



**COHESIFY**

The Impact of EU Cohesion Policy  
on European Identification

# Regional Implementation Settings for Cohesion Policy: A Definition and a Measurement

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## COHESIFY RESEARCH PAPER 2

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## ABSTRACT

This paper focuses on the outcome of Cohesion Policy (CP) on the processes of European Union (EU) identity building, by claiming that the context in which CP are implemented plays an important role in these processes. This topic received almost no attention in the literature, despite of its relevance in a time characterized by a persistent economic crisis, an unstable global scenario and increasing Euroscepticism. However, the impact of CP cannot be assumed to be the same across EU regions. Instead, it is mediated by a set of territorial characteristics defining different kinds of local policy implementation settings. The goal of this paper is therefore to conceptually discuss and define these features and, in the second part, to empirically classify EU areas across the alternative policy implementation settings. This analysis will allow drawing some implications on the relationship between CP and the identification of citizens with the EU values.



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## 1. Introduction

A broad literature focused on the processes of European identity building, an issue becoming more and more relevant after the British referendum on European Union (EU) membership. Many of these works identified in the programs and actions undertaken by the EU one of the elements fostering citizens' identification with Europe. This top-down process may follow different mechanisms. The adoption of a common currency, for instance, generated a symbolic reminder of the belonging to a common European community (Risse, 2003). In a similar way, by promoting transnational interactions, the participation to the Erasmus program is positively related to changes in the European identification (Mitchell, 2015). The common characteristic of these policies is that, through them, the EU becomes part of the everyday life of citizens. People, as a consequence, perceive Europe more and more as a tangible element of their lives and not just as a political construct, totally disjointed from their daily experiences.

Based on this reasoning, it is quite surprising to realize that there is almost no evidence (Scherpereel, 2010) documenting the role of Cohesion Policy (CP) on the process of European identity building, despite a positive impact of CP on the citizens' identification with Europe can be assumed for at least four reasons. First, CP are conceived to solve specific regional needs and, therefore, it represents a tangible manifestation of the EU in the daily life of citizens. Second, the magnitude of the investment is extremely relevant: the funds allocated to CP correspond to almost one third of the EU total budget, 347.4 billion euros in the programming period 2007-2013. Third, despite the financing of the program is responsibility of the EU, the selection and management of policies is carried out at the regional level, thus allowing a higher level of participation of the local populations in the decision-making process. Fourth, most of the funds (82 per cent in the programming period 2007-2013) are allocated to "convergence" regions, underpinning a sense of solidarity and belonging to a common community.

All these considerations support the assumption according to which CP is boosting European identity. Nevertheless, this impact cannot be assumed to be homogeneous across EU regions. Rather, it is mediated by the characteristics of the local policy settings in which these policies are implemented. These characteristics reflect the local conditions that influence the perception of citizens and the objective effectiveness of these policies. For instance, if the funds are invested on the real regional priorities, the local population will be likely to perceive them as extremely useful and, in turn, residents will increase their sense of belonging to the EU. On the other hand, in a context where local institutions are not able to effectively implement these actions, the impact on social welfare will be lower than what expected, and individuals will value them less than what they would do under more favourable circumstances.

Previous literature already discussed the role of some of the characteristics of the policy implementation settings on the outcome of CP. Examples come from the studies on the place-based approach to CP (Barca, 2009) or on the effect of institutional quality on policy results (Milio, 2007; Ketterer and Rodríguez-Pose, 2016). Compared with these works, the present paper presents two main innovative aspects.

First, rather than considering single characteristics (e.g. regional needs, institutional quality, etc.), as it is the case in previous literature, we merge them into different policy implementation settings, so to highlight different combinations of economic, social and institutional elements that are relevant in explaining the conditions under which CP is implemented and, therefore, in influencing its outcome. Our assumption, in fact, is that the simultaneous occurrence of alternative characteristics lead to completely different archetypes of policy implementation settings.

Second, the policy implementation settings are conceived and defined as tools for assessing CP effects on the European identity building process. This means that subjective elements in the sphere of political science, social psychology and sociology need to be taken into account together with objective conditions of the regions, that are in general conceived as filters between CP implementations and outcomes like GDP and employment growth, as it is usually the case in the traditional literature on the efficiency and effectiveness of cohesion policies (Ederveen et al., 2006; Fratesi and Perucca, 2014).

Conceptually speaking, we therefore reason on possible combinations of subjective and objective elements, capturing the efficiency of local institutions, their openness to EU values, as well as the real/perceived needs of local areas by inhabitants. These combinations provide different strategic pictures on a diversified set of institutional/social cohesion policy implementation conditions that might facilitate or hamper the appreciation of EU policy by local inhabitants, making them feel part of the integration project and increasing their participation to the social and political EU project.

Empirically speaking, an exercise like this calls for a clear definition of different concepts and their most appropriate measurements. The identification and measurement of a “need of a region” is an example in this respect; it calls for a clear definition on which to base appropriate indicators.

Hence, the present paper presents a conceptual way to interpret alternative policy implementation settings. Its first goal is to define the dimensions along which homogeneous policy settings can be identified. This issue will be discussed in the next section. Based on these considerations, the second objective of the paper consists in providing a taxonomy of some homogeneous typologies of policy implementation settings (section 3). Finally, the third aim is to present a method for their empirical measurement, by classifying EU NUTS2 regions across the different groups of settings previously defined (sections 4-7).

## **2. Critical dimensions of policy implementation settings**

### **2.1. Policy implementation settings and their critical dimensions**

The improvement in the quality of life of European citizens generated by CP actions is expected to induce a more favourable opinion on the EU in the beneficiaries of these policies (Mairate, 2006; Faludi, 2008). The main assumption underlying the present work is that the impact of CP on the processes of European identity building is not neutral to some of the characteristics of the policy implementation settings.

A policy implementation setting is defined as a combination of economic, social and institutional elements constituting the local context in which CP are put into place. Empirically, since the eligibility of regions for CP is defined based on the NUTS2 classification, in the context of this paper the boundaries of the policy settings are classified based on this nomenclature<sup>1</sup>. Previous literature already discussed the role of some of the characteristics of these settings in relation to the economic outcome of Communitarian actions. The goal of the present paper is to analyse them as factors fostering (or inhibiting) the process of European identity building. Moreover, we assume the

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<sup>1</sup> Eligibility is based on the NUTS2 classification for the European Regional Development Fund (ERDF) and European Social Fund (ESF). The Cohesion Fund (CF) is allocated to countries, but then it is redistributed to regions.

characteristics of the policy implementation settings to have all together a joint effect on the citizens' identification with Europe. These characteristics refer to two main dimensions: sensitivity and receptivity (Table 1).

Table 1. The two dimensions defining the local policy implementation settings: sensitivity and receptivity.

Dimensions of the local policy implementation settings	Definition	Subjective elements	Objective elements
Sensitivity	The need of a region for policies on a certain theme	<u>Perceived desirability</u> : the need for a certain kind of policies as perceived by the population	<u>Exposure</u> : the objective need for a certain kind of policies
Receptivity	The effectiveness of local institutions in implementing CP	<u>Institutional quality</u> : perceived quality of the local governments (low corruption, rule of law, etc.)	<u>EU acceptance</u> : closeness of the local institutions to the values, vision and strategies of the EU

The first dimension is defined by the sensitivity of each context to the actions promoted by CP. Sensitivity captures the need of a region for different kinds of policies. In fact, even if the final goal of CP is to support regional growth and stimulate job creation, this target can be reached through different kinds of interventions (from labour market policies, to business support, to R&D incentives, to transport infrastructures, etc.) whose choice is based on the specific needs of the regional socioeconomic systems. The EU Commission itself, in the communication of the Strategic Guidelines for the programming period 2007-2013, clearly stated that "(...) Member States and regions should pay particular attention to these specific needs in order to prevent uneven regional development from hampering growth potential" (CEC, 2005). Similarly, a broad literature on regional development (Barca et al. 2012; Farole et al. 2011; Camagni and Capello, 2015) recognized the importance of policies tailored on the specific needs of different regions, to exploit the growth potential of each place. Based on this reasoning, if the matching between local needs and CP actions is fundamental to achieve the desired impact on social welfare, we can assume this consistency to be crucial also for hampering positive perceptions of the EU.

When dealing with the impact of policies on EU identity building, however, an issue arises. The perceived impact of policies surely depends on the objective outcomes of these actions, and we assumed these outcomes to be higher whenever they meet the real needs of each region. Nevertheless, we must recognize that individuals may have a misperception of these needs. In other words, citizens could add a high priority to policy themes that are not particularly urgent for their region due, for instance, to lobbying, imperfect information or to their cultural background (van Oorschot, 2006). In the case of a mismatch between objective and subjective needs, the outcome of CP will be probably valued in a different way.

Sensitivity is therefore defined by two elements, one objective and the other one subjective: exposure and perceived desirability. The exposure of a region to a certain policy captures the

objective need of that area for a particular kind of program. For instance, a region with unexploited cultural heritage assets is likely to have a high exposure to tourism policies. Exposure is therefore close to the concepts discussed in the literature on the place-based approach to CP. Perceived desirability, on the other hand, measures the subjective priorities of the population among different policy themes. In an ideal scenario, perceived desirability is consistent with the exposure of a region, but mismatches may arise.

The second dimension defining a policy setting is the receptivity of CP. Receptivity measures the effectiveness of the local institutional context in implementing Communitarian policies. The assumption here is that if the local institutions are able to manage policies in an efficient way, the outcome on social welfare will be higher and, in turn, citizens will recognize the positive impact of the EU on their daily lives. Hence, the issue is to identify the institutional characteristics that may affect the outcome of CP implementation. As for sensitivity, also receptivity is defined by two elements, related to the objective and subjective characteristics of the regional governments.

The first, objective, one concerns the political orientation of the local governments and, as a consequence, of the resident population. Many works discussed the relationship between governments' composition and the allocation of CP funds. Kemmerling and Bodenstein (2006) claimed that EU funds tend to be more generously allocated to regions with Eurosceptic local governments so to increase, through funding, the political support of the population for the EU. Nevertheless, this result is rather unstable when applying different statistical techniques (Bouvet and Dall'Erba, 2010; Dellmuth, 2011). In the context of the present analysis, our assumption is that Eurosceptic local governments have, as all regional authorities (Chalmers, 2013), an incentive to maximise the amount of CP funds they receive, so to implement projects in their regions. At the same time, however, they do not have any incentive to promote positive policy outcomes as a merit of the EU but, rather, as their own responsibility. Therefore, we assume people living in regions marked by low levels of EU acceptance to be less likely than the others, keeping other characteristics of the local policy implementation settings constant, to perceive the positive impact of CP on their lives and, as a consequence, to increase their identification with the EU.

The second, subjective, element refers to the quality of local institutions, defined in terms of low levels of corruption and collusion. Crescenzi et al. (2016) analysed the effect of EU infrastructure investments on regional GDP growth, finding a positive impact only in presence of high-quality institutions. The same result is confirmed in another study (Rodríguez-Pose and Garcilazo, 2015), where the institutional quality seems to be a vital condition for achieving economic growth through Cohesion and Structural Funds. Based on this evidence, the first axis on which the receptivity of regions is represented by the perception citizens have on the quality of the local institutions.

As discussed in the introduction, the impact of CP on European identity is mediated by the simultaneous occurrence of some of these characteristics. Therefore, the goal of the next section is to understand how these critical dimensions can lead to alternative archetypes of local implementation settings.



## 2.2. From single dimensions to regional policy implementation settings

Taken together, the characteristics defined in the previous section concur in the definition of some typologies of policy implementation settings. The impact of CP on the processes of EU identity building is expected to vary across these archetypes, represented in Table 2.

Table 1 identifies nine typologies of homogeneous policy implementation settings. Sensitivity of each setting defines the consistency between the (objective and perceived) needs and the policies implemented. Sensitivity varies from the top to the bottom of the table. Receptivity, on the other hand, delineates the institutional context in which policies are implemented and, in Table 2, it changes from left to right. Both sensitivity and receptivity are evaluated in relative terms compared with the EU average (the dashed line in the radar charts of Table 2).

As far as sensitivity is concerned, three major situations are identified:

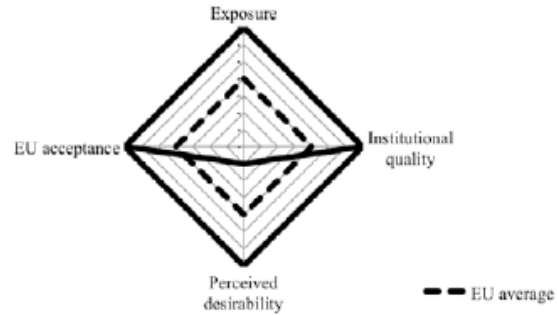
- appropriate policy: this situation occurs when the regions shows a clear objective need in a certain policy field, irrespective of the perceived needs of the resident population. Citizens, in fact, can perceive these policies as urgent or not but, if these actions are among the real needs of the region, their outcome will be positively evaluated by the population, even if in the beginning they were not considering these issues as priorities. Empirically, it is captured by a level of exposure higher than the EU average;
- opportunistic policy: this case occurs whenever a perceived need arises in policy fields where the region does not have an objective need. In other words, policies of a certain kind are not necessary but the resident population requests them. The perceived impact of these kinds of actions (and as a consequence their indirect effect on EU identity) will be lower than in the previous case, since the change in social welfare generated by their implementation will be lower than what expected. Empirically, this situation takes place when the exposure is lower than the EU average, while the perceived desirability is higher;
- unrequested policy: this situation appears when both real and perceived needs are not associated to a certain policy field. These kinds of actions are therefore not justifiable based on the objective needs of the region and, at the same time, citizens do not perceive them as relevant policy issues. As a consequence, their implementation generates a lower impact on individuals' perceptions than the other cases previously identified. Empirically, levels of both exposure and perceived desirability lower than the EU average characterize this scenario.



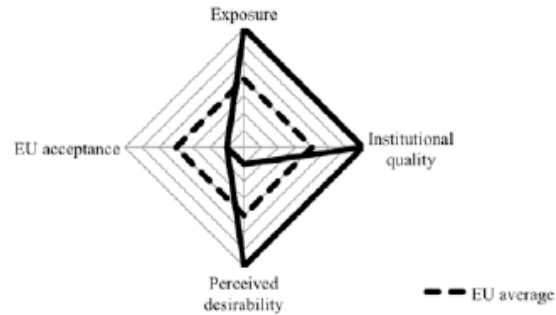
Table 2. Archetypes of regional policy implementation settings.

# R E C E P T I V I T Y

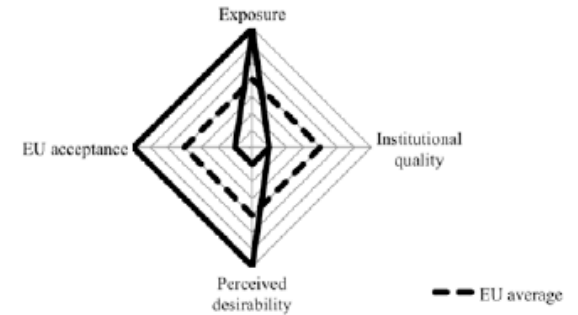
## Appropriate policy in an ideal context



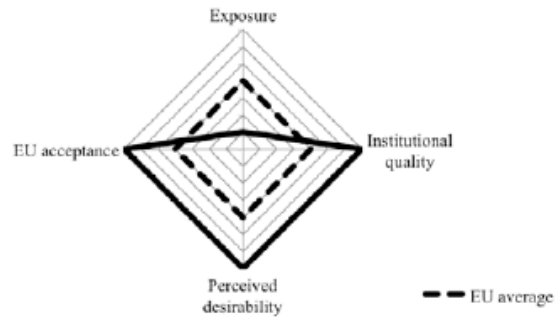
## Appropriate policy in an Eurosceptic context



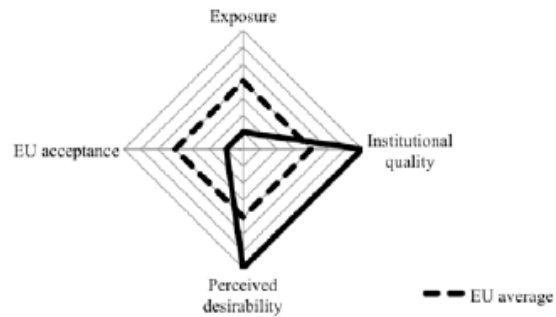
## Appropriate policy in an inefficient context



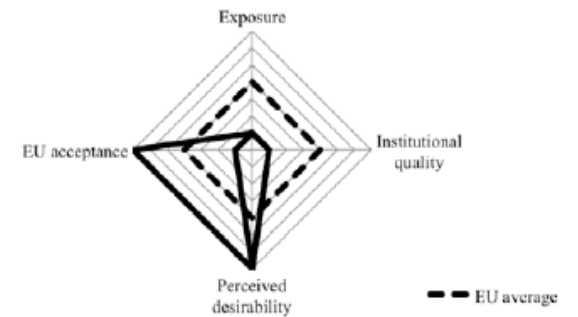
## Opportunistic policy in an ideal context



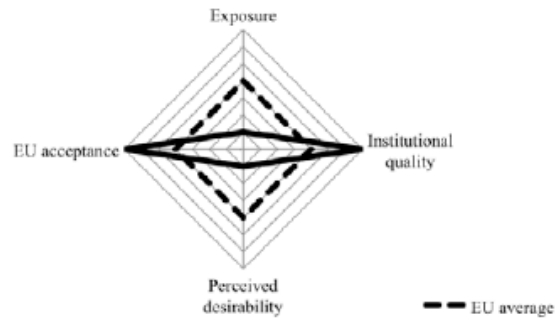
## Opportunistic policy in an Eurosceptic context



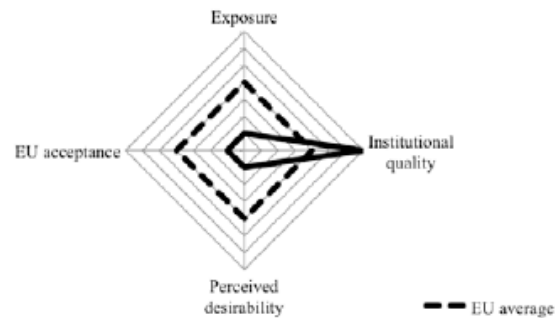
## Opportunistic policy in an inefficient context



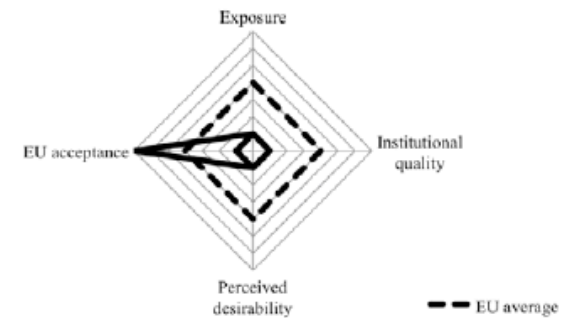
## Unrequested policy in an ideal context



## Unrequested policy in an Eurosceptic context



## Unrequested policy in an inefficient context



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These three situations, defined on the basis of the sensitivity to CP, are combined with three main typologies of institutional contexts, characterized by different levels of receptivity:

- ideal context: this environment is marked by the simultaneous occurrence of high institutional quality and a generalized support to the EU. It is the ideal context for the implementation of CP, since local governments are assumed to be efficient in the management and planning of Communitarian actions and to effectively cooperate with EU institutions. Empirically, both the indicators of institutional quality and EU acceptance are higher than the EU average;
- Eurosceptic context: in this case the good quality of institutions is not matched with a widespread support to EU institutions. Therefore, keeping other things constant, CP outcomes are assumed to be perceived as less positive than under the ideal conditions described above. Empirically, the indicator capturing the efficiency of institutions is higher than the EU average but the EU acceptance is lower;
- Inefficient context: in this context local governments are not particularly efficient. At the same time, their degree of EU acceptance can be either high or low. The assumption is that, in presence of inefficient local institutions, the support to the EU does not matter in explaining the impact of CP implementation on citizens' perceptions. Empirically, this situation is captured by a level of institutional efficiency lower than the EU average.

All the possible combinations of policy scenarios (based on sensitivity) and institutional contexts (based on receptivity), define nine archetypes of policy implementation settings. Based on our what discussed above, the perception of CP outcomes is expected to vary across the alternative settings. The goal of the next section is therefore to translate this conceptual framework into empirical terms, providing a measurement for each of the elements characterizing the policy implementation settings.

### **3. Policy implementation settings: from a conceptual approach to an empirical measurement**

#### **3.1. Sensitivity, receptivity and the areas of intervention of CP**

The goal of this section is to translate into empirical terms the conceptual framework developed in the previous part. In addressing this task, two main issues arise.

The first one refers to the definition of the measurements employed for the dimensions of the regional policy implementation settings. While the previous section clarified the conceptual meaning of each of these dimensions, it is still not clear how the latter can be translated into real empirical measurements. This is particularly true in the case of the indicators of sensitivity. How can we capture the real and perceived needs of a region? In order to answer to these questions, each of the following sections is devoted to one of the four axes defined in Table 1.

The second issue refers to the fact that while receptivity is not assumed to change across different kinds of policies, the same does not hold in the case of sensitivity. In fact, whatever the quality level of local institutions and/or their closeness to EU values, these characteristics are invariant across different types of actions, from R&D, to transport policies, to social programs, etc. At the same time, however, a certain region may need some specific interventions, rather than others of different kind. For instance, a regional policy implementation setting could have a high sensitivity to actions in support of local firms but not to environmental policies. In other words, the degree of sensitivity of a certain region (and then both its exposure and perceived desirability) is assumed to vary across different kinds of policies. The latter are defined by eight areas, following the classification suggested by CEC (2015), which makes comparable the data on the amount of funds invested in EU regions in the two programming periods 2000-2006 and 2007-2013. Table 3 reports this classification.

Table 3. Areas of CP intervention.

Macro area	Area	CP actions
Tangible private assets	Economy	Support to large business and SMEs
	R&D	Support to research and innovation activities of firms
	Tourism	Preservation of cultural heritage, support to tourism enterprises
Tangible public assets	Transport	Transport infrastructure
	ICT	Transport infrastructure
	Health	Health infrastructure
	Energy and environment	Energy infrastructure
Intangible public assets	Society	Social inclusion policies, vocational training, positive labour market actions for women

Source: adapted from CES (2015)

Our aim is to measure, for every local implementation setting (i.e. for each NUTS2 region) its level of sensitivity for each of the eight areas reported in Table 3. Then, in order to be able to compare them with the general level of institutional quality and to classify regions across the alternative archetypes of policy implementation settings discussed in Table 2, the degree of sensitivity in the eight areas of CP intervention is collapsed into three macro areas, as shown in Table 3. The first macro area includes the actions directly supporting the productive environment. These programs are aimed, in the first place, at stimulating the accumulation of tangible private assets, under the form of either private capital or R&D and innovation outcomes. The second category includes all the policies whose goal is to increase the regional endowment of some tangible public assets in the fields, for instance, of transport, energy, health, etc. Finally, the third macro area concerns those interventions aimed at the development of the social environment of regions, and therefore having an impact on its intangible public assets like social capital, behavioural modes and values.

Subsections 3.2 and 3.3 are devoted to the measurement of the sensitivity of regions, and respectively to their exposure and perceived desirability. Subsections 3.4 (institutional quality) and 3.5 (EU acceptance), on the other hand, focus on the measurement of the receptivity of the local policy implementation settings.

### **3.2. The exposure of local implementation settings to CP: the real needs of regions**

The exposure of a local implementation setting to a certain kind of policy captures its objective need for that particular action. Many works (McCann and Rodríguez-Pose, 2010) discussed the need for place-based theories in order to promote economic development by exploiting the potentials for growth of every territory. Moving from a theoretical to an empirical framework, however, it is questionable how these specificities should be measured.

In particular, the definition of needs is something complex and require some thoughts. A need could occur, in fact, under very different and alternative circumstances: either from a low endowment of a certain asset or from its inefficient exploitation or from the lack of a critical mass or from the occurrence of decreasing returns in its use. For instance, the low endowment of a resource could correspond to a low demand for that asset, and therefore in such a case it would be inappropriate to conceive it as a need.

In our opinion none of the above questions is meaningful to properly capture the real requirements of an area. The analysis of the supply is, per se, not enough to define the real needs of a region, since it does not take into account the corresponding demand. Therefore, in the context of this paper, our assumption is that regions are in need of a policy in a certain field when the supply of the good/service/resource considered is inadequate to meet the demand. Recalling the examples about R&D and transport infrastructures, then, what matters is not the absolute level of supply of these resources but, rather, the imbalances between their supply and demand.

In principle, the occurrence of any asymmetry between supply and demand is an exceptional event: in a competitive equilibrium, we would expect the supply to perfectly match the demand. CP intervention, however, is expressly devoted to those cases where markets fail to lead to an efficient equilibrium and, as a consequence, public intervention is needed either on efficiency or on equity grounds. More in details, CP actions in alternative policy fields can be justified based on four main reasons, leading to different interpretations of the concept of exposure as an imbalance between supply and demand (Table 4):

- asymmetric information: whenever the market is characterized by asymmetries in the information between economic agents good trades are missed (Akerlof, 1970). In other words, under these conditions the supply of the resource is lower than its demand. Situations of this kind arise, for instance, when firms cannot find financial support on the private market, since credit institutions are not able to carefully evaluate the risk of the potential investment: the supply of the resource (private investments) is lower than its demand. Public intervention is therefore needed based on efficiency grounds. Most of the CP actions aimed at the firms' support (Table 3) fall within this category. For these areas of intervention, regional objective needs arise when the supply is lower than the demand ( $S < D$ );

- -public good provision: when a public good is supplied, it is often the case that the benefits cannot be fully internalized by the provider. As a consequence, the good may be not provided at all by the market. Also in this case public intervention is required due to a potential market failure. The example about the transport infrastructures mentioned above pertains to this category, and the same holds for the actions included in several other areas of CP intervention (Table 3): due to the cost of provision and the difficulty to internalize all the social benefits generated, the public good is not supplied. Therefore, in such situations a region is characterized by a real need when the supply of the resource is lower than the demand ( $S < D$ );

Table 4. Conditions for the occurrence of regional needs: the imbalance between demand and supply across different policy fields

Causes of D/S imbalances	Condition for regional needs	Policy field of application	Supply indicator	Demand indicator
Asymmetric information	$S < D$	Economy R&D Tourism	Investments R&D expenditure Beds in accommodation facilities	Economic sectors and functions, productive specialization Innovative sectors and functions Cultural and natural heritage, amenities
Public good provision	$S < D$	ICT Health	Broadband network coverage Supply of public health	Human capital, economic activity Demographic characteristics, health infrastructures
Negative externalities	$S > D$	Energy and environment	Supply of negative environmental externalities	Natural capital, productive specialization
Equity goals	$S > D$	Society	Supply of public policies	Socioeconomic conditions

Note: Transport is excluded, as discussed in the footnote 2.

- negative externality: in presence of externalities the welfare of individuals is indirectly (i.e. without the mediation of prices) affected by the actions undertaken by other economic agents. Externalities operate on the quantity of the goods supplied and, in the case of negative externalities, overproduction occurs. A competitive equilibrium is therefore not efficient and public intervention is required. Pollution is a typical example of this situation and environmental actions undertaken under CP are aimed at mitigating the impact of negative externalities on social welfare. Hence, in this case a region is in need of a public policy if the supply of the resource producing a negative externality is higher than its demand ( $S > D$ );
- equity: in all the previous situations, the public intervention in the economy was based on efficiency grounds, as market forces alone were not able to reach an efficient equilibrium.

However, improving the efficiency of the EU regional economies is certainly not the only purpose of CP. One of its main goal is to reduce inequalities and social disparities within and across regions through, for instance, policies focused on social exclusion and unemployment. Hence, in such cases public actions are justified based on equity considerations. Regional needs arise when the supply of social policies is lower than its demand ( $S < D$ ).

Empirically, this definition of exposure implies the capability to measure both the supply and the demand of each resource pertaining to the eight areas of CP intervention (Table 3). In most cases this is feasible as far as the supply-side is concerned. For instance, considering again R&D investments and transport infrastructures, both the funds invested in innovation activities and the length of roads and highways are usually traced by official statistics. The same unfortunately does not hold for the demand-side. As an example, no data are available neither on the willingness of firms to receive funds for their R&D activities nor on the demand for transport infrastructure.

Demand, however, directly depends on some characteristics of the policy implementation settings. The demand for R&D investments, for instance, is related to the regional specialization in knowledge-intensive sectors, to the innovative outcome of regions, to the urban structure and to other features. In general, we can define the relationship between the supply and the demand of a certain resource as follows:

$$Supply_{a,r} = f(characteristics_r) + \varepsilon_{a,r} \quad [1]$$

where the quantity of the resource  $a$  demanded on the market of region  $r$  is a function of a set of characteristics of that area. In equilibrium, the demand should perfectly match the supply. The residual of model [1] measures the imbalance between the demand and the supply. The interpretation of this asymmetry as a regional need depends on the reason justifying public intervention in that specific policy field, as discussed in the alternative situations described above. If the public intervention is necessary due to the presence of asymmetric information, public good provisions or on equity grounds, then negative values of  $\varepsilon$  will indicate the occurrence of a regional need in that policy field. The opposite holds in the presence of negative externalities, where positive values of  $\varepsilon$  reflect the exposure of a region to a certain kind of policy.

In the empirical estimation of the regional needs, the same reasoning is applied to all the eight areas reported in Table 3<sup>2</sup>. For each of them, a model taking the form of [1] will be estimated, in order to measure the exposure of the local implementation settings to CP actions. The rest of the present subsection is devoted to a brief discussion on the estimation of the indicators of exposure for the different areas of intervention.

Economy. Capital is well recognized in the literature as one of the fundamental sources of economic development (Hicks, 1965). CP may involve the financing of firms and businesses whenever they have limited access to loans on the private market of capitals. The resource involved by policies in this area is therefore the amount of investments in the economy, whose supply is the dependent

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<sup>2</sup> The field of transport infrastructure represents the only exclusion. For this kind of policy the imbalance between supply and potential demand is captured by an indicator of road congestion, defined as vehicle-km by road over the total length of lanes. The presence of congestion is already an indicator of the shortcoming of roads compared with the demand of travellers.

variable in our empirical model. In the latter, the expected demand is assumed to be a function of the following territorial characteristics:

*Per capita investments<sub>r</sub>*

$$= \text{share of active pop.}_r + \text{empl. in manufacturing}_r + \text{empl. in service}_r + \text{pop. with tertiary education}_r + \text{population density}_r + \varepsilon_r \quad [2]$$

Where the share of active population captures the demographic structure of the region and the intensity of the participation of the population in productive activities. The share of employment in manufacturing and services takes into account for the specialization of the regional economies in more capital-intensive sectors.

Table 5a. Exposure to economic policies: regression results.

	(1)	(2)	(3)	(4)	(5)
% active population	18.606*** (2.308)	17.320*** (1.042)	17.328*** (2.032)	15.514*** (2.518)	15.143*** (2.554)
% empl. in manufacturing		-0.021*** (0.003)	-0.010*** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)
% empl. in services			0.028*** (0.005)	0.023*** (0.006)	0.027*** (0.006)
Pop.with tertiary education				0.006° (0.004)	0.006° (0.004)
Population density					-0.000 (0.000)
Lambda	1.000*** (0.000)	3.212*** (0.168)	1.000*** (0.000)	1.000*** (0.000)	1.000*** (0.000)
Sigma	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
Constant	-26.135*** (4.610)	0.000 (0.000)	-34.394*** (5.460)	-25.683*** (4.481)	-27.310*** (4.699)
Observations	259	259	259	259	259

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

Similarly, the highly-educated population measures the orientation of the productive environment towards high-level functions and therefore the regional productive efficiency. Finally, the inclusion of population density accounts for the presence of urban areas, and the subsequent presence of public investments. Regression results are reported in Table 5a<sup>3</sup>.

The independent variables have been separately introduced in the model specification, so to test for multicollinearity issues. The findings in Table 5a are consistent with the ex-ante expectations. The supply of investments is positively related to the share of active population, to the specialization in the service sector and, with a lower statistical significance, to the residents' level of education.

<sup>3</sup> All the estimated models have been tested for spatial autocorrelation. In general, these checks pointed out the presence of spatial dependency and, as a consequence, spatial regression models like Spatial Error Model (SEM) and the Spatial Autoregressive Model (SAR) have been used. More details on the results of the spatial autocorrelation tests are available from the authors upon request.



The error terms from the last, and richest, model are employed as indexes of regional exposure. In this case, public intervention is assumed to be justified based on the presence of asymmetric information in the credit market, limiting the access of firms to private capital. Therefore, consistently to what discussed above, negative values of  $\epsilon$  imply that, keeping all the relevant characteristics constant, the supply of investments is lower than the expected demand and, as a consequence, these policy implementation settings have a high exposure to CP in this area.

Research and development. In modern economies, regional growth is more and more dependent on knowledge and innovation (Cooke, 2001). The supply of R&D funding crucially depends on several factors, as reported in equation [3]:

$$\begin{aligned}
 R\&D\ expenditure_r &= patents_r + innovative\ cluster_r + empl.\ knowledge\ intensive\ sectors_r \\
 &+ empl.\ with\ tertiary\ education\ in\ science\&\ technology_r \\
 &+ population\ density_r + \epsilon_r
 \end{aligned}
 \tag{3}$$

The model includes two variables for the regional productive structure. The share of employment in knowledge-intensive sectors measures the regional specialization in innovative activities. Within these sectors, the quota of employed people with tertiary education captures the extent to which workers are involved in innovative and highly productive working activities. The per capita number of patents captures the efficiency of the regional innovation system.

A set of dummies accounts for the modes of innovation production. The rationale for the inclusion of these variables relies on the fact that innovation can be the outcome of very different ways in the modes regions have to innovate: from imitation, to adaptation, to pure creation (Capello and Lenzi, 2013a). Capello and Lenzi (2013b) proposed a classification of EU regions based on this framework. More in details, they identified five patterns of innovation. EU science based areas are characterized by innovative activities on basic general-purpose technologies. Applied science areas, on the other hand, are marked by high patent activities in diversified applied technology fields. The third group includes the smart technological application areas, i.e. regions exploiting external specific technologies to foster the upgrading of local innovation. In a similar way, smart and creative diversification areas enhance local innovation by using an external source, in this case represented by external tacit knowledge. Finally, imitative innovation areas generate innovation through territorial attractiveness represented, for instance, by favourable conditions of the labour market.

As a further control in model [3], population density takes into account the urban structure of the regions. Similarly to the previous case, if  $\epsilon$  is lower than zero we assume the supply of R&D investments to be lower than the expected demand.

Regression results are reported in Table 5b. Apart from population density, all the other regressors are statistically significant and with the expected sign. The specialization of the region in innovation-intensive sectors is related to a higher supply of R&D funds. This effect is stronger when raising the share of workers in science and technology who completed tertiary education. The number of per capita patents is also associated to greater investments. As far as the innovation patterns are concerned, the category of reference in the estimates is represented by the imitative innovation areas. Compared with the latter, as expected, all the others are characterized by a larger level of R&D financing.

Table 5b. Exposure to R&amp;D policies: regression results.

	(1)	(2)	(3)	(4)	(5)
Per capita patents	4.148*** (0.404)	3.888*** (0.538)	3.225*** (0.503)	3.152*** (0.487)	3.036*** (0.511)
Innov. cluster: <i>EU science based</i>		0.778** (0.390)	0.610* (0.352)	0.563* (0.341)	0.631* (0.362)
Innov. cluster: <i>Applied science</i>		0.770*** (0.215)	0.595*** (0.198)	0.503** (0.204)	0.498** (0.203)
Innov. cluster: <i>Smart application</i>		0.930*** (0.147)	0.716*** (0.128)	0.640*** (0.129)	0.638*** (0.129)
Innov. cluster: <i>Smart diversification</i>		0.470*** (0.091)	0.448*** (0.087)	0.356*** (0.093)	0.353*** (0.094)
% empl. in high-tech sectors			0.216*** (0.030)	0.178*** (0.034)	0.187*** (0.035)
% empl. in science and techn. with				0.028**	0.030**
high education				(0.013)	(0.013)
Population density					-0.062 (0.066)
Lambda	0.613 (0.637)	-0.965*** (0.368)	-0.950*** (0.323)	-0.921*** (0.322)	-0.863*** (0.319)
Sigma	0.863*** (0.076)	0.822*** (0.075)	0.749*** (0.081)	0.743*** (0.081)	0.741*** (0.081)
Constant	1.858 (2.859)	0.480*** (0.053)	-0.053 (0.083)	-0.280** (0.134)	-0.328** (0.141)
Observations	249	249	249	249	249

Reference category for the innovation clusters: imitative innovation areas.

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

In this policy field, the intervention of the public sector is assumed to rely, as in the previous case, on the presence of asymmetric information, but also on the potential positive externalities on social welfare that R&D activities might produce. Based on these considerations, negative value of  $\epsilon$  indicates a regional need in this area since the supply does not fulfil the expected demand.

Tourism. The interest of scholars towards the role of tourism as a long-period growth economic factor largely increased in the last years (Balaguer and Cantavella-Jorda, 2002). Local amenities, the cultural heritage and the natural capital of places represent some of the territorial assets upon which cities and regions are planning their future development strategies. As a consequence, a relevant share of CP is devoted to actions and programs aimed at supporting firms operating in this sector. From our perspective, per capita beds in registered accommodation facilities measure the supply of tourism services from the private sector. The potential demand is expected to depend on the attractiveness of places, as described in model [4]:

$$\begin{aligned}
 & \text{Per capita beds in accommodation facilities}_r \\
 &= \text{per capita GDP}_r + \text{population density}_r + \text{monuments}_r + \text{TCl stars}_r \\
 &+ \text{share of natural areas}_r + \text{heating degree days}_r + \epsilon_r
 \end{aligned}
 \quad [4]$$

Where per capita GDP captures the overall economic condition of the regions and population density controls for the level of urbanization of different settings. The density and the quality of the cultural heritage is measured respectively by the per capita number of monuments and the number of sites that received the three-star label by the Touring Club Italy (TCI, an official label for the cultural sites of particular interest). The coverage of natural areas is a proxy for the natural and environmental resources of the region, while the heating degree-days measure the local climate. Table 5c shows the regression results.

Table 5c. Exposure to tourism policies: regression results.

	(1)	(2)	(3)	(4)	(5)	(6)
Per capita GDP	0.002* (0.001)	0.003*** (0.001)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Population density		-0.042*** (0.007)	-0.025*** (0.006)	-0.044*** (0.010)	-0.044*** (0.010)	-0.045*** (0.011)
% of natural areas			0.710*** (0.122)	0.710*** (0.122)	0.710*** (0.122)	0.700*** (0.125)
Density of				0.359*** (0.116)	0.357*** (0.113)	0.363*** (0.117)
TCI stars					-0.009 (0.087)	-0.021 (0.100)
Heating degree days						-0.004 (0.012)
Lambda	0.671 (1.605)	0.998*** (0.000)	2.265*** (0.625)	2.206*** (0.639)	2.212*** (0.638)	2.193*** (0.669)
Sigma	0.128*** (0.012)	0.124*** (0.012)	0.106*** (0.008)	0.106*** (0.008)	0.106*** (0.008)	0.106*** (0.008)
Constant	0.185 (0.777)	18.034*** (2.280)	-0.572*** (0.104)	-0.571*** (0.104)	-0.565*** (0.116)	-0.538*** (0.153)
Observations	262	262	262	262	262	262

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

Other things constant, tourism facilities tend to be more developed in the richest and less urbanized regions. The endowment of both natural and cultural capital is associated with a stronger specialization in the tourist sector. At the same time, however, what we defined as the “quality” of the cultural amenities is not statistically significant, so as the climate characteristics of regions.

Several reasons justify public interventions. Direct support to firms can be explained by the presence market imperfections and asymmetric information in the credit market. At the same time, since both natural and cultural capital own the characteristics of public goods, actions aimed at their preservation and restoration are likely to produce social benefits that cannot be internalized by private firms. Hence, negative values of  $\epsilon$  imply that the supply of tourist services is lower than what we would expect based on the territorial characteristics of the local implementation settings.

ICT. The link between ICT and development has become central in the EU strategies of “smart” growth (CEC, 2010). In Europe, however, the diffusion of ICT technologies is highly differentiated across and within countries and an untapped demand has still to be met in many local contexts.

While ICT services are mainly supplied by private operators, the provision of the basic infrastructure and network owns most of the properties of public goods (Sadowski et al., 2009). In this context, CP is therefore aimed at supporting regions in the provision of the infrastructures for the widespread access to these technologies. Empirically, the current supply of ICT services is measured by the existence of a broadband network, measured through the share of population with broadband access. The potential demand depends on the following factors:

*Population with broadband access<sub>t</sub>*

$$= \text{dependency ratio}_t + \text{pop. with tertiary education}_t + \text{per capita investments}_t + \text{urban typologies}_u + \varepsilon_t \quad [5]$$

In equation [5], the dependency ratio (the ratio between the population under 18 and over 64) measures the amount of potential users, based on the assumption that older societies are less likely to be interested in ICT services. The opposite reasoning concerns the individuals with tertiary education, whose demand for this kind of facilities is assumed to be higher when compared with non-graduated people. Per capita investments account for the productive structure of the region and the potential demand from firms, while the population density captures the presence of public administrations., i.e. of public demand of ICT services. Results are reported in Table 5d.

Table 5d. Exposure to ICT policies: regression results.

	(1)	(2)	(3)	(4)
Pop. with tertiary education	1.103*** (0.094)	1.059*** (0.094)	0.794*** (0.095)	0.837*** (0.096)
Dependency ratio		9.407*** (1.766)	10.097*** (1.824)	11.306*** (1.916)
Per capita investments			1.014*** (0.194)	1.019*** (0.197)
Population density				0.002** (0.001)
Lambda	1.119*** (0.139)	1.126*** (0.132)	1.068*** (0.125)	1.085*** (0.124)
Sigma	10.761*** (0.532)	10.326*** (0.556)	9.763*** (0.495)	9.662*** (0.478)
Constant	7.818*** (2.376)	-1.737 (2.999)	-4.483° (3.016)	-6.453** (2.947)
Observations	262	262	262	262

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

Findings show that the share of population with broadband access directly depends on the proportion of people with tertiary education. Younger communities are more likely to have access to ICT, and the same holds for regions with high concentration of private investments. Finally, dense areas are characterized by a higher demand of ICT services. As discussed above, if the supply is lower than the expected demand (i.e.  $\varepsilon < 0$ ) an objective need in this policy field occurs.

Health. The EU explicitly recognizes “citizens’ right of access to preventive healthcare and the right to benefit from medical treatment” (CEC 2007, page 4). Then, the right to health owns the properties of a public good, since the consumption of public services can be neither excludable nor rivalrous. Despite of this, huge socioeconomic inequalities in both the access to health services and the mortality rates are still observed across EU regions (Mackenbach, 2008). The final goal of the actions in this field is therefore to improve the level of public health in Member States. The latter is measured by the life expectancy at birth in EU regions, depending on a set of regional characteristics as shown in the following model:

$$\begin{aligned} \text{Life expectancy}_r &= \text{per capita GDP}_r + \text{population density}_r + \text{per capita hospital beds}_r \\ &+ \text{infant mortality rate}_r + \text{NHS organization}_r + \varepsilon_r \end{aligned} \quad [5]$$

where the per capita GDP accounts for the general level of wealth, with the expectations that the behaviours and life style of richest societies contribute to increase the life expectancy. Population density captures the degree of urbanization of the local settings, based on two assumptions. On the one hand, urban areas are endowed with a larger supply of healthcare facilities. On the other hand, however, living in cities is associated to several diseases and higher social disparities than in rural settings (Galea and Vlahov, 2005). The number of per capita hospital beds measures the healthcare infrastructures available in the region, while the infant mortality rate is commonly used in the literature as an indicator of efficiency of the healthcare providers (Mobley and Magnussen, 1998). Finally, a set of dummies checks for the organizational form of the National Healthcare Systems (NHS). Across EU countries, in fact, both the organization of health systems and the amount of public expenditure devoted to this policy field is not the same (Böhm, 2013). To take into account these cross-country differences, three variables are considered: the share of total health expenditure over national GDP, the share of public health expenditure over total health expenditure and the share of the out-of-pocket health expenditure over the private one. A cluster analysis on these three variables identified four groups of countries. The first one was marked, compared with the others, by a high healthcare expenditure over GDP. Countries in the second group show the lowest levels of health expenditure but a NHS predominantly public. The third cluster is characterized by intermediate healthcare expenditure and public intervention, while a high share of out-of-pocket expenditure defines the fourth group.

Regression results are reported in Table 5e. As expected per capita GDP is associated with longer life expectancy. The opposite holds for the population density, as for the number of hospital beds. This latter result can be explained by the fact that a high number of beds may also be associated to lower levels of efficiency, since in modern healthcare systems a number of diseases can be better treated in day-hospital regime, rather than with the hospitalization of the patient. Consistently with our ex-ante assumptions, the higher the infant mortality rate the lower the life expectancy of the population. Finally, the coefficients for the different types are calculated taking as reference the first group, i.e. the NHS systems with the highest healthcare expenditure as a share of GDP. The findings are consistent with the ex-ante assumptions, since all the NHS characterized by lower levels of healthcare expenditure are associated to a shorter value of life expectancy, and the size of this negative effect is particularly large in the systems where patients’ out-of-pocket contribution is higher.

Table 5e. Exposure to health infrastructure policies: regression results.

	(1)	(2)	(3)	(4)	(5)
Per capita GDP	0.129*** (0.027)	0.156*** (0.019)	0.144*** (0.019)	0.085*** (0.017)	0.066*** (0.015)
Population density		-0.779*** (0.270)	-0.752*** (0.257)	-0.343* (0.175)	-0.251** (0.125)
Per capita hospital beds			-0.003*** (0.001)	-0.002*** (0.000)	-0.004*** (0.001)
Infant mortality rate				-0.626*** (0.050)	-0.582*** (0.047)
Health system: NHS					-1.634***
predominantly public					(0.340)
Health system: intermediate healthcare expenditure					-1.328*** (0.392)
Health system: high out-of- pocket expenditure					-2.395*** (0.485)
Lambda	0.007 (0.018)	0.001 (0.016)	0.035** (0.017)	0.027* (0.014)	-0.013 (0.016)
Sigma	2.092*** (0.130)	1.987*** (0.102)	1.927*** (0.096)	1.551*** (0.083)	1.432*** (0.080)
Constant	76.283*** (1.447)	75.579*** (1.105)	79.413*** (1.434)	82.758*** (1.378)	82.337*** (1.207)
Observations	267	267	267	267	267

Reference category for the NHS clusters: high health expenditure.

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

As discussed above, since the health can be substantially considered a non-excludable and non-rivalrous good, a negative value of the error term reflects the occurrence of a regional need in this policy area.

Energy and environment. The EU 2050 Energy Strategy (CEC, 2011) set the ambitious goal to reduce, by 2050, greenhouse gas emissions by 80-95 with respect to the 1990 levels. The achievement of this objective requires huge investments in energy efficiency and renewable energy, so to reach a sustainable development path, where economic growth is matched with poor pollution (Capello et al., 1999). The reason explaining the public intervention in this field mainly refers to the occurrence of negative externalities in a number of behaviours both at the firm (in the production phase) and at the individual (for instance in the case of overconsumption of energy) level. As a result, too much of the negative externality will be produced.

From an empirical perspective, this negative externality is measured by an indicator of the level of pollution. The latter results from a Principal Component Analysis on the soil and water pollutants and CO<sub>2</sub> and PM<sub>10</sub> emissions. As shown in model [6], pollution is expected to depend on a set of sources of negative environmental externalities:

$$\begin{aligned}
Pollution_r = & \text{share of natural areas}_r + \text{heating degree days}_r \\
& + \text{employment in agriculture}_r + \text{population density}_r + \text{motorization rate}_r \\
& + \text{traffic congestion}_r + \text{energy consumption}_r + \text{per capita GDP}_r + \varepsilon_r
\end{aligned}
\quad [6]$$

Some of them control for the natural capital (share of natural areas) of the area and its geographical location (heating degree-days). A second group of variables captures the degree of urbanization (population density) and the economic specialization (share of employment in the agricultural sector). The length of the roads (motorization rate) and the level of congestion takes into account the structure of the transport network. Finally, the per capita GDP and the energy consumption per inhabitant respectively measures the overall level of economic development and other characteristics of the productive environment not captured by the previous variables. Results are reported in Table 5f.

Table 5f. Exposure to energy infrastructure policies: regression results.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
% of natural areas	-2.405*** (0.504)	-2.160*** (0.462)	-2.685*** (0.755)	-0.843*** (0.101)	-0.740*** (0.138)	-0.817*** (0.127)	-0.804*** (0.123)
Heating degree-days		-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
% empl. in agriculture			-3.036*** (1.006)	-0.384** (0.180)	-0.609** (0.259)	-0.585** (0.258)	-0.716*** (0.272)
Population density				1.331*** (0.034)	1.321*** (0.052)	1.321*** (0.051)	1.340*** (0.068)
Motorization rate					-0.036 (0.031)	-0.039 (0.031)	-0.030 (0.039)
Congestion of roads					0.013 (0.109)	0.010 (0.107)	0.010 (0.102)
Energy consumption						0.002* (0.001)	0.002* (0.001)
Per capita GDP							-0.003 0.003
Lambda	0.999*** (0.000)	0.997*** (0.000)	0.380 (0.290)	1.000*** (0.000)	1.000*** (0.000)	1.000*** (0.000)	1.000*** (0.000)
Sigma	1.177*** (0.278)	1.169*** (0.277)	1.153*** (0.274)	0.285*** (0.055)	0.283*** (0.053)	0.282*** (0.053)	0.281*** (0.054)
Constant	2.479*** (327.995)	0.527*** (70.712)	0.004*** (1.259)	1.705*** (191.613)	2.525*** (374.839)	2.586*** (324.001)	2.558*** (374.119)
Observations	236	236	236	236	236	236	236

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

The findings show that pollution is higher in the more urbanized areas and for higher levels of energy consumption. On the other hand, it is lower in regions characterized by high amount of natural capital and with a specialization in the agricultural sector. Similarly, a higher demand for energy needed to heat a building (heating degree-days) is associated to lower levels of pollution.

As discussed above, a level of pollution higher than the expected one (hence, positive values of  $\varepsilon$ ) points out the occurrence of a regional need in this policy field.



Social policies. One of the objectives of CP is to promote social cohesion and to reduce disparities. This objective does not directly pursue economic efficiency, but it is rather based on principles of equity. Therefore, across EU regions public institutions should give the same level of support to the disadvantaged individuals in the population. Empirically, we capture the extent of the public intervention in the economy (i.e. the supply of public policies) with the value added in non-market services. Obviously the extent of public participation in the economy depends on several factors, like the productive environment (the public services supplied to firms) and the degree of urbanization (the public utilities typical of urban settings). Based on these considerations, our model takes the following form:

$$\begin{aligned} & \text{Value added in non\_market services}_t \\ &= \text{per capita investment}_t + \text{population density}_t + \text{net disposable income}_t \quad [7] \\ &+ \text{unemployment rate}_t + \text{dependency ratio}_t + \varepsilon_t \end{aligned}$$

where the presence of private economic activities is measured by the per capita investments, while the degree of urbanization is captured by the population density. Social disparities are taken into account with the inclusion of three variables. Net disposable income controls for the available resources for households' consumption and, indirectly, for the amount of funds that public bodies can raise through taxation. The unemployment rate measures the imbalances in the labour market, while the dependency ratio between young (under 18) and old (over 65 years old) residents is included since the educational services are typically provided by the public sector. Regression results are reported in Table 5g.

Table 5g. Exposure to social policies: regression results.

	(1)	(2)	(3)	(4)	(5)
Population density	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Per capita investments		0.497*** (0.030)	0.269*** (0.055)	0.283*** (0.055)	0.350*** (0.068)
Net disposable income (PPP)			0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.001)
Unemployment rate				0.006° (0.004)	0.011** (0.005)
Dependency ratio					0.006** (0.003)
Lambda	1.000*** (0.000)	1.000*** (0.000)	1.000*** (0.000)	1.000*** (0.000)	-0.255 (0.371)
Sigma	0.003*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Constant	133.192*** (2.767)	35.791*** (4.188)	-9.938*** (1.196)	-4.909*** (0.657)	-0.004*** (0.001)
Observations	260	260	260	260	260

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.10, ° p<0.15

The findings show that the production of non-market services is associated to both the private capital invested in regions and to the presence of dense urban settings. The coefficient of the dependency ratio is positive and statistically significant, consistently with the assumption discussed above. Richest areas are characterized by higher levels of supply of non-market goods, and the same applies to the regions with the more severe levels of unemployment.

If  $\epsilon < 0$  the value added in non-market services is lower than what we would expect based on the results of our model and, as a consequence, a regional need arises.

### **3.3. The perceived desirability of local implementation settings to CP: the subjective needs of regions**

Measuring the perceived needs of the resident population is crucial in order to understand their reaction to the implementation of CP actions in different policy fields. Asymmetries between the perceived desirability and the regional exposure, in fact, are likely to have an impact on the perception of the utility of CP programs.

In principle, if individuals were characterized by perfect information and unbounded rationality, the perceived desirability of a certain policy should reflect the exposure of the region to that kind of action. Nevertheless, these conditions rarely hold. A long stream of research pointed out how, even when facing apparently easy choices and problems, individuals fail to behave consistently with their preferences (Kahneman, 2003). Moreover, they usually have poor information about the costs and benefits generated by alternative public policies. As a consequence, lobbies and groups of interest may exploit this lack of information by orientating the public opinion in a way they find beneficial (Stiglitz, 1998). Based on this reasoning, we labelled the local policy implementation setting characterized by unbalances between exposure and perceived desirability as an “opportunistic context”.

From an empirical point of view, we measured the perceived regional needs using Eurobarometer (EB) data. Since 1973, EB is conducting survey analyses on behalf of the European Commission, in order to monitor the evolution of public opinion across Member States. Millions of EU citizens have been asked about a broad variety of issues, and many of these questions are repeated over time. One of this recurrent topics concerns the policy fields that should be the object of EU intervention. More in details, the question is the following one: “European integration has been focusing on various issues in the last years. In your opinion, which aspects should be emphasized by the European institutions in the coming years, to strengthen the European Union in the future?”. Each respondent had to indicate its preference by mentioning no more than three themes among a list of options, reported in the left column of Table 5.

Since, among other characteristics, EB respondents are asked to declare their region (NUTS2) of residence, we were able to calculate, for each of the policy fields in Table 5, the share of people that, in a certain region, mentioned it as a primary axis of intervention for Communitarian actions<sup>4</sup>.

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<sup>4</sup> It is worth noting that the sample of respondents in EB studies is representative of the national population, but not of the regional communities. In order to alleviate this issue, we pooled together several EB surveys, conducted between 2007 and 2009, including the same question about the fields of intervention of EU institutions. As a result, we ended up with a data set of 181,380 individual observations, with an average value of 788 respondents for each NUTS2 region.

Then, the list of policy fields included in the EB questionnaire was made consistent with the areas of intervention used for the measurement of regional exposure (Table 3), as showed in the second column of Table 5.

Table 5. Policy fields in EB surveys on the competences of EU institution.

Alternative policy fields (EB)	Area of CP intervention
Internal market Economic affairs	Economy
Scientific research	R&D
Cultural policy (+internal market)	Tourism
Transport (+scientific research)	Transport
EU education policies	ICT
Health issue	Health
Energy issues Environment issues Climate change	Energy and environment
Solidarity regions Immigration issues Fighting crime (+EU education policies)	Social

For instance, the perceived desirability of actions in the “Economy” field depends on the share of people who indicated either “internal market” or “economic affairs” in the EB survey. In the same way, the perceived desirability in the field of “Tourism” is related to the relative number of respondents who chose either “cultural policy” or “internal market” in answering the questionnaire.

### 3.4. The level of EU acceptance of the regional policy implementation settings

In the last decades, the trends of Euroscepticism significantly diverged across EU countries and regions (Lubbers and Scheepers, 2010). The explanation of these patterns is still not clear. Some scholars argue that the support to Eurosceptic parties is mainly an instrument for the voters to protest against the national governments (Prosser, 2016): the broad political coalitions governing several countries led to the rise of populist parties in Europe, able to attract the preferences of unsatisfied citizens, as in the case of the UKIP in the UK (Clarke et al., 2016).

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More in details, data have been collected from the following EB issues: study numbers n. 4530 and 4565 in 2007, n. 4744 and 4819 in 2008, n. 4971 and 4973 in 2009.

On the other hand, some researchers (Ferrara and Weishaupt, 2004) suggest that the EU Parliament elections lost their “second-order” status: as Communitarian policies and rules gained more and more importance and influence on EU citizens’ life, voting for EU institutions is now an opportunity to confront alternative visions on the EU itself. Therefore, the support to Eurosceptic parties is not intended as a form of disapproval of national governments but, rather, as a dissent with the programs and strategies undertaken by the EU.

As suggested by Treib (2014) both approaches contributed in explaining the sharp increase in the support to Eurosceptic parties in the 2014 elections. These political movements are of very different kind, ranging from the extreme left to the extreme right and from soft to hard Eurosceptic positions. The common trait of these parties is that they took advantage of the emergence of niches in the electoral arena (Rydgren, 2004) generated, in a period of economic crisis, by different factors like the non-sustainability of governments’ debt or the issues related to migration.

Even if there is some evidence linking the support to Eurosceptic parties to the allocation of largest amounts of regional Communitarian funds, in an attempt to “buy” the EU acceptance of local communities (Kemmerling and Bodenstein 2006), this relationship is not fully clear and we do not assume the role of Euroscepticism in the implementation policy settings to be mediated by the amount of CP investments received. Rather, our hypothesis is that Eurosceptic parties are likely not to recognize the benefits from EU regional policy and to orientate the public opinion in this direction. This assumption is based on two main reasons. First of all, since niche parties, in order to survive, emphasize their preferred topics, so to be associated with that theme and be perceived by the voters as competent in handling that issue (Van de Wardt, 2015). Second, because EU institutions tend to isolate the Eurosceptic component of the Parliament, excluding them from the main decisions and, as a consequence, reinforcing the conflicts between the two parts (Treib, 2014).

Based on this reasoning, the conditions characterizing what we labelled as “Eurosceptic context” (Table 2) are expected to weaken the residents’ perception of the impacts of CP. Empirically, we measured the level of EU acceptance with the share of votes for non-Eurosceptical parties in the European Parliament elections held in 2009<sup>5</sup>.

### **3.5. The institutional quality of the regional policy implementation settings**

The role of the quality of governments on economic prosperity is well-recognized in the literature (Kraay et al., 2004; Easterly et al., 2006). More recently, its impact on the EU regional policy has been addressed by several works (Ederveen et al., 2006), generally pointing out an increasing return of public investments in the presence of efficient institutions. The limitation of these studies is related to the unavailability of data at regional level.

This issue was faced by the research team at the Quality of Government Institute of the University of Gothenburg. They prepared on behalf of the European Commission a detailed study on the subnational variations of the quality of government in EU countries (Charron et al., 2010). The aim of this study is to measure institutional quality at the regional (mainly NUTS2) level. More in details, quality of government is defined along four dimensions: corruption, rule of law, bureaucratic

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<sup>5</sup> The classification of parties between Eurosceptic and non-Eurosceptic is based on internet-based research and on the analysis by Treib (2005). Both soft and hard Eurosceptic movements are classified together as anti-EU. The source of the data is the European Election Database managed by the Norwegian Centre for Research Data.

effectiveness, strength of democratic and electoral institutions. In a survey study conducted in 2009, 34,000 individuals in the EU were asked to answer some questions about their perceptions of these four dimensions. The results of these analysis allowed the authors to calculate an overall index of quality of government aggregating the results from the four pillars. This indicator is therefore a measure of perceived institutional quality. Its analysis points out relevant unbalances in the quality of government within countries, as in the case of Italy and Spain, highlighting the need for a territorial approach to this topic (Charron et al., 2014).

Stemming from this recognition, several studies adopted this indicator in order to study the relationship between the quality of regional institutions and the provision of transport infrastructure (Crescenzi et al., 2016), the return of Cohesion Expenditure (Rodríguez-Pose and Garcilazo, 2015) and the occurrence of regional disparities (Ezcurra and Rodríguez-Pose, 2014). Following this literature, also in the context of the present paper the institutional quality of regional governments is captured by the overall index by Charron et al. (2010).

## 4. The local policy implementation settings of EU regions

The different combinations of the dimensions characterizing the local policy implementation settings lead to the alternative archetypes represented in Table 2. The scope of this section is to present and discuss the distribution of these typologies in EU regions.

The receptivity of regions is constant, while the level of exposure is not the same across different policy fields. The empirical measurements presented in the previous sections allow identifying the distribution of the typology of policy settings across regions for any of the eight thematic areas listed in Table 3. The following lines, however, are aimed at presenting the policy implementation settings for three macro areas of intervention.

The first one (tangible private assets) includes three axes focused on the support to the productive environment of regions: economy, R&D and tourism. The policy implementation setting of each region in this macro area is identified by analysing together sensitivity and receptivity, as described in the following lines.

Sensitivity allows understanding whether a policy in a certain field is either appropriate or opportunistic or unrequested (Table 2). We identified the degree of sensitivity of EU regions for each of the three axes in this macro area, combining the exposure and perceived desirability of CP actions measured in the previous sections. As far as the exposure is concerned we created, for each of the three axes of intervention, a dummy variable equal to one for those regions whose errors terms in models [2], [3] or [4] are negative, and equal to zero otherwise. Similarly, in the case of perceived desirability, we generated, for each of the three axes of intervention, a dummy variable equal to one if the indicator of perceived desirability on a particular axis is higher than the EU average, and equal to zero otherwise.

This procedure allowed us to define, for each axis, the sensitivity of regions for CP actions of different kind. For instance, a value of one in both exposure and perceived desirability in the field of R&D means that policies in this field are appropriate. On the other hand, if exposure is equal to zero and the perceived desirability is equal to one, actions in this field are assumed to be opportunistic. Then, every region is characterized by a degree of sensitivity on each of the three axes pertaining to this macro area. In order to synthetize them in a single indicator, we defined the

overall level of sensitivity by considering the predominant typology among the three areas. For example, a region being an appropriate policy setting for both R&D and tourism policies is defined as an appropriate policy setting in the macro area of the tangible private assets. If a clear ordering of the three alternatives is not possible (for instance if a region is an opportunistic, appropriate and unrequested policy setting respectively for policies in the field of economy, R&D and tourism), we made prevail the opportunistic case on the other ones. This choice is based on the reasoning that opportunistic settings convey the most relevant implications for policy making, since CP actions in such situations are likely to generate rent-seeking phenomena.

The level of receptivity is aimed at capturing the institutional characteristics of the context in which policies are implemented. As for sensitivity, we identified the degree of receptivity of EU regions combining the values of institutional efficiency and EU acceptance estimated in the previous sections. The level of receptivity is invariant across axes of intervention. In the case of institutional efficiency, we created a dummy variable equal to one if the indicator of the quality of government is higher than the EU average, and equal to zero otherwise. Similarly, for the level of EU acceptance, we generated a dummy variable equal to one if the share of preferences to Eurosceptic parties at the 2009 EU Parliament elections is lower than the EU average, and equal to zero otherwise. This allowed to define, for every region, the context in which actions are undertaken: ideal, Eurosceptic or inefficient (Table 2).

The last phase simply consisted in putting together the sensitivity (referred to the appropriateness of CP actions) and the receptivity (concerning the quality of the institutional environment) in order to define the local policy implementation settings of EU regions for the macro area of intervention focused on the tangible private assets. This classification is reported in Figure 1.

Clearly, the map reported in Figure 1 shows the overall tendency of regions to pertain to some typologies of policy implementation settings, and a more detailed analysis for each axis of intervention would provide different results. Nevertheless, the analysis of these findings are useful to point out some general features of the local settings where CP actions take place.

The first evidence emerging from looking at Figure 1 is the strong divide between southern and eastern Europe and the rest of the EU. Regions in the former group are, generally, settings in need of policies on the productive environment, but characterized by poor levels of institutional efficiency. This situation is rather homogeneous, even if there are several areas, especially in Italy, where policies are not objectively necessary, even if they are perceived as urgent by the resident population. As stated above, opportunistic settings of this kind are potentially critical, also because many of these areas are among the major beneficiaries of CP financing.

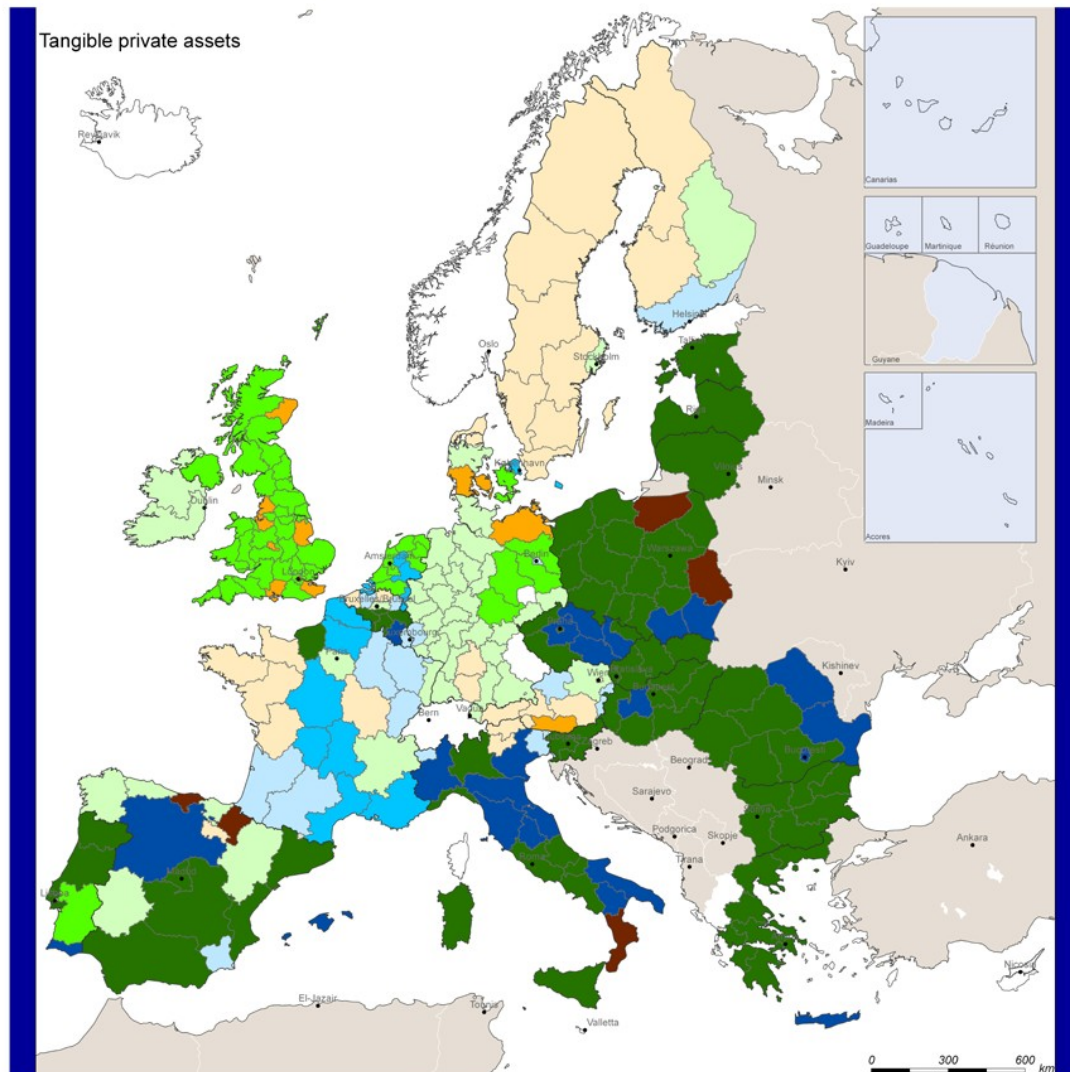
Actions on the provision of tangible private assets are unrequested in most of Scandinavia, Austria and in some French and British regions. It is worth noting that the majorities of areas in which these policies are not among the priorities are also those characterized by efficient institutions. It is rather rare, in fact, the case in which unrequested policies are matched with

the poor quality of local governments. This finding raises several implications since, in most cases, the appropriateness of actions is matched with institutional inefficiency.

As expected, UK is marked by the highest levels of Euroscepticism, generally associated to appropriate policy settings. The same applies to large parts of the Netherlands, Denmark and eastern Germany. Most of areas with poor EU acceptance and appropriate settings are included among the transition or more developed regions in the programming period 2014-2020.



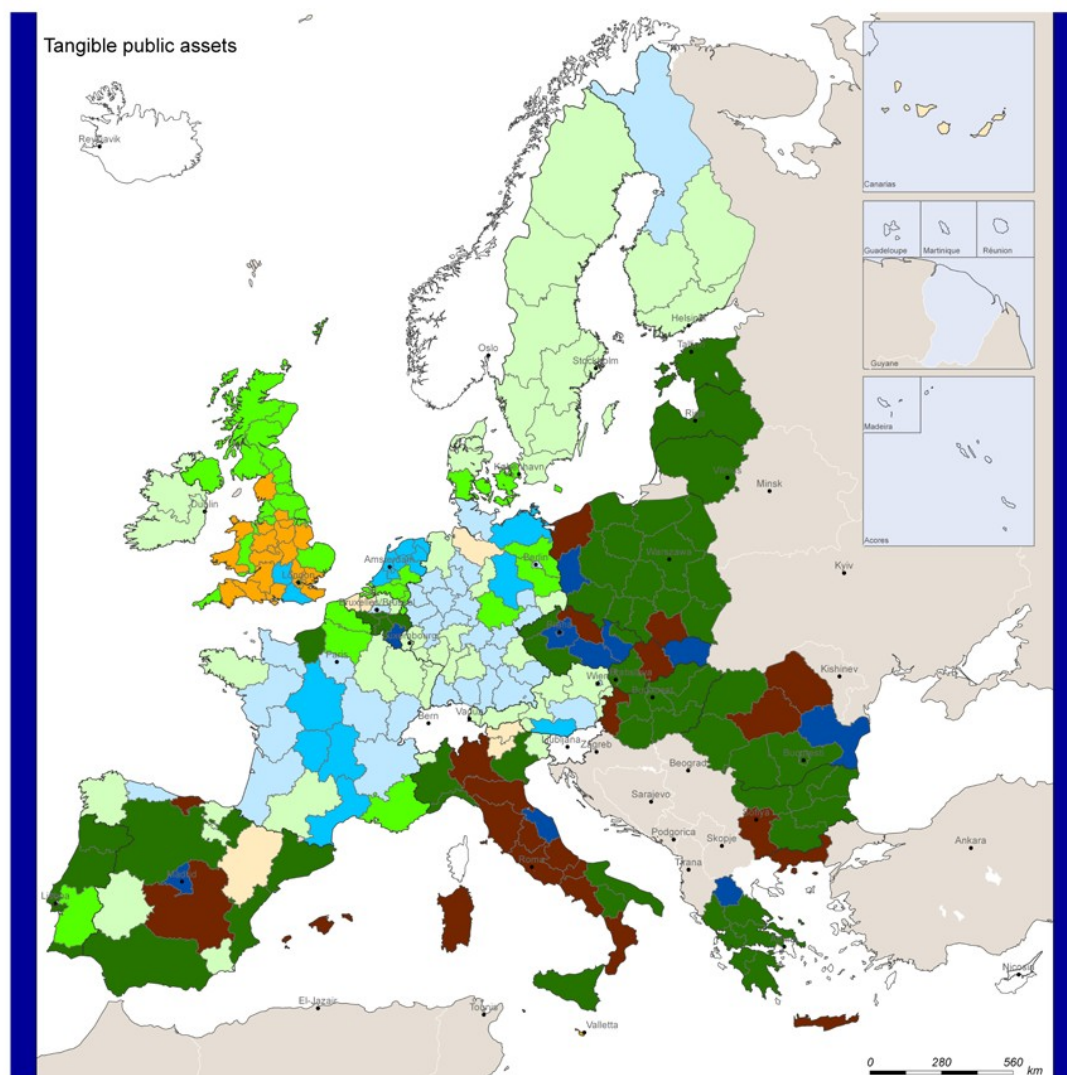
Figure 1. Regional policy implementation settings – Tangible private assets



## Legend

- Appropriate policy in an ideal context
- Appropriate policy in an Eurosceptic context
- Appropriate policy in an inefficient context
- Opportunistic policy in an ideal context
- Opportunistic policy in an Eurosceptic context
- Opportunistic policy in an inefficient context
- Unrequested policy in an ideal context
- Unrequested policy in an Eurosceptic context
- Unrequested policy in an inefficient context
- No data

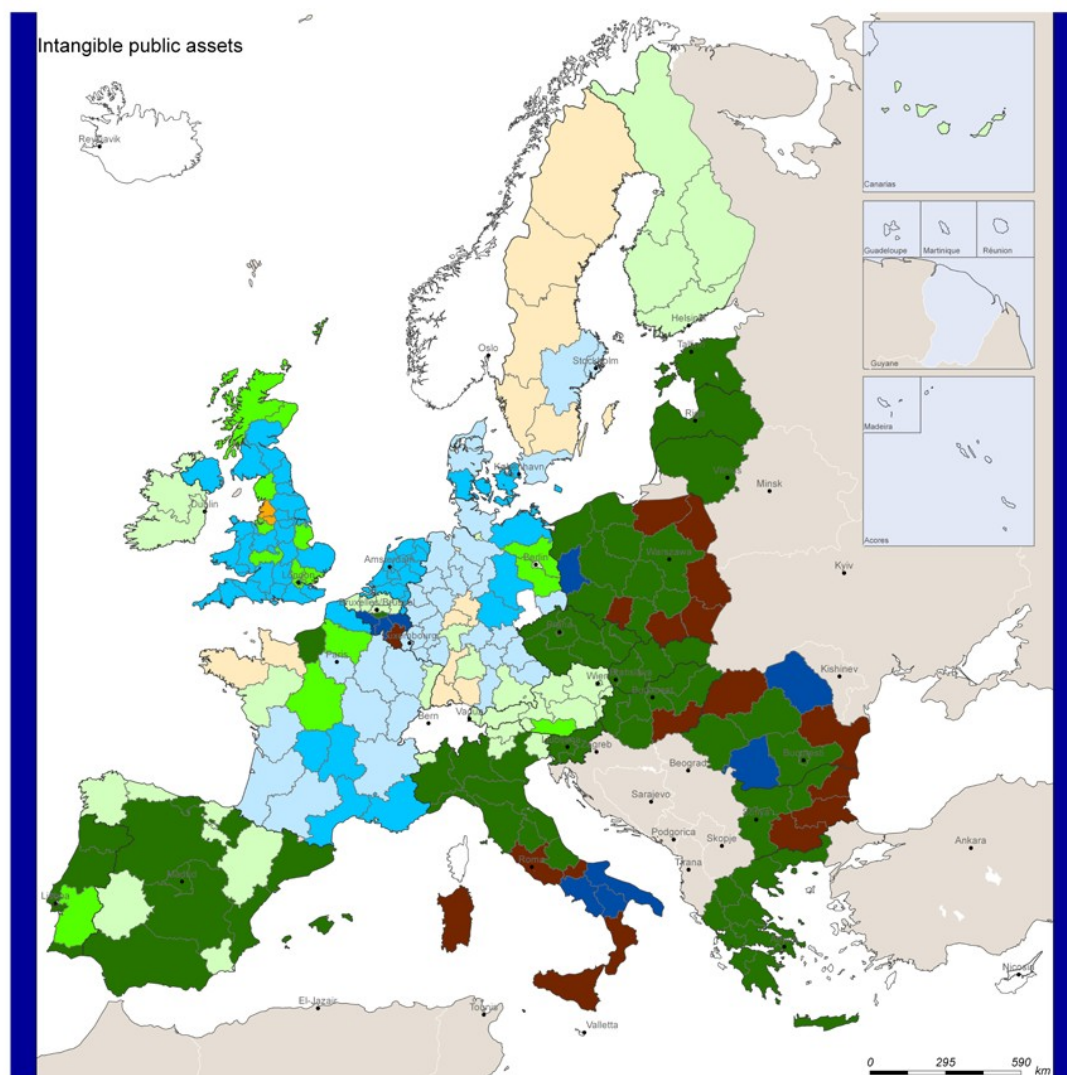
Figure 2. Regional policy implementation settings – Tangible public assets



## Legend

<span style="display: inline-block; width: 15px; height: 15px; background-color: #d9ead3; border: 1px solid black;"></span>	Appropriate policy in an ideal context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Appropriate policy in an Eurosceptic context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Appropriate policy in an inefficient context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #d9ead3; border: 1px solid black;"></span>	Opportunistic policy in an ideal context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Opportunistic policy in an Eurosceptic context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Opportunistic policy in an inefficient context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Unrequested policy in an ideal context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Unrequested policy in an Eurosceptic context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #f4cccc; border: 1px solid black;"></span>	Unrequested policy in an inefficient context
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ffffff; border: 1px solid black;"></span>	No data

Figure 3. Regional policy implementation settings – Intangible public assets



## Legend

- Appropriate policy in an ideal context
- Appropriate policy in an Eurosceptic context
- Appropriate policy in an inefficient context
- Opportunistic policy in an ideal context
- Opportunistic policy in an Eurosceptic context
- Opportunistic policy in an inefficient context
- Unrequested policy in an ideal context
- Unrequested policy in an Eurosceptic context
- Unrequested policy in an inefficient context
- No data

As for the case of policies focused on the provision of tangible private assets, the same procedure was applied to the other two macro areas, tangible and intangible public goods, whose policy settings classification is reported respectively in Figure 2 and Figure 3<sup>6</sup>.

Tangible public assets are mainly needed in EU12, Portugal, Spain and in northern Europe. Again, results have to be interpreted cautiously, since this evidence is highly differentiated across types of infrastructure. Nevertheless, two main messages can be drawn. First, the occurrence of opportunistic policy settings is higher than in the previous case, especially in central Europe. This is potentially alarming, since these kinds of actions often concern the implementation and provision of large-scale infrastructures, and the arising of rent-seeking behaviours is therefore likely to be verified. Second, it is interesting to note that the necessities of regions deeply vary between macro areas of intervention. When contrasting Figure 2 with Figure 1, it is evident how the classification of areas across different policy implementation settings is not the same. Southern UK regions, for instance, need more support to the public infrastructural network than the to the productive environment, and the same holds for large shares of northern EU.

Finally, Figure 3 shows the regional policy implementation settings in the case of the provision of intangible public goods, i.e. actions in the social field. Still, eastern and southern EU (with the exception of South Italy) are the regions with the highest levels of appropriateness. However, one result is particularly interesting. It refers to the fact that the opportunistic settings are occurring with high frequency in the context characterized by strong Eurosceptic parties. The rent-seeking mechanism suggested above seems to be operated, in the case of social policies, by political movements rather than private economic agents. Immigration and the issues related to this phenomenon, for instance, are among the most popular themes emphasised by Eurosceptic parties in order to exploit niches in the local political arena. Therefore, it is not surprising that, in areas with low levels of EU acceptance, the perception of social issues is higher than what should be justified based on the objective socioeconomic situation.

## 5. Conclusions

The present paper proposed a methodology for the classification of the policy implementation settings of EU regions. The main assumption of which the previous discussion is based, is that the local conditions of regions do matter in explaining the effect of policies on both economic growth and on the processes of EU identity building. While the former outcome has been investigated by a long stream of research, the latter still did not receive attention in the literature.

The goal of this paper is therefore to build a conceptual and empirical tool to investigate the relationship between CP and the citizens' support to EU values and institutions. In order to achieve this objective, we defined the policy implementation settings on two main dimensions, keeping into account both real and perceived needs and institutional contexts of EU regions.

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<sup>6</sup> The macro area referring to the public tangible assets is made up by four axes of intervention. Hence, in order to capture the sensitivity of regions, we followed the same methodology used in the case of the private tangible assets discussed in section 4. This was not necessary in the case of actions on the intangible private assets, since only one axis of intervention corresponds to this macro area.

Further analysis is certainly needed to fully understand the mechanisms of EU identity building, but the preliminary findings presented here already raised several implications and suggestions for future research.

The first one involves the association between needs and institutional inefficiency. Regions receiving most of the funds (EU12 and southern Europe) objectively need them but, at the same time, are expected to be inefficient in the implementation process. This may lead in a decline of EU support in both the areas benefiting from the funding (since residents do not perceive any positive impact on their lives) and in the net-contributing regions (since tax-payers are conscious that their money is spent in an inefficient way).

The second consideration refers to the occurrence of opportunistic behaviours, likely to undermine the processes of EU building. While this situations are rather limited in the case of actions on the productive environment, they become much more frequent in the case of infrastructural and social policies. In the former case, this is critical due to the amount of funds generally allocated to these actions. In the latter case, this may reflect the instrumental use of social themes from Eurosceptic parties to gain the support of the local voters.

Finally, the third consideration concerns the association between Euroscepticism and other territorial characteristics. The analysis pointed out that, especially as far as the actions on tangible private goods are concerned, regions marked by low levels of EU acceptance show a high necessity of policies. Nevertheless, the funding for these areas is, in relative terms, lower than the average.



## REFERENCES

- Akerlof, G. (1970). The market for lemons: Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3), 488-500.
- Balaguer, J., & Cantavella-Jorda, M. (2002). Tourism as a long-run economic growth factor: the Spanish case. *Applied Economics*, 34(7), 877-884.
- Barca, F. (2009). An Agenda for A Reformed Cohesion Policy: A Place-Based Approach to Meeting European Union Challenges and Expectations, Independent Report, Prepared at the Request of the European Commissioner for Regional Policy, Danuta Hubner, European Commission, Brussels.
- Barca, F., McCann, P., & Rodríguez-Pose, A. (2012). The case for regional development intervention: place- based versus place-neutral approaches. *Journal of Regional Science*, 52(1), 134-152.
- Böhm, K., Schmid, A., Götze, R., Landwehr, C., & Rothgang, H. (2013). Five types of OECD healthcare systems: empirical results of a deductive classification. *Health Policy*, 113(3), 258-269.
- Bouvet, F., & Dall'Erba, S. (2010). European regional structural funds: How large is the influence of politics on the allocation process?. *JCMS: Journal of Common Market Studies*, 48(3), 501-528.
- Clarke, H., Whiteley, P., Borges, W., Sanders, D., & Stewart, M. (2016). Modelling the dynamics of support for a right-wing populist party: the case of UKIP. *Journal of Elections, Public Opinion and Parties*, 26(2), 135-154.
- Camagni, R., & Capello, R. (2015). Rationale and design of EU cohesion policies in a period of crisis. *Regional Science Policy & Practice*, 7(1), 25-47.
- Capello, R., & Lenzi, C. (2013a). Territorial patterns of innovation: An inquiry on the knowledge economy in European regions. Routledge.
- Capello, R., & Lenzi, C. (2013b). Territorial patterns of innovation: a taxonomy of innovative regions in Europe. *The Annals of Regional Science*, 51(1), 119-154.
- Capello, R., Nijkamp, P., & Pepping, G. (1999). Sustainable cities and energy policies. Springer Science & Business Media.
- Chalmers, A. W. (2013). Regional authority, transnational lobbying and the allocation of structural funds in the European Union. *JCMS: Journal of Common Market Studies*, 51(5), 815-831.
- Charron, N., Lapuente, V., & Rothstein, B. (2010). Measuring the Quality of Government and Subnational Variaton. Report for the European Commission Directorate-General Regional Policy Directorate Policy Development. (Brussels: European Commission). Available at: [http://ec.europa.eu/regional\\_policy/sources/docgener/studies/pdf/2010\\_government\\_1.pdf](http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/2010_government_1.pdf) (accessed 22 June 2016).
- Charron, N., Dijkstra, L., & Lapuente, V. (2014). Regional governance matters: quality of government within European Union member states. *Regional Studies*, 48(1), 68-90.
- Commission of the European Communities (CEC) (2005). Cohesion Policy in Support of Growth and Jobs: Community Strategic Guidelines, 2007–2013 (Communication from the Commission), COM(2005) 299, 5 July (Brussels:European Commission). Available at: <http://eur->

[lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52005DC0299&from=en](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52005DC0299&from=en) (accessed 22 June 2016).

Commission of the European Communities (CEC) (2007). Together for health: a strategic approach for the EU 2008-2013. Available at: [http://ec.europa.eu/health/strategy/docs/whitepaper\\_en.pdf](http://ec.europa.eu/health/strategy/docs/whitepaper_en.pdf) (accessed 22 June 2016).

Commission of the European Communities (CEC) (2010). A strategy for smart, sustainable and inclusive growth. COM(2010) 2020 final, 3 March (Brussels: European Commission). Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0200&from=en> (accessed 22 June 2016).

Commission of the European Communities (CEC) (2011). Energy Roadmap 2050. COM(2011) 885 final, 15 December (Brussels: European Commission). Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0885&from=EN> (accessed 22 June 2016).

Commission of the European Communities (CEC) (2015). Geography of Expenditure - Final Report - Work Package 13 Ex post evaluation of Cohesion Policy programmes 2007-2013, focusing on the European Regional Development Fund (ERDF) and the Cohesion Fund (CF).

Available at: [http://ec.europa.eu/regional\\_policy/sources/docgener/evaluation/pdf/expost2013/wp13\\_final\\_report\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/expost2013/wp13_final_report_en.pdf) (accessed 22 June 2016).

Cooke, P. (2001). Regional innovation systems, clusters, and the knowledge economy. *Industrial and Corporate Change*, 10(4), 945-974.

Crescenzi, R., Di Cataldo, M., & Rodríguez-Pose, A. (2016). Government quality and the economic returns of transport infrastructure investment in European regions. *Journal of Regional Science*. DOI: 10.1111/jors.12264.

Dellmuth, L. M. (2011). The cash divide: the allocation of European Union regional grants. *Journal of European Public Policy*, 18(7), 1016-1033.

Easterly, W., Ritzen, J., & Woolcock, M. (2006). Social cohesion, institutions, and growth. *Economics & Politics*, 18(2), 103-120.

Ederveen, S., Groot, H. L., & Nahuis, R. (2006). Fertile soil for structural funds? A panel data analysis of the conditional effectiveness of European cohesion policy. *Kyklos*, 59(1), 17-42.

Ezcurra, R., & Rodríguez-Pose, A. (2014). Government quality and spatial inequality: a cross-country analysis. *Environment and Planning A*, 46(7), 1732-1753.

Faludi, A. (2008). The learning machine: European integration in the planning mirror. *Environment and Planning A*, 40, 1470-1484.

Farole, T., Rodríguez-Pose, A., & Storper, M. (2011). Cohesion policy in the European Union: growth, geography, institutions. *JCMS: Journal of Common Market Studies*, 49(5), 1089-1111.

Ferrara, F., & Weishaupt, J. T. (2004). Get your Act Together Party Performance in European Parliament Elections. *European Union Politics*, 5(3), 283-306.

Fratesi, U., & Perucca, G. (2014). Territorial Capital and the Effectiveness of Cohesion Policies: an Assessment for CEE Regions. *Investigaciones regionales: Journal of Regional Research*, (29), 165-191.



- Galea, S., & Vlahov, D. (2005). Urban health: evidence, challenges, and directions. *Annu. Rev. Public Health*, 26, 341-365.
- Hicks, J. (1965). Capital and growth. Oxford at the Clarendon Press.
- Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. *The American Economic Review*, 93(5), 1449-1475.
- Kemmerling, A., & Bodenstein, T. (2006). Partisan Politics in Regional Redistribution Do Parties Affect the Distribution of EU Structural Funds across Regions?. *European Union Politics*, 7(3), 373-392.
- Ketterer, T. D., & Rodríguez-Pose, A. (2016). Institutions vs. 'first-nature' geography: What drives economic growth in Europe's regions?. *Papers in Regional Science*. DOI: 10.1111/pirs.12237.
- Kraay, A., Mastruzzi, M., & Kaufmann, D. (2004). Governance Matters III: Governance Indicators for 1996- 2002. Policy Research Working Paper No. 3106, World Bank Publications, Washington DC.
- Lubbers, M., & Scheepers, P. (2010). Divergent trends of euroscepticism in countries and regions of the European Union. *European Journal of Political Research*, 49(6), 787-817.
- Mackenbach, J. P., Stirbu, I., Roskam, A. J. R., Schaap, M. M., Menvielle, G., Leinsalu, M., & Kunst, A. E. (2008). Socioeconomic inequalities in health in 22 European countries. *New England Journal of Medicine*, 358(23), 2468-2481.
- Mairate, A. (2006). The 'added value' of European Union Cohesion policy. *Regional Studies*, 40(02), 167- 177.
- McCann, P., & Rodríguez-Pose, A. (2011). Why and when development policy should be place-based. *OECD Regional Outlook 2011*, 203-213.
- Milio, S. (2007). Can administrative capacity explain differences in regional performances? Evidence from structural funds implementation in southern Italy. *Regional Studies*, 41(4), 429-442.
- Mitchell, K. (2015). Rethinking the 'Erasmus Effect' on European Identity. *JCMS: Journal of Common Market Studies*, 53(2), 330-348.
- Mobley IV, L. R., & Magnussen, J. (1998). An international comparison of hospital efficiency: does institutional environment matter?. *Applied Economics*, 30(8), 1089-1100.
- Prosser, C. (2016). Second order electoral rules and national party systems: The Duvergerian effects of European Parliament elections. *European Union Politics*, 1465116516633300.
- Risse, T. (2003). The Euro between national and European identity. *Journal of European Public Policy*, 10(4), 487-505.
- Rodríguez-Pose, A., & Garcilazo, E. (2015). Quality of government and the returns of investment: Examining the impact of cohesion expenditure in European regions. *Regional Studies*, 49(8), 1274-1290.
- Rydgren, J. (2004). Explaining the emergence of radical right-wing populist parties: The case of Denmark. *West European Politics*, 27(3), 474-502.
- Sadowski, B. M., Nucciarelli, A., & De Rooij, M. (2009). Providing incentives for private investment in municipal broadband networks: Evidence from the Netherlands. *Telecommunications Policy*, 33(10), 582- 595.

Scherpereel, J. A. (2010). EU cohesion policy and the Europeanization of Central and East European regions. *Regional and Federal Studies*, 20(1), 45-62.

Stiglitz, J. (1998). Distinguished lecture on economics in government: the private uses of public interests: incentives and institutions. *The Journal of Economic Perspectives*, 12(2), 3-22.

Tosun, J. (2014). Absorption of Regional Funds: A Comparative Analysis. *JCMS: Journal of Common Market Studies*, 52(2), 371-387.

Treib, O. (2014). The voter says no, but nobody listens: causes and consequences of the Eurosceptic vote in the 2014 European elections. *Journal of European Public Policy*, 21(10), 1541-1554.

Van de Wardt, M. (2015). Desperate needs, desperate deeds: Why mainstream parties respond to the issues of niche parties. *West European Politics*, 38(1), 93-122.

Van Oorschot, W. (2006). Making the difference in social Europe: deservingness perceptions among citizens of European welfare states. *Journal of European Social Policy*, 16(1), 23