth	Achievement (Ordered Logit)	Achievement (Ordered Logit)
Total expenditure (%GVA)	32.34*** (8.81)	27.03 (16.19)	21.85*** (6.182)	23.13** (9.553)	155.8*** (44.58)	192.5*** (49.43)
Total expenditure squared		-249.2 (555.9)				
Dispersion (across measures in category)			-0.202*** (0.0679)			
Shortfall (abs % deviation from allocation)				-0.171*** (0.0447)	-0.0987** (0.04)	
Target-needs misalignment interaction					-0.695*** (0.131)	-0.542*** (0.154)
Constant	-0.248 (0.224)	-0.251*** (0.0878)	0.0969 (0.121)	0.13 (0.225)	2.049*** (0.517)	3.624*** (0.647)
Fixed effects	Yes			Yes	Interacted only	Objectives (axis) plus interacted
Observations	59	59	51	51	416	416
R <sup>2</sup>	0.285	0.178	0.262	0.473	Pseudo R <sup>2</sup> 0.1487	Pseudo R <sup>2</sup> 0.1932

Notes: Data as described in the text. Further details about estimation methods and specification issues are available from the authors. \*, \*\* and \*\*\* show significance at the 10%, 5% and 1% levels, respectively.

**Table 2: Regional and policy-design characteristics and their effects on perceived achievements by area of expenditure (objectives/axis)**

	Enterprise	Sectoral development	Innovation	Environment	Social cohesion	Labour market	Community	Infrastructure
Total expenditure (%GVA)	394.4 (349.5)	138.4 (212.5)	-471.3 (212.5)	1,038** (512.6)	831.1 (1,864)	279.0 (259.5)	72.27 (2,160)	406.9* (226.7)
Target-needs misalignment	-3.460*** (0.937)	0.297 (0.415)	-2.723*** (0.922)	-4.858*** (1.614)	0.584 (0.864)	1.877*** (0.720)	-0.608 (0.423)	-0.407 (0.809)
Spending dispersion (across measures)	0.179 (0.753)	-0.696 (0.665)	0.903 (0.583)	-2.521*** (0.898)	-0.173 (0.650)	1.361* (0.717)	0.0719 (0.628)	-1.399** (0.712)
Shortfall (std % deviation)	4.529* (2.342)	0.128 (0.893)	0.702 (2.502)	-3.960** (1.582)	-0.846 (10.49)	1.931 (3.357)	14.55 (30.43)	6.990* (3.637)
Fixed effects	Regions and programming periods	Regions and programming periods	Regions and programming periods	Regions and programming periods	Regions and programming periods	Regions and programming periods	Regions and programming periods	Regions and programming periods
Constant	7,883*** (2,373)	36.04 (3,307)		7,182** (2,930)		29.49 (1,481)	37.22 (5,029)	
Observations	52	52	52	52	52	52	52	52
Pseudo R <sup>2</sup>	0.5851	0.3928	0.4725	0.6694	0.4670	0.4764	0.4810	0.5029

Notes: All models are estimated through ordered logit. Also see notes in Table 1.

seems to be almost implausibly high, it is a point estimate and very consistent across alternative specifications. Concerning possible threshold or saturation effects, our evidence suggests a linear link between cohesion spending and growth: in all specifications examined, the quadratic term is negative but not statistically significant. This is consistent with the evidence presented by the existing literature, but rather unexpected on the basis of other findings in the literature. Also not statistically significant is the interaction between the level of expenditures and various local characteristics (income levels, unemployment rates, R&D spending, road density, and others). Seen in conjunction with the significance of the regional fixed effects, this suggests that while the overall local context matters for cohesion policy, no one single regional feature can capture this contextual local-specific influence. More important – and statistically very significant – is the finding concerning the shortfall between programme allocations and actual expenditures (absolute percentage deviation): here we find consistently a large negative coefficient, with an increase by 1pp in the deviation between allocations and expenditures reducing growth by 0.16pps. The opposite relationship is

found for the concentration of expenditures (in few measures within each priority axis): a one-point reduction in concentration (rise in the coefficient of variation) is found to reduce growth by 0.2pps. Concentration may also be beneficial with regard to the directing of expenditures not only to specific measures within objective categories but also to specific categories of objectives at large. Our empirical results show that there are substantial differences in this regard – with the strongest correlations found for expenditures in ‘Enterprise’, ‘Sectoral development’ and ‘Social cohesion’; while the correlation for expenditures in the ‘Innovation’ category is negative although only marginally significant.

**Overall achievement.** The heterogeneity of results across categories of objectives, but with a strong overall effect of cohesion expenditures, is also confirmed in the analysis of reported achievements (see Table 2). Here, spending in ‘Environment’ and ‘Infrastructure’ appears to have the highest effectiveness while, as before, spending on ‘Enterprise’, ‘Sectoral development’ and ‘Social cohesion’ is also positive. Spending concentration is also found to have a positive effect, although this varies often significantly across regions and across categories of

objectives. The negative effect of planning inconsistency is also found here, although it appears strongest in the last programming period and thus possibly related to the effects of the crisis. By far, however, the strongest effect comes from the measure of misalignment between targeted objectives and identified needs. Misalignment in this respect is found to reduce significantly the reported achievements of cohesion policy, with an effect that is statistically stronger than any other of the estimated effects. Moreover, this type of misalignment also seems to affect directly the effectiveness of cohesion spending: the interaction term between expenditures and misalignment in targets-needs is negative and statistically significant, showing that any euro spent on cohesion policy interventions becomes less effective when actual expenditure deviates from ex-ante planning. This is the strongest – and most novel – effect from our analysis and has very important implications for policy.

## Policy Conclusions

Drawing on a unique dataset which bridges quantitative and qualitative information on regional characteristics and needs as well as expenditure over a long time-span, in this analysis we examined in close detail the association

of Cohesion Policy with economic growth and with context-informed reported achievements since 1989. Our results show that Cohesion Policy expenditure has a positive association with regional growth in our sample of 'treated' regions. However, the magnitude of this association is conditioned on a number of characteristics which have more to do with the structure of the expenditure than with individual regional characteristics. Above all, concentration and effective targeting of expenditure – both in terms of planning consistency and in terms of consistency between targeted objectives and on-the-ground needs – appear to be the most critical factors conditioning the overall effectiveness, and the successes and failures in terms of achievements, of Cohesion Policy. This result resonates well with studies that have unveiled inconsistencies between regional structural disadvantage and policy expenditure as well as significant planning problems in countries with known limited effectiveness of public spending (e.g., for Greece, Monastiriotis and Psycharis, 2014).

Two important policy conclusions emanate from these observations. First, cohesion spending seems to have the potential to mobilise regional growth, with limited signs of saturation or conditioning on regional parameters. On the basis of this, cohesion spending should continue to be made available to lagging or declining regions, especially given the effects that national capacities have on regional growth potentials (Monastiriotis, 2014). Second, the effectiveness of spending depends crucially on the alignment between targeted objectives and identified needs. Cohesion Policy should thus encourage targeted interventions that concentrate spending on a limited number of well-prioritised objectives that will correspond well to appropriately-identified regional needs. The design of selective and time-consistent interventions is premised on the coordination and balance of top-down and bottom-up approaches (Crescenzi and Giua, 2016) for the identification of 'true' regional needs and the selection of the most appropriate remedies. Dispersed spending with limited targeting – often the result of localistic rent-seeking behaviours or 'redistributive' political economy

equilibria – may prove wasteful and achieve significantly less, in both 'more able' and 'low capacity' regions.

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### Endnote

<sup>1</sup>Andalucia (ES61), Galicia (ES11), Algarve (PT15), Norte (PT11), Ireland (IE00), Nord Pas de Calais (FR30), Aquitaine (FR61), Dytiki Ellada (EL23), Sachsen-Anhalt (DEE0), Nordrhein-Westfalen (DEA), Itä-Suomi (FI1A), Campania (ITF3), Basilicata (ITF5), Burgenland (AT11), North-East England (UKC). Notice that some regions might have changed codes and even border in the long sample time, but this was accounted for by individually investigating them in case studies.

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