

The Impact of Cohesion Policies in Europe and Italy

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Abstract

The European Union's regional policies represent – in terms of financial commitment, geographic extension and time-frame - one of the most important “place-based” programs in the world for the redistribution of wealth among regions and countries; it aims to stimulate growth in the areas that are lagging in development. This document presents some very recent works that assess the impact of cohesion policy on regional growth. The aim of the first four papers is to analyse the heterogeneous effects of structural funds, assessing their impact at a European level (first section); the next three papers evaluate in greater detail the impact of cohesion policy on the Italian regions, clarifying the effects of differences in implementation and goals (second section).

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The Main Evidence (*Guido Pellegrini and Walter Tortorella*)

The European Union's regional policies represent – in terms of financial commitment, geographic extension and time-frame - one of the most important “place-based” programs in the world for the redistribution of wealth among regions and countries; it aims to stimulate growth in the areas that are lagging in development.

Despite being a pillar of the European Union's activities, this policy, implemented through the use of specific centralised instruments such as the structural funds, has had both strong supporters and detractors. The former have argued that this policy has been necessary to compensate the most backward regions for the negative effects that the reduction in barriers has had on their economies. On the other hand, the latter have characterised this policy as an enormous waste of resources, with high costs in terms of efficiency and, consequently, of economic growth. The centralisation of structural fund activity, achieved through a common procedure across the EU, has also often been criticised as wasteful and inconsistent, reducing its popularity, particularly in countries making the highest contributions. These countries have often requested a different approach based on greater flexibility in the management of the policy itself, which should be mainly entrusted to individual governments. Furthermore, it is a fact that, after over thirty years of cohesion policy, there are still deep economic and social disparities in Europe both among countries and among the regions of the countries that make up the European Union, thus contributing to a weakening of its unity and stability.

As was to be expected, this debate has generated a considerable amount of work aimed at evaluating the effectiveness of the policy on various analytical levels. However, this considerable number of empirical studies has not led to a general consensus on the effectiveness of cohesion policy. Although the evaluation techniques have improved over time, the lack of common long-term harmonised data and the presence of many factors that can influence the results of the policy have led to a proliferation of studies divided not only regarding the method and data used but also, and above all, regarding the results obtained. Only in very recent years has some empirical work based on counter-factual analysis, a statistical technique aimed at obtaining a quantitative measure of policy impact based on robust econometric methods, repeatedly pointed out the existence of a positive and significant overall effect of cohesion policy on economic growth; such growth, however, has remained rather modest, especially given the resources employed (see the meta-analysis by Dall'Erba and Fang, 2017). Furthermore, the direction, size, weight and significance of the results in terms of convergence appear highly heterogeneous based on the time-frame and the level of territorial diversity taken into consideration.

So overall interest in the question remains somewhat limited and, in many ways, only academic. Policymakers want to know if the effects of a policy are positive and useful in a given

area and in a given period. As to this aspect the results in the literature are vague. There is both statistical and anecdotal evidence widely indicating that the effects of the policies are not the same everywhere, but are different according to the characteristics of the intervention, the structural characteristics and specific nature of the territories involved, and finally the kind of context, meaning institutional skills, the social culture and policy-related objectives. Moreover, this differentiation of the effects appears particularly relevant in countries such as Italy that are characterised by an evident regional heterogeneity, including in the ability to use structural funds and identify winning regional development strategies.

This paper presents some very recent efforts that address the issues outlined above, in order to gather in a single volume results that are useful not only in evaluating the overall impact of cohesion policy on regional growth, but also in understanding on which occasions and in which contexts the use of structural funds was particularly effective or of little impact. The aim of the first four papers is to analyse the heterogeneous effects of structural funds, assessing their impact at a European level; the next three papers evaluate in greater detail the impact of cohesion policy on the Italian regions, clarifying the effects of differences in implementation and goals.

The first topic of interest concerns the presence of a strong heterogeneity of effects, and therefore the need to identify the factors that explain this differentiation of impacts. One of the main factors is the different level of financial support among the regions, not only between Convergence and non-Convergence regions, but also within the Convergence regions themselves and sometimes between different provinces of the same region. The variability of these levels is significant: the Convergence regions with the highest intensity of support have received per capita funds up to 11 times higher than those with low intensity of support. If the allocation of structural funds in the territory increases, does the impact of the policy always increase? The answer to this question is obviously of great interest to policymakers, since it allows the transfer system to be calibrated and its efficiency maximized. In particular, if the relationship between aid intensity and the impact of structural funds is not linear, i.e. if, after a certain level of aid intensity, the increase in structural funds does not correspond to a proportional increase in impact, it would follow that there could be over-financing for some regions. At a time of financial difficulties, knowing that some regions are over-subsidised can be useful for a reallocation of transfers with positive effects on overall growth. Empirical analysis shows that there is indeed a maximum desirable intensity of transfers of structural funds, beyond which their impact on growth becomes negligible or nil. It follows that there is room to improve the allocation of resource transfers among European regions, specifically by reducing transfers to regions where the intensity of the transfer is above the desired maximum level. A redistribution of EU transfers from 11-15 regions whose aid intensity exceeds this threshold (5-7% of the total number of regions) to other less developed regions could be efficient and could strengthen regional convergence (*cf. Cerqua, Pellegrini*).

An additional factor of heterogeneity concerns the structural, economic, cultural, social and environmental characteristics of each region, and in particular the physical and human factors and their interaction. In this context the notion of "territorial capital", which identifies the structural elements for local development, becomes particularly important. The level of territorial capital is an important determinant for explaining the impact of cohesion policies in the regions. This is due to two different mechanisms: on the one hand by facilitating and strengthening the impact of policies aimed at growth; on the other hand, by making the territory grow in terms of structural endowment and so laying the foundation for long-term development. It is difficult to think of regional development policies that are as closely related to the concept of territorial capital as European cohesion policies. In the various planning periods of the cohesion policy that have taken place there has always been a persistent focus on structure and long-term growth (*cf. Fratesi, Perucca*).

The important element is not so much the absolute endowment of territorial capital as the type of territorial resources existing. A complementary relationship emerges between territorial capital and EU regional policy. The regions with the most material elements tend to be characterised by a greater effectiveness of the policies that act on the intangible elements, and vice versa. Policies on intangible elements, on the contrary, tend to be less effective in contexts rich in intangible territorial resources. The implications in terms of public policy are therefore differentiated: in order that the policies implemented with the structural funds be effective, their objectives must be consistent with the above-mentioned territorial complementary relationships (*see Fratesi, Perucca*).

Another element much discussed in the literature concerns institutional conditions and the quality of governance where the policies are to be implemented (*see Loiero, Meoli*); these can be very different between regions and countries, with important implications for the quality of the design, implementation and effectiveness of policies, and this is reflected in the heterogeneity of the results. Some Member States have very different attitudes towards the EU and its policies, with varying degrees of acceptance of their objectives, constraints and opportunities. In short, there seems to be no single European cohesion policy, but rather different policy variations in different areas according to the character of their institutions and the objectives they pursue. This means that the impact of the policy is distributed heterogeneously, so that it is necessary to consider simultaneously the policy and the institutional characteristics, the macroeconomic conditions and above all the definition of the development objectives, in order to understand its effectiveness.

This placing in context necessarily tends to link the effectiveness of policies to the borders of the EU Member States, since each country aims to have similar institutional and macroeconomic conditions and similar objectives within it. This makes it possible to differentiate the effects for the various States. Empirical evidence shows that much of the growth generated by regional policies in Europe is concentrated in Germany. On the contrary, impact on regional

employment is limited to the United Kingdom. The picture for the beneficiary regions in the southern European Member States is worse: the Italian regions achieved better employment results, but this ended with the crisis. The Spanish benefited in terms of better growth during the recovery, with no impact on employment. It follows that the place-based approach made popular by the Barca Report should be balanced by a new consideration of the role of individual member countries, with a better adaptation of the policy to the needs and general objectives of each individual Member State (see *Crescenzi, Giua*).

In conclusion, the papers presented in the first part of this document show that the effectiveness of cohesion policy financed by the Structural Funds at the European level could be improved by redistributing resources from overly subsidised regions, making policy objectives and territorial capital endowments more complementary, region by region, and lastly by allowing greater adaptability of policy to the general needs and objectives of each Member State of the European Union.

Focusing now on the Italian national scene, we can see that the public debate on cohesion policies has often concentrated more on the effective capacity to spend structural funds than on their effect on the economic performance of the territories involved. Still, the overall picture of the estimates produced by various surveys shows the significant impact of structural funds on per capita GDP in Italy as well, in line with the rest of Europe. Indeed, the analyses below show that the structural funds have had a significant effect on GDP per capita, with or without national co-financing. On the other hand, the impact of national funds on per capita growth in the regions appears modest, with the partial exception of current subsidies to companies. This seems to indicate the importance of the origin of the funds (European or national) and their governance structure as possible causes of their different degree of effectiveness. The governance structure of the Structural Funds, although by many considered to be particularly complex and unnatural, has in fact guaranteed a sort of "safe conduct" making them more effective than the impact on GDP per capita of national policies which are instead marked by strong institutional diversity and a framework of rules and timing of availability of resources that is constantly uncertain and discontinuous (see *Coppola, Destefanis, Marinuzzi, Tortorella*).

On the other hand, if we look at the impact on territorial convergence, the results for the individual Italian regions are generally less positive. There is a high level of heterogeneity in the convergence processes with, on average, modest consequences for the economic dynamics; these, moreover, may derive from transitory and non-permanent effects. This is evidenced by the case of Abruzzo whose exit from Objective 1 has caused, over time, a negative effect on regional GDP per capita. Therefore, even in the most favourable cases it should be emphasised that transfers from the Union seem to have had positive effects on local economies that are concentrated during the years of the intervention, without triggering a path of self-sufficient growth; they contribute only tangentially to regional convergence (cf. *Albanese, de Blasio*).

Thus the north-south boundary line that separates the places of opportunity from those of exclusion still represents an unenviable record in the continental scenario, where the South of Italy with its twenty million inhabitants remains the largest less-developed area. Especially after the enlargement of the EU to the East - and even more markedly since the beginning of the crisis - its periphery, the Mezzogiorno, has lost ground to the other peripheries (i.e. all the disadvantaged regions benefiting from the European cohesion policy). As to the causes of these divergences, it should not be forgotten that European cohesion intervenes within a framework of ordinary macroeconomic conditions and policies which create important internal asymmetries on the periphery, amplifying at the regional level the well-known macroeconomic imbalances between national economies. The South of Italy suffers from unfavourable national and supranational macroeconomic conditions to which it adds its own endogenous structural difficulties: a condition of structural disadvantage that cannot be compensated for, quantitatively and qualitatively, merely with more virtuous cohesion policies (see *Petraglia, Provenzano*).

Moreover, in the three-year period 2013-2015, primary government spending in the Mezzogiorno averaged €209 billion per year, compared with around €480 billion in the Center-North. In the same period, considering that capital expenditure in the South was €14.4 billion a year, of which €9.4 billion (65%) came from the Structural Funds, it follows that the additional capital expenditure was just 4.8% of total public spending in the area. It seems difficult to suppose that with only 4.8% of expenditure, burdened by the substitution effect of ordinary resources with extraordinary ones, growth could be strengthened and essential services improved without considering the remaining 95.2% of public spending in both qualitative and quantitative terms. (see *Coppola, Destefanis, Marinuzzi, Tortorella*).

As has also been pointed out by several studies at the European level, the amount of resources employed, alone, can hardly be considered a sufficient condition for the success of growth policies; other factors must certainly be taken into consideration. Of these, institutional quality at the local level, which includes both the political and economic dimension, as well as formal and informal aspects (such as conventions and widespread rules of conduct), seems to be one of the main drivers of the effectiveness of territorial policies in Italy as well. The shortcomings of the institutional context, in addition to operating directly on the growth potential of the local economic system, influence the ability to efficiently provide and adequately design public goods and policies. This factor, with respect to the endogenous variables of public policies, is important in explaining the modest results recorded in our country from the cohesion policies, given the differences that characterise public action in Italy and which translate particularly into a negative gap in institutional quality levels observed in the South. The main limitations highlighted by public debate derive from this: delays and shortcomings in the planning phase; tardiness in execution, linked in particular to bureaucratic slowness and the burden of processing times; the excessive emphasis on transfers and incentives, which have often proved to be ineffective, especially with reference to those distributed on a discretionary basis; the high level of fragmentation in objectives and interventions (see *Albanese, de Blasio*).

Weak national growth and an increase in regional gaps - evidently correlated phenomena - therefore remain the elements with which to reckon. The crisis has brought to light the limits of the economic policy model on which the foundations of the European project have been built, highlighting the difficulties in achieving its original aims: harmonious and balanced development in the Union, high levels of employment and social protection, a growing degree of convergence and solidarity among the Member States (see *Petraglia, Provenzano*). From the economic policy perspective, at a time when the European Parliament, the Commission and the Member States are redefining the Union's budget for the next seven years, one cannot but point out that any reduction in structural fund resources could have very heavy consequences for our country. At the same time, however, continuing to concentrate the political dialectic mainly, if not exclusively, on distributions without placing due emphasis on local institutional quality and cohesion policy coordination with European macroeconomic governance, would proclaim how little we have learnt from these thirty years of cohesion policy (see *Coppola, Destefanis, Marinuzzi, Tortorella*). That is to say, if we don't turn our attention to a golden rule for public investment, an adequate system of fiscal compensation to offset the structural competitive disadvantages faced by the South in the periphery of the EU and a rebalancing of the current geopolitical configuration of cohesion (cf. *Petraglia, Provenzano*), the risk is very high that cohesion policy will be declassified as a mere distributive policy with little impact in terms of convergence.

The debate on the future of European policies is now made more complex by the economic and political ramifications of the Great Recession, the growing pressure of Eurosceptic parties and institutional changes without precedent in the structure and composition of the EU. In addition, it is increasingly difficult to succeed in maintaining the funding levels of this policy, which will necessarily have to be transformed to be more efficient and far-sighted. In this context cohesion policy will be able to preserve its key role even after 2020 if (and only if) it can generate economic benefits commensurate with its costs that are evident to its detractors as well. European regional policy must prove to be an economic priority for the EU, ensuring fairness (correction of the asymmetric impacts of European integration of EU policies) and efficiency (removal of development bottlenecks and global challenges) and, above all, must work well in terms of verifiable economic impacts compared to credible benchmarks (see *Crescenzi, Giua*).

Part One: The Impact of Cohesion Policy in Europe

1. The Effects of EU Regional Policy on the Growth of European Regions: Are We Spending Too Much? (*Augusto Cerqua and Guido Pellegrini*)

Introduction

European regional policy, funded through the Structural and Cohesion Funds, is one of the most important global resource redistribution experiments on a continental scale. This policy has the stated aim of reducing the disparities between EU Member States and regions by combating centrifugal forces and helping to develop an area of free movement of goods and services. Given the many resources the EU has put in place for these objectives, it is not surprising that there have also been many studies aimed at evaluating the effectiveness of the policy using various types of analysis, both economic and social. However, only recently have studies based on applying the counter-factual method made it possible to establish that the overall average impact over time on growth and employment in the European regions has generally been positive and statistically significant, even if rather modest, especially in view of the resources employed (see the meta-analysis by Dall'Erba and Fang, 2017).

This average result is in fact of limited interest to policymakers, because both the empirical evidence and the anecdotal evidence have shown that there is a strong heterogeneity in the impact of the policies which may vary depending on the characteristics of the intervention and of the structural specifics of the territories involved, as well as the characteristics of the "context", meaning institutional capabilities, the social culture and the objectives of the policies. This question of "contextualisation" of the results of policies has given rise to a literature of evaluation that analyses increasingly specific aspects regarding the impact of the different forms of the policy in highly heterogeneous areas (Crescenzi and Giua, 2018, in this document).

Among the many factors underlying the diversity of effects of regional policy, as is also explained by the papers contained in this Report, are the differences in the methods of intervention, and in particular the differences in the intensity of the policy, i.e. the amount of resources made available in the various territories; even taking into account their different economic and social dimensions, this represents one of the main differences and deserves a specific analysis. This heterogeneity of per capita funds is present, not only between Convergence and non-Convergence regions, but also within Convergence regions and sometimes between different provinces of the same region. Intensity variability is high: the Convergence regions with the highest treatment intensity have received per capita funds up to 11 times higher than those with low intensity. An analysis of the impact of the intensity of interventions financed by the Structural and Cohesion Funds on the heterogeneity of the effects of European regional policy is the main theme that will be dealt with in this paper.

There is obviously great interest among policymakers in understanding the relationship between aid intensity and the impact of the Structural and Cohesion Funds; this is technically called the "dose-response function" of European funding. In fact, it is possible that this relationship is not linear (i.e. if the funds increase the impact may not increase proportionally) and, in particular, that there is some point of diminishing returns, which means that increasing funding does not lead to new effects on growth. In this case, policy efficiency could be improved by simply reallocating funding to regions with lower aid intensity.

The relationship between aid intensity and the impact of the Structural and Cohesion Funds is not specified by theory. Economists and policymakers generally do not know whether the marginal efficiency of transfers is constant, or increases or decreases in some parts of this function. If we assume that the marginal efficiency of transfers decreases after a certain level of transfers, we can define the desired maximum level of transfers as the amount of aid (per capita), beyond which the effect of transfers on economic growth is negligible or non-existent. This implies that the function that links the transfers to growth, i.e. the dose-response function of the transfers, is at some point concave. In theory, various justifications for the presence of this concavity are possible. The most obvious is the presence of decreasing returns on investments financed by the Structural and Cohesion Funds. The assumption of decreasing returns for investments (and for subsidised investments) implies that if investments are increased, they would provide a lower return, which would also be associated with the transfers. In this case, after a certain level of transfers, additional per capita income growth effects would not be generated (Becker, Egger and von Ehrlich, 2012). However, it is necessary to consider how the effect of decreasing returns may differ between the less developed regions of Europe, depending on the stage of development, the quality and quantity of social capital and potential demand.

A different justification has to do with the existence of a limitation in the absorption capacity of Structural and Cohesion Fund transfers in countries and regions, especially in less developed ones, affecting the ability to maximize the return on investments that occur in their territory. There is empirical evidence that some regions use transfers more and more inefficiently as European funding increases. Some authors and the European Commission attribute this effect to a lack of administrative capacity and to the limited quality of institutions that plan and manage European funding. The EU pointed out in the Fifth EU Cohesion Report (2010) that low quality institutions can undermine efforts to achieve greater economic cohesion and can hinder the effectiveness of regional development strategies. Rodríguez-Pose and Garcilazo (2015) show that poor institutional quality could be behind the decline in returns on regional development funds in Europe as the transfer intensity increases.

Finally, the existence of a large amount of Structural and Cohesion funding can lead to the use of these as substitutes, and not as a complement, for national or regional funds, reducing the total impact of transfers on regional growth.

These arguments have direct implications for policymakers. At a time of budget cuts, knowing that some regions are over-subsidised can be useful for a reallocation of transfers with positive effects on overall growth. Furthermore, this information can be very important for recalibrating the transfer system and maximising its efficiency.

Unfortunately, from an empirical point of view the literature on Structural and Cohesion Fund evaluation has mainly focused on the differences between Convergence regions and the rest of the EU, neglecting the strong heterogeneity of per capita funds existing within the Convergence regions. One of the reasons is that the assessment of the relationship between the amount of funds received and the economic growth variables of the regions requires a complex methodological approach, which is not easy to implement. Recently, Cerqua and Pellegrini (2018) have proposed a new approach that extends the model of regression discontinuity design (RDD) to the case of ongoing provision of funds, adapting the HLATE model developed by Becker et al. (2013). This method makes it possible to compare the economic growth of the Convergence and non-Convergence regions due to the different intensity of European funds in terms of the difference from the average intensity of the group to which they belong. The results presented here are mainly drawn from this work.

The rest of the paper¹ is organised as follows. In the next section we will present some data on the heterogeneity of the intensity of application of Structural and Cohesion Funds in the European regions, while in the following one we summarise the literature on the topic of the evaluation of the intensity of aid via the Structural and Cohesion Funds. In the penultimate section we present the empirical results, while the last one deals with some policy implications deriving from the results obtained.

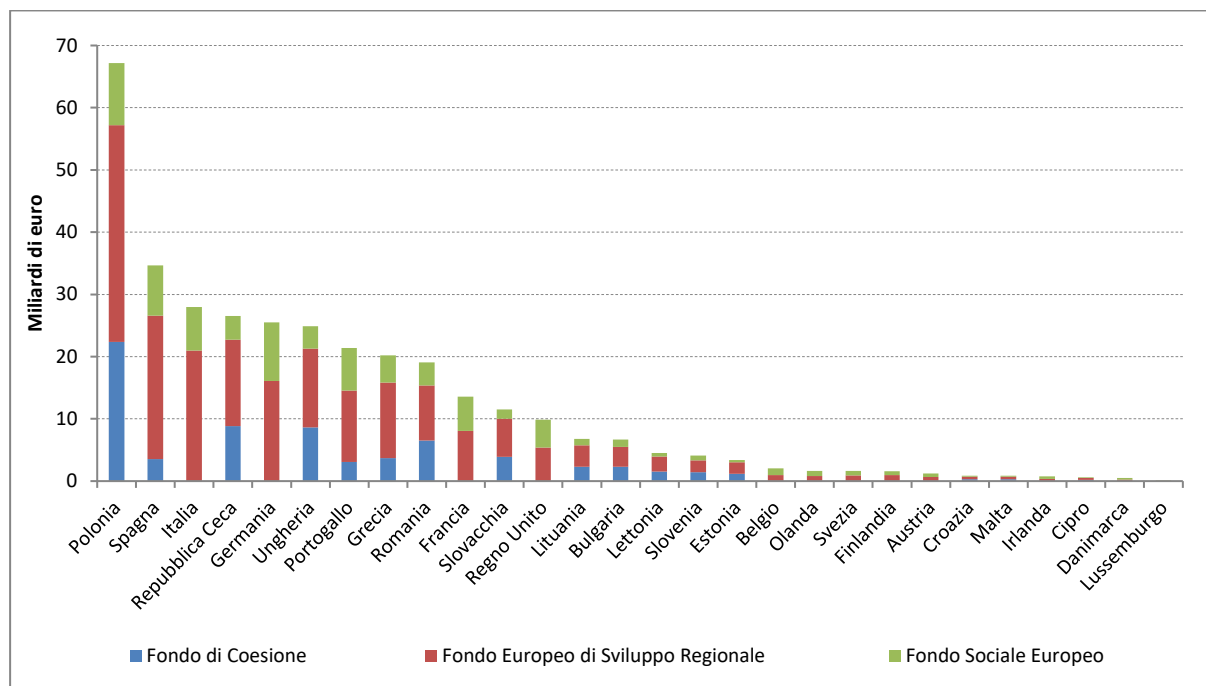
Functioning of European regional policy and heterogeneity in the intensity of aid between regions

Most of the regional policy is aimed at the development and structural adjustment of the "Convergence" regions, identified by NUTS-2 and defined as regions with GDP per capita (measured in purchasing power parity) of less than 75% of the EU average in the years preceding the start of each planning period. For example, in the 2007-2013 planning period, the Convergence regions received €199 billion, or 57.5% of the €346.5 billion spent via the Structural Funds plus a part of the Cohesion Fund totalling €69 billion. The allocation of funds to the regions takes place by way of a two-step procedure. In the first phase, funds are allocated among Member States, based on predefined and transparent indicators, such as the population living in the Convergence regions, regional prosperity, national prosperity and the severity

¹ This paper summarises the results achieved in Cerqua and Pellegrini (2018) and presented briefly also in Cerqua and Pellegrini (2017), to which reference should be made for further details.

of structural unemployment. Figure 1 shows the distribution of the various Structural and Cohesion Funds for the 2007-2013 programming period.

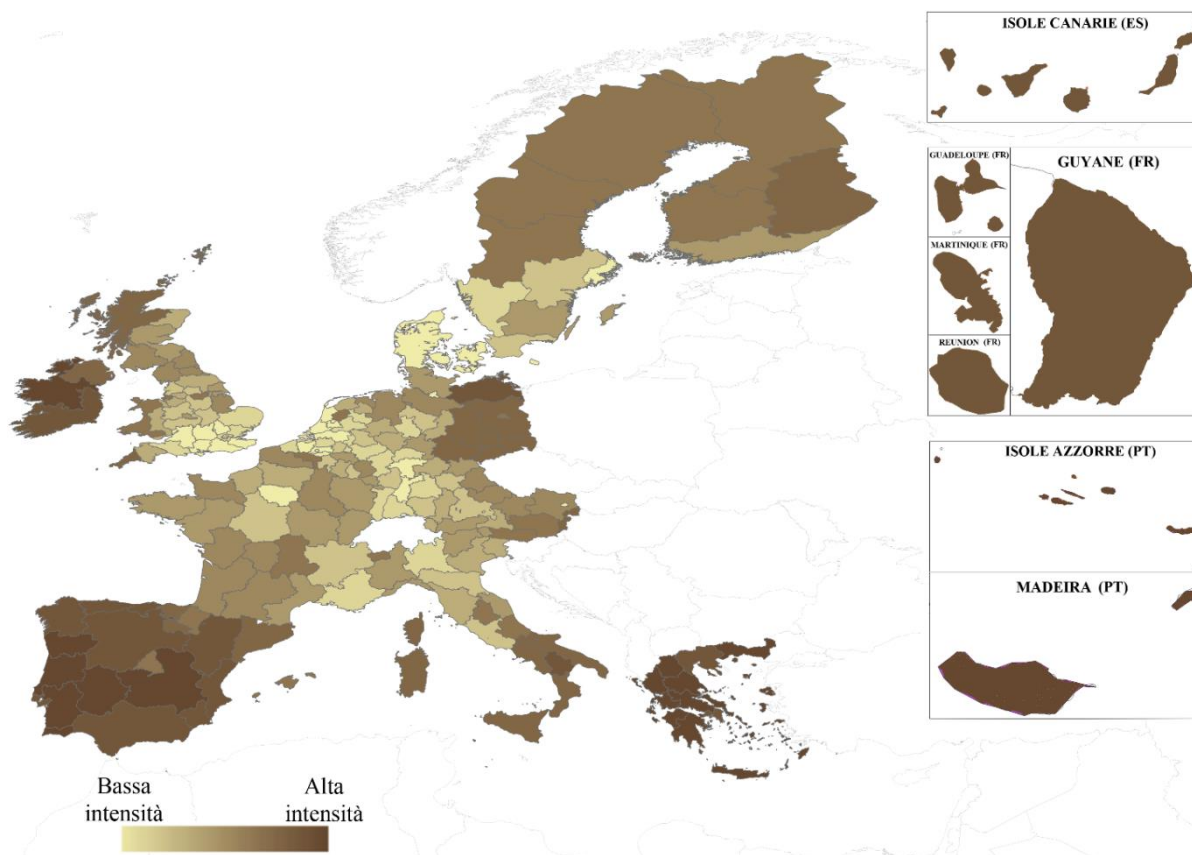
Figure 1 - Breakdown of European Structural and Cohesion Funds in the 2007-2013 planning period at national level



Source: Cerqua and Pellegrini (2018)

Once the allocation of funds to each Member State is completed, a second phase of allocation of funds by region begins, based on a negotiation process between national and regional authorities. This procedure creates considerable differentiation in the amount of funds per inhabitant even within the Convergence regions. This heterogeneity is demonstrated in Figure 2 where the per capita allocation of the Structural and Cohesion Funds is shown during the period 1994-2010 for the NUTS-2 regions of the EU-15.

Figure 2 - Per capita allocation of European structural and cohesion funds in the period 1994-2010 by NUTS-2 region



Source: Cerqua and Pellegrini (2018)

The high degree of heterogeneity of transfer intensity between regions and within the same country suggests that the intensity of funds allocated between regions is one of the main factors underlying the variability of policy impact. We can define the intensity of Structural and Cohesion Fund transfers by way of two different normalisations: either per inhabitant or as a share of regional GDP at the beginning of the period considered. For example, from 1994 to 2006, the North Holland region received an average annual per capita transfer close to €9 while the Região Autónoma dos Açores (PT) received almost 85 times more (€773). If we limit the analysis to the regions at the time of the Convergence group, it can be seen that during the period from 1994 to 2006, and excluding the sparsely populated regions that were classified as Convergence, the region with the lowest number of transfers per capita was the Dutch region of Flevoland, with annual funds per capita of €67.40, 11 times lower than the maximum intensity. Obviously, these differences in the intensity of transfers are not random, but reflect the decision to allocate more resources to regions in particular need, to support areas experiencing economic and social difficulty, measured by specific indicators. So assessing whether the increased aid intensity is reflected in improved economic performance is useful not only

for understanding the functioning of the policy, but also for maximizing the effect of the policy, especially in a period of limited financial resources.

The literature on evaluation of the effects of aid intensity via the Structural and Cohesion Funds

Although the literature on impact assessment of the Structural and Cohesion Funds in Europe is very broad (see, among others, Esposti and Bussoletti, 2008; Becker, Egger and von Ehrlich, 2010; Pellegrini, Terribile, Tarola, Muccigrosso and Busillo, 2013; Erba and Fang, 2017; Bouayad-Agha, Turpin and Védrine, 2013), we know of only three papers that evaluate the effects of the intensity of the transfer. Mohl and Hagen (2010) show that Structural and Cohesion payments have a positive but not statistically significant impact on the growth rates of EU regions. By way of contrast, Becker *et al.* (2012) estimate the relationship between the intensity of application of Structural and Cohesion transfers and per capita growth for the 1994-1999 and 2000-2006 programming periods at the NUTS-3 level. They find that these transfers allow faster overall growth in the beneficiary regions as planned, but the intensity of the transfer exceeds the level of aggregate efficiency maximisation in 36% of the beneficiary regions. Becker, Egger and von Ehrlich (2016) examine the 2007-2013 planning period using an updated set of variables, including results for education and innovation. Their conclusions are generally positive and suggest that regions mostly tend to benefit from balanced financing of activities. From a methodological point of view, all these articles use the "generalised propensity score" (GPS) (Hirano and Imbens 2004, Imai and Van Dijk, 2004), a non-parametric method of evaluating the effects of conditional application on observable determinants of funding intensity.

All matching-based estimators, as well as GPS, suffer from the strong heterogeneity of regional characteristics, which are hardly captured by the observed covariates. In such a context, it is difficult to maintain the principal assumption on which the GPS method is based, i.e. that the selection at different application levels is random, subordinated to a set of observable pre-application characteristics. Moreover, none of these works has fully examined the strong discontinuity in the assignment of different transfer intensities between Convergence and non-Convergence regions, due to the procedure for the allocation of the Structural and Cohesion Funds. As is well known, most of the funds are directed to the Convergence regions.

Cerqua and Pellegrini (2018) propose an alternative solution that examines the above discontinuity using continuous Regression Discontinuity Design (RDD), which for the first time allows a convincing evaluation strategy even in the presence of ongoing funding. From a methodological point of view, this approach extends the procedure proposed by Becker *et al.* (2013) for RDD with heterogeneous effects in the case of ongoing funding. Being selected to use the Structural and Cohesion Funds means a discontinuity of 75% of the per capita European income, which permits the use of an almost experimental method derived from an RDD approach (Thistlethwaite and Campbell, 1960; Hahn, Todd and van der Klaauw, 2001). This approach

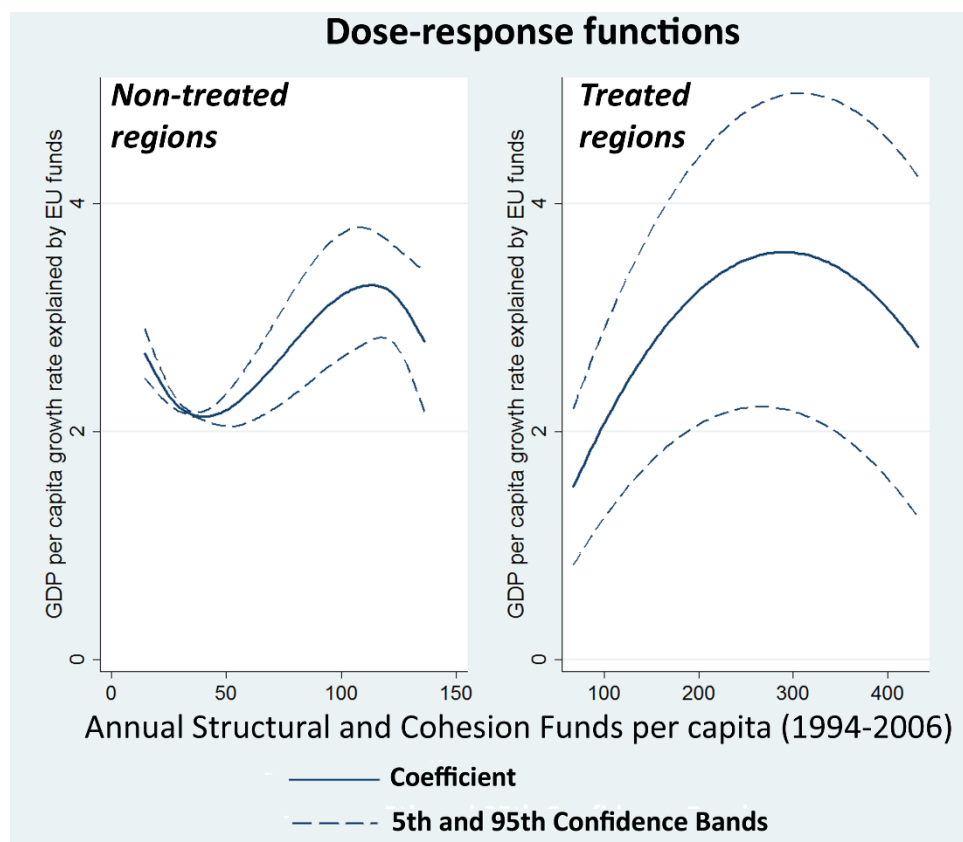
makes it possible to identify the causal effect of transfers on regional growth performance about the discontinuity, if the treatment were binary. The idea in Cerqua and Pellegrini (2018) is to extend RDD to the case of continuing funding, considering the intensity as the cause of the heterogeneity of the impact. The hypothesis on which this approach is based is that the intensity of funding (measured as a difference from the mean), conditioned by the variable of selection and the other covariates, is randomly distributed between funded and non-funded regions. The important condition is that the funded and non-funded regions with the same funding level (as opposed to the average) do not differ in some unobservable dimension. The condition is similar to the CIA condition in a GPS framework (Hirano and Imbens, 2004), but is circumscribed around the threshold.

Results of the Analysis

The analysis is aimed at assessing the impact of the Structural and Cohesion Funds on regional economic growth from 1994 to 2006, verifying whether the heterogeneous impact on growth also depends on the intensity of the application of funding. The study uses an original dataset that covers all structural funds and is consistent with actual spending (using EU payments for Operational Program, Year and Region). The availability of this new dataset made it possible to analyse the effects with greater precision than was possible in the past. Since the countries acceding in 2004 that had not received transfers before 2004 are not considered, the spatial grid used in the work is defined by 208 regions of the EU-15 at level 2 of the NUTS classification, in the 2006 version with some modifications to include data from the 1994-1999 planning period. Since the status changes of the regions between Objective 1 and non-Objective 1 were very limited, and given the time lag between payments and achievements, it was decided to consider the entire period 1994-2006 in the analysis.

Based on the estimates of the chosen parametric model, it was possible to identify and draw the relationship between aid intensity (in terms of per capita annual funding by region) and the impact of the Structural and Cohesion Funds (in terms of annual growth rate of regional GDP), or in other words the dose-response function of European funding (Figure 3).

Figure 3 - Dose-Response function of European funding for the regions treated (Convergence) and for those not treated (non-Convergence)



Source: Cerqua and Pellegrini (2018)

In general, Figure 3 shows that the Structural and Cohesion Funds have a positive effect on the annual GDP growth of the treated regions, but that this effect is not linear: it increases with respect to the intensity of aid transfers but only up to a certain value, after which it decreases. For example, the average annual per capita funding in the treated regions considered is about €224. If we increase the transfers by 50%, the impact is substantially higher (by 1.8 points), while if we double the transfers the impact decreases to 0.9 points.

Average regional growth is in the interval considered an increasing function of transfer intensity. The compound annual growth rate of real GDP per capita is positive for each value of the intensity. For example, a Structural and Cohesion Fund intensity of €150 leads to a compound annual growth rate of real GDP per capita of 2.7% and an intensity of €200 leads to an average growth rate of GDP per capita of 3.2%. This result implies that the average local causal effect of the increase in the intensity of the aid from €150 to €200 is $3.2 - 2.7 = 0.5$ percentage points, i.e. a 33% increase in intensity causes a 19% increase in the annual compound growth rate of real GDP per capita for the NUTS-2 Convergence regions. However, the positive impact of intensity on the growth of Convergence regions tends to decrease and becomes statistically negligible after a certain threshold. So the results suggest that regions receiving a low aid

intensity are much more sensitive to changes in aid intensity than regions receiving higher levels of intensity, and that additional transfers after a certain intensity threshold do not increase GDP.

As in Becker *et al.* (2012), we can calculate the maximum desirable intensity of transfers, both as regards the statistical significance of the estimates of the effects of the treatment and their precise estimates. In the model chosen, the maximum desirable intensity is €305 for the precise estimate, €275 for that with statistical significance of at least 5%.

The presence of spatial correlation could negatively influence the estimates in our models. Since the data indicate the presence of a moderate spatial correlation among regional GDP growth rates, the model was re-estimated for the hypothesis that the errors may be spatially correlated. However, the results based on the model with spatially correlated errors also confirm the concave relationship between GDP growth and Structural and Cohesion Fund intensity and consequently the presence of a desirable maximum intensity.

Conclusions

Empirical analysis has shown that the intensity of Structural and Cohesion Fund transfers is highly heterogeneous among the regions, even within the same Member State. This study has presented some results regarding estimates of the impact on average annual growth of GDP per head of changes in the intensity of regional transfers by the Structural and Cohesion Funds. These results indicate an average positive effect of Structural and Cohesion Fund transfers on regional growth, thus confirming other results in the literature (e.g. Pellegrini *et al.*, 2013). The most interesting aspect is that the estimated dose-response function is concave in the analysis interval and presents a maximum value estimated at about €305-€340 per capita. After this value, the marginal efficiency of the transfers is negative and statistically negligible: the higher the per capita transfer, the lower the regional growth rate. Therefore, these funds could have been allocated to other regions without reducing the effect for individual regions and plausibly increasing the effect on other disadvantaged regions, in particular those with sufficient human capital and quality institutions (see Becker *et al.*, 2013).

Extending our results to all 208 European regions considered, it may be seen that 11 regions, representing 11% of the total Structural and Cohesion Funds, have received more than €340. In theory, if the contribution to these regions were reduced to €340 per capita, the EU would have saved €5.1 billion which could have been used to further help other less developed regions.

In summary, the empirical working of European regional policy is not so far removed from the process of maximisation implicit in the estimated model. However, our analysis shows that there is room to improve the allocation of Structural and Cohesion Fund transfers among European regions, in particular by reducing transfers to regions where the transfer intensity is

higher than the desired maximum level. A redistribution of EU transfers from 11-15 regions (5-7% of the total number of regions) to other less developed regions could be efficient and could strengthen regional convergence. Still, caution is needed in the mechanical application of these results to policy, for two main reasons. Firstly, when analysing the average impact of the Structural and Cohesion Funds in all Member States, the results do not exclude the presence of idiosyncratic or characteristic factors in some regions that allow constant or increasing returns on investment for specific countries and regions. Secondly, Structural and Cohesion Fund transfers may also have other objectives besides regional growth, such as social cohesion or the fight against poverty, which must be considered in allocating financial resources between regions.

2. The Challenges of Territorial Cohesion in Europe and in Italy: How to Reorder the Institutions? (*Renato Loiero and Chiara Meoli*)

Introduction

The notion of economic, social and territorial cohesion implies solidarity among the Member States and the regions of the EU with a view to promoting the balanced development of the Union's territory and the reduction of structural disparities between the regions of the EU; cohesion also aims to promote effective equal opportunities for its citizens.

Specifically, the notion of "territorial cohesion" is based on – and at the same time is an extension of – the concept of "economic and social cohesion" and enriches it with a territorial dimension. The latter presupposes an organisation of the territory on a European scale aimed at achieving proper planning of the European territory, especially as regards the management of networks and services.

In general, the territorial cohesion policy draws its foundation and legitimacy first of all from the Italian Constitution (Article 119, Paragraph 5 and Article 3, Paragraph 2) and then from the Treaty on the Functioning of the European Union (Article 174), which requires "special interventions" to promote "harmonious development" (Treaty) and to "remove economic and social imbalances" (Constitution).

More specifically, the Constitutional Charter states, in the fifth paragraph of Article 119, the purposes of the destination of additional resources and the implementation of special interventions in favour of municipalities, provinces, metropolitan cities and regions by the State. These purposes are:

- to promote economic development, cohesion and social solidarity;
- to remove economic and social imbalances;
- to promote the effective exercise of personal rights;
- to provide for other purposes than the normal exercise of the functions performed by the autonomous bodies.

This orientation was also reinforced by the Treaty on Union which identified economic and social cohesion as one of the fundamental objectives that the common institutions and the national public authorities are obliged to pursue.

In this last regard, it should be recalled that the origins of European cohesion policy go back to the 1957 Treaty of Rome, whose preamble refers to the reduction of disparities between the regions.

In the 1970s a series of European initiatives were launched to coordinate and integrate national financial intervention tools.

Over time, however, the measures undertaken proved to be insufficient in a Community context where, contrary to forecasts, the creation of the internal market did not eliminate the gap between the regions, which were often burdened by disadvantages both economic and natural and as well as demographic.

In 1986 the Single European Act introduced, in addition to the single market, the objective of proper economic and social cohesion.

With the 1992 Maastricht Treaty, cohesion policy was "institutionalised" through its inclusion in the EU Treaty. With the following Treaties of Amsterdam in 1997 and Nice in 2001 the provisions relating to cohesion underwent some changes in substance and in form.

With the 2004 Treaty establishing a Constitution for Europe, economic, social and territorial cohesion was formally accepted among the EU objectives as specified in Article I-3 of the text. The whole of section 3 is also reserved for cohesion, being composed of five articles (Articles III-200-III-224). Cohesion is also the subject of the "Protocol on economic, social and territorial cohesion" whereby the Member States mutually acknowledge the requirements, especially of a financial nature, which must be met to activate the cohesion steps.

Over the last few years, the notion of territorial cohesion has been gradually integrated into various resolutions of the European Parliament, but in a *reductive* way, in order to draw attention to particularly neglected areas of regional development (rural, peripheral, mountain, and island areas having permanent handicaps).

Cohesion funding is now available from the:

- European Regional Development Fund (ERDF);
- European Social Fund (ESF);
- Cohesion Fund (CF);
- European Agricultural Fund for Rural Development (EAFRD);
- European Investment Bank (EIB).

Articles 174 to 178 of the Treaty on the functioning of the European Union laid the legal basis for European cohesion policy. Coinciding with the adoption of the EU's multi-annual financial framework, the Union adopted a series of new regulations governing the funds referred to above for the period 2014-2020.

The European Context

Section 17 of Part Three of the Treaty establishing the European Community was intended to contain specific rules on economic and social cohesion.

Pursuant to Article 158 (ex Article 130a), "to promote the harmonious development of the Community as a whole, it shall develop and pursue its own action to achieve the reinforcement

of its economic and social cohesion. In particular, the Community aims to reduce the gap between the levels of development of the various regions and the delay of the less favoured regions or islands, including rural areas". It is up to the Member States, pursuant to the following Article 159 (ex Article 130b) to manage their respective economic policies with a view to the implementation of the aforementioned objective. For its part, the Community supports this action through structural funds (European Agricultural Guidance and Guarantee Fund, "Guidance" section, European Social Fund, European Regional Development Fund), the European Investment Bank and other existing financial instruments. The ERDF, pursuant to Article 160 (ex Article 130c), is intended to contribute to the correction of the main regional imbalances "by participating in the development and structural adjustment of regions whose development is lagging behind and in the conversion of declining industrial regions".

The interpreters of the Treaties have attempted to grasp the elusive meaning of the term "economic and social cohesion". Not so much for purely formal reasons, as for rebuilding the relationship between this objective and the pillars of European integration, starting with the freedom of competition. Some have seen in the objectives mentioned above the consecration of a policy already supported in previous years. Others have emphasised the element of novelty contained in these statements which should be recognised as having the merit of having made the Community's harmonious development a full-fledged Community policy with well-defined characteristics, enjoying equal dignity with the other supreme values consecrated there. Proponents of the first interpretative option have doubts that the objectives of free competition can be sacrificed in the name of economic and social cohesion.

The Lisbon Treaty, on the other hand, revised the objectives previously referred to. Article 174 (ex Article 158 of the TEC) enriched the expression in question by adding to it an explicit reference to territorial cohesion. Furthermore, among the regions concerned "particular attention is to be paid to rural areas, areas affected by industrial transition and regions with severe and permanent natural or demographic handicaps, such as the northernmost regions with very low population density and island, cross-border and mountain regions". Article 177 (ex Article 161 TEC) provides for a "Cohesion Fund" to be established under the same procedure for the granting of financial contributions to projects relating to the environment and trans-European networks in the area of transport infrastructure.

This brief summary of treaty clauses shows the particular attention that the European institutions have dedicated to reducing the gap between the different territorial areas, which are not all able to autonomously achieve adequate growth and economic development.

Cohesion (social, economic and territorial) is pursued by coordinating economic policies and implementing the policies of the Union, using the structural funds and the institutions appointed to do so. The European Social Fund is the preferred tool for stimulating employment, with a view to equal gender opportunity, to sustainable development and, in fact, to economic, social and territorial cohesion. The correction of regional imbalances is assigned to

the European Regional Development Fund. The efficient use of these financial interventions is governed by adherence to mandatory principles such as the organisation of funds by objectives and by regions, the partnership between the institutional players involved, and planning.

The 2009 "Barca Report" is a fundamental reference point for cohesion policies. All regions must be potential recipients of cohesion policies, especially in the presence of under-utilisation of territorial resources and persistent social inequalities. In the decision-making process, negotiation on objectives and means must come before bargaining relating to the distribution of resources. The concentration of consumers, workers and businesses is an important development factor: market failures found in this area justify public intervention.

Cohesion policy in the period 2014-2020, therefore, was first of all subordinated to so-called "macro-economic conditionality", which requires that the disbursement of funds be correlated with compliance by the Member States with the parameters contained in the "six-pack" (which specifies, for example, corrective measures for deficit and debt reduction and stipulates penalties). That policy is then subordinated to the financing of projects consistent with the objectives set out in the "Europe 2020" document: an economic system based on knowledge and innovation, sustainable growth in terms of a more efficient use of resources, and inclusive growth in terms of high levels of employment to promote social and territorial cohesion.

Enhanced Cooperation for Accelerated Implementation of the Operational Programs of the 2014-2020 Cohesion Policy: How to Promote Capacity Building?

Cohesion policies require a strong capability of the public administrations to identify the needs of citizens and businesses, to design and plan those services, to draw up tenders, to write and enforce rules, to meet the deadlines for carrying out the works, to check results, quickly proposing decisions and putting them into effect with consequent actions. To do this it is necessary to invest in "institutional capacity".

Institutional capacity, in the operational definition repeatedly recommended by the European Commission, refers to three areas:

- governance in the strict sense, i.e. the organisational structures and decision-making and organisational processes that regulate the functioning of institutions and (public) entities that implement policies;
- the tools used by institutions, i.e. methods, guidelines, manuals, procedures, practices, routines, forms, information systems, etc. that serve to make the processes work;
- the management of human resources, i.e. the mechanisms of selection, training, and motivation and best use of the people who work in and on behalf of the institutions.

To this end, innovative capacity building models are needed for the administrations involved in cohesion policy on the topic of support for increasing administrative capacity in the planning, implementation and evaluation of European and national cohesion policy. The most plausible and tested operational path is that of a specific entity to support the administrations with a view to strengthening their institutional capacity; this would not be in the form of traditional technical assistance, but would be capable of generating and accompanying procedural innovation, refining methods as the actual scenarios change.

Co-planning and accompaniment are the two measures which must support organisational learning, i.e. a process of adaptation to continuous changes in context based on cooperative processes that lead to acquisition of information (knowledge, understanding, techniques, practices, rules and customs) and turn it into a method of working.

The basic assumption is that in multi-annual public investments the implementation framework (political structures, administrative framework, beneficiaries' needs) is in constant evolution.

Given this context, the need emerges to facilitate the functioning of multi-level governance, to ensure the quality of the interventions and at the same time to strengthen the institutional capacity of the administrations involved.

In Italy, this role has been played in part by the "Studiare Sviluppo" [Study Development] company created in 2003 with the aim of trying out innovative capacity building models on behalf of the administrations involved in the cohesion policy. It is a company wholly owned by the Ministry of Finance and operates in-house in numerous central areas of the public service (in particular the Department for Cohesion Policies and the Territorial Cohesion Agency) to assist in increasing administrative capacity in programming, implementation and evaluation of Community and national cohesion policy. Since 2012 this company has been supporting the administrations with a view to enhancing their institutional capacity, as stated above, with procedural innovations and methods that react to changing circumstances.

In particular, in this phase of delay in the implementation and spending of many Regional Operational Programs for 2014-2020, it is particularly important to note the experience of the extraordinary task forces supporting the Managing Authorities which are running late in implementation. Established as an operational mode of support for territories in the past cycle of programming, the task forces have been methodologically "formalised" by making the intervention assume the role of an operative way of putting in place effective forms of enhanced cooperation. A model of action shared by the European Commission, the Italian Government and the individual regions involved, and aimed at supporting the full and timely implementation of the programs.

In this institutional framework, targeted actions have been put in place to develop the capabilities of the public administration in the implementation of cohesion policy by launching

specific regional task forces composed of highly professional experts whose role is to support the Managing Authorities of the Convergence regions in identifying the critical issues that prevent the timely implementation of the Operational Programs, including promoting the most appropriate solutions for achieving the spending target and avoiding the risk of disengagement. The teams of experts have been specifically identified on the basis of the need for assistance emerging for each territory and are composed of multi-disciplinary professionals able to ensure adequate support in relation to all aspects of the "supply chain" (planning, design, implementation, monitoring and reporting).

In total, about 30 experts were involved in the trained teams; they supported the Calabria, Campania and Sicily Regions with their respective ROP ERDF 2007-2013, and the Ministry of Infrastructure and Transport with its National Operational Program on Networks and Mobility 2007-2013. Although the variable geometry of the activities and the composition of the task forces referred to the specific assessment of the needs of the territory and the specific program, they nevertheless also operated in support of the various administrations with a systematic mainstream approach, allowing some key elements to be highlighted that have characterised the activity as a whole:

- reprogramming support;
- strengthening of the institutional governance of the programs;
- resolution of specific procedural blockages;
- management of large projects;
- specialist support in the field of financial engineering instruments.

A tangible effect of this accelerated activity can certainly be found in the increased rate of expenditure in European programs which, especially in the two-year period 2014-2015, was evident in the participating administrations in terms of the progress of certified expenditure: this reached the agreed targets, with a consequent containment in terms of loss of resources.

The support processes mentioned above all generate a basic conclusion: for the resolution of a large part of the critical issues related to the implementation of cohesion policies, a multi-level governance process based on the principle of enhanced institutional cooperation must be started.

In essence, it is a matter of defining a model for the "implementation" of intervention choices, to ensure the concrete and effective pursuit of the agreed objectives through participatory methods and guarantee integration between different levels of planning and implementation. In this context it is also necessary to pursue the realisation of these activities using some distinctive elements such as:

- rapidity and operational streamlining: working on consolidated templates and methods in such a way as to guarantee in a short time the construction and full operation in the territories of highly specialised and specifically "customised" teams for addressing the

- needs of each administration or territory to be assisted;
- regulation: the definition of a framework of shared rules that guides the relationships between the planners and implementers and the teams in support;
- co-planning: a working methodology that brings together around the same table planners during the preliminary phase and beneficiaries in the implementation phase of the interventions;
- on-hand support, i.e. the constant presence of skills regarding both method and substance in order to facilitate the progress of the processes.

The National Context

In Italy, cohesion policy is inserted above all in the general framework for guaranteeing substantial equality (Article 3, second paragraph of the Constitution), as a statement of the public authorities' commitment to reducing structural disparities among the regions and promoting effective equal opportunities among citizens.

Constitutional Law no. 3 of 2001, amending Section 5 of the second part of the Constitution (Articles 114-132), addressed the part of the Constitutional Charter dedicated to relations between the centre and the periphery, producing important effects on development policy in the depressed areas of the country.

In particular, with regard to the relationship between the autonomy of the regions and local authorities and special interventions by the State, the latter find their specific basis in the new text of Article 119 of the Constitution, which provides for them in very broad terms, justifying them on the basis of the need to "promote economic development, cohesion and social solidarity", to "remove economic and social imbalances", to protect "personal rights" and, finally, to "provide for other purposes than the normal exercise of functions" by the regions and local authorities.

An important element of continuity of the new text of Article 119 compared to the original one of 1947 consists precisely of the attribution to the State of further tasks with respect to the rules governing equalisation. While the 1947 Constitution legitimised only the provision of "special contributions", the current text provides both the provision of additional (financial) resources and the carrying out of special interventions. They present common and distinctive elements. The common ones refer to the objectives to be pursued, assignment of responsibilities, recipients and the rules governing the carrying out of activities.

Indeed, Article 119 establishes a legitimising rule that is more in the nature of a permission. It allows the State to implement actions to support regional and local governments. The condition necessary for the rule's activation is not the lack of resources to finance normal functions or the duty of equalisation, but the obligation to remove factors not having to do with the state of the economy but rather structural differences between the different parts of the Republic.

The fact that this obligation is imposed on the State is a common feature of the tasks referred to in Article 119 of the Constitution. On the other hand, the normative embodiment of the juridical discipline of the various forms of equalisation is reserved to the State. However, this does not prevent the State from acting indirectly. It can entrust the regions with the task of issuing supplementary and complementary rules, of carrying out administrative interventions, of carrying out checks. These are indispensable, among other things, in view of the comparative checks assigned to the Court of Auditors by Law no. 20/1994, strengthened by Law no. 131/2003, which, in conformity with Article 119 of the Constitution, refers to both compliance with the internal stability pact and the pursuit of the objectives set by regional laws (Article 7, Paragraph 7).

A further common feature that these forms of action present concerns the recipients, i.e. "certain" regional and local authorities. The result is a double element of discontinuity with respect to the 1947 Constitution.

It referred only to the Regions, to which the other entities of collective infra-national representation are now made equivalent. Moreover, the fact that the State's action is now addressed to "certain" entities has an undoubted legal importance. It follows, on the one hand, that the rule does not legitimise generalised interventions; on another, that substitutive interventions must be excluded such as those carried out in the past by the *Cassa per il Mezzogiorno*. Since the powers assigned to the State are complementary, supplementary and discretionary, but at the same time they are ordinary activities, they also differ from the extraordinary replacement powers that it is entitled to exercise under Article 120. Besides, the justification case is different. It does not consist in remedying the non-observance of the essential levels of services or the violation of the legal unity of the Republic, but in implementing interventions of a complementary nature.

The last part common to the two types of actions is, at the same time, a further distinctive feature of the new text of Article 119 compared to the old. The latter stipulated that the provision of special contributions should be ordered by law, which constituted a guarantee on the same basis as the principles of legality of expenditure (Article 81) and impartiality (Article 97). Moreover, constitutional jurisprudence interpreted the provision in a restrictive sense, considering the law necessary only for the assignment to individual Regions of ongoing contributions over time, not for contributions paid in relation to sporadic and exceptional needs.

Having pointed out the features common to the two types of tasks that the Constitution assigns to the State, it is also necessary to point out their distinctive features. While there is agreement about the meaning to be ascribed to the provision of additional resources of a financial nature, there is discord on the meaning of "special interventions". Some merely state that in both cases these are activities of a financial nature, excluding the fact that the current provision is innovative compared to the previous one, which referred to "special contributions" only. But this is equivalent to affirming that in the new provision there is a kind of hendiadys,

which would require at least a specific demonstration and this is missing. Conscious of this difficulty, others advocate a distinction based on the nature of the actions to be financed. Thus, additional resources would be allocated by the State in view of spending programs already initiated by the regions and local authorities, while the special interventions would be launched by the State in consideration of specific situations.

The institutional bodies responsible for implementing territorial cohesion in Italy. Reorganisation of the skills of the Territorial Cohesion Agency

In Italy from 2005 to 2006, from 2010 to 2014 and again from 2016, various Ministers for Territorial Cohesion took turns. In other governments, cohesion mandates have not been conferred on ministers or undersecretaries.

The "Agency for Territorial Cohesion", an Italian public agency supervised directly by the President of the Council of Ministers [Prime Minister], plays a key role in the management of cohesion policies. Its objective is to support, promote and assist programs and projects for development and territorial cohesion.

It was established pursuant to Article 10 of Decree Law no. 101/2013, acquiring part of the functions of the disbanded "Department for Economic Development and Cohesion" at the Ministry of Economic Development.

The Agency provides support for the implementation of European and national planning (2007-2013 and 2014-2020 cycles) through assistance to central and regional administrations having Operational Programs and their beneficiary bodies, as well as carrying out monitoring and verification activities for investments and support for the promotion and improvement of planning and quality, timeliness, effectiveness and transparency of planning and implementation activities.

Moreover, Article 4-ter of Decree Law no. 86/2018 provides for the reorganisation of the responsibilities originally regulated in Paragraphs 2 and 3 of Article 10 of Decree Law no. 101/2013 on policies for territorial cohesion between the Presidency of the Council of Ministers and the Territorial Cohesion Agency.

In particular, with the new Paragraph 2 of Article 10 of Decree Law no. 101 the functions relating to the cohesion policy attributed to the Presidency of the Council of Ministers are redefined with respect to the provisions of current legislation. Using the Agency where necessary, it may:

- adopt guidelines and programming measures on the use of structural funds from the European Union, as well as on the use of the Development and Cohesion Fund (letter a);
- promote policies and interventions to ensure additional funds, compared to the ordinary

budget allocations of the State, from the structural funds of the European Union and from the Development and Cohesion Fund, as well as the related Investment Programs (letter c);

- promote the implementation and monitoring of Article 7-*bis* of Legislative Decree no. 243/2016 (this law governs the principles of territorial rebalancing without additional resources) (letter d);
- evaluate the results of cohesion policies for purposes of policy correction and redirection, with the collection and processing of information and data on the implementation of the Operational Programs of the Structural Funds of the European Union, as well as on the implementation of the Development and Cohesion Fund (letter e);
- finally, it makes use of the National Agency for the Attraction of Investments and Business Development - Invitalia Spa for the execution of the decisions taken on the subject of institutional development contracts, where there is inertia or default by the public administrations responsible for the interventions identified, as well as for the implementation of the cohesion policy, using where necessary measures to accelerate the strategic interventions referred to in article 55-*bis* of Legislative Decree no. 1/2012 (letter i).

In the following paragraph 3 the functions of the Agency are redefined, among which - compared to those envisaged by current legislation – these should be noted:

- support for the activities of the Presidency of the Council of Ministers on the control of Operational Programs and cohesion policy interventions (letter b);
- support for the implementation of Programs with handholding for the responsible administrations, promoting the use of institutional Development Contracts and the activation of the National Agency for the Attraction of Investments and Business Development - Invitalia Spa as a commissioning entity (letter e);
- undertake direct functions as managing authority for programs financed by Cohesion Policy resources and the running of specific projects, as well as using for this purpose - under the hypothesis of point (e) - the National Agency for the Attraction of Investments and Business Development - Invitalia Spa (letter h).

This reorganisation is intended to rationalise and clarify the respective functions regarding policies for territorial cohesion, between the Presidency of the Council of Ministers, which exercises them through the Department of Cohesion Policies, and the Agency for Territorial Cohesion, established in 2013 by article 10 of Legislative Decree no. 101/2013. After about four years of operation of the same Agency, the provision in question allows the regulation to be updated if necessary to ensure better efficiency of the Agency's activities.

Furthermore, the regulatory rules aim to clarify that the Presidency of the Council of Ministers has responsibility for defining policies and then, in concert with the other central and re-

gional administrations, guiding the planning of resources destined for territorial cohesion (fundamentally: the European Structural Funds, the so-called ESI Funds, and the Development and Cohesion Fund referred to in Legislative Decree No. 88/2011), ensuring the representation of Italian interests at the European Commission and evaluating the effectiveness of the policies themselves in order, if necessary, to reorient them.

As far as the Agency is concerned, the operational monitoring tasks regarding the conduct and implementation of the Programs are more clearly defined and it is emphasised that the main tasks are the provision of assistance to central and regional administrations whose Programs they are and the definition of standards and operational instructions with a view to simplifying and making more efficient the implementation of the OPs, and therefore to make spending initiatives more incisive.

With this in mind, the Agency retains the power to propose acceleration measures, based both on the outcomes of monitoring and on the evaluation and verification activities that remain its core function, in close collaboration with the offices of the Presidency of the Council of Ministers. The possibility also remains for the Agency to be itself the owner of programs, always with a view to providing services that cross the administrations involved in cohesion policies, and to be responsible for specific projects.

The structure of the functions is completed and the implementation system for Programs is filled out by the possibility of using the National Agency for the Attraction of Investments and Business Development - Invitalia - in the initiatives to support the administrations, with particular regard to the functions performed by it as a central purchasing body. The identification of the National Agency for the Attraction of Investments and Business Development as the implementing entity for interventions and the assignment of tasks in support of public administrations for the implementation of development and cohesion policies is not incompatible with European competition law, since it is motivated by objectives of general interest.

In this regard, the provision in question was not new in allowing for the possibility that the National Agency for the Attraction of Investments and Business Development - Invitalia receive direct credit lines from the central administrations, because already Article 55-*bis* of Decree Law no. 1/2012 (quoted in full in subparagraph i) of paragraph 2) reserves by law an exclusive right in favour of Invitalia to perform the functions of public purchasing and technical support centres. Furthermore, the function of implementation authority for institutional development contracts is already provided for by Legislative Decree no. 88/2011 and Article 9-*bis* of Legislative Decree no. 69/2013 and therefore, from this point of view as well, the regulation limits itself to recalling functions already assigned, placing them within a more precise demarcation framework regarding the functions of the various entities that make up the institutional chain of governance of cohesion policies.

The Role of the Regions

In order to carry out the continental political project, the Treaties establishing the European Community designed a strictly State-based architecture, structuring the European entities as international organisations that, by juxtaposing themselves with the States that had created them, would organise more efficient cooperation of an intergovernmental character. In this legal framework the Communities are composed of States and only a State can become a member. The regional territorial dimension, from a political-institutional point of view, was almost completely unknown. Tensions manifested themselves starting particularly in the 1980s and changed the relationship between the regional political arenas and the overall Community one.

These dynamics brought out the profound influence that supra-national integration had had on regional responsibilities, particularly on their legislative function. A fundamental step was the strengthening of EU regional policy, considered one of the necessary conditions for the continuation of the economic integration of the EU. It has been observed that the European Union needs the territorial communities in order to establish itself among its citizens and to impress its political strength and authority with the central governments, using the complicity of those sub-national players having legislative powers. The Committee of the Regions is part of an institutional context strongly marked by a pyramidal vision of European political and institutional reality: the Union over the States, these over the Regions, the latter over the local communities.

The Committee of the Regions, aware that such a pyramidal and top-down structure makes European institutions increasingly distant from its citizens, has proposed reviewing Brussels' decision-making practice in the context of a new institutional reality designed by the Lisbon Treaty, strongly based on the principle of subsidiarity at all levels of activity and for the first time recognises the specific role of the regional factor. After a first move by the European Commission on the reform of governance of the European Union in 2001, the debate was restarted by the Committee of the Regions, which, through its "White Paper on Multilevel Governance", proposes correcting and improving European governance. Through multilevel governance, the Committee of the Regions proposes that the Commission adopt a territorial impact analysis before any major reform of European policies. The territorial dimension, and especially its sub-State component, has gradually acquired great importance in the processes of reform of European governance following the recognition of the potential that regions and municipalities possess in terms of trust in their relations with their citizens, and especially taking into account their strategic position for an effective implementation of public policies.

For this reason, since the end of the eighties there has been a clear rapprochement between the regional political arenas and the European one.

This process has redesigned the role of the State: while previously it was an indispensable interlocutor between its internal subdivisions or sub-state bodies and the then European Community, it has now seen this role removed, or at least downgraded. Two complementary dynamics have been created: one coming from below, that is from sub-state players trying to make the most of all the possibilities that economic integration has opened up; the other, of a top-down nature, comes instead from the EU institutions that have set themselves the goal of strengthening the role of regional and local players in the European political arena. From the interweaving of these two dynamics, various institutional and policy channels were created which allowed regional and local players not only to access financing from EU funds, but also to be able to influence decision-making processes at the EU level. Multilevel governance has been proposed as an effective descriptive paradigm of decision-making processes that characterise some policy areas at the European level, especially regional development policy.

What are the possible new challenges?

Today there is a need to make the concept of "territorial cohesion" operational, so that the efforts of individual Member States and the EU converge in the same common project of a real coordination of European territorial planning. The need for "territorial cohesion" is in fact inevitable in facing the new national and European challenges and also in fostering increased global competitiveness.

Remove the Obstacles

It is necessary to increase the opportunities of citizens, particularly in the disadvantaged areas of the country, so as to "remove economic and social imbalances and to promote the effective exercise of personal rights" (Article 119, Paragraph 5 of the Constitution), including by effective investment of the public resources made available by EU funds from the European budget and the Development and Cohesion Fund.

Integration Without Uniformity

Italy presents great geographical and cultural diversity concentrated in a small space. This diversity - potentially one of the main growth factors of the country - must be preserved in parallel with the development of national integration. Policies that act on the territorial and urban structure of the country must therefore promote territorial continuity without, however, eroding local and regional identities, which contribute to enriching the quality of life of all Italian citizens.

If territorial cohesion corresponds to the principle of equality among citizens, wherever they live, it involves measures aimed at establishing equal treatment of its territories, taking particular account of their geographical and demographic situations. The concept of territorial cohesion must therefore be valid for the whole Union. In order to enhance the regional and local

territories, it is therefore appropriate that territorial planning at national level be aimed at optimising each specific characteristic and transforming it into a source of growth.

Thus, territorial cohesion should not be limited to the reductive notion of "simple cross-regional development" but imply the (global) concept of a territory served in a balanced way.

Polycentric Development

Today the challenge of cohesion should take on a new "polycentric" dimension by way of a search for different dynamic integration zones so as to favour the reduction of disparities between the centre and a periphery that continues to expand.

The concentration of wealth in only one part of the national territory can seriously compromise the long-term integration of the country, as it involves the under-utilisation of the resources present in the larger part of the territory that is made up of the peripheral regions.

In this perspective the development of a polycentric model (and no longer a model of centre-periphery development) should represent a key element of the territorial cohesion strategy.

The territory is in fact a strategic element for any integrated approach to sustainable development. It represents the most favourable framework for the reconciliation of three elements: competitiveness, social cohesion and the environment. It is now necessary to place cohesion policy in the strategic guidelines defined at the European level and to ensure regional and territorial application of the strategies already adopted at that level.

Progress on the Lisbon strategy is relatively disappointing. Over the past four years, the EU's sustainable economic growth has in fact been much weaker than that seen in other industrialised countries or emerging economies. It should be noted that the diversity and richness of the specific potential of the European regions have not been sufficiently taken into account.

The strategy can be enhanced through policy approaches and more effective coordination of sector policies pursuing the objective of integrated territorial development and allowing cities and regions to exploit their endogenous potential and to work constructively on crucial issues.

It is also necessary to combine sectoral policies and structural policies. At the European level, economic disparities between Member States have been reduced by one third (Ireland's GDP rose from 64% to 119% of the EU average between 1988 and 2000). But on a regional scale, although in the same period the average deviation has shrunk by almost a fifth, the result is less good and, in general, the disparities between regions have tended to increase, especially as regards the metropolitan areas: so other factors come into play and some EU policies in particular have a far more significant territorial impact than European regional policy alone. The problem of the territorial impact of non-territorialised EU policies (called sectoral, such as CAP, environment, transport, competition, research) is not new. In the current context there is some progress in sectoral EU policies towards better territorial cohesion (evolution of the CAP

towards diversification of rural development), but many inconsistencies remain: European Community policies are increasingly diversified in their implementation at national and regional level; the European sectoral culture is more and more unbalanced with respect to the territorial expectations of local communities and of civil society; the governance of EU policies does not facilitate consideration of the territorial dimension.

Hence the need to re-establish consistency between the various EU (sectoral or structural), national and regional interventions in an area and ensure a better articulation of the various territorial levels. This means closer communication among the three levels of entities operating in the territory (local, national and European) and a better quality public-private partnership, as indicated by the White Paper on Governance presented by the European Commission in May 2001.

The European Spatial Development Perspective (ESDP) is very much in line with this logic of decentralisation, subsidiarity and governance. It does not at all want to replace a European spatial planning policy with national or regional policies, but advocates a resolution of the problems at the most appropriate level, taking into account the nature of the problems themselves and the characteristic organisation of each State. At the same time, the European Spatial Development Perspective scheme suggests dealing with problems at the European level, and its contribution consists in proposing the common European parameters necessary for cooperation.

In addition, the ESDP integrates the sustainable development approach, expressing the need to keep the economic, social and environmental components of development together and to involve public entities at various levels, but also businesses and civil society: in other words, reasoning in terms of governance and not just in terms of government.

More generally, coordination at the European level should be ensured by the European Commission, which is based in particular on the work and tools of the European Spatial Planning Observatory Network (ESPON).

In order to systematically measure the impact of these policies on the sustainable development and cohesion of the Union on the basis of the revised ESDP, the Commission could establish a strategic impact assessment procedure on the ground. This procedure would also make it possible to identify the interactions between Community policies operating in the same thematic or territorial context.

The ultimate aim of spatial planning is precisely economic, social and territorial cohesion: spatial planning is the territorial expression of economic, social and cultural policies. The European Union has no responsibilities concerning spatial planning. The Treaties do not provide for it, although it is a sensitive area for the Member States. Ministers responsible for spatial planning have drawn up the relevant guidelines at EU level.

On the occasion of an informal Council in Potsdam in 1999, the European Spatial Development Plan was approved. The document, though not binding, has nevertheless exercised a strong influence in political terms, since it probably pushed the Convention to add territorial cohesion to the objectives of the Union. The ESDP promotes polycentric development and a new relationship between cities and rural areas.

The reform of the structural funds since 2007 has accepted this vision, pursuing a strategic strengthening of cohesion policy through better global consistency, a strengthening of the regional dimension and addition of the territorial dimension in the projects.

Furthermore, according to the report of the European Court of Auditors presented on 4 September 2018, project selection procedures under the cohesion policy are still marked more by implementations and spending rather than results, despite the declared intention to improve this situation. Moreover - again according to the Court - due to some weaknesses in monitoring it was difficult to assess to what extent EU funding contributed to the achievement of EU and Member State objectives.

During the 2014-2020 period, under the Cohesion Policy, the EU has made available almost €350 billion to support job creation, business competitiveness, economic growth, sustainable development and improvements in the quality of life in the Member States.

The Court nevertheless made the following recommendations:

- Member States should make a comparison between applications for project funding, oblige beneficiaries to define at least one true performance indicator for each project and evaluate the expected results and the indicators;
- the Commission should define common performance indicators for the European Regional Development Fund and improve its performance reporting;
- the Commission should ensure that a meaningful performance review is carried out in 2019.

3. European Cohesion Policies and Territorial Capital in a Systemic Approach (*Ugo Fratesi and Giovanni Perucca*)

Introduction

Since the 2000-2006 programming period, all regions of the European Union have become eligible for support for European regional policies, also known as cohesion policies. These policies are very complex and include various aspects, economic, social and political. Despite this, most of the literature focuses on financial assistance obtained by the regions and its economic effects, also because this is the aspect on which there is greater availability of data.

Even if all regions are assisted by these funds, the amount differs, particularly depending on the category into which the regions fall. However, being included in a specific eligibility category does not guarantee a specific amount of funds (Crescenzi, 2009, Dotti, 2013).

It should also be noted that although European regions differ significantly in terms of GDP per capita, they are even more diverse in terms of territorial growth factors of an economic, cultural, social and environmental nature. In a word, they differ in terms of territorial capital, a concept introduced by the OECD in 2001 and then used more and more to represent the structural elements underlying territorial development.

The endowment of territorial capital is an important determinant of regional growth and also of the impact of cohesion policies on the regions. This is due to two different mechanisms. On the one hand, the presence of territorial capital acts as a filter that facilitates and strengthens the impact of policies aimed at growth. On the other hand, where territorial capital makes the territorial structure grow and improve, it will lay the foundations for long-term growth.

Preliminary evidence of this relationship was discussed by Fratesi and Perucca (2014), who showed a correlation between the impact of policies and the presence of specific territorial elements; that work, however, was not able to study territorial capital in a systemic way, as requested by the Italian school of regional science, which demonstrates how the presence of socio-economic elements and in particular their interaction are the basis of regional growth (Camagni, 2009 and 2017; Capello *et al.*, 2011; Perucca, 2014; Fratesi and Perucca, 2018a). The mediation of territorial capital therefore does not depend only on a single variable, but on a combination of them.

Therefore a broader reflection on the mechanisms by which territorial capital impacts on regional growth is necessary, a reflection that is developed in this paper and more extensively in the work from which it originates (Fratesi and Perucca, 2018b) and which has two main objectives: the first is a theoretical objective, that of formalising the relationship between territorial capital and cohesion policies, highlighting the different mechanisms whereby these two elements promote regional growth in different time frames.

The second objective is linked to the first and consists in demonstrating through empirical analysis the implications of the theory of territorial capital for regional policies. It will therefore be shown that, over the long term, it is useful to build territorial capital, since this increases the growth rate; whereas, in the medium term, regional policies are more effective in the presence of complementary territorial elements; and finally that the investment in territorial elements complementary to those already in place, for example intangible factors where the material ones are already present and vice versa, is a good way to increase the growth rate of the regions.

To do this, and to have a long-term perspective, we focus on the NUTS-3D regions of the European Union of the 15 "old" member countries, using a type of 20-axis disaggregation of cohesion policy spending.

The rest of the work² is organized as follows: the next section shows the mechanisms by which territorial capital influences the impact of policies. In the following section we explain why European regional policies are expected to increase territorial capital over the long term by focusing on structural interventions. Then a taxonomy of European regions based on the territorial capital is presented. The penultimate section contains an econometric analysis of the impact of cohesion policies mediated by territorial capital. Finally, the last section reports the conclusions and recommendations for policies.

The relationship between territorial capital and the impact of regional policies

Territorial capital, as defined by the OECD (2001, p.13, our translation) refers to the "stock of endowments that form the basis for endogenous development in each region and city, and to institutions, decision-making modalities and professional skills for the best use of these endowments".

Following the seminal contribution of the OECD, the concept was further developed, mostly thanks to the studies of the Italian school and of Roberto Camagni in particular (Camagni, 2009). This approach is based on a cognitive perspective of regional development with the territorial endowments classified according to the two dimensions of materiality and rivalry. Consequently these elements range from material and public resources, such as infrastructure, to intangible and private resources, such as human capital, and finally to all nine possible combinations of these characteristics, intermediate degrees of rivalry and materiality having also been defined (Camagni, 2009).

Most of the existing literature on regional development documents the impacts of each element separately. On the contrary, in the approach used in this work and defined by the

² This work originates from the following article of which it is a summary: Fratesi U., Perucca G. (2018b) "EU Regional Development Policy and Territorial Capital: A Systemic Approach", Papers in Regional Science, on-line first. DOI: 10.1111 / pirs.12360.

theory of territorial capital, the various elements are included in their interactions and the elements of complementarity and substitutability between the different components require further investigation (Perucca, 2014; Toth, 2015). So the two objectives of this work are useful in showing how different combinations of territorial elements can support regional policies.

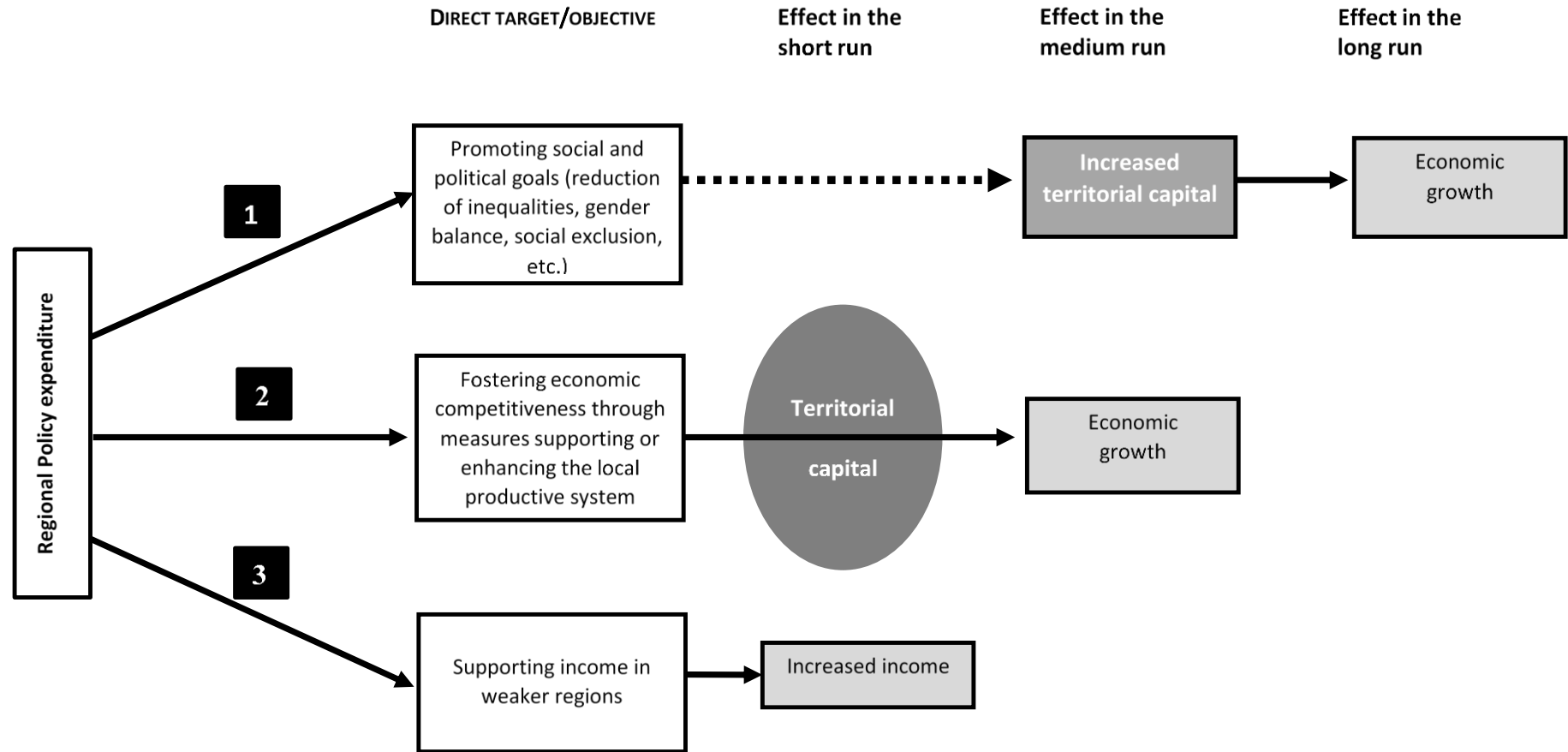
Specifically, this paper considers that there is an important theoretical relationship between the territorial capital endowment of the regions and the impact of regional policies. As shown in Figure 4 there are three main objectives for regional policies. The first is to pursue political and social goals such as the promotion of social cohesion and sustainability and the reduction of inequalities. In this case, territorial capital is strengthened by regional policies that improve the structure of the regions; therefore, it is expected that these policies, while not being aimed at economic growth in the short term, will lay the foundation for greater growth in the long term.

The second objective for regional policies is to directly influence economic growth, for example through measures that support local industry; in this case, territorial capital will play the role of filter, since the presence of the right components of territorial capital in the territory will make the interventions of policies that have been implemented more or less effective.

The third possible objective for regional policies is to support the income of the weaker regions directly. In this case the result of policies is only present in the short term and concerns an increase in income in the target regions, with no medium or long-term effects. In this case, we do not expect there to be a role played by territorial capital and, consequently, this type will be neglected in the rest of the work.

The three intervention mechanisms highlighted in Figure 4, in any case, are not necessarily mutually exclusive and are often implemented at the same time. Formally, cohesion policies belong to the first two types, although often a clear awareness of the existing trade-offs is absent.

Figure 4 - Relationship between territorial capital and the impact of regional policies



Source: Adapted from Fratesi and Perucca, 2018b

Based on these classifications, the empirical parts of this work will answer the following two conceptual questions:

2. What is the relationship between territorial capital and economic growth? We expect regions with greater territorial capital or a more balanced combination of endowments to perform better than others in terms of GDP per capita.
3. In what way and to what extent does territorial capital, considered in a systemic way, act as a filter for the impact of regional policies on economic growth? As shown above, this impact is expected to vary depending on the type of regions based on their territorial capital assessments, with the emergence of complementarity.

To answer these questions, a taxonomy of the European regions will be constructed on the basis of the level and type of territorial capital. The impact of cohesion policies and their spending on medium and long-term economic growth will therefore be analysed by considering the type of expenditure, by means of disaggregated data in the Structural Funds' planning period of 2000-2006 and on the territorial capital endowment of the different regions.

European Cohesion Policies, Long-Term Growth and Territorial Capital

After showing the mechanisms by which territorial capital should influence regional growth and the effectiveness of regional policies, this section will illustrate how cohesion policies influence and are in turn influenced by territorial capital.

It is difficult to think of regional development policies that are as closely related to the concept of territorial capital as European cohesion policies; in fact, since their first introduction, the structural funds have been dedicated to increasing cohesion in Europe by reducing regional disparities and increasing long-term growth rates in the weaker regions. To do this they use the principles of additionality, concentration, partnership and planning, which also increase their structural impact.

Cohesion policies pursue a multiplicity of objectives and have a variety of motivations (Begg, 2016). It would therefore be wrong to identify them closely with the increase in territorial capital. At the same time, the European treaties focus on structural interventions and long-term growth. The principle according to which the European Union should promote economic, social and territorial cohesion, and solidarity among member countries is present in the 2010 Treaty (EU 2010a), and the regulations for the European Development Fund Regional (ERDF) establish the aim of reducing disparities through structural change (EU 2010b).

In the various planning periods of the cohesion policy that have occurred there has in fact always been a persistent focus on structure and long-term growth, which has also led to a paradigm shift from the focus on reducing disparities towards the promotion of regional competitiveness using the development potential of each place. In 2000-2006, in particular, the

regulations provided for the Union to contribute to the harmonious, balanced and sustainable development of economic activities (EU 1999).

Despite a change in the thematic objectives and the categories of the regions, the basic objective of cohesion was also maintained in the following programming periods, and in particular there is a long-term growth objective which in current programming is also explicitly intelligent, sustainable and inclusive; consequently, due to their focus on the structure, cohesion policies end up being an important element in the construction of the territorial capital of the European regions.

In practice, large shares of funds are spent on structural aspects such as human capital, infrastructure or the administrative capacity of local institutions. There are many other aspects that influence cohesion policies that ensure that there is no perfect match between the degree of need of the regions and the support received, also because there are significant differences in the ability of the regions to acquire funds; this is partly due to different governance mechanisms and regional capabilities.

There is also a known problem of absorption capacity, since regions are not able to use too large a funding inflow compared to their economic structure, and this is particularly important for territorial capital as, specially for intangible aspects, it requires a long time for the accumulation and interaction of various components, so there are no shortcuts for a quick result.

There is wide debate and extensive literature on the effectiveness of cohesion policies in promoting regional growth. Most authors currently consider cohesion policy as effective although there is evidence that its impact is greater for the more recent planning periods. The impact on regional development has generated significant interest in the literature, which includes a wide variety of methodological approaches, data and research questions that often lead to inconsistent results (Gripaios et al., 2008; Pieńkowski and Berkowitz, 2015; Fratesi, 2016).

It goes beyond the aims of this work to provide a detailed review of these studies, but an extremely important element that is often not considered sufficiently should be pointed out. This element is the heterogeneity of the impact of policies in different territorial situations. A relatively recent and clearly growing current in the literature is the one that investigates the factors that influence the impact of policies, highlighting the role of territorial socio-economic conditions as determining the impact of cohesion policies and generally showing a positive relationship between these elements.

In addition to its multiple medium-term objectives, cohesion policy is aimed at providing regions with intelligent, sustainable and inclusive growth over the long term, which requires an analysis of data over long periods of time. As a result, this work focuses on the 2000-2006 planning period and therefore on the relationship between those cohesion policy investments and economic growth in subsequent years.

Data for the 2000-2006 planning period are the first available with an axial articulation, which makes it possible to analyse the impact on regional economic growth of different types of policies in different contexts.

Among the various possible impacts of cohesion policies, we will focus here on the economic one in order to show the relationship between the economic structure, created through the conceptual scheme of territorial capital, and cohesion policies.

The existing literature can be classified into three main groups, which focus on: (i) the relationship between the priorities of the interventions in the different regions and their territorial capital (Zasada *et al.*, 2015; Fratesi and Perucca, 2016); (ii) the territorial impact of cohesion policies (Constantin *et al.*, 2013; Medeiros, 2016), i.e. the contribution of these to the accumulation of specific territorial elements (as described in the dotted line in Figure 4); and (iii) the role of individual territorial characteristics on the effectiveness of structural funds (e.g. Ederveen *et al.*, 2006; Becker *et al.*, 2013; Fratesi and Perucca, 2014).

Unlike the previous literature, this paper analyses the relationship between the adoption of territorial elements and the impact of policies using a systemic approach rooted in theory. Compared to the work carried out by the same authors in 2014 for the regions of Eastern Europe, in this case we will show the different role played by territorial capital in the short, medium and long term using a systemic approach that was absent in previous contributions.

The next section, then, will start with the construction of a taxonomy of the European regions of the 15 "old" member countries, excluding the regions of the countries that entered in 2004 and the years following, in order to be able to use a sufficient depth of data.

A taxonomy of European regions based on their territorial capital

In order to adopt a systemic approach to the analysis of the interactions between cohesion policy and territorial capital, it is necessary to analyse the latter as a whole. The purpose of this section is therefore to classify the European regions according to their territorial capital endowment, as defined by Camagni (2009). The empirical analysis is based on a series of variables that measure the elements of the territorial capital matrix defined in paragraph 2 for each of the European regions. The latter are defined at NUTS-3 level, in order to capture the specific characteristics of each territory with the greatest possible detail.

The choice of the variables used in the empirical analysis reflects the component of territorial capital they intend to measure. The choice of these measures reflects that proposed by Fratesi and Perucca (2018a) in the study of the resilience of European regions. Public material capital is approximated by a multi-modal accessibility indicator, which captures potential access to markets outside the region (Redding and Sturm, 2008). The choice of beds in accommodation facilities as a measure of collective and material resources (cultural and natural cap-

ital, etc.) is based on the assumption that they represent a good approximation of the attractiveness of an area. Private material capital is measured by IP addresses in the region, highly correlated with the fixed investment stock³. Intangible public capital is captured by gender inequalities in the labour market, associated in the literature with other dimensions of social capital (Molyneux, 2002). Consistent with previous work, human capital is measured by the percentage of graduates among residents, while population density approximates the presence of agglomeration economies. Finally, the share of professionals and managers employed measures regional specialisation in high-level production functions, a feature that is conceptually close to the private relational services defined by Camagni (2009).

The application of clustering techniques allows the identification of homogeneous groups of regions in terms of territorial capital endowment⁴. This analysis led to the identification of five clusters. The average value of the standardized territorial capital variables is shown in Table 1 at the end of this paper.

The first group of regions (cluster A) includes 35 regions. They are urban areas, specialising in manufacturing and advanced services, as can be deduced from the high proportion of managers and professionals. In general, the allocation of private capital with a different degree of rivalry is very high in this cluster. For this reason the group has been named “urban regions with private capital”.

Cluster B includes 119 regions, once again urbanised, with a lower intensity of private capital compared to the previous group. The high amount of public capital, both tangible and intangible, characterises this group as “urban regions with public capital”.

Cluster C (153 regions) is the one with the highest level of collective assets (cultural and natural capital). The degree of urbanisation is lower than in previous cases, while human and social capital, both intangible resources, do not differ much. This group has been defined as “semi-urban regions with intangible capital”.

Cluster D comprises 103 regions, with a lower endowment than previous groups in all elements of territorial capital. The high degree of accessibility shows how these regions are not peripheral but specialise in non-advanced activities. This group is defined as “rural regions with low territorial capital”.

Cluster E includes the largest number of regions (243) and the lowest endowment of territorial capital. These are rural and mostly peripheral areas, classified as “peripheral regions with low territorial capital”.

³ Data at NUTS-3 level on private fixed investments are not available. The correlation between fixed investments and IP addresses measured at NUTS-2 level is found to be positively correlated with a statistical significance of 0.01%.

⁴ See Fratesi and Perucca (2018b) for details on the type of clustering adopted.

The last line of Table 2 is a descriptive analysis of the association between territorial capital, economic development and growth in the medium term. Consistent with expectations, the D and E clusters are those with the lowest per capita GDP, while the opposite applies to cluster A, which is also the one that grew most between 2000 and 2008.

Territorial Capital and Effectiveness of Structural Funds

Measurement and Methodology

In the 2014-2020 planning period, EU regional policy is acting on 11 Thematic Objectives, some of which are purely economic while others are oriented towards other areas less explicitly associated with economic growth, such as sustainability and social inclusion.

The variety of cohesion policy objectives and areas of action means that the amount of funds without any thematic subdivision represents an inappropriate measure of EU intervention at the regional level. In a previous study, Rodríguez-Pose and Fratesi (2004) showed how, by classifying the regional funds of the period 1989-1999 into four thematic axes, their impact on regional growth varies significantly. For this reason, this work uses as much detail as possible for the 2000-2006 cohesion policy expenditure data, i.e. NUTS-3 administrative spending data on 19 different spending axes.

Since it can be assumed that not all these areas of expenditure play a role in promoting economic growth or generating new territorial capital, five of them are excluded from the analysis (agriculture, forest and rural areas, fisheries and technical assistance). The other areas of expenditure are potentially associated with economic growth⁵ or with the creation of territorial capital, whether intangible⁶ or tangible⁷. Unfortunately, no information is available on the national and/or regional funds invested to be included as a further check.

The aim of our analysis is to study the relationship between cohesion policy and medium-term economic growth. The assumption that we want to test is that the elements of territorial capital are not neutral in this process. Rather, as discussed above, these elements are assumed to act as mediators for the impact of European investment. To measure this effect two equations will be estimated.

The first, which conceptually corresponds to the first line of Figure 4, considers the effect of the elements of territorial capital on regional growth. This regression model à la Barro (1991) can be expressed as:

⁵ The axes are: support for large enterprises, support for small-medium businesses, tourism, research and innovation.

⁶ The axes are: labour policies, social inclusion, professional training, entrepreneurship, workforce flexibility and positive labour market actions for women.

⁷ The axes are: transport infrastructure, ICT, energy and environmental infrastructure, healthcare infrastructure.

[1]

$$\begin{aligned} \Delta GDP_{i,2006-2012} &= \alpha_1 \log(pcGDP)_{i,2006} + \alpha_2 \log(pop.growth)_{i,2006-2012} \\ &+ \alpha_3 special.public.sectors_{i,2006} + \sum_{n=1}^5 \beta_n cluster FE + \sum_{m=1}^{27} \gamma_m country FE + \varepsilon_i \end{aligned}$$

where the dependent variable is the change in GDP between 2006 and 2011 in the i -th region. The initial year is the last one of the planning period under consideration. Independent variables include elements not represented in the territorial capital of each region but having an expected effect on economic growth, such as the general level of wealth (per capita GDP at the beginning of the period) and population variation between 2006 and 2012. The role of public funding in the economy is captured by the share of the workforce employed in the public sector in 2006. Country-level dummy variables capture national characteristics such as the administrative and institutional system. Finally, a series of dummies represent the five territorial capital clusters identified in the previous section. The estimate of the equation (1) makes it possible to analyse the general effect of territorial capital on economic growth.

The second model, in accordance with what is illustrated in Figure 4, empirically tests the complementarity between territorial capital and funds. It is expected that: i) policies will be more effective in the presence of a greater endowment of territorial capital and ii) policies focused on intangible elements of territorial capital are more effective in regions characterised by an important endowment of tangible elements, and vice versa. To verify these hypotheses, the interaction between the previously identified clusters and the amount of funds invested by cohesion policy⁸ was added to equation (1):

[2]

$$\begin{aligned} \Delta GDP_{i,2006-2012} &= \alpha_1 \log(pcGDP)_{i,2006} + \alpha_2 \log(pop.growth)_{i,2006-2012} \\ &+ \alpha_3 special.public.sectors_{i,2006} + \sum_{j=1}^{15} \delta_j CF expenditure_{i,j} \\ &+ \sum_{j=1}^{15} \sum_{n=1}^5 \theta_{ij} cluster FE * CF expenditure_{i,j} + \sum_{n=1}^5 \beta_n cluster FE + \sum_{m=1}^{27} \gamma_m country FE \\ &+ \varepsilon_i \end{aligned}$$

where i , as before, represents the region while j identifies the expenditure axis on which the funds have been invested.

⁸ The amount of funds was weighted for regional GDP and transform into logarithms.

Analysis of the Results

The first result that emerges from the analysis concerns the relationship between territorial capital and medium-term growth. As expected, Table 2 shows that the most endowed regions have obtained a better result than the others, both in terms of GDP per capita and GDP growth.

This result is confirmed by the analysis reported in Table 2, which presents the estimates of equation (1): all the clusters have been characterised by a higher growth rate than the one with the lowest endowment of territorial capital (Cluster E).

The most interesting results, however, are those on the association between territorial capital and the effectiveness of funds in the medium term, because this analysis allows us to study the association between specific elements of territorial capital. These results are reported in Table 3 at the end of the paper. Each coefficient in the table represents the interaction between the clusters and the funds invested in a specific cohesion policy intervention axis. The data shown in the table do not therefore reflect the overall impact of the cohesion policy, but rather the impact of investments on different spending axes in regions with different allocations of territorial capital. As can be imagined, not all coefficients are statistically significant: even though, as we shall see, territorial capital has an obvious role in mediating investments in cohesion policy, it would be unrealistic to assume that this effect is manifested without distinction for all axes. Furthermore, it must be considered that some spending axes have received a limited amount of investments.

Nevertheless, some clear trends emerge, the most important suggesting a complementarity between territorial capital and cohesion policy.

Many policies, such as those in the labour market, aiming for flexibility and inclusion, are more effective in cluster A, the one of urban regions with private capital. This group of regions is characterised by a high level of private material capital, and therefore funding for the intangible elements produces a better result than in other contexts. Similar reasoning applies to investments in certain types of public infrastructure. On the contrary, some coefficients turn out to be significant but with a negative sign, suggesting decreasing returns in some areas where these regions are already strong, such as research and development, telecommunications and support for large companies.

“Urban regions with public capital”, on the other hand, show no particular differences with respect to the average effect of cohesion policy investments. We can report a decreasing yield in healthcare and social infrastructure, an element of territorial capital with which these regions are very well equipped.

“Semi-urban regions with intangible capital”, characterised by a high level of social capital and collective assets, show a decreasing return on investment in these areas of expenditure (tourism, social inclusion). On the contrary, in the case of low accessibility, investments in transport infrastructures turn out to be more effective.

“Rural regions with low territorial capital” show increasing returns on investments in intangible assets, such as the social sphere and research and development.

Finally, the cluster of “peripheral regions with low territorial capital” is the one that is characterised by the lowest endowment of all the territorial elements previously defined. This implies that it cannot exploit complementarity between endogenous resources and investments. In general, the results confirm this hypothesis: for a large number of expenditure axes, cohesion policy investments are less effective for the regions of this group. It is interesting to note how the opposite holds for investments in favor of SMEs, which find themselves operating in a context that is poor in resources of various kinds that can support their activity.

Conclusions

The theoretical section of this study showed how territorial capital can act as a facilitator for policies whose main objective is to stimulate economic growth. On the other hand, policies that are more focused on social objectives can in turn contribute to strengthening specific elements of territorial capital and therefore, in the long run, produce an indirect impact on economic growth.

Empirical analysis supports the hypotheses advanced in the second paragraph of this paper.

The relationship between endowment of territorial capital and regional economic development, both in terms of GDP per capita and medium-term growth rate, is amply confirmed by the data.

As regards the role of territorial capital in strengthening the effect of cohesion policy investments, the analysis shows that the relevant element is not so much the absolute endowment of territorial capital as the type of territorial resources existing. Specifically, a complementary relationship emerges between territorial capital and EU regional policy. The regions with the most material elements tend to be characterised by a greater effectiveness of the policies that act on the intangible elements, and vice versa. Policies on intangible elements, on the contrary, tend to be less effective in contexts rich in intangible territorial resources.

This complementary relationship is strengthened by observing how policies on material elements are less effective in contexts with scarce territorial capital, precisely because they cannot exploit any relationship with other elements.

In terms of public policies, this analysis derives different implications for different groups of regions. In the case of regions with a high endowment of territorial capital, investments should be concentrated in those areas of intervention in which the aforementioned complementarities can be exploited, and therefore in the areas in which the regions are (in relative terms) weaker. As for the regions that are poorer in territorial capital, the results do not suggest a reduction in investments, despite their lower effectiveness. On the contrary, they must lead to the

strengthening of the territorial capital of these regions, so that, in turn, these resources can strengthen the economic growth of these areas in the long run.

Table 1 - Endowment of territorial capital and economic performance of the clusters

Elements of Territorial Capital	Cluster A Urban re- gions with pri- vate capi- tal	Cluster B Urban re- gions with pub- lic capital	Cluster C Semi-ur- ban re- gions with in- tangible capital	Cluster D Rural re- gions with low territorial capital	Cluster E Peripheral regions with low territorial capital	F
Accessibility	0.256	0.893	-0.114	0.292	-0.514	59.33***
Collective assets	0.433	-0.602	0.853	-0.088	-0.261	60.46***
Private capital	1.127	0.125	-0.016	-0.217	-0.288	95.90***
Behavioural modes	0.054	-0.597	-0.314	-0.023	0.423	45.42***
Human capital	0.927	0.403	0.512	-0.162	-0.594	61.79***
Population density	1.385	0.718	-0.274	-0.300	-0.273	60.39***
Private relational services	1.003	0.796	-0.149	-0.985	-0.037	80.46***
<i>Number of regions</i>	35	119	153	103	243	
<i>Total population (thousands)</i>	21'628	110'370	66'374	70'605	99'416	
<i>Per capita GDP in 2000 (thou- sands of euros)</i>	33.840	26.853	23.781	22.447	19.080	38.30***
<i>Δ GDP 00-08</i>	0.185	0.142	0.163	0.097	0.128	10.16***

Source: Adapted from Fratesi and Perucca, 2018b

Table 2 - Regression results: Impact of Structural Fund spending on regional GDP growth (2006-2012) - basic model

Variables	(1)	(2)
Log of per capita GDP 2006	0.025*** (0.009)	0.023*** (0.006)
Log of population growth (06-12)	0.003 (0.010)	0.004 (0.010)
Share of public sector employees	0.061° (0.039)	0.040 (0.038)
A: Urban regions with private capital		0.018* (0.010)
B: Urban regions with public capital		0.004 (0.006)
C: Semi-urban regions with intangible capital		0.013* (0.007)
D: Rural regions with low territorial capital		0.005 (0.008)
Fixed effects by country	Included	Included
Constant	0.033 (0.037)	0.024 (0.025)
Lambda	0.557 (0.536)	0.685* (0.357)
Sigma	0.047*** (0.002)	0.046*** (0.002)
Remarks	621	621

Source: Adapted from Fratesi and Perucca, 2018b

Table 3 - Regression results: Interactions between clusters and expenditure of structural funds in the various axes

Expenditure axes	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Share of funds spent in the axis
	Urban regions with private capital	Urban regions with public capital	Semi-urban regions with intangible capital	Rural regions with low territorial capital	Peripheral regions with low territorial capital	
Assisting large business organisations	-0.217*** (0.047)	0.014 (0.031)	0.037 (0.053)	-0.022 (0.041)	0.019 (0.057)	6.14
Assisting SMEs and the craft sector	-0.080 (0.047)	0.005 (0.097)	-0.183*** (0.029)	0.134 (0.138)	0.169** (0.040)	13.95
Tourism	0.019 (0.050)	0.079 (0.057)	-0.162*** (0.033)	0.017 (0.099)	0.033 (0.029)	4.26
Research, technological development and innovation (RTDI)	-0.053* (0.021)	0.026 (0.020)	-0.116** (0.033)	0.099* (0.042)	0.058 (0.047)	7.95
Labour market policy	0.053** (0.018)	-0.038 (0.037)	-0.088 (0.073)	0.284 (0.137)	-0.035 (0.068)	0.14
Social inclusion	-0.021 (0.052)	0.079 (0.082)	-0.305*** (0.058)	0.266** (0.069)	0.038 (0.104)	0.31
Educational and vocational training not linked to a specific sector	0.143** (0.023)	0.052 (0.056)	0.003 (0.077)	0.046 (0.104)	-0.102 (0.057)	1.61
Workforce flexibility, entrepreneurship, innovation, information and communications	0.096** (0.024)	-0.012 (0.026)	-0.058 (0.055)	0.135* (0.049)	-0.053 (0.041)	0.13
Positive labour market actions for women	0.132*** (0.026)	-0.023 (0.037)	-0.089 (0.054)	0.154* (0.067)	-0.017 (0.070)	0.04

Expenditure axes	Cluster A Urban regions with private capital	Cluster B Urban regions with public capital	Cluster C Semi-urban regions with intangible capital	Cluster D Rural regions with low territorial capital	Cluster E Peripheral regions with low territorial capital	Share of funds spent in the axis
Transport infrastructure	-0.011 (0.019)	0.005 (0.032)	0.064** (0.021)	-0.121 (0.076)	0.000 (0.029)	27.45
Telecommunications infrastructure and information society	-0.108* (0.043)	-0.028 (0.037)	0.030 (0.015)	-0.137 (0.091)	0.087** (0.019)	3.50
Energy infrastructure (production, delivery)	0.143*** (0.025)	-0.013 (0.071)	0.042 (0.085)	0.034 (0.018)	-0.071* (0.028)	0.85
Environmental infrastructure (including water)	0.197*** (0.032)	-0.071 (0.059)	0.044 (0.078)	0.045 (0.086)	-0.072 (0.039)	14.58
Planning and rehabilitation	-0.025 (0.029)	-0.037 (0.061)	-0.038* (0.017)	0.052 (0.189)	0.106* (0.040)	12.56
Social and public health infrastructure	0.619*** (0.092)	-0.110* (0.046)	0.062 (0.124)	-0.449 (0.331)	0.023 (0.101)	3.49

Source: Adapted from Fratesi and Perucca, 2018b

4. Cohesion Policy in Europe: Which Countries Gain? A Comparison of Counter-Factual Evidence for Germany, Italy, the United Kingdom and Spain (*Riccardo Crescenzi and Mara Giua*)

Introduction

Starting in 2008, when the Great Recession caused a serious contraction of economic activity and employment in almost all European regions, the European Union (EU) cohesion policy was asked to address new local needs and (in part) to compensate for cuts in national public spending in areas considered key, in order to facilitate recovery.

On the other hand, the referendum that initiated the process for the exit of the United Kingdom from the EU (June 2016), has called into question the "added value" of the Union and its policies. Furthermore, the exit of the United Kingdom, a net contributing country to the Community budget, implies a change in budget balances and possible shifts of resources among expenditure categories. In particular, the United Kingdom had played an important role in shaping EU policies including the progressive shift of resources from the Common Agricultural Policy (CAP) towards cohesion.

In the overall process of reconsidering the "added value" of EU policies, various proposals have been put forward on the future of cohesion policy after 2020. The positions that have been compared have included the possibility of a re-nationalization of regional development policies in order to "drop some pan-European policies" and "do less more efficiently", with "EU states that could regain control over issues ranging from regional development to consumer protection" (Statements by the President of the European Commission Jean-Claude Juncker, Financial Times, 2017). This therefore presents a "double challenge" for the post-2020 cohesion policy: do more (politics remains the only development tool available in many more disadvantaged regions that are still struggling to emerge from the Great Recession), probably with fewer resources.

The debate on the future of European policies is complicated by a threatening political crisis with strong financial and economic implications having its base in the decade of the Great Recession, by the growing pressure of Eurosceptic parties and by unprecedented institutional changes (such as Brexit). In this context cohesion policy can keep its key role after 2020 if (and only if) it can offer clear evidence of the ability to generate economic benefits commensurate with its costs. Cohesion policy must prove itself to be an economic priority for the EU, at the same time ensuring fairness (correction of the asymmetric impacts of European integration of EU policies) and efficiency (removal of development bottlenecks and global challenges); and, above all, it must work well (in terms of verifiable "economic impacts" against a credible benchmark).

For this reason it is of fundamental importance to understand what works in cohesion policy, how and for whom. So far, many diagnoses have been produced focusing on understanding the dynamics of innovation, growth and employment in the regions. Much less effort has been expended by researchers in analysing the effects of policies. Only recently has an emerging international scientific literature on cohesion policy offered new evidence for evaluation produced from a counter-factual perspective. Given the context of "growing heterogeneity", these strands of evaluation are now responding to increasingly specific questions. This essay aims to show the heterogeneity of cohesion policy in Europe (*Sources of heterogeneity for cohesion policy in Europe*); what kind of evaluation evidence can contribute to the current debate (*Estimated impacts at the aggregate or country level: the Gap*) and provide a concrete example of the evidence obtained (*A single impact in individual countries? The effects on growth and employment for Germany, Italy, the United Kingdom and Spain*).

Sources of Heterogeneity for Cohesion Policy in Europe

Since the beginning of the 1990s, cohesion policy has become one of the key policies of the European Union. Its resources have increased from about 160 billion ECU to the current amount of about Euro 350 billion (European Commission data from several years), which corresponds to one third of the total EU budget (European Commission data, 2017).

Over the decades the Member States have increased (from 12 to 28) and along with this also the extension of the regional coverage of the policy (although with different intensities, all the regions have been involved during the latest planning periods), with an increased heterogeneity in local conditions and in the potential for global competitiveness.

At the same time, the objectives pursued at the EU level have increased (e.g. intelligent growth, environmental protection, the development of synergies with other EU policies) to which cohesion policy is called to contribute in the framework of the global strategy for growth and jobs (Europe 2020).

The complexity of the programs financed under the cohesion policy umbrella has also increased, as well as the need for institutional and management capacity for the implementation of the relevant projects.

Furthermore, starting with the Barca report (2009), the key philosophy of cohesion policy was a "place-based" approach. To this is linked the need to articulate different "intervention models" with respect to heterogeneous territorial conditions. The comparison between the territorial implications of a completely top-down policy (such as the Common Agricultural Policy - CAP) and those of an increasingly bottom-up policy (cohesion policy) highlights - for example - that the influence of cohesion on regional growth is positive in regions where socio-economic conditions are more favourable; while in the most disadvantaged regions of the EU

it is a more top-down policy like the CAP that has the greatest effect on regional economic performance (Crescenzi and Giua, 2016).

At the same time, cohesion policy governance has been broken down, with ever-increasing commitment from local, regional, national and EU authorities, into the various stages of formulation, implementation, launch and evaluation. Therefore, after these phases, the way in which financial allocations turn into projects in the territories can be very different. In particular, the composition of expenditure for each planning period results from: i) allocation decisions negotiated at the beginning of the planning period by each Member State with the European Commission (Partnership Agreement); (ii) the discretionary decisions that each Member State can make during the planning period; and (iii) the "application" for public financial support from local beneficiaries. The combination of these elements leads to a highly heterogeneous composition of expenditure (and related strategic interventions), in terms of: i) allocation of resources among projects financed (splitting up of expenditure); ii) absorption rates (of allocations in actual expenditure); iii) key objectives to be achieved (concentration).

Finally, different national approaches to public policies also derive from the macroeconomic conditions of the countries, both institutional and in governance, with implications that are important for the quality of the planning, implementation and effectiveness of policies. Member States have very different attitudes towards the EU and its policies with varying degrees of acceptance of the related constraints and opportunities.

In the light of these aspects, rather than an orientation towards a single European cohesion policy, the evaluation debate must be directed towards an analysis of the impacts of the different variations of the policy in highly heterogeneous areas. Some of the aspects mentioned above have been identified and studied as a source of local conditioning of the impact of the policy in evaluations of the EU's Cohesion Policy as reviewed in the next section. Others are still unexplored.

Estimated Impacts at the Aggregate or Country Level: the Gap

The debate on regional disparities in Europe has focused a lot on "how regions work". Strict attention has always been paid to this issue by both academics and policy-makers, thanks also to the improvement in the quality of the available data which has made possible periodic and even very accurate diagnoses of the European regions' economy (see the Cohesion Report). More limited attention has been paid so far to "how regional policies work, where and for whom". This is a more recent field of research, albeit in rapid development. Despite some best practices, such as the OpenCoesione⁹ portal in Italy, significant obstacles to this objective can be found in the data. Another difficulty concerns methods, which must be able to estimate the

⁹ OpenCoesione is an *open government* initiative on cohesion policies in Italy, coordinated by the Department for Cohesion Policies of the Presidency of the Council of Ministers.

impact of policy by separating it from the role of other factors that can simultaneously influence the variable of interest. The result is that "sophisticated diagnoses" often resemble "the use of expensive, untested drugs" (Crescenzi et al 2018). The analyses produced in recent years have made a rigorous contribution in this direction: by adopting econometric methods of policy evaluation the impacts of the policy - for example in terms of economic growth and employment - have been taken in isolation from the influence of any other characteristic of the territorial context in which they occur.

Most of the studies produced in this way concluded that the impact of cohesion policy in Europe is positive, for economic growth and employment (Becker *et al* 2010 and 2013, Pellegrini *et al.* 2013), for innovation and transport infrastructure (Ferrara *et al* 2016). The impact has also been investigated with respect to various aspects of heterogeneity, among which a significantly influential role has been recognised for the quality of local governments (Accetturo *et al.*, 2014), the intensity of financed expenditure (Cerqua and Pellegrini 2018), regional context conditions (Bachtrögler *et al.* 2017) and the sectoral structure of the local economy (Percoco 2017). All these studies have considered politics for the regions of Europe as a whole, and therefore consider the aggregate functioning of cohesion policy in Europe.

Another group of works, again based on counterfactual methods, estimated the impact of EU cohesion policy in individual countries. Since they are associated with different strategies, different data and different spatio-temporal contexts, the evidence is not comparable. However, in relation to specific cases, these give rigorous and extremely informative answers: Mitze *et al.* (2012) examined the effect of regional subsidies on labour productivity growth in Germany, concluding that they are effective only up to a certain maximum treatment intensity; Bondonio and Greenbaum (2014) focused on the effects of business policy in Italy, demonstrating that here the effects of the programs are higher the higher the economic value of the incentives; Barone *et al.* (2016) examined the case of Abruzzo (Italy) to study the long-term effects of the policy, concluding that it cannot guarantee long-term growth for the regions treated; Di Cataldo (2017) studied the impact of funding in the most disadvantaged regions of the United Kingdom, highlighting a positive effect of cohesion policy on the regional labour market and economic performance; Giua (2017) focused on the Italian Mezzogiorno, estimating positive effects on regional employment in the sectors with the most incentives (manufacturing, construction, tourism and trade).

In aggregate, therefore, policy evaluation studies lead us to converge on an aggregate positive effect of the policy for growth and employment. Studies that delve more deeply offer a more varied picture, but being specific case studies they do not have an easily interpretable validity in order to inform the policy-maker. Therefore, a greater "contextualisation" is still needed of the impact of cohesion policy within the flow of literature aimed at identifying the causal effects of policies (Crescenzi and Giua 2017): a global and integrated approach that grasps the holistic dimension of regional development (Mohl and Hagen 2010, Crescenzi and

Rodriguez-Pose 2012), and that rigorously estimates specific and comparable impacts. For this to happen, the assessment must be guided by the theory, must exploit "real" data and information on the policy and meet specific "quality" requirements in terms of falsifiability and reproducibility (see the What Works Centres model in the United Kingdom¹⁰). It must therefore answer fundamental questions such as: What works in practice? Where is it? In what conditions? Is better use of public resources possible than other alternative (effectiveness) options? In fact, policy-makers do not need generic recipes, but rather need to understand how to achieve the objectives in practice given the starting conditions (see the section "The sources of heterogeneity for cohesion policy in Europe").

Specifically, there are key questions that are still open and are of particular importance for the negotiation of cohesion policy in the context of the double challenge announced in the introduction: How do the regions of the different EU Member States benefit from EU cohesion policy? Are regional impacts systematically different between countries? Does it still make sense to transfer national resources to finance a regional policy at EU level?

Referring to the literature which is based on counterfactual methods, an empirical strategy that is able to respond satisfactorily to these questions must meet three criteria. First of all, it should keep the "confounding factors" under control by means of an appropriate counterfactual. Secondly, it needs to estimate separate impacts for each country. Third, the estimated coefficient should remain fully comparable, responding to a single identification approach (i.e. the differences between countries should not depend on how the control groups are built).

The next section presents a contribution to contextualising the identification of the effect of the policy with respect to the role of the "national component", referring to an empirical exercise that applies counterfactual methods to estimate how the economic impact of cohesion policy varies between Countries, in order to understand if (and to what extent) these will derive different benefits.

The Same Impact in All Countries? The Effects on Growth and Employment for Germany, Italy, the United Kingdom and Spain

In order to obtain country-specific coefficients by way of the same identification strategy based on a counterfactual approach, Crescenzi and Giua (2018) estimate a spatial Regression Discontinuity Design (RDD) model.

In this type of RDD the "threshold" that discriminates treatment is represented by the spatial boundaries between the treated regions and the untreated regions (Holmes, 1998; Black, 1999; Dell, 2010; Freedman, 2013; Gibbons *et al.*, 2013; Menon and Giacomelli, 2017; Einio and Overman, 2012; Jofre, 2014; Papaioannu and Michalopoulos, 2014; de Blasio and Poy 2017). When

¹⁰ <https://www.gov.uk/guidance/what-works-network> and in particular <http://www.whatworksgrowth.org/>

it has been verified that the spatial units (NUTS-3) close to this type of boundary are similar in every way (balanced in terms of observable variables) and differ only in receiving the treatment or not (cohesion policy funding for the most disadvantaged regions, also called Objective 1), any discontinuities in their outcomes (economic growth and employment) can be attributed to treatment (cohesion policy funding). Since thresholds of this type can be identified in each of the member countries whose regions are divided between Objective 1 and not, these boundaries can be used to construct the counterfactual scenario country by country, estimating separate and comparable coefficients for Germany, Italy, Spain and the UK. This makes it possible to investigate the national dimension of cohesion policy by verifying whether the aggregate impact estimated at EU level also applies to all major member countries or how this varies from country to country. Being based on a counterfactual built country by country but with a single strategy of identification (one strategy, different coefficients), the evidence obtained with this approach differs from those produced in the existing literature (and mentioned in the previous section), both as regards the national case studies (different strategies, different coefficients) but also those of previous studies based on an RDD approach that have estimated a single coefficient at EU level based on the threshold of 75% of average EU GDP¹¹.

The analysis concerns the effects of the 2000-2006 cohesion policy in the most disadvantaged areas of Germany, Italy, Spain and the United Kingdom, both until 2008 (i.e. before the Economic Crisis) and in the years immediately following (contribution to recovery). This is the result: the EU cohesion policy works differently in the various Member States, with country-specific impacts. It is true that cohesion policy has had a positive and significant impact on the economic growth and employment of the regions at EU level, but with impacts not equally distributed among the Member States (Table 4).

Much of the regional growth bonus generated by the cohesion policy is concentrated in Germany. On the contrary, the impacts on regional employment are limited to the United Kingdom. The framework for the beneficiary regions in the southern Member States is less rosy: the Italian beneficiary regions have achieved better employment results, but this ended with the crisis. The Spanish beneficiary regions benefited in terms of better growth during the recovery with no impact on employment.

¹¹ These studies compare the European regions whose GDP is slightly more or less than what constitutes the eligibility threshold (75% of average European GDP) for the allocation of the status of most disadvantaged region, which gives access to the vast majority of EU cohesion policy funds. This identification strategy is based on a single threshold, associated with a single control group, made up of all EU regions with similar levels of regional GDP. Therefore, regions with a GDP slightly above the 75% threshold that belong to Italy for example are compared to regions with a GDP marginally below the same threshold but belonging to Germany, or Spain, or any other member state of the EU. In this methodological context, therefore, a single aggregate impact coefficient of the policy is estimated, which captures the net impact obtained from treatment for the most disadvantaged regions in Europe as a whole. Hence the estimated impact (positive, negative or absent) is that obtained from the cohesion policy for the whole EU.

Table 4 – Estimated impact

	Europe	Germany	Italy	Spain	UK
2000-2010					
Value Added	++	++	+	+	+
Employment	+	+	++	-	++
2010-2014					
Value Added	-	-	++	++	+
Employment	+	++	-	+	++

Source: Crescenzi and Giua (2018): *One or Many Cohesion Policies of the European Union? On the Diverging Impacts of Cohesion Policy across Member States*, LSE SERC/CEP (Centre for Economic Performance) Urban and Spatial Programme Discussion Paper No' SERCDP0230, 02-2018.

Thus, the positive impact of aggregate cohesion policy is confirmed (in line with the existing literature). However, a heterogeneous distribution of benefits emerges at a country level: there is a "national component" of EU cohesion policy and the economic impact it generates. On what does this depend?

Table 5 and Table 6 show some relevant data regarding the variability of macro-institutional factors at the national level. These differences can play a key role in shaping policy in its implementation and in fostering/countering the achievement of its goals.

Table 5 – Expenditure breakdown by area of intervention (% of overall spending)

	Germany	Italy	Spain	UK
Companies	30.40%	30.49%	10.36%	48.73%
Energy, environment, natural resources	10.99%	10.84%	26.61%	1.73%
Human resources and social infrastructure	3.38%	2.02%	5.48%	7.60%
Research, innovation and ICT	17.71%	10.41%	8.68%	11.87%
Transport infrastructure	21.81%	22.14%	33.42%	5.82%
Other	15.71%	24.10%	15.46%	24.25%
Total	100.00%	100.00%	100.00%	100.00%

Note: data refer to expenditure in Objective 1 regions during the 2000-2006 programming period and come from the "Integrated database of appropriations and expenditure for the period 2000-2006", European Commission http://ec.europa.eu/regional_policy/en/policy/evaluations/data-for-research/

Table 6 - Macro-economic conditions, institutional quality and European feelings

	Germany	Italy	Spain	UK
Macro-economic conditions				
Government debt (% of GDP)	81%	127%	86%	89%
Government expenditure (% of GDP)	110%	80%	50%	40%
Welfare expenditure (% del GDP)	29.4%	29.7%	26.1%	27.3%
Long term unemployment (% of unemployed)	41.2%	58.3%	48.4%	27.2%
Institutional Quality				
Absence of Corruption (from 0 to 1)	0.82	0.62	0.80	0.80
Index of Human Capital (from 0 to 100)	81.5	75.8	72.7	80
Perception of Europe				
Europe is going in the right direction (from 0 to 1)	0.57	0.49	0.52	0.4
Trust in the European Union (from 0 to 1)	0.33	0.32	0.22	0.2
Trust in the National Government (from 0 to 1)	0.42	0.15	0.12	0.24

Note: The data refer to the year 2016 and come from "standard Dataset" of the Quality of Government database produced by the University of Göteborg (<http://qog.pol.gu.se/data/datadownloads/qogstandarddata>), by the World Economic Forum (<http://reports.weforum.org/human-capital-report-2016>) and by the OECD (<https://data.oecd.org/unemp/long-term-unemployment-rate.htm#indicator-chart>).

The success of the cohesion policy in Germany can be partly ascribed to the strong alignment between the global political framework of the EU and the specific needs of the German regions, made possible by the country's political leadership in the main decision-making bodies of the Union (Bachtler *et al.*, 2013; Bulmer, 2014). Furthermore, the positive impacts estimated in this case could also be linked to the pre-eminent emphasis by Germany on innovation in implementing cohesion policy, with over 15% of the resources available for the German Objective 1 regions dedicated to research and to technology as early as 2000-2006 (Table 5), well in advance of the more general evolution in this direction which is mostly only recorded in the period 2007-2013 (European Commission, 2005). It is also likely that Germany's relative strength in terms of macroeconomic conditions and institutional quality has contributed to shaping the positive yields of cohesion policy (Table 6).

In line with the German experience, the solid national macroeconomic and institutional conditions also existing in the UK (Table 5) have allowed the policy to achieve (at least in part) its objectives for the less developed regions. As in the German case, the British regional intervention model reflects clear and consistent decisions regarding the concentration of resources on a limited number of priority axes. The United Kingdom has concentrated financial resources on supporting businesses (around 50% of total expenditure -Table 5) and individuals, with around

250,000 jobs created or protected (European Commission, 2009) and the introduction of programs designed to attract highly skilled employees.

On the contrary, the evidence in the Italian case seems to support the idea of cohesion policy as a means of maintaining low-productivity employment in the South, a model that became completely unsustainable with the Crisis. The effects on employment of the Objective 1 regions seem to reflect a genesis of opportunities in the short term, which does not then translate into sustainable trends in the medium-long term (Petraglia and Pierucci, 2016). This reflects unfavourable macroeconomic conditions, with a weak institutional fabric (in terms of corruption and rule of law - Table 6) that make it difficult to quickly and effectively translate funding into well-implemented projects (Balassone and Casadio, 2011). Moreover, these conditions lead to a fragmented approach with political decisions taken in isolation and with a lack of adequate coordination; this can undermine the impact of any development policy (European Commission, 2010; Pontarollo, 2016): Italy shows the highest degree of dispersion of expenditure by sector (almost 25% of the funds are allocated to headings such as technical assistance, tourism and culture, as illustrated in Table 5).

In terms of economic growth in the period of recovery after 2010, even in Spain there is no clear evidence of positive policy returns in the Objective 1 regions, despite the large amount of EU resources invested in the country (Polverari, 2016). A model of political intervention largely unbalanced towards transport infrastructure (Crescenzi and Rodríguez-Pose, 2012; Crescenzi *et al.*, 2016a) and disconnected from the endemic challenges in terms of skills, youth unemployment and other dimensions of regional development such as social inequalities (Castells-Quintana *et al.*, 2015) is the probable cause of this lack of long-term impact.

Conclusions

In a Europe that is facing the most significant institutional change in its history, added value and impact are the key for cohesion policy to remain central after 2020. The sources of heterogeneity that characterise the policy in achieving its objectives are manifold and they manifest themselves at different levels. The questions to which an assessment must provide answers in discussions about added value and impact must therefore be as specific as possible: what works? Under what conditions? And where?

This chapter has reviewed some new evidence on the conditioning role of the "national component" of EU cohesion policy, with an analysis that aimed to understand if and to what extent the regional impacts are diversified across countries.

The results emerging contribute to the debate on the added value of a supranational approach to the design and implementation of public policies and the optimal level of flexibility between Member States (Henke *et al.*, 2017). The evidence suggests in particular that the place-

based approach made popular by the Barca Report may need to be balanced by a new consideration of the role of individual member countries. Indeed, cohesion policy has had a positive and significant impact at EU level on economic growth and employment, with impacts that are not equally distributed among member countries.

For EU cohesion policy to remain a public good on a European scale even in the "post-2020" Europe, we need a better adaptation of policy to the needs and general objectives of each individual member country. In particular, it is necessary that European policies ensure added value compared to the pursuit of similar objectives through national policies and that their implementation have a certain degree of flexibility with respect to the macroeconomic characteristics and structural changes taking place in the individual Member States. The recognition of a significant national added value associated with the European dimension of cohesion policy must be accompanied by the recognition of a nation-based component to be added to the place-based component that has characterised the latest generation of European policies.

Part Two: The Impact of Cohesion Policy in Italy

1. The Impact of EU Funds and National Policies on Regional Growth (*Gianluigi Coppola, Sergio Destefanis, Giorgia Marinuzzi and Walter Tortorella*)

Introduction

After over thirty years of cohesion policy there are still major economic and social disparities in Europe both among countries and among the regions of the countries that make up the European Union (EU), contributing to an undermining of its unity and stability. Hence the importance of assessing the adequacy and effectiveness of development policies implemented through the European Structural and Investment Funds. These funds, that have long accounted for one third of the European budget, represent the main instrument of the EU for supporting development in areas facing severe socio-economic problems.

This paper assesses whether EU financial resources have contributed to promoting regional development in Italy through the last three programming cycles, from 1994 to 2013. Italy is a particularly interesting case study for cohesion policies due to the existence of of an area of the country, the South, whose delay in terms of development is significant and been intractable over time (Allen and Stevenson, 1974; Pellegrini, 2016).

The empirical approach used in this work, unlike most of the previous works, considers, in addition to the structural funds, other types of development resources of national origin. An assessment is also made of the effects of all these funds on the basis of a model that takes into account their allocation rules, probably allowing better treatment of the selection bias in the evaluation of policies. Moreover, considering that regional growth in Italy is constrained by the scarce availability of some categories of local public goods, such as physical and social infrastructure, the influence of these factors on the impact of European and national funds is assessed, using some suggested indicators from the literature.

This evaluation of cohesion policy aims to contribute to the current European debate on its future, especially in the face of one of the scenarios outlined in the "White Paper on the Future of Europe" (2017), which suggests a contraction or even a "withdrawal" of the Union intervention from regional development policies at the next programming stage.

This contribution is subdivided into five sections: the first contains a brief analysis of the main characteristics of the structural funds at the institutional level; the second takes into account the substantial economic literature on the impact of the funds, on some important economic indicators, and on the mechanisms for allocating the funds; the third describes the dataset and

the econometric methodology used for the estimates; the fourth section presents the results that emerged from the analysis and the fifth makes some concluding remarks.

The Institutional Set-Up of European Regional Policy

- Knowing the nature, amount, and distribution of structural funds among regions is crucial to understanding their effectiveness. In order to deepen this knowledge it seems useful to recall the important reform concerning European regional policy dating back to 1988 (First Delors package). More specifically (Regulation 2052/1988), four principles were laid down that still today are the basis for the implementation of the structural funds:
 - concentration;
 - planning (over time);
 - partnership;
 - additionality.

The principle of *concentration* implies that the structural funds are directed to a few priority objectives, if possible located within target areas. The *planning* principle focuses on the establishment of multi-annual programming periods from six to seven years. The *partnership* principle introduces a multi-level approach to fund management, involving national, regional and local players in programming activities.

Finally, the principle of *additionality* states that EU resources must be additional to and not substitutive of other existing national funding sources in the target regions. This principle also establishes the obligation of national and/or regional governments to co-finance expenditure within a certain percentage threshold. The aim of this approach is to ensure that European regional policy does not replace the regional policies of the Member States, and to maintain control over the feasibility of the projects.

The most distinctive feature of EU regional policy in Italy is that many regions of the South were included in the Convergence Objective, then "less developed regions" in 2014-2020. More precisely, in this Objective, Abruzzo (up to 1996), Molise and Sardinia (until 2006), Campania, Puglia, Basilicata, Calabria and Sicily were included. On average, these regions have received more than double (per capita) resources from structural funds compared to the rest of the country, funds that have partially protected them from a strong reduction in transfers by the central government (Marinuzzi and Tortorella, 2017). Moreover, according to the latest data from the Territorial Public Accounts, in the three-year period 2013-2015 the primary expenditure of the public administrations in the Mezzogiorno averaged Euro 209 billion a year, compared to about Euro 480 billion in the Centre-North. In the same period, considering that capital spending in the South was €14.4 billion a year, of which €9.4 billion (65%) from structural funds, co-financing and under-utilized resources for areas, it follows that additional capital expenditure in the South is around 4.8% of total public spending in the area. In other words, it

seems strange to believe that with only 4.8% of the expenditure, burdened by a substitution effect of ordinary resources with extraordinary ones, growth can be strengthened and essential services improved without considering the remaining 95.2% of public expenditure in qualitative as well as quantitative terms.

Returning to the principle of concentration, this implies that the specific socio-economic characteristics of each region affect the allocation of funds. Furthermore, together with the partnership principle it is likely that the concentration principle implies that the allocation of funds is influenced by political mechanisms (Boldrin and Canova, 2001). Finally, concentrating on a few priority objectives can generate a simplification of the governance of funds and an improvement in their effectiveness.

The establishment of multi-annual planning periods inevitably leads to a degree of rigidity on the part of Funds in responding to external shocks at annual frequency (or more often). In addition, planning by periods (combined with multi-level governance) creates the conditions for an institutional mechanism in which regions, after deciding how to commit resources (based on multi-annual planning), require reimbursement from the EU. So the structural funds are first committed and then, only after a time delay, paid to the regions.

With the multi-level governance of EU funds, introduced by the partnership principle, the quality of national or regional institutions has become a significant factor in the debate on the influence that this performance can have on the impact of the funds. Evidence of a direct correlation can be found in the works of Ederveen, de Groot and Nahuis (2006) and Rodríguez-Pose and Garcilazo (2015), but not in the analyses of Beugelsdijk and Eijffinger (2005).

Finally, with regard to the role of co-financing, Fayolle and Lecuyer (2000) and Dall'Erba (2005) argue that it penalises the poorest regions, as it is rare for co-financing in low-income regions to double the amount allocated by the EU, while in the richer regions, co-financing can triple the initial amount allocated by the European Commission.

A Twenty-Year Debate

There is a vast literature on the effectiveness of European regional policy. In most cases, this policy seems to have an objective impact on growth, but the direction, size and significance of the results appear in the literature to be highly heterogeneous based on the time frame and the level of territorial disaggregation taken into consideration. In many works a regression *à la* Barro is estimated with the structural funds as explanatory variables (e.g. Beugelsdijk and Eijffinger, 2005; Cappelen, Castellacci, Fagerberg and Verspagen, 2003). Other works adopt dynamic or spatial growth models (Aiello and Pupo, 2009, Le Gallo, Dall'Erba, and Guillain, 2011). There are also some estimates based on other methods (Becker, Egger, and von Ehrlich, 2010, 2012; Boldrin and Canova, 2001; Coppola and Destefanis, 2015; Pellegrini, Busillo, Muccigrosso, Tarola and Terribile, 2013). In particular, more recent work has shown a growing interest in

counterfactual analysis (Becker *et al.*, 2010, 2012; Pellegrini *et al.*, 2013). These latest works, which generally find a positive impact of cohesion policies on economic growth, are almost always based on a regression discontinuity design applied to sectional data and do not explicitly deal with the mechanisms of regional allocation of funds.

According to Cappelen *et al.* (2003), the positive impact of EU support on the growth of European regions is much stronger for the regions that are more developed (not only institutionally but also technologically). More recently, Rodríguez-Pose and Garcilazo (2015) have found that the higher the quality of local government, the more effective is the cohesion policy, especially above a given level of spending. Finally, according to Fratesi and Perucca (2014), the regions with the most specific types of territorial capital (not only private capital but also public infrastructure, human and social capital) obtain greater gains from the investments of cohesion policy in these fields.

As for the impact of the structural funds on the Italian regions, Aiello and Pupo (2009), using a dynamic model of growth (based on panel data), state that the structural funds have contributed little to regional convergence in Italy. Similar results are found in Coppola and Destefanis (2015) who adopt a non-parametric approach to measure regional productivity and assess the impact of structural funds on it.

Examination of the literature reveals, then, that the effects of the funds are rarely assessed jointly with those of national policies aimed at regional growth. Data availability problems often make this kind of joint analysis very difficult. Moreover, although the role of institutional factors for the effectiveness of funds has been widely analysed, comparisons between the relevance of institutional and other factors (e.g. technological ones) are rather poor. In fact, it seems that scientific reflection has focused more on the impact of the structural funds than on the mechanisms for allocating the funds. Kemmerling and Bodenstein (2006) find a direct relationship between the strength of left or Euro-sceptical political parties in a region and the amount of funds received by that region. Also for Bouvet and Dall'Erba (2010), both the political orientation and the political alignment between the orientation of the central government and the regional governments have a significant impact on the allocation of funds.

In the present empirical analysis we will further explore this issue with a dynamic panel having fixed effects on the allocation mechanisms of European and national funds among the Italian regions. This study is also the basis for a new assessment of the impact of regional policies on gross domestic product per capita, managing the *policy-selection bias* by way of a control function approach. Unlike the counterfactual analysis of Becker *et al.* (2010, 2012) and of Pellegrini *et al.* (2013), this approach takes full advantage of the dataset's panel nature and is easily able to take into account multiple policy treatments (which in our case means jointly analysing the structural funds and national policies).

Data and Analysis Model

According to the European Commission, the Structural Funds - like national cohesion policies - should reduce the economic performance gap of the beneficiary regions compared to other areas (European Commission, Agenda 2000, page 155). As highlighted in the previous section, this impact has been, and can be, on the basis of empirical methods, statistical data and different territorial disaggregations, with different outcomes depending on the model setting. For this reason, before explaining the results obtained, it is important to describe the data used and the method applied.

In our recent scientific article published in the journal "Regional Studies" (Coppola, Destefanis, Marinuzzi and Tortorella, 2018) we focused our attention on the relationship between these policies and GDP per capita, estimating the relationship between funds, productivity and the accumulation of factors in Italy for the three cycles of EU planning that took place from 1994 to 2013. In particular, the econometric estimates concern the GDP growth of the individual 20 Italian regions as a function of the individual European structural funds with and without co-financing, of national funds relating to regional policies, of the investment/GDP ratio and of population growth, thus assuming as given the accumulation of factors (for technical details, see Appendix A at the end of the present essay). In our view, cohesion policies can hardly be interpreted as factors capable of influencing capital accumulation, while they are more likely to influence total productivity of the factors.

The Structural Funds are taken into account in terms of disbursements to the regions by the Rotation Fund, the public finance instrument responsible for raising funds from the EU. We consider these funds here in two different specifications: with and without the national resources of the Revolving Fund (national co-financing, to which reference was made above).

Among the national funds, some of which also relate to regional policies, we include current subsidies to businesses and households and capital expenditure disaggregated into subsidies and investment expenses. We also take into account national cohesion policies by aggregating together the Sustainable Growth Fund, the funds for local development programs (Area Contracts and Territorial Pacts), the Youth Entrepreneurship Fund and the Facilitation Fund for Research (FAR). National funds, in particular capital expenditures, are considered an important stimulus to regional growth and have undergone wide variations in recent years (Marinuzzi and Tortorella, 2017). Therefore, the omission of these variables could lead to a potential source of mis-specification.

Both the data of the structural funds and of the national funds have been extrapolated from the regionalised expenditure database published by the General Accounting Office (for further

information on the data, see the "Supplemental material" of Coppola, Destefanis, Marinuzzi and Tortorella, 2018¹²).

The regression analysis also made it possible to address directly another very important issue. In the scientific literature it has often been argued that the effectiveness of cohesion policy and structural funds on growth can be reduced in regions lagging behind by the lack of availability of some local public goods. For this reason, some indicators of the regional socio-economic environment and their effect on the impact between individual funds and regional economies were considered. In particular, to measure the quality of the government, we use the composite indicator developed by the QOG Institute for 2010 (Charron, Dijkstra and Lapuente, 2014) and the civic sense index for 1996, calculated by *Il Sole 24 Ore* (Cadeo, 1997). This index was already considered a relevant measure of institutional quality in D'Acunto, Destefanis and Musella (2004) and has the useful property of being calculated for the first years of the sample. The above indicators are expected to provide approximately comparable results, and we also compare their performance with those of two technological capacity indicators, which were already found to be a significant measure of regional differences in D'Acunto *et al.* (2004): an index of technological potential for 1991 (from Netti and Sarno, 1998) and the number of patents recognised by the European Patent Office (EPO) for 1991 (by D'Acunto *et al.*, 2004; and Paci and Usai, 2000). Both variables are temporally prior to our sample. We wish to emphasise that all these environmental indicators have a wide range of variation, as documented by D'Acunto *et al.* (2004) and Charron *et al.* (2014). The empirical evidence linked to their use may therefore be of potential interest also for other European countries that are characterised by different types of economic and socio-political environments.

The Main Results

We now present the main results obtained from the regression analysis. A more complete account of the empirical evidence is available in Appendix A at the end of the essay. A first important observation concerns the dynamic specification of the regressions. The best result concerning the impact of funds on GDP per capita was achieved with delayed values of one year for gross fixed investments, current values of national funds and one-year forward values for structural funds. In our opinion, this dynamic specification describes well the institutional mechanism by which the regions, after having decided their spending commitments, require their reimbursement from the Revolving Fund. The EU funds are then disbursed to the regions with a delay of about one year. This means that the expenses of the Revolving Fund recorded for the current year (t) have already been made in the previous year (t-1).

¹² <https://www.tandfonline.com/doi/suppl/10.1080/00343404.2018.1447099?scroll=top>

We will now comment first on the results of the auxiliary regressions with which the variables relevant to the allocation of funds have been selected (W_{it-1})¹³. These results are presented in Table 7 in Appendix B at the end of the essay.

The set of variables used in these regressions includes delays in the European Structural Funds (SF_{jit}) or a series of national funds related to regional policies (Nat_{jit}), GDP per capita and gross fixed capital formation, measures of regional unemployment rates, sectoral shares of employment and added value, two political indicators (political orientation of the regional government and alignment of the political orientation of the regional government with the national government). In all these specifications we assume that funds can react only with delays to changes in the economic or political environment.

Overall, these estimates also have a fairly high degree of matching. Political factors are not significant, unlike what was found by Bouvet and Dall'Erba (2010)¹⁴.

We find a substitution effect between EU and national funds, in particular for public investments, as well as complementarity of EU funds with capital grants. Consistent with their multi-annual programming horizon, EU funds do not react immediately to cyclical shocks. They obviously go to the regions with structurally lower GDP per capita and other types of structural economic difficulties, but a sudden decrease in GDP due to cyclical fluctuations does not lead to a change in the allocation of EU funds to a region, since a pre-established level of allocations is guaranteed based on average economic conditions according to planning that took place much earlier than when the resources were disbursed.

The lack of reaction to cyclical shocks also applies to nationally funded public investments, which are also likely to be driven by long-term considerations. All other national funds show a sort of explicit dependence on cyclical variables (GDP, investment, unemployment rate).

Let us now examine the results obtained with regard to the impact of the structural funds on per capita GDP. The main results obtained are presented in Table 8 and in Table 9 in Appendix B, respectively with and without the relevant variables for the allocation of funds. Both tables include a series of regressions in which the structural funds (alternatively with or without national co-financing) are taken together with one national fund at a time.

The overall picture of the estimates consistently shows the significant impact of the structural funds on GDP, while only the current account subsidies to companies reach a certain degree of relevance among the national funds. Interestingly, the significance of these subsidies is

¹³ The W_{it-1} vector includes the variables that are supposed to govern the allocation of funds, i.e. delayed values of SF_{jit} or Nat_{jit}, GDP per capita and gross fixed investment; measures of regional unemployment rates and sectoral employment and percentage of added value; and two indicators of a political nature (political orientation of each regional government and alignment of the political orientation of each regional government with the national government).

¹⁴ Our results are not directly comparable with those of Bouvet and Dall'Erba (2010) because we base ourselves on panel estimates with fixed effects, which can account for unobserved heterogeneity.

greatly reduced in the presence of the variables relevant to the allocation of funds, while that of the structural funds remains unchanged.

All estimates have a satisfactory diagnosis, suggesting that the omission of variables such as the accumulation of human capital is not able to influence the validity of the estimates made. Weak exogeneity tests of regressors, performed for all policy variables and reported in Appendix B, never reject the null hypothesis of exogeneity. This may surprise some analysts, but we have already noted that structural funds do not seem to react to purely cyclical changes in GDP or other variables. With regard to national funds, their reaction functions seem to be conditioned only by delayed cyclical variables.

In merely quantitative terms, an increase in the Structural Funds increases the per capita GDP by a considerable amount. Taking an average of our results, the doubling of, for example, the ratio of structural funds to GDP increases GDP per capita in steady state by 1.9% (2.3% with national co-financing)¹⁵. This may seem insignificant compared to a per capita GDP gap between the North and the South of Italy, which has been more than 40 percentage points in recent years. It should be noted, however, that currently the structural funds (including national co-financing) are just over 1.5% of GDP in the Southern regions. If, again by way of example, this ratio were to quintuple reaching levels comparable to those that have recently characterised the economies of other EU countries (such as Poland), the gap in GDP per capita between North and South Italy - again in purely quantitative terms - could be reduced by around 10 percentage points.

Table 10 in Appendix B shows the role of the different indicators of the regional environment on the effectiveness of funds, focusing on the results of the structural funds and current-account subsidies to companies. The terms of interaction between structural funds and the QOG Institute's government quality indicator and civic pride do not appear to be particularly significant. In other words, the impact of structural funds on per capita GDP does not increase for a higher level of these indicators, which approximates the management and political capacity of local authorities. This does not in principle mean that there is no correlation between the quality of government and the impact of the structural funds but only that it is not statistically significant for the impact of the funds on GDP per capita.

On the other hand, these two indicators have a decisive influence on the impact of current account subsidies to companies on per capita GDP. In fact, when they are at their lowest levels (as in the southern regions), the increase in subsidies no longer corresponds to an increase in per capita GDP. Therefore, it seems that the mechanism for allocating EU funds has isolated those funds from potential institutional constraints, as demonstrated by their relevance to national funds. This interpretation is also confirmed by the fact that significant interactions of

¹⁵ These values become 2.2% and 2.8% respectively when the Bun-Kiviet bias approximation formula is used for the coefficient of the delayed dependent variable; full estimates are available on request.

subsidies to companies are found with the indicators of quality of the government and of civic sense, but not with the indices of technological capacity. The latter never affect the political impact of EU or national funds. All these results remain the same if the vector of the variables relevant to the allocation of funds is omitted from the estimates.

There may be several explanations for the general lack of significance of national funds on per capita GDP. A first hypothesis is based on the composition of these expenses. It has often been argued that the main impact of public capital on GDP passes through so-called productive or core infrastructure (roads, railways, ports, airports, etc., see e.g. Destefanis and Sena, 2005). National funds could therefore be less effective than structural funds by being more intensive in elements not immediately essential for growth such as education, health, etc. It is difficult to evaluate this argument empirically. Firstly, data for the composition of expenditure are difficult to find and therefore the distinction between core and non-core expenses is not always possible for the structural funds. For example, within the European Social Fund, classified by default as a non-core or "social" policy, infrastructure projects for schools can be found. Bearing in mind these caveats and using the information collected in the "Supplemental material" of Coppola, Destefanis, Marinuzzi and Tortorella, 2018¹⁶, the composition of the expenditure cannot explain why the structural funds should be more effective than the cohesion policies financed at the national level or national public investments.

A second line of argument focuses on the issue of policy governance. The period under review includes two problematic phases of regional policy in Italy: the period of the place-based regional policy that has often been defined as "Negotiated planning" (1996-2006) and the period of "Southern abandonment" (2006-2011) dominated by the belief that political interventions in southern Italy were intrinsically ineffective. The period of "Negotiated planning" is particularly relevant as numerous microeconomic studies assessing the effectiveness of its policies (territorial pacts, program contracts, law 488/1992¹⁷) highlight their unsatisfactory performance, particularly in relation to factor productivity (Accetturo and de Blasio, 2012; Andini and de Blasio, 2014; Bernini and Pellegrini, 2011; Bronzini and de Blasio, 2006; Cerqua and Pellegrini, 2014; De Castris and Pellegrini, 2012). In these works the lack of effective governance and the fragmentation of interventions are often adduced as causes of the unsatisfactory results of the negotiated planning. On the other hand, it is reasonable to suppose that both the multi-level approach to the management of the funds, and the pressure of the times of commitment and expenditure (due to risk of disengagement), protected the structural funds more from this type of criticality.

¹⁶ <https://www.tandfonline.com/doi/suppl/10.1080/00343404.2018.1447099?scroll=top>

¹⁷ All these interventions are brought together in cohesion policies financed at the national level.

A note of caution regarding these results is that not all national spending aggregates represent a precisely defined policy intervention as is the case with the structural funds¹⁸. Such national funds are configured as conglomerates that collect a rather heterogeneous set of funds. Finding more consistent measures may be a priority for future work, but it does not seem likely to be easy for reasons of data availability. However, this explanation is not likely to be valid for public investments financed at the national level. On the other hand, one might think that the significance of this variable in the estimates of the impact of funds on GDP is penalised by the role of gross fixed investments which are already taking care of all the accumulation of capital. To take account of this possibility, we looked again at all the relevant regressions, replacing a proxy for private fixed gross investment (obtained by subtracting investments in health, education and public services from total gross investment¹⁹). However, the lack of significance of public investments remained unchanged. The only change obtained in the estimates was a slight reduction in the size of the gross investment ratio. This confirms that cohesion policies are difficult to interpret as factors capable of influencing capital accumulation. Bearing in mind that regional physical infrastructure appears to have an impact on per capita GDP in Italy (see, for example, Destefanis and Sena, 2005), a more promising approach to the lack of significance of public investment could lie in the analysis developed by Golden and Picci (2005) on the management of public works in Italy. However, this problem must be left to future research, together with adequate treatment of the spillover effects of investments in neighbouring regions, another important issue that cannot be dealt with here.

A final important observation concerns the role of national co-financing. Although its inclusion or exclusion in the structural funds does not lead to very different results from the qualitative point of view, the funds including co-financing are always characterised by a higher and more significant coefficient. In the light of the considerations previously made on national co-financing, this could mean that more attention should be paid to structuring co-financing rules for EU funds, especially in lagging regions.

Concluding Remarks

This paper has focused on the impact of structural funds and a series of national funds on per capita GDP in Italian regions through the three EU programming cycles from 1994 to 2013. In the empirical analysis we also took into account, through a control function approach, the selection bias potentially resulting from the allocation mechanism of the funds. The identification of the mechanism of allocation of funds is in itself an important result of the present study,

¹⁸ In this sense, it is interesting to note that the auxiliary regressions for cohesion policies financed at the national level have shown some problems of specification.

¹⁹ Ratio (logarithm) of gross fixed investment compared to GDP for individual regions.

since to our knowledge there are no such estimates for the structural and national funds. Summing up the results related to the allocation of funds, it can be said that the structural funds are negatively correlated with public investments and positively with capital grants. Regarding the role of other economic variables, it is found that current grants and national cohesion funds react to purely cyclical fluctuations in GDP. This does not apply to the structural funds. They obviously flow to regions having various types of structural economic difficulties (including a generally lower GDP per capita), but a sudden decrease in GDP in a given region, due to cyclical fluctuations, does not increase its allocation to the region itself, in line with the allocations established during the planning phase.

A fundamentally different picture emerges, instead, regarding the role of the Funds, also in an anti-cyclical way. Our results show that the structural funds have - in quantitative terms - a significant effect on GDP per capita, with or without national co-financing. National funds are not significant, with the partial exception of current-account subsidies to companies. The impact of the structural funds is not significantly influenced by the selection bias attributable to the allocation mechanisms of funds; it is important, on the other hand, for subsidies to companies financed at the national level. Consistent with this, the quality of the institutions seems to have - again in quantitative terms - minimal importance for the effectiveness of the structural funds, while it has a decisive influence on the impact of subsidies to companies. In fact, while the effectiveness of structural funds on per capita GDP remains unchanged as the management and political capacity of local authorities change, subsidies to companies, on the other hand, are no longer effective when institutional quality indicators become lower (as in the regions of Southern Italy). These results, then, show the importance of the origin of the funds (European or national) and their governance structure, as a cause of their different effectiveness. The governance structure of the Structural Funds, although widely considered to be particularly complex and artificial, has apparently made them more effective than national policies in a context characterised by strong institutional heterogeneity, or in the presence of a constantly uncertain and discontinuous framework of rules.

Further research on these topics is obviously necessary because it is not possible to compare our estimates directly with the results of Fratesi and Perucca (2014) and Rodríguez-Pose and Garcilazo (2015) on the conditions for the effectiveness of the funds, due to various differences in the schemes of empirical analysis. However, from a more economic policy oriented perspective, we believe that at a time when the European Commission is redefining the Union's budget for the next seven years, and also considering a possible contraction in the resources of the structural funds, our evidence is sufficiently solid to imply that this choice could have very serious consequences for the reduction of regional disparities in Italy.

Appendix A

In the essay we have estimated the following dynamic specification of a GDP growth equation for panel data:

$$(1) D.y_{it} = -a_1 y_{it-1} + a_2 gfi_{it} - a_3 D.pop_{it} + a_4_j SF_{jit} + a_5_j Nat_{jit} + a_6 PERIODO_2 * SUD + a_7 PERIODO_3 * SUD + a_8_j W_{it-1} + a_i + a_t + \varepsilon_{it}$$

where $i = 1, \dots, 20$ refers to the regions; $t = 1, \dots, n$ refers to years; and $j = 1, \dots, m$ refers to the type of fund to be considered. The variables a_i and a_t are respectively fixed effects of region and year; and ε_{it} is the usual error term distributed independently and identically (i.i.d.). The dependent variable $D.y_{it}$ is the variation (in log) of GDP per capita; the delayed dependent variable y_{it-1} allows modelling of the dynamic structure inherent to the data (this simple dynamic structure has been chosen here for purely demonstrative purposes). The variables gfi_{it} and $D.pop_{it}$ are respectively the ratio (in log) of the gross fixed investment with respect to GDP and the variation (in log) of the population²⁰. SF_{jit} refers to the European structural funds (whose types are indexed for j); and Nat_{jit} represents a series of national funds relating to regional policies (also indexed by j). Both SF_{jit} and Nat_{jit} are considered as logarithmic ratios of GDP, in accordance with common practice in the literature.

In a second equation, to take into account regional differences in some indicators of the socio-economic environment when evaluating the impact of regional policies, we estimate the following variant of equation (1):

$$(2) D.y_{it} = a_1 y_{it-1} + a_2 gfi_{it} + a_3 D.pop_{it} + a_4_j SF_{jit} + a_4'_j q_i SF_{jit} + a_5_j Nat_{it} + a_5'_j q_i Nat_{it} + a_6 PERIODO_2 * SUD + a_7 PERIODO_3 * SUD + a_8_j W_{it-1} + a_i + a_t + e_{it}$$

where the terms of the interaction between q_i (the quality of the regional environment invariant over time - we do not have available measures of the quality of the regional environment that vary in the time interval at our disposal) and the funds allow an evaluation of the impact of the quality of the regional environment on the link between the funds and the regional economy.

²⁰ A more complete specification would include $D.pop_{it} + g + d$, where g is the rate of technological change and d is the depreciation rate. Since g and d are not observable, we can use $D.pop_{it}$ in place of $(D.pop_{it} + g + d)$ in the specification adopted and use this variable simply for control purposes. On this, see Arnold, Bassanini and Scarpetta (2007).

Appendix B

Table 7 - Auxiliary regressions for the allocation mechanism of funds: EU structural funds and cohesion funds, current account subsidies, capital expenditure, financed at national level

Regressors	D.(EU Funds plus national co-financing)	D.(National cohesion funds)	D.(Current account subsidies to companies)	D.(Current account subsidies to families)	D.(Capital subsidies)	D.(National public investments)
EU Funds plus national co-financing ($t - 1$)	-0.8196 (-13.93)	0.1414 (2.27)	-0.0354 (-0.50)	-0.0805 (-1.90)	-0.0007 (-0.01)	-0.1171 (-1.82)
EU Funds plus national co-financing ($t - 2$)	0.0905 (1.55)				-0.0070 (-0.11)	
Cohesion funds financed at national level ($t - 1$)		-0.8182 (-9.29)		0.0436 (1.47)		
Current account subsidies to companies ($t - 1$)		0.0860 (1.61)	-0.7205 (-9.50)	-0.2117 (-2.75)	-0.0521 (-0.91)	
Current account subsidies to companies ($t - 2$)						-0.0909 (-1.30)
Current account subsidies to families ($t - 1$)	-0.1579 (-2.34)	-0.2150 (-2.90)		-10.478 (-10.40)	-0.1500 (-1.73)	-0.1760 (-1.84)
Current account subsidies to families ($t - 2$)				0.1469 (2.61)		
Capital subsidies ($t - 1$)	0.3099 (4.39)		-0.2349 (-2.56)	-0.0462 (-0.77)	-0.8065 (-8.60)	
Capital subsidies ($t - 2$)					0.0638 (0.96)	
National public investments ($t - 1$)	-0.1985 (-3.34)	0.1464 (2.17)			0.0922 (1.04)	-0.7912 (-7.58)
gfi ($t - 1$)	-0.7160 (-1.95)		0.3810 (1.10)	0.1437 (0.52)		
y ($t - 1$)		-99.538 (-4.02)	-42.226 (-2.64)	0.1193 (0.12)	0.6629 (1.40)	
y ($t - 2$)		59.977 (2.61)		-41.296 (-2.31)	0.4709 (1.06)	
Rate of female unemployment ($t - 2$)		-0.0356 (-3.16)			-0.0269 (-2.13)	
Employment in building trades ($t - 1$)	105.174 (2.45)	281.539 (5.07)		54.434 (1.34)	-42.331 (-1.49)	
Employment in manufacturing ($t - 1$)		63.593 (2.26)				
Public sector value added ($t - 1$)	45.234 (1.48)			0.5840 (0.17)		
Political alignment ($t - 1$)	-0.0412 (-0.97)	-0.1074 (-1.78)	0.0619 (0.97)	0.0171 (0.37)	-0.0409 (-0.70)	0.0601 (1.12)
Political Orientation ($t - 1$)	-0.0427 (-0.81)	-0.0805 (-1.09)	0.0070 (0.08)	-0.0527 (-0.97)	-0.0860 (-1.39)	0.0225 (0.34)
No. of observations	360	380	380	360	360	360
R² corrected	0.43	0.43	0.41	0.56	0.41	0.43

Note: D. () denotes logarithmic variations. The values in parentheses are t-ratios

Table 8 - Equation (1), specification with the vector of the variables relevant for the allocation of funds (W_{it-1})

Regressors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EU Funds	0.0038 (2.64)		0.0038 (2.64)		0.0040 (3.11)		0.0036 (2.60)		0.0040 (3.33)		0.0046 (3.18)	
EU Funds plus national co-financing		0.0048 (3.18)		0.0050 (3.25)		0.0047 (3.19)		0.0047 (3.21)		0.0048 (3.46)		0.0058 (3.80)
Current account subsidies to companies			0.0010 (1.28)	0.0011 (1.42)								
Current account subsidies to families					-0.0027 (-1.35)	-0.0025 (-1.29)						
Capital subsidies							0.0004 (0.32)	0.0007 (0.68)				
National public investments									0.0002 (0.08)	0.0004 (0.23)		
National cohesion funds											-0.0045 (-3.41)	-0.0048 (-3.61)
No. of observations	360	360	360	360	340	340	360	360	340	340	360	360
R² corrected	0.18	0.18	0.17	0.18	0.19	0.20	0.17	0.18	0.19	0.20	0.20	0.21

Note: impact of funds on per capita GDP, dependent variable: D.y. The values in parentheses are t-ratios.

Table 9 - Equation (1), specification without the vector of the variables relevant for the allocation of funds (W_{it-1})

Regressors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EU Funds	0.0034 (2.72)		0.0034 (2.77)		0.0034 (2.72)		0.0034 (2.72)		0.0034 (2.71)		0.0039 (2.98)	
EU Funds plus national co-financing		0.0043 (3.40)		0.0043 (3.42)		0.0042 (3.38)		0.0043 (3.39)		0.0043 (3.32)		0.0049 (3.53)
Current account subsidies to companies			0.0015 (1.91)	0.0015 (1.96)								
Current account subsidies to families					-0.0017 (-1.03)	-0.0016 (-1.00)						
Capital subsidies							0.0003 (0.20)	0.0004 (0.30)				
National public investments									-0.0002 (-0.10)	-0.0000 (-0.02)		
National cohesion funds											-0.0024 (-1.70)	-0.0025 (-1.75)
No. of observations	360	360	360	360	340	340	360	360	340	340	360	360
R² corrected	0.17	0.17	0.17	0.18	0.18	0.18	0.17	0.17	0.17	0.17	0.18	0.19

Note: impact of funds on gross domestic product (GDP) per capita, dependent variable: D.y. The values in brackets are t-ratios.

Table 10 - Equation (2), the impact of the funds, the role of the regional environment

	X = indicator of quality of government, 2010, QOG Institute (Charron et al., 2014)					X = indicator of civic sentiment, Il Sole 24 Ore (Cadeo, 1997)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
EU Funds	0.0045 (2.04)			0.0044 (2.02)		0.0042 (0.97)			0.0062 (1.45)	
EU Funds plus national co-financing		0.0045 (2.09)			0.0045 (2.06)		0.0076 (1.86)			0.0090 (1.97)
Current account sub- sidies to companies			0.0011 (1.25)	0.0011 (1.23)	0.0013 (1.44)			-0.0100 (-2.42)	-0.0106 (-2.52)	-0.0103 (-2.52)
EU Funds × X	0.0011 (0.54)			0.0010 (0.48)		-0.0007 (-0.08)			-0.0045 (-0.50)	
EU Funds plus national co-financing × X		-0.0006 (-0.30)			-0.0005 (-0.26)		-0.0053 (-0.65)			-0.0080 (-0.87)
Current account sub- sidies to companies × X			0.0022 (2.49)	0.0022 (2.33)	0.0020 (2.18)			0.0174 (2.96)	0.0184 (3.05)	0.0182 (3.09)
R² corrected	0.17	0.18	0.18	0.18	0.19	0.17	0.18	0.18	0.19	0.20

	X = indicator of technological potential, 1991, Netti and Sarno (1998)					X = number of company patents, 1991, D'Acunto et al. (2004)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
EU Funds	0.0033 (1.47)			0.0037 (1.60)		0.0043 (2.93)			0.0044 (2.96)	
EU Funds plus national co-financing		0.0070 (3.00)			0.0073 (3.09)		0.0056 (3.41)			0.0057 (3.50)
Current account sub- sidies to companies			-0.0002 (0.14)	-0.0004 (-0.23)	-0.0003 (-0.21)			0.0010 (0.95)	0.0010 (0.92)	0.0010 (1.00)
EU Funds × X	0.0001 (0.32)			0.0001 (0.20)		-0.0109 (-1.16)			-0.0110 (-1.17)	
EU Funds plus national co-financing × X		-0.0001 (-1.43)			-0.0001 (-1.50)		-0.0134 (-1.58)			-0.0134 (-1.56)
Current account sub- sidies to companies × X			0.0001 (0.80)	0.0001 (1.11)	0.0001 (1.23)			-0.0011 (-0.19)	0.0011 (0.19)	0.0016 (0.32)
R² corrected	0.17	0.19	0.17	0.17	0.19	0.18	0.19	0.16	0.17	0.18

Note: dependent variable: *D_y*; number of observations = 360. The values in parentheses are *t*-ratios.

2. European Cohesion Policy in Italy: Empirical Evidence and interpretations (*Giuseppe Albanese and Guido de Blasio*)

Introduction

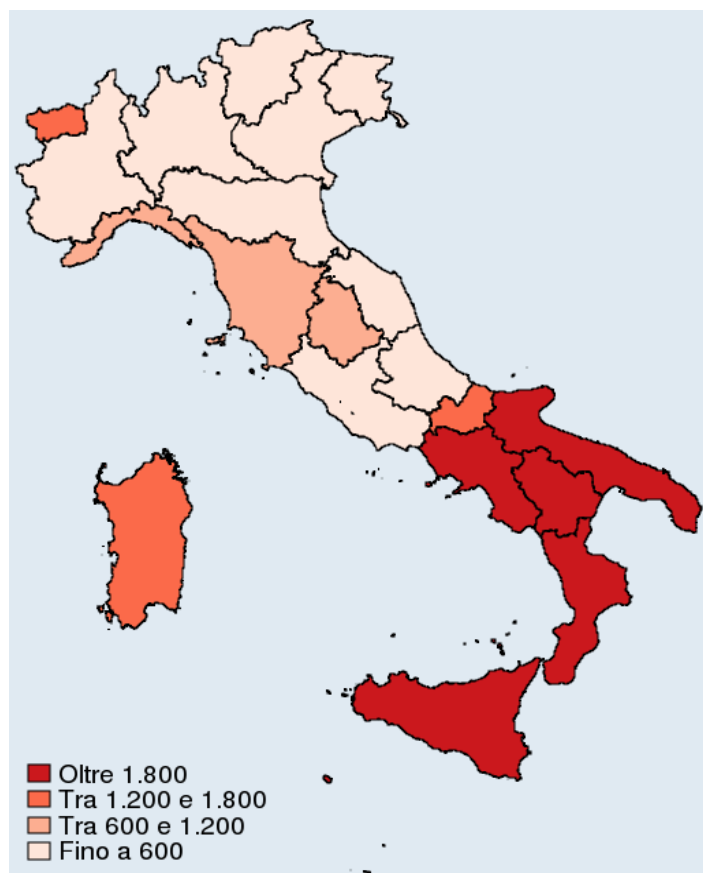
Place-based policies aim to increase the level of development of economically disadvantaged areas. Beyond the purely redistributive reasons, it is market imperfections that, from a theoretical point of view, potentially justify public intervention. A classic example refers to the sub-optimal supply of public goods by the private sector. Another possibility is that of labour markets in conditions of imperfect information or frictions, where localised subsidies for hiring can increase efficiency if introduced in areas where productivity is lower (Kline and Moretti, 2013). Other potential justifications for place-based interventions range from agglomeration economies to network effects (Neumark and Simpson, 2014).

In the context of place-based policies, the European regional policy for territorial rebalancing is one of the most relevant experiences on the international scene, given both its geographical extension and its financial dimension. The cohesion policies of the European Union consume a large part of the Community budget. The intervention aimed at regions with per capita GDP of less than 75% of the EU average (called the Convergence Objective in the 2007-2013 period, and Objective 1 previously) is the main instrument for implementing this policy. In Italy it has involved the regions of Southern Italy, with different methods during the various programming cycles.

On the basis of the data made available by the Department for Cohesion Policies through the OpenCoesione portal²¹, public expenditure attributable to the implementation of cohesion policies in the 2007-2013 period amounted to Euro 38 billion in the Mezzogiorno (as against Euro 15 billion in the Centre North)²². Of this sum, most was linked to the implementation of EU programs; only a tenth was from national projects financed by the Development and Cohesion Fund or from interventions included in the "Action and Cohesion Plan".

²¹ OpenCoesione (www.opencoesione.it) is a portal of the Territorial Cohesion Agency created in 2012 and dedicated to information on the implementation of cohesion policy interventions. The information is released in open data format, allowing the possibility of re-use by citizens and researchers. The data on projects are published with considerable informative detail (thematic areas, locations, responsible parties and payments made for each individual intervention). In particular, it is also possible to geo-reference the projects, and therefore the payments relating to them.

²² The data refer to expenditure up to 2015 and are updated based on the information available in December 2016.

Figure 5 – Intensity of Cohesion Policies 2007-2013 (Euros per capita)

Source: Bank of Italy, 2017

Notes: Formulation of OpenCohesion data on EU projects, those financed by the Development and Cohesion Fund and those included in the "Cohesion Action Plan".

In per capita terms, expenditure in the Mezzogiorno in the 2007-2013 cycle amounted to around Euro 1,850 (compared with Euro 400 in the Centre-North). Cohesion policy intervention was differentiated in the country (Figure 5), mainly according to variations in the levels of GDP per inhabitant, which influence the allocation of resources at the regional level. The maximum intensity of the intervention in the South was in Calabria, the minimum in Abruzzo. By classifying the projects according to the ten intervention priorities defined by the National Strategic Framework (QSN) 2007-2013, it emerges that about 30% of the spending in the Mezzogiorno had to do with transport, energy and the environment; a quarter of the expenditure was for human capital, research and development.

Public debate on cohesion policies has often focused on the effective capacity to spend these funds, while their effect on the economic performance of the relevant territories has been studied less. Recently, credible causal estimates have highlighted the effectiveness of the interventions attributable to Objective 1 in stimulating GDP growth in European regions (Becker *et al.*, 2010, Pellegrini *et al.*, 2013). However, a high level of regional heterogeneity prevails (Becker *et al.*, 2012); in particular, the results for the Italian regions are generally less favourable.

The following section summarises two recent works relating to Italy, which analyse the impact of cohesion policies in the short and long term. They suggest that European regional policy has had modest consequences on the economic dynamics of the Italian regions, and these could also be mainly the result of transitory and non-permanent effects. In the final section, this evidence is discussed in the light of the literature which stresses the importance of an adequate level of local institutional quality as an essential precondition for the proper functioning of public policies.

Some Evidence on the Effectiveness of Intervention

Despite the generality of developed countries, driven by social or political motivations, making extensive use of cohesion policies, the justification for this intervention remains uncertain. The policy debate on this is broad. Some point to the need to govern the imbalances of economic development by adopting spatially blind policies and avoiding counteracting the concentration process that underlies the expansion of economic activity (World Bank, 2009); others emphasise the contribution that the lagging regions can provide to economic growth (OECD, 2009).

The implications of the theoretical models are also not conclusive. The market imperfections underlying the intervention of regional policies may indeed be difficult to detect. Economically disadvantaged areas usually present several market failures rather than just one, so it is not clear which of them should be the priority of policies. According to the so-called second-best approach, it is also uncertain whether the removal of one type of imperfection, in the event that the others continue to limit the functioning of the markets, leads to improvements in well-being. In addition, interventions aimed at modifying incentives for private agents, such as a system of subsidies, may not be effective or may result in unintended consequences. For example, transferring resources to disadvantaged areas could be harmful if this encourages rent-seeking and increases the payoff for deviant behavior (such as corruption).

For this reason, the availability of empirical exercises to evaluate the effectiveness of cohesion policies is an essential prerequisite for providing public decision-makers with an adequate knowledge base for choosing between alternative approaches. In recent years, in our country too, studies that use rigorous methods for evaluating the effects of cohesion policies have increased. In particular, we will describe two recent works relating to Italy, which analyse the impact of cohesion policies in the short term (Ciani and de Blasio, 2015) and in the long term (Barone *et al.*, 2016).

Ciani and de Blasio (2015) examine the impact of disbursements made by EU programs in the period 2007-2013 on short-term economic growth trends in local labour systems (LLS) in Southern Italy.

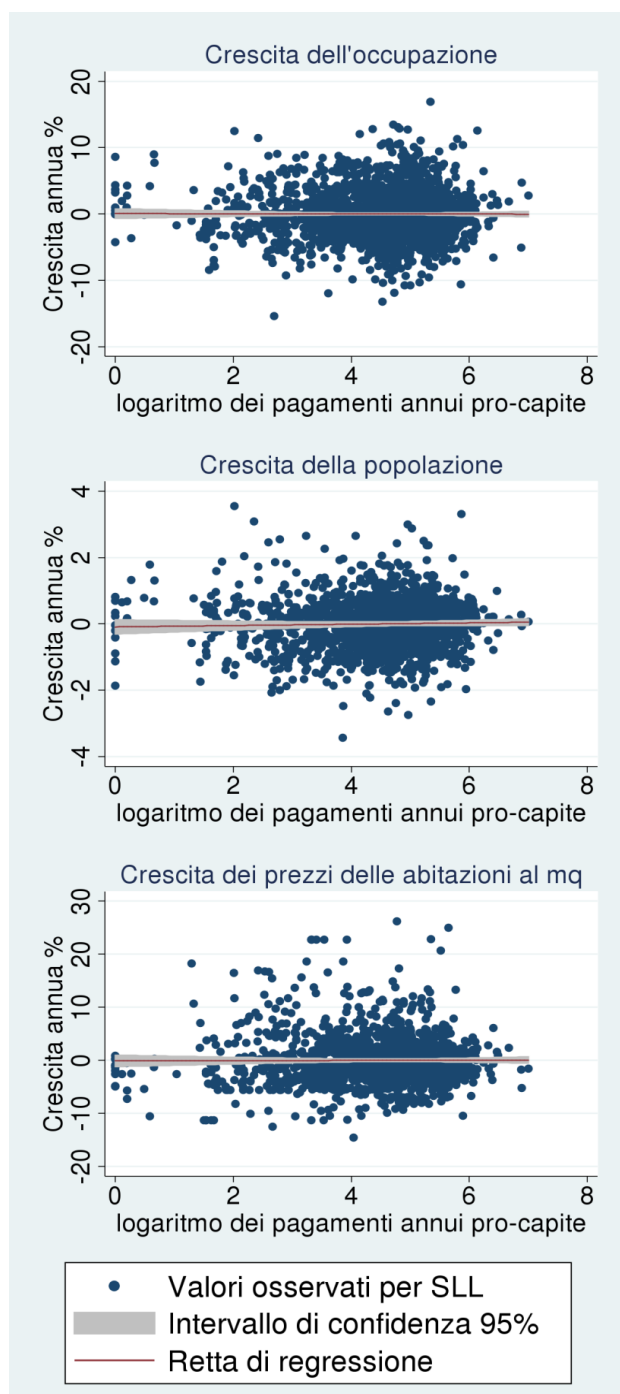
The economic dynamics considered are those that refer to employment, population and housing prices. Employment is a natural proxy for measuring the impact of interventions because many of these programs indicate the creation of jobs for local residents as one of the main objectives. However, there may be benefits for the local community that do not translate into further employment. For example, according to spatial equilibrium models (Glaeser, 2008), location advantages that are positively correlated with the productivity of firms and the well-being of families lead to higher prices in non-tradeable factors, such as the cost of housing. Finally, the dynamics of population is also an interesting variable to watch, given that it is connected to the residential choices of families who also depend on the conditions of the local labour market.

In order to carry out this exercise, the data of the OpenCohesion portal were used for payments relating to the structural funds (with the associated share of national co-financing); data on employment and population are sourced from ISTAT, while real estate values come from the Tax Office's OMI (Real Estate Market Observatory).

A first descriptive piece of evidence of the relationship between the intensity of expenditure of EU programs and socio-economic outcomes comes from Figure 6, which correlates the annual payments per capita at the LLS level with the annual percentage variations in employment, population and house prices. The regression line shows a very weak relationship between the structural funds and the three variables. Of course, it is difficult to conclude just on the basis of the figure that the funds have not taken effect. For example, more generous loans could have been allocated to those areas that were most affected by the crisis.

To overcome this difficulty, the study tries to measure the impact of the funds by making sure the southern SLLs in the comparison are as similar as possible, also taking into account the characteristics of the areas that have led to a more or less accentuated exposure to the economic crisis. Technically, the explanatory capacity of an extended set of variables is used that allows us both to check for the invariant characteristics of the LLS and to isolate the effect of funds from cyclical trends, taking into account the fact that each individual LLS can have its own specific growth trends that depend on factors that were operating before the start of the programming period²³.

²³ To take account of these problems, different econometric approaches have been tried, allowing the presence of growth trends that are constant over time but different for each LLS (thanks to a set of fixed effects over time for each LLS) or by using a set of predetermined variables interacting with temporal trends (designed to capture more detailed trends over time but parameterised on a given set of initial characteristics of each LLS) or enriching the potential local economic dynamics with autoregressive terms. Among the many potentially usable variables, some are chosen using the selection procedure of Belloni et al. (2014), which allows the explanatory capacity of the covariates to be maximised, but avoiding the problems of estimation and statistical inference in connection with the presence of a large number of regressors.

Figure 6 – Socio-Economic Outcomes and EU Spending Programs in the South

Source: Ciani and de Blasio, 2015

Note: The growth rates have been normalised by removing the average per year of the 325 LLS in the South.

Table 11 shows the main results of the study. The average impact of funds on employment, population and house prices is very close to zero. Even taking into account the different intensity with which the individual territories have suffered the consequences of the crisis, it does not seem that greater spending on structural funds has led to appreciable consequences. Only

in the final years of the program, probably also following the acceleration and re-orientation of the payments made with the "Action and Cohesion Plan", is a positive effect on the growth rate of employment evident, although this is economically rather limited (about 0.1 percentage points higher for a 10% increase in per capita payments).

The average result could hide possible heterogeneity between territories or types of expenditure. In the case study, however, the results are similar between the regions of the Convergence Objective (Campania, Calabria, Sicily and Puglia) and the rest of the Mezzogiorno. No effectiveness is observed even in the most depressed areas in terms of the labour and real estate markets. Expenditure for the purchase of goods or services and incentives for private economic agents would seem to have a slightly more positive impact on employment than infrastructure ones. Again, however, these are small effects.

Table 11 - Estimate of the effects of a 10% increase in annual per capita payments for projects financed by the European Structural Funds

	Effect as % in growth rate of:		
	Employment	Population	House prices per m ²
Point estimate of the effect	0,014	-0,003	0,029
Confidence interval at 95%	[-0,014; 0,041]	[-0,008; 0,002]	[-0,012; 0,070]

Source: Ciani and de Blasio, 2015

Notes: The estimates were conducted including a series of predetermined variables interacting with linear and quadratic temporal trends. The controls were selected using the procedure outlined in Belloni et al. (2014). The confidence interval uses standard errors clustered at the LLS level. The results are similar when including all the variables without selecting them or using fixed effects for SLL.

Even in the most favourable cases, it must be said that transfers could have positive effects on local economies but concentrated over the years of the program, without triggering a path to self-sufficient growth. Recently, the World Bank has emphasised this problem, distinguishing between "treatment" and "cure". Treatment is a therapy, while cure puts an end to a problem. Sometimes treatment is a cure, other times it only keeps the problem under control without resolving it: if you remove the treatment, the problem recurs (World Bank, 2014).

As to this, Barone et al. (2016) analyse what happens when the treatment ends. In other words, they assess whether European regional policy is a case in which treatment is a cure. The work examines what happened in Abruzzo which, after being treated in Objective 1 for a period of time (1989-1996, but with the actual outlay of funds ending in 2000), ended without any transitional support. Specifically, moving from Objective 1 to Objective 2, Abruzzo has suffered a sharp drop in EU financial support: according to estimates contained in the study, the allocations (as a percentage of GDP) were more than halved.

The work compares the trend of GDP per capita in Abruzzo after the flow of funds declined (in 2001) with what would have been observed if the treatment had continued. This counterfactual technique is estimated using the synthetic control method proposed by Abadie and

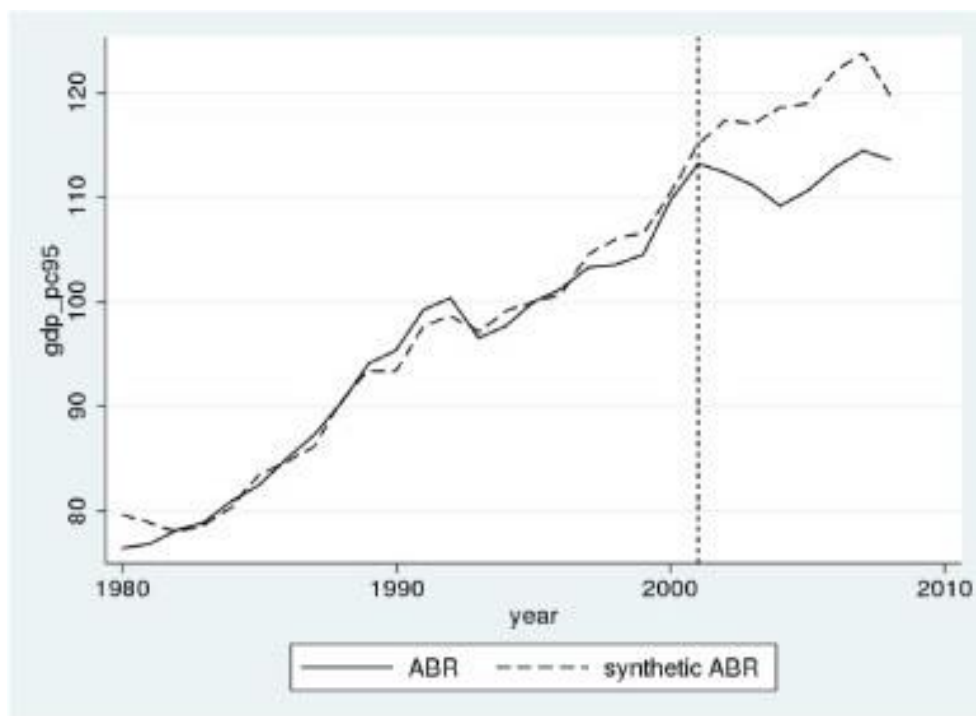
Gardeazabal (2003) and Abadie *et al.* (2010). Following this technique, Abruzzo is then compared to a weighted combination of southern regions included in Objective 1 for the entire period 1989-2008 (in the jargon of the method used, "synthetic" Abruzzo).

With regard to the choice of control variables, the analysis considers the main predictors of economic growth identified in the literature: the initial level of GDP per capita, the rate of GDP per capita growth in the past, the investment-GDP ratio, human capital, population density, trade openness (exports to GDP) and sectoral composition of added value (agriculture, industry, market services, non-market services), all measured at the regional level.

Most of the time series data at regional level (GDP, population, work units, investments and value added by sector) come from the CRENoS database for years before 2005, and were updated until 2008 using official data provided by ISTAT. The data on human capital come from the censuses of the population conducted by ISTAT, with inter-census data obtained through interpolation; data on the regional territorial area (necessary to calculate population density) are provided by ISTAT; the data on commercial openness, available since 1980, are from Prome-teia.

The main results of the work can be summarised graphically. Figure 7 shows that "synthetic" Abruzzo almost exactly tracks the economic performance of "real" Abruzzo in the period 1980-2000. From 2001 onwards the two lines diverge, with the "real" Abruzzo growing at a slower pace than its counterfactual. At the end of the estimation period (2008), "real" Abruzzo recorded a 5.5% drop in GDP per capita compared to "synthetic" Abruzzo due to the loss of support from Objective 1. These results are validated by a series of robustness checks, which take for example the set of comparison regions used or the year treatment was interrupted. In any case, it is confirmed that the exit of Abruzzo from Objective 1 has had a negative effect on regional GDP per capita.

It should however be stressed that the estimated loss is only partially informative as to the benefits of the previous intervention. Let us suppose that the policy has two effects: a temporary one (which disappears if funds are withdrawn) and a permanent one (which remains even without financial aid). For example, an investment in a new road increases the added value in the same year in which it is realised, but at the same time it could permanently improve mobility. The empirical exercise discussed here directly estimates only the first component, because synthetic control consists of regions that continue to receive treatment (therefore the possible permanent effect is shared by the treated and control regions). However, the measured loss can be compared with the prevailing estimates in the literature on the overall effect of the European cohesion policy. This comparison (contained in the study) shows that the benefits generally attributed to the intervention are of an order of magnitude very close to the estimated loss. This therefore indicates that it could have eroded all the previous gain.

Figure 7 - Abruzzo: per capita GDP 1980-2008 (1995=100)

Source: Barone et al., 2016

Notes: The graph shows the GDP per capita at constant prices (1995 = 100) of the Abruzzo region ("real" Abruzzo) and of its synthetic control ("synthetic" Abruzzo). The weights used to construct the synthetic control in the basic specification are 0.641 (Molise), 0.200 (Campania) and 0.159 (Calabria)

It is important to note that the conclusions resulting from this analysis, referring to only one region, may have limited external validity. Thus, it is not possible to use the case of Abruzzo to draw conclusions about the potential consequences of the cessation of EU funding in other regions. Having said this, these results suggest that treatment is not always a cure, and that programs for "less developed" regions (the current equivalent of the old Objective 1) may not be a long-term remedy for economic backwardness.

Discussion and Conclusions

The results of the work presented in the previous section suggest that cohesion policies in Italy in recent decades have had low effectiveness, both in the short term and in the long term. In this last part we will discuss some of the possible reasons that may underlie this evidence.

The issue of the amount of resources has always been widely discussed in Italy, with a particular emphasis on the question of the additionality of the interventions. This debate has resumed vigorously in recent years, given that the crisis has restricted resources for cohesion policies. In fact, the average expenditure of extraordinary resources in the Mezzogiorno in the years 2007-2015 was 23% lower than that recorded between 2000 and 2006: the growth in spending by European funds has only minimally offset the decline in extraordinary resources

from national sources; this was also accompanied by a decrease in capital expenditure using ordinary resources²⁴.

Still, over a longer period, the spending on policies for Southern Italy seems to have been similar at least in the main post-war phases of recovery, stasis and increase in the gap between the areas of the country (Territorial Cohesion Agency, 2017). If one looks, for example, at the experience of the *Cassa per il Mezzogiorno*, running for four decades starting in the 1950s, D'Adda and de Blasio (2016) show that the effectiveness of the scheme is significantly reduced after 1970 despite a substantial stability in the resources used for the policy.

The quantity of resources used can hardly be considered as a sufficient condition for the success of these policies; other factors probably count more. On the basis of recent studies at a European level (Becker *et al.*, 2013; Rodríguez-Pose and Garcilazo, 2015), institutional quality at the local level seems to be one of the main drivers of the effectiveness of territorial policies. In line with the institutionalist growth literature (Hall and Jones, 1999, Acemoglu *et al.*, 2005), what we note is a concept of institutional context in a broad sense, which includes both the political and the economic dimensions, as well as formal and informal aspects (such as conventions and widespread rules of conduct).

The shortcomings of the institutional context, in addition to operating directly on the growth potential of the local economic system, influence the ability to efficiently provide and adequately design public goods and policies. This factor could therefore be decisive for explaining the modest results registered in our country by the cohesion policies, given the differences that characterise public action within Italy and which translate particularly into a negative gap in the quality levels of institutions observed in the Mezzogiorno²⁵.

For example, in the work already cited D'Adda and de Blasio (2016) discuss the role of change in the governance of the *Cassa per il Mezzogiorno* which took place in the 1970s, when local political authorities began to take part in the management of the interventions²⁶. But with

²⁴ The data are taken from the Single Financial Framework published by the Territorial Cohesion Agency (2017), which annually shows the distribution of sources of capital expenditure in the South between ordinary resources and extraordinary resources (European funds, national co-financing of EU programs and national funds).

²⁵ A measure of institutional quality differences within our country is contained in Nifo and Vecchione (2014). In particular, this study presents a composite index at the provincial level (IQI) built by aggregating the information available on 5 dimensions of public action (Regulatory quality, Government effectiveness, Rule of law, Corruption, Voice and Accountability). In addition, an indicator of the quality of public action in the various European regions can be obtained from Charron *et al.* (2014). This work uses information from two sample surveys, conducted in 2010 and 2013 by the University of Göteborg and funded by the European Commission, which record citizens' perceptions of the impartiality, quality and control of corruption of public services provided in a certain territory. This information is integrated with that made available at the national level by the World Bank (World Governance Indicators).

²⁶ With regard to the most recent years, similar evidence emerges from the study by Barone *et al.* (2017) on the effectiveness of the "Objectives of Service" program, set up by the Italian Government and implemented in the Southern regions in order to encourage local authorities to achieve specific objectives for the provision of public services in the fields of education, services for children and the elderly, waste management and water supply.

regard to recent years, too, the perception of low quality of regional policies in Italy remains widespread. It manifests itself in the main limits highlighted in public debates: delays and shortcomings in the planning phase; low speed of execution, linked in particular to bureaucratic slowness and the weight of processing times; excessive emphasis on transfers and incentives, which have often proved to be ineffective, especially with reference to those distributed according to discretionary practices; significant fragmentation in objectives and interventions.

The link between public policies and local institutional quality is clearly not a peculiarity of cohesion policies. For example, Barone and Mocetti (2014) examine the economic effect of public interventions that occurred after the earthquake in Friuli (1976) and Irpinia (1980). This work uses the method of synthetic control, comparing the per capita GDP of the affected area with that of a combination of a group of regions tending to belong to the same macro-area but not affected by the earthquake. The results of the study indicate that, in both cases, in the years immediately following the earthquake, GDP per capita performance benefited from the expansionary effect of the huge flow of funds linked to the emergency and reconstruction. In the long term, on the contrary, the effects were opposite: after 20 years the per capita GDP of Friuli-Venezia Giulia exceeded that of the control group by 23%; in Irpinia it was 12% lower. These differences between the two areas are likely to depend on the different initial conditions before the earthquake in terms of institutional quality: lower than the national average in Irpinia, higher in Friuli.

A less highlighted aspect, however, is how inefficient use of public funds and shortcomings in institutional quality can reinforce each other, thus creating a vicious circle. Accetturo *et al.* (2014), for example, show that the disbursement of EU funds has negatively affected the degree of civic feeling and social cooperation in the areas with the greatest intervention intensity. In particular, this work analyses to what extent the presence of public transfers in favour of the most disadvantaged areas and the efficiency in using these funds affect the cultural values and social capital of a given location. Using the rules for the allocation of structural funds to analyse the causal link between structural funds and social capital, the work shows that the transfers related to Objective 1 have had a negative effect on general trust and cooperation among individuals. Using also a theoretical model that allows the study of the effects of transfers on the behaviour of individuals, the study emphasises that the loss of social capital is connected to the spread of distortions in the use of funds, which are all the more probable the larger the available transfers are and the less efficient is the operator managing the provision of public goods and services financed by cohesion policies.

This aspect is set out in more detail in De Angelis *et al.* (2018) who analyse the relationship between public transfers and the incidence of crimes against public administrations (PA) at the

The work proposes an econometric evaluation of the impact of the program. The results suggest that it was only partially effective; Furthermore, the impact has been markedly different between regions and objectives, in particular in connection with the different local institutional quality.

local level. The ability to make use of huge financial resources from national or supranational sources can reduce the degree of accountability of local administrators and encourage opportunistic behaviour. For the purposes of the analysis, the work uses the data relating to the European structural funds allocated to the South in the 2007-2013 cycle. The results indicate the existence of a positive correlation between the amount of European funds and the number of crimes against the PA registered in the destination municipality. In particular, an increase in transfers of 10% was thought to be associated with an increase in crime of 0.4%.

Again, it should be noted that these characteristics are not a peculiarity of cohesion policies. It should be emphasised even more that public interventions in the South take place not only through regional policies but especially through national policies. In quantitative terms, based on the information provided by the Territorial Cohesion Agency (2017), the use of extraordinary resources in the Mezzogiorno represented only 5% of the primary public expenditure in the area in the years 2000-2015. As already underlined in Cannari et al. (2010), it is therefore difficult to imagine that regional policy alone can be used to tackle the gaps that exist within the country. In this regard, various studies show the existence of delays to the detriment of the South in the quantity and, especially, in the quality of the supply of essential services such as justice, health, education, security, and in local public services (Bank of Italy, 2009). These differences are rooted in the past but also depend on the current administrative capacity and the socio-institutional context in which the policies operate. It follows from this that the whole of public expenditure, not just the additional one, needs to be based on criteria of greater effectiveness, tackling the problems that affect the quality of the actions of the public administration in the territory.

3. Divergence and Convergence in the "Periphery" of Europe: Cohesion Policy Cannot Be Left to Itself (*Carmelo Petraglia and Giuseppe L. C. Provenzano*)

Introduction

The Great Crisis has passed in the statistics but, with its legacy of social and territorial, gender and generational fractures, still occupies the policy agenda in Italy. And it is increasingly the line between North and South that separates the places of opportunity from those of exclusion. A territorial caesura, this, which represents a sad record in the continental scenario, where the South, with its twenty million inhabitants, remains the largest "least developed area".

Italy has seen its distance from the core of Europe growing for over twenty years. In the meantime, especially after the enlargement of the EU to the East - and even more markedly since the beginning of the crisis - its periphery, the South, has moved away from the other "peripheries" (meaning a set of disadvantaged regions benefiting from European cohesion policy).

Weak national growth and an increase in regional gaps - obviously correlated phenomena - therefore remain the "facts" with which we have to deal. Above all today, when a season of uncertainty is opening up: on account of an evolving global geopolitical scenario; the unknowns regarding the territorial impact of the policies of the new Italian government; a still unfinished Europe at risk of disintegration, with the knotty problems of post-2020 cohesion policy still to be resolved.

Europe is the primary context in which to address analyses and proposals concerning the future of the South, whose destiny is inevitably intertwined with that, also uncertain, of cohesion policy. The crisis has brought to light all the limits of the model of economic policy on which the foundations of the European project have been built, dramatically reiterating its inability to achieve its original aims: harmonious and balanced development, high levels of employment and social protection, a high degree of convergence and solidarity among the Member States.

The sub-optimal performance of the Euro Area, the incompleteness of European macroeconomic governance and the structure of its policies have a major impact on the factors of resilience, growth and competitiveness of local economies; they create more advantageous competitive conditions for regions belonging to countries with lighter tax and contribution systems, which in some cases are still in a position to use the exchange rate instrument, and with less stringent supranational budget constraints.

"Asymmetric" conditions produce the equally asymmetric results reflected in the statistics on regional development and competitiveness differentials discussed in the second section of

this paper²⁷. From these data emerge paths of economic and social development and business competitiveness that are highly differentiated in the periphery: on the one hand, the momentum of the economically lagging economies of the new Eastern European member states (even during the crisis); on the other hand, the Mezzogiorno which continues to retreat, at a rate that reduces the structural funds to a "fig leaf" of ineffective convergence and development policies.

On the causes of these differentials we will dwell in the third section, taking up the arguments presented on other occasions, already summarised as follows: European cohesion intervenes in a framework of ordinary macroeconomic conditions and policies that create significant internal asymmetries on its periphery, amplifying at the regional level the well-known macroeconomic imbalances between national economies. Southern Italy suffers from unfavourable national and supranational macroeconomic conditions to which it adds its own endogenous structural difficulties: a condition of "structural disadvantage" that cannot be compensated for just with more virtuous cohesion policies.

A subject which has been stubbornly removed from the debate should then, in the national interest, be raised in Europe: coordination between cohesion and overall European macroeconomic governance. Cohesion policy cannot be "left to itself" to pursue the reduction of the gaps that ordinary policies contribute to amplify. This consideration is at the heart of the proposals for post-2020 cohesion policy contained in the final section.

The South lags in the enlarged geography of the EU

Picking up the threads of the Southern question today means, first of all, recognising that the South's tardiness must be placed in the wider geographical context of the Economic and Monetary Union (EMU) and of the EU. Its internal determinants should not be ignored but the European context must necessarily be taken into account when addressing the issue of development deficit in the South in order to adequately define the extent of non-convergence, assess its causes and identify the responsibilities of the policies adopted. In other words, we must avoid the simplification that would have the development of the South depend exclusively on specific variables that are internal to the South, and on its "endogenous" local resources. Because the potential of endogenous resources may find a strict "exogenous" constraint in unfavourable national and supranational macroeconomic conditions and policies. And reviewing the data is a necessary condition for searching in this direction. So it is worth assessing the conditions of economic growth, social development and competitive positioning of the Mezzogiorno in relation to what happens in other European regions, especially the other areas of the Union that benefit from cohesion policies.

²⁷ This paper summarises and updates the analyses and proposals contained in recent editions of the SVIMEZ Report on the economy of Southern Italy and in the essays by the authors mentioned in the Bibliography at the end of this paper.

The "Unequal" Regional Convergence that Excludes the Mezzogiorno

Table 12 presents the mid-term data (2001-2016) on performance of GDP per capita in the EU Member States, distinguishing the pre-crisis years (2001-2007) from the following years (2008-2016) and disaggregating the data by area of EU intervention (Competitiveness Objective regions and regions of the Convergence Area).

Considering the "aggregate" EU periphery, i.e. comparing the cumulative average growth of its Convergence regions with that of the Competitiveness regions, leads to the conclusion that there is a sustained regional convergence: weak regions grow at a more sustained pace than strong ones (69.9% against 41.2%). But this "aggregate" reading of the periphery has the obvious limitation of hiding the uneven trends characteristic of the different Convergence regions, especially during the crisis. On average, for all the pre-crisis years, the lagging economies of the new member countries have shown a certain impetus towards the recovery of development, both in relation to the strongest areas of the continent and the other Convergence regions of the EU-15 (those belonging to the historical members of the Union). Between 2001 and 2007, on average, GDP per capita of the EU-13 Convergence regions grew by 50.5%, almost twice the figure of 29.2% of the EU-15 Convergence regions. Between 2008 and 2016, GDP per capita in the Convergence regions of the EU-15 remained substantially unchanged (+ 1.3%), while it continued to grow at a sustained rate in those of Eastern Europe (+30, 8%).

These trends highlight the "selective" character of regional convergence in the EU in the 2000s: the regional convergence process has focused exclusively on the regions of the new Eastern Member States, not even affected by the crisis, while the Southern European regions - and especially the South of Italy - have been excluded, suffering heavy repercussions in the years of the great crisis.

As a result of the sustained growth of the disadvantaged regions of the new Member States, the geography of the less developed regions of the EU has changed: the Mediterranean regions have lost ground as the new Member States progressed, leading to a marked process of convergence within the periphery.

Table 12 - GDP growth rates in PPP per inhabitant in the period 2001-2016, by country and area of EU intervention (cumulative values)

Countries	Areas of intervention	2001-2007	2008-2016	2001-2016	Countries	Areas of intervention	2001-2007	2008-2016	2001-2016
EU-28	Competitiveness	29.2	9.3	41.2	New EU countries (13)	Competitiveness	69.1	20.6	103.9
	Convergence	41.8	19.8	69.9		Convergence	50.5	30.8	96.9
	Total	31.2	11.1	45.8		Total	54.8	28.2	98.5
Euro-18 Area	Competitiveness	28.0	8.7	39.1	Euro Area	Competitiveness	62.6	10.9	80.4
	Convergence	37.6	5.2	44.7		Convergence	75.2	22.5	114.6
	Total	29.0	8.3	39.7		Total	68.6	16.6	96.6
Non-Euro Area	Competitiveness	32.2	10.9	46.6	Cyprus	Competitiveness	44.9	-11.1	28.9
	Convergence	43.9	30.5	87.7	Estonia	Convergence	120.7	21.0	167.1
	Total	35.4	16.6	58.0	Latvia	Convergence	112.9	26.2	168.6
UE a 15	Competitiveness	27.8	8.8	39.0		Competitiveness	47.9	3.6	53.2
	Convergence	29.2	1.3	30.8	Slovenia	Convergence	39.1	7.6	49.6
	Total	27.9	8.2	38.4	Total	44.2	5.2	51.7	
Austria	Competitiveness	27.6	15.7	47.7		Competitiveness	90.7	30.3	148.6
Belgium	Competitiveness	22.9	12.7	38.5	Slovakia	Convergence	68.9	28.3	116.7
Germany	Competitiveness	25.5	17.2	47.1	Total	79.0	29.3	131.5	
Denmark	Competitiveness	27.2	13.6	44.6		Competitiveness	74.6	28.3	124
Greece	Competitiveness	40.5	-18.3	14.8	Non Euro Area	Convergence	47.0	32.2	94.4
	Convergence	35.3	-19.5	8.9		Total	51.3	31.5	99
	Total	37.3	-19.0	11.2		Bulgaria	Convergence	77.1	31.1
Spain	Competitiveness	40.6	-0.7	39.6		Competitiveness	68.0	13.7	91
	Convergence	50.8	1.7	53.3	Czech Republic	Convergence	46.7	19.4	75.2
	Total	41.1	-0.6	40.2	Total	51.8	17.9	79	
Finland	Competitiveness	31.1	3.0	35.0	Croatia	Convergence	69.0	9.5	85
France	Competitiveness	21.7	5.5	28.5		Competitiveness	65.2	14.2	88.6
	Convergence	36.8	15.3	57.7	Hungary	Convergence	38.9	31.4	82.4
	Total	24.3	7.4	33.5	Total	45.1	26.7	83.9	
Irlanda	Competitiveness	46.5	27.6	86.9	Lithuania	Convergence	112.2	40.1	197.3
Italy	Competitiveness	16.7	1.8	18.8		Competitiveness	50.3	47.4	121.7
	Convergence	17.4	0.5	18.0	Poland	Convergence	46.9	40.9	106.9
	Total	16.8	1.5	18.6	Total	47.3	41.6	108.5	
Luxembourg	Competitiveness	41.9	8.7	54.2		Competitiveness	134.5	52.5	257.5
Netherlands	Competitiveness	30.6	2.9	34.4	Romania	Convergence	22.3	43.3	75.2
Portugal	Competitiveness	32.4	0.0	32.4	Total	41.0	45.8	105.6	
	Convergenza	30.4	9.6	42.9					
	Total	31.2	5.6	38.6					
Sweden	Competitiveness	29.8	6.2	37.9					
UK	Competitiveness	29.3	9.4	41.5					
	Convergence	21.4	8.4	31.6					
	Total	29.0	9.4	41.1					

Source: SVIMEZ tabulation of EUROSTAT data

Regional Divergences in European Social Development

Criticisms levelled at GDP as an exhaustive measure of well-being are common. Therefore, going beyond the assessments made so far on the basis of trends in GDP per capita, it will be useful to re-propose the quantitative framework of regional differentials in social development in the EU.

The "Social Progress Index" (SPI) is a summary index based on the aggregation of 50 different indicators that measure three dimensions of social progress for each of which a summary sub-index is calculated: essential human needs; the basics of well-being; opportunities²⁸. Comparisons based on this indicator, made available by the European institutions, are useful in comparing the social development standards achieved by the various European regions. And two of the inter-regional comparisons are of particular interest. Firstly, regional differences in the EU can be measured from a perspective other than the purely economic one by comparing the SPI values (and the three sub-indices) of the Competitiveness regions with those of the less developed Convergence regions. Secondly, we can compare the different levels of social development characteristic of regions belonging to a homogeneous grouping of economies formed, for example, only by the Convergence regions.

In Table 13 the SPI values and the three sub-indices are tabulated on a scale from 0 to 100, distinguishing between Convergence regions and Competitiveness regions of the different Member States and for the EU average of 28 and other aggregates of homogeneous countries for different reasons (membership of the single currency, historical members of the EU, new member states).

²⁸ The four topics covered in measuring the size of *essential human needs* are: basic nutrition and health care, water and public hygiene, housing and personal safety. The indicators used to measure this dimension of social development include, for example, mortality rates, measures of satisfaction levels for water quality, waste disposal and housing, and crime rates.

The *bases of well-being* include the following four thematic components: access to basic knowledge, access to information and communication technologies, health and well-being, environmental sustainability. These aspects are measured by aggregating, among others, indicators such as primary schooling rates, coverage rates for the connection to the Internet, life expectancy at birth, and rates of environmental pollution.

Finally, *opportunities* depend on degrees of guarantees of the rights of the person, and personal freedom and choice, the degree of tolerance and social inclusion and, finally, the quality of access to higher education.

Table 13 - Social Progress Index (SPI) and Sub-Indices in European Regions: Average Values for 2016

Countries	Intervention Area	SPI	Essential Needs	Bases of well-being	Opportunities	Countries	Intervention Area	SPI	Essential Needs	Bases of well-being	Opportunities
UE - 28	Comp.	71.5	82.4	65.0	67.7	New EU (13)	Comp.	61.0	66.4	58.5	58.2
	Conv.	55.8	63.6	55.8	48.7		Conv.	54.5	60.3	55.0	48.6
	Total	66.5	76.4	62.1	61.6		Total	55.3	61.0	55.4	49.8
Euro 18 Area	Comp.	70.6	82.6	64.6	65.5	Euro Area (of New MS)	Comp.	63.8	71.8	61.3	58.8
	Conv.	57.9	69.5	57.7	47.7		Conv.	59.0	66.4	60.4	51
	Total	68.3	80.2	63.3	62.3		Total	60.6	68.2	60.7	53.6
Non Euro Area	Comp.	73.8	81.9	66.3	73.7	Cyprus	Comp.	59.0	69.4	52.5	55.7
	Conv.	54.6	60.5	54.6	49.1	Estonia	Conv.	64.9	65.6	67.1	62
	Total	63.6	70.6	60.1	60.7	Latvia	Conv.	54.6	55.0	55.6	53.3
UE - 15	Comp.	72.0	83.2	65.3	68.2	Slovakia	Comp.	62.6	68.3	63.4	56.3
	Conv.	59.0	71.6	57.7	48.9		Conv.	56.3	66.8	58.5	44.9
	Total	70.3	81.7	64.4	65.7		Total	57.9	67.1	59.7	47.7
Austria	Comp.	73.0	86.5	65.1	68.3	Slovenia	Comp.	69.9	77.6	68.0	64.5
Belgium	Comp.	71.3	82.1	63.6	68.9		Conv.	65.8	77.4	64.4	56.3
Germany	Comp.	72.5	85.0	66.4	66.9		Total	67.9	77.5	66.2	60.4
Denmark	Comp.	81.2	87.4	72.9	83.8	Non Euro Areas (of New MS)	Comp.	58.8	62.4	56.4	57.7
Greece	Comp.	56.2	70.6	52.8	46.5		Conv.	53.8	59.5	54.2	48.3
	Conv.	56.6	69.7	54.7	46.6		Total	54.3	59.7	54.4	49.1
	Total	56.5	69.9	54.2	46.6	Bulgaria	Conv.	44.5	46.9	48.9	38.3
Spain	Comp.	67.8	79.8	63.2	61.2	Czech Republic	Comp.	65.9	73.9	60.3	63.8
	Conv.	64.8	79.8	58.3	57.4		Conv.	60.5	72.6	59.1	50.9
	Total	67.6	79.8	62.8	61.0		Total	61.2	72.8	59.2	52.5
Finland	Comp.	80.7	84.6	73.6	84.1	Croatia	Conv.	54.9	68.8	56.5	41.1
France	Comp.	69.2	82.2	63.9	62.4	Hungary	Comp.	59.4	65.3	57.2	55.9
	Conv.	62.9	74.0	70.0	46.6		Conv.	55.1	64.5	53.2	48.3
	Total	67.6	80.1	65.4	58.5		Total	55.7	64.6	53.8	49.4
Ireland	Comp.	72.3	78.7	71.7	66.9	Lithuania	Conv.	59.0	58.2	61.3	57.6
Italy	Comp.	61.0	76.9	56.2	51.4	Poland	Comp.	57.9	58.4	57.1	58
	Conv.	51.8	64.2	51.8	40.8		Conv.	57.1	60.8	57.4	53.2
	Total	58.4	73.4	55.0	48.5		Total	57.1	60.7	57.4	53.5
Luxembourg	Comp.	73.4	82.2	67.0	71.4	Romania	Comp.	52.0	52.0	50.9	53.2
Netherlands	Comp.	79.5	89.7	70.0	79.6		Conv.	46.1	47.3	46.3	44.8
Portugal	Comp.	61.5	74.1	57.6	53.8		Total	46.8	47.8	46.9	45.8
	Conv.	58.6	73.2	52.4	51.5						
	Total	59.6	73.5	54.1	52.3						
Sweden	Comp.	79.6	89.1	68.8	81.6						
UK	Comp.	73.1	81.8	66.0	72.1						
	Conv.	72.6	82.9	65.3	70.1						
	Total	73.1	81.9	65.9	71.9						

Source: SVIMEZ tabulation of EUROSTAT data

The first important piece of information to be noted is that the strong regional economic divides in the EU are also found in terms of social development. On a scale of 0 to 100, in the EU-28 the Convergence regions record an SPI of 55.8, while the Competitiveness regions reach a value of 71.5. The backwardness of the Convergence regions is more marked in essential needs (63.6 versus 82.4) and in opportunities (48.7 against 67.7) than in the bases of well-being

(55.7 against versus 65). On average, regional gaps appear to be significant, but less intense in the Euro Area than in the non-euro area where the gap widens due both to the effect of the higher SPI of the Competitiveness regions (73.8 in the Non-Euro Area compared to 70.6 in the Euro Area) and the smaller SPI of the Convergence regions (54.6 in the Non-Euro Area compared to 57 in the Euro Area). From the values of the sub-indices, it is possible to attribute these differences, especially to the better standards in meeting essential needs in the Convergence regions of the Euro Area compared to those of the non-Euro Area.

How are the Italian regions positioned in this ranking of social development? The Italian Competitiveness regions are well below the EU-28 average (71.5) with an SPI equal to 61, a value that in the EU-15 is above only that of Greece (56.2). This result is due to an appreciable deficit in meeting essential needs (76.9 against an average of 83.2 in the EU-15) but, above all, is due to a considerable distance from the European standards of opportunities (51.4 against an average of 68.2 in the EU-15).

The economic dualism in Italy between the South and the Centre-North emerges once again in these data that show systematically higher values for the Italian Competitiveness regions than for the Convergence regions. And it is interesting to note that the gap in social development within the Italian economy arises primarily because of the different degree of satisfaction of essential needs (76.9 in the Competitiveness regions as against 64.2 in the Convergence regions). But above all, the aspect that is worth highlighting is the confirmation of the theme that we want to stress here: the European connotation of the South's lagging behind. The SPI value characteristic of the Italian Convergence regions (51.8) is the lowest in the EU-15 (where the average value is 59) and is lower than the average EU-13 value of the new Member States (54.5).

Regional European Competitiveness Gaps

To improve the measurement of competitive gaps among EU regions, the European Commission has made available the Regional Competitiveness Index (RCI). This indicator aims to assess the competitive positioning of European regions, detailing the various components (short and long term) of territorial competitiveness. The latter is defined as the ability of a region to "offer an attractive and sustainable environment for the lives of its citizens and the productive activities of its enterprises"²⁹.

The RCI is the result of aggregating over 70 indicators classified in eleven different "pillars" on which regional competitiveness is assumed to be based. The eleven pillars are grouped into three *assets* that determine territorial competitiveness: *basic*, *efficiency*, and *innovation*. An adequate joint endowment of the three assets, each of which is of varying importance depending on the level of initial development, determines the overall competitiveness of a region. Five of

²⁹ http://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/

the eleven pillars combine to define the *basic* factors, three the *efficiency* factors, and three more the *innovation* factors.

The *basic* factors represent the fundamental drivers of competitiveness for every type of economy, regardless of its level of initial development, but are particularly important for the less developed regions (perceived quality of institutions, macroeconomic stability, the provision of adequate transport infrastructure, the quality of health and that of basic and secondary education)³⁰.

The *Efficiency* indicators group covers the following pillars: quality of higher and permanent education, labour market efficiency and potential market size. Taken together, all these factors facilitate the improvement of the competitiveness of territorial areas that have already embarked on a development path.

Finally, the *Innovation* group aggregates information on the remaining three pillars: the technological level, the degree of market complexity and the propensity to innovate. All factors that more closely concern the most advanced regions, as being committed to maintaining the high standards of international competitiveness already achieved.

The main interest of this information lies, first of all, in its ability to bring out the regional dimension of competitiveness which, in some ways, reveals even greater differences with respect to the known competitive imbalances among Member States. As regards the Convergence regions in particular, the competitive differentials are appreciable and involve all three pillars considered, albeit with different intensity. This is demonstrated in which shows the values of the three sub-indices and the overall RCI index for the average of the Convergence regions benefiting from the cohesion policy. The values are expressed with respect to the EU average being zero, so that they indicate a higher competitiveness compared to the European average when they are positive, and lower than the European average when they are negative. Alongside the index values, the ranking is also shown (the 17 Member States with Convergence regions are listed in descending order based on the RCI value).

³⁰ Unlike the other pillars, for which basic information is also available at regional level, macroeconomic stability is measured by national public finance indicators (deficit/GDP ratio, public debt, government bond yield). Appropriately, especially in accounting for differences between regions in policy governance, the quality of institutions is measured at both national and local levels.

Table 14 - 2016 Regional Competitiveness Index (RCI) and Basic, Efficiency and Innovation Sub-Indices in the Convergence Regions, by EU Member State (a) (EU = 0)

Country	Basic		Efficiency		Innovation		RCI	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank
UK	0.38	2	-0.11	1	0.34	1	0.01	1
Estonia	-0.03	1	-0.24	3	-0.09	2	-0.04	2
Czech Republic	-0.04	4	-0.27	2	-0.27	3	-0.22	3
Slovenia	-0.21	3	-0.28	4	-0.39	4	-0.22	4
Latvia	-0.27	13	-0.29	7	-0.48	5	-0.55	5
Poland	-0.39	6	-0.50	6	-0.61	10	-0.56	6
Lithuania	-0.50	10	-0.55	5	-0.70	11	-0.57	7
Portugal	-0.43	8	-0.62	9	-0.72	7	-0.73	8
Slovakia	-0.55	14	-0.69	12	-0.73	9	-0.71	9
France	-0.57	5	-0.76	11	-0.87	8	-0.87	10
Croatia	-0.82	9	-0.86	8	-0.92	13	-0.81	11
Hungary	-0.92	7	-1.18	10	-0.94	12	-0.83	12
Spain	-0.95	11	-0.96	15	-0.99	14	-0.92	13
Italy	-0.97	12	-1.03	16	-1.05	6	-0.98	14
Bulgaria	-1.39	15	-1.24	14	-1.10	17	-1.17	15
Romania	-1.52	17	-1.30	17	-1.40	15	-1.30	16
Greece	-1.55	16	-1.33	13	-1.61	16	-1.33	17

(a) The definition of Convergence regions is updated pursuant to the Commission Implementing Decision notified under number C (2014) 974 of 18 February 2014, which redefines the Objective areas for the 2014-2020 programming period.

Source: SVIMEZ tabulation of European Commission data

The overall ranking (last column of Table 14) signals an important competitive lag of the less developed regions of the EU's historical members: the first nine positions, with the exception of the United Kingdom (1st place) and Portugal (8th place) are all occupied by the new member states (in order: Estonia, Czech Republic, Slovenia, Latvia, Poland, Lithuania, Slovakia). With reference to the sub-indices, it is useful to note that the greater variability, i.e. the main competitive differentials, concern the first thematic area, that of basic factors. That is to say that the less developed regions of the EU are mainly divided by a differentiated endowment of the assets of fundamental importance for the most backward regions. The differences in terms of Efficiency and Innovation factors are also significant, but smaller.

The Italian Convergence regions occupy only 14th place in the ranking drawn up on the basis of the RCI indicator: with a value of -0.98 they are more competitive than only the Convergence regions of Bulgaria (-1.17), Romania (-1.30) and Greece (-1.33). The competitive potential of the southern regions is limited by relatively low levels (always lower than the European average) of all the factors falling within the three themes: basic factors (-0.97; 12th place), efficiency factors (-1.03; 16th place) and innovation factors (-1.05, 6th place).

The framework of the competitive positioning of the southern regions benefiting from cohesion policies is therefore, on the whole, decidedly unflattering in the European context. To

this must be added two considerations: low competitiveness also affects the northern regions, making the competitiveness deficit a national issue; there is a certain degree of internal differentiation in the southern regions. In this regard, Table 15 shows the values of the indices recorded by the Italian regions and, for each of them, the relative position occupied in the ranking of the 272 European regions. In the table the regions are listed in descending order by value of the overall RCI indicator. The result is an image of a country that, as a whole, is excluded from the core of Europe: Lombardy, the first Italian region in the ranking, occupies only 143th place (-0.05). No Italian region, for any indicator, records values significantly higher than the European average.

Table 15 - Regional Competitiveness Index (RCI) for 2016 and Basic, Efficiency and Innovation Sub-Indices in Italian Regions (EU = 0)

Region	<i>Basic</i>		<i>Efficiency</i>		<i>Innovation</i>		RCI	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Lombardy	-0.17	158	0.04	130	-0.12	148	-0.05	143
Autonomous Province of Trent	-0.16	154	-0.09	147	-0.33	163	-0.18	153
Lazio	-0.29	178	-0.24	158	-0.08	143	-0.20	156
Emilia-Romagna	-0.19	161	-0.17	154	-0.32	161	-0.22	157
Autonomous Prov. Of Bolzano/Bozen	-0.24	166	-0.06	142	-0.61	185	-0.26	160
Friuli-Venezia Giulia	-0.29	178	-0.27	160	-0.26	155	-0.27	162
Piedmont	-0.25	168	-0.30	167	-0.26	155	-0.27	163
Liguria	-0.30	180	-0.33	173	-0.29	158	-0.31	167
Veneto	-0.20	163	-0.25	159	-0.51	177	-0.32	169
Tuscany	-0.25	168	-0.42	179	-0.41	168	-0.38	172
Umbria	-0.34	189	-0.37	177	-0.63	188	-0.42	175
Aosta Valley	-0.28	174	-0.40	178	-0.63	188	-0.44	177
Marche	-0.35	192	-0.45	183	-0.59	182	-0.46	180
Abruzzo	-0.44	207	-0.65	202	-0.73	199	-0.61	198
Molise	-0.53	215	-0.66	202	-0.88	214	-0.67	209
Basilicata	-0.56	216	-0.96	226	-1.06	228	-0.85	226
Campania	-0.52	212	-1.20	242	-0.83	209	-0.92	228
Sardinia	-0.62	221	-1.13	237	-0.87	213	-0.92	228
Apulia	-0.50	211	-1.30	249	-0.94	222	-0.98	233
Calabria	-0.57	217	-1.34	253	-1.08	232	-1.05	235
Sicily	-0.59	220	-1.41	256	-1.02	226	-1.08	237

Source: SVIMEZ tabulation of European Commission data

Cohesion Policies Between European and National Limitations: Factors in the Differing Impact of Cohesion in the Periphery

If it is true, as many say, that the objective of the convergence of per capita GDP is not necessarily a good indicator of the effectiveness or otherwise of the cohesion policy, the empirical evidence shown in the previous paragraph demonstrates that the divergence between the areas, measured in terms of increasing regional disparities, is also to be found in social development, the welfare conditions of citizens and the competitiveness of local businesses. Therefore, from our point of view, cohesion policy should return to the essential objective of convergence, in the sense of promoting the "inclusive" and "smart" growth of the less developed regions. And this is all the more necessary in light of the asymmetric effects of the crisis and the structural disadvantages associated with being weak areas within the Eurozone. The multiplication of objectives to be pursued through cohesion has subjected the policy to considerable stress: the gradual strengthening of objectives (including financial ones) other than those of convergence, intended for the full achievement of the European strategic objectives for 2020, is a sign of the relative minor attention given to the less developed regions. These trends - although dictated by understandable political needs (at a time when "net contributors" raise doubts about their willingness to maintain a commitment to the cohesion of less developed areas) - are inconsistent with the provisions of the Treaty³¹ and with the reasons that led to the birth and strengthening of the cohesion policy (especially after the creation of monetary union): the reduction of the imbalances and the start of robust convergence dynamics. Indeed, it could even be said that the increase in resources for different material and territorial objectives has contributed to the internal divergences of the EU and in particular of the Eurozone. Therefore, as will be pointed out, the first objective of the post-2020 reform of the cohesion policy should be to "return to the Treaties" and establish a virtuous link with an overall economic policy that, at the European level, sets convergence as the general objective, especially in the Eurozone.

Until now, European economic governance - from Maastricht to the Euro without a political government, up to the "halter" constraint of the so-called Fiscal Compact - has caused (together, of course, with internal reasons) an inability to put in place development policies capable of triggering convergence between the areas and accelerating development processes. This is a structure that has favoured divergence and that certainly could not be corrected by a cohesion policy that, from a quantitative and qualitative point of view, was becoming an ever "weaker" instrument. The South has had several limitations in the implementation of cohesion

³¹ Article 174 TFEU (ex Article 158 TEC): "1. In order to promote its overall harmonious development, the Union shall develop and pursue its actions leading to the strengthening of its economic, social and territorial cohesion. 2. In particular, the Union shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions. 3. Among the regions concerned, particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross-border and mountain regions."

policies, starting from the fact that they have replaced, in a partial and insufficient way, unsuccessful national policies. But even if it did not have those limitations, it would have had difficulty in addressing the specific competitive disadvantage of being a weak area within the Eurozone: a disadvantage compared to strong ones due to the non-optimal nature of the monetary area that is not offset by economic policies aimed at correcting internal imbalances; and compared to other weak areas outside the Euro, which may be recipients of a huge amount of European funding (this is the case of Poland, but Poland is not alone) that can use less binding fiscal policies, more easily manoeuvrable exchange rates, and more in general, less restrictive monetary policies compared to the countries that have adopted the Euro. Thus in Europe, regional economic imbalances have increased in the crisis. While, in Italy, outsourcing the solution of the southern problem to structural cohesion funds has provided an alibi for the wholesale removal of the problem.

However, underlying any critical reasoning on European cohesion policy and on the limits of the system of macroeconomic integration, it should not be forgotten that, after the closure of the extraordinary intervention of the early 1990s, it was the only safe haven for a South otherwise deprived of any form of intervention. And the Italian case, having unsuccessful development and cohesion policies, using the European ones as a substitute and thus weakening their effectiveness, is an entirely internal phenomenon: EMU and the affirmation of a "German" Europe under the sign of austerity were well in the future when, at the national level, the decision was taken to dismantle any national policy for territorial rebalancing and to end an industrial policy that other European countries had never stopped pursuing. One case out of many confirms our typically Italian problems, for which the limits of European integration and (failed) convergence cannot become an alibi. When we obtained margins of flexibility on public investment in 2016, we did not exploit them, with a shift, compared to the margins granted, of about 1.6 billion euros: if we set a general level of public investments that was structurally inadequate, that reached the lowest levels of the historical series with asymmetrical consequences to the disadvantage of the South, the responsibility is not (only) of austerity and of the so-called "Eurocrats".

In short, to return to our theme, the paths of divergence and convergence that we have recorded on every indicator at the European level call for careful reflection on the factors that have supported the recovery of the regions lagging behind or, conversely, their relative and progressive retreat. A correct understanding of the driving factors of heterogeneous regional growth within the EU periphery, widening our view beyond the internal shortcomings of cohesion, should be the important preliminary task to be undertaken before proposing hypotheses for the future of regional policies. It is necessary to understand better how the general framework of EU policies (and their weaknesses) have implications for the levels and dynamics of regional disparities.

An analysis of the factors that lead cohesion policy to have different impacts in the different territories deserves considerable attention as the regions present different degrees of local

institutional quality, entrepreneurship, and propensity to innovate. However, the regional macroeconomic trends in the short and medium term result from the interaction between multiple factors that are endogenous and exogenous to local economies. Furthermore, many of them cannot be influenced by cohesion policy.

A model for interpreting regional performance should be re-evaluated, looking at territories as systems that are "open" to the influence of conditions and policies operating at higher territorial levels (national and supranational) and taking into account the operation of three orders of determinants which, precisely because of this openness, can become interdependent:

- specific regional factors relating to the structural characteristics of industrial systems: the degree of sectoral diversification of economic activities; the availability and accumulation of physical and human capital; the endowment of entrepreneurial and innovative skills; the degree of international integration of economic operators; the quality of local institutions, and so on;
- macroeconomic conditions at the national level: the degree of solidity and sustainability of public finances, which influence the tenor of fiscal policies in supporting aggregate demand; the tax burden on families and businesses and the cost of labour as determinants of the attractiveness of the territories;
- supranational macroeconomic conditions: the rules of fiscal discipline imposed on national budget policies; the degree of harmonisation of national tax systems; physical proximity to strong outlet markets; belonging to the single monetary area, which makes fiscal discipline more stringent and prevents national currency policies.

It is evident that only the first factors can be considered as endogenous to sub-national territories. The other two groups of determinants act exogenously in the territories belonging to national economies where the prevalence of more (or less) favourable conditions amplify (or depress) local economic performance, regardless of the mobilisation of endogenous resources and the ability of citizens and local institutions to become active participants.

The Unknowns of Post-2020 and the Need for a Profound Reform of Cohesion

The post-2020 position paper of the Italian government has proposed broadly acceptable suggestions on reforming European cohesion, to be financed with adequate resources in the next cycle as well, to put a stop to the growing regional divides in the EU and to foster economic convergence as a "common European good". In particular, the position paper offered the following guidelines for European debate:

- adopt a more virtuous co-ordination of cohesion policy with respect to general macroeconomic governance, taking into account the modest financial dimensions of the structural funds (one third of the already low budget of the Union, which is equivalent to only 1% of the continent's GDP);

- follow up the effort to simplify and harmonise the rules to ensure the broadest possible access to the opportunities offered by European funds;
- safeguard the aims of the cohesion funds, their use in line with the objective of reducing regional disparities defined by the Treaties, and their specific character and independence compared to other instruments for promoting investment in the EU;
- get beyond the mechanism of macroeconomic conditionality (removing resources from those who do not follow the objectives indicated by the Commission, including for public finance or structural reforms) to avoid penalising the territories that have greater structural difficulties.

These are very opportune indications because they are oriented toward correcting cohesion's well-known "internal" faults. But, precisely in the light of the unsatisfactory results achieved so far, it would be too optimistic to expect that cohesion policy alone, once its flaws are corrected, can make regional convergence a "common European good".

In Europe Italy should raise the issue of coordination between cohesion and overall European macroeconomic governance: cohesion policy cannot be "left to itself" to pursue the reduction of the gaps that ordinary policies contribute to amplify. Claiming the "primacy" of cohesion as the main lever of public investment which mitigated the effects of the crisis is ludicrous, given the general lack of additionality of funds, partly due to the constraints on public finance deriving from the Fiscal Compact. If for a whole cycle cohesion has been (only partially) a substitute for the lack of ordinary public policies, not only in the South, then really the original and fundamental objective of convergence has turned into its opposite.

The pivot around which the national interest to be protected revolves is a general European policy for convergence, within which to defend the structural funds' "specific objective" of reducing regional disparities. It is in this last context that other national interests seem to prevail with the opposite objective of weakening European cohesion. A recent signal is in the road map of the European Commission for Economic and Monetary Union, which provides for the possibility for national governments, already in 2018, to allocate the performance reserve of the structural funds to the financing of structural reforms agreed with the Commission. National structural reforms that are far from the purpose of developing weak territories, it must be emphasised.

The official post-2020 cohesion policy reform proposal is now part of the project of the 2021-2027 Multi-Annual Financial Framework proposed by the Commission: a budget without ambition emerges (worth 1.08% of continental GDP), with a reduction in real terms in investments and the introduction, presented as big news, of convergence mechanisms - €25 billion for an accompanying fund for structural reforms and another (virtual) €30 billion to counter any asymmetric shocks – that, given their meagre financial endowment, is laughable.

In this context, the post-2020 cohesion policy is severely downsized (-10%), but fortunately not at the expense of Italy (+ 6%, but with a gain lower than that "due" if applying the previous

allocation criteria) and of the less developed Euro-Mediterranean regions (except Portugal which is penalised by the halving of the Cohesion Fund).

At the end of May, the Commission presented the drafts of the regulations, which underlined some significant changes: strategic concentration through the reduction to five thematic objectives; the return to the $n + 2$ rule on automatic decommitment; the desired simplification of controls (which relieves businesses in particular) and the cancellation of duplication of procedures between the national and European levels; an increase in national co-financing of programs; flexibility in planning (through mid-term review or in case of disasters); the introduction, alongside the macroeconomic conditionality (contested by us) of a conditionality on the rule of law that is intended to sanction those countries that, even while respecting macroeconomic constraints, violate other principles of the common European heritage in terms of fundamental rights and freedoms.

The negotiation phase has now begun, with an important role for the European Parliament and also for national governments. The starting position for the negotiation is that expressed in the guidelines of the Italian Government's position paper. But perhaps it's time to strengthen the need to establish a virtuous link between cohesion policy and an overall economic governance that favours convergence (by removing macroeconomic conditionalities, even if this means sacrificing those on the rule of law, from which, moreover, one might fear a counterproductive "embargo effect").

The debate on the determinants of regional convergence and the discussion on the effectiveness of cohesion should be enriched by looking at all the determinants of the regional macroeconomic trends mentioned in the previous section. In other words, the focus should be on the responsibilities of the whole EU policy framework. If cohesion policy does not form part of a European economic governance that welcomes regional convergence among its general objectives, it is likely that regional internal imbalances in the periphery will continue to widen.

In other words, the main limitation of cohesion is that it is not part of an overall EU strategy on inclusive development policy. The attempt to link cohesion policy with the general economic governance of the EU has so far had very controversial results, introducing the so-called macroeconomic conditionality principle, a mechanism that penalises exactly the economies with the worst macroeconomic and public finance conditions due to economic stagnation. A contradiction that needs to be removed in a policy that intends to encourage growth.

It is time to address these issues with greater determination, if one cares about the socio-economic solidity of the Union and if the risks of disintegration are to be counteracted. And it can only be the large European economy having the largest regional internal differences and the largest economic area lagging behind that can raise this issue with Europe. Especially since the revival of the South is indicated, by almost all political currents, as a prerequisite for the recovery of the country.

In this perspective, the agenda for the future of cohesion must include three priorities: i) a golden rule for strategic public investments: public finances and current expenditure should

be controlled rigorously but allow development policies to be implemented in backward areas with the greatest potential; ii) an adequate system of fiscal compensation to offset, within the periphery benefiting from cohesion policies, the structural competitive disadvantages to which the Mezzogiorno is exposed, particularly within the Eurozone, with a view to progressively overcoming them; iii) a rebalancing of the current geopolitical configuration to aim for cooperation and development policies for the Mediterranean area, going well beyond the management, however insufficient that may be, of migratory flows. This is good for our country, for the weak areas of the southern border of the Union and for the entire Union.

Bibliography

Part One: The Impact of Cohesion Policy in Europe

1. The Effects of EU Regional Policy on the Growth of European Regions: Are We Spending Too Much? (Augusto Cerqua and Guido Pellegrini)

- Becker S. O. – Egger P. H. – von Ehrlich M. (2010). Going NUTS: The effect of EU Structural Funds on regional performance. *Journal of Public Economics*, 94, 578–590.
- (2012). Too much of a good thing? On the growth effects of the EU's regional policy. *European Economic Review*, 56(4), 648–668.
- (2013). Absorptive capacity and the growth and investment effects of regional transfers: A regression discontinuity design with heterogeneous treatment effects. *American Economic Journal: Economic Policy*, 5(4), 29–77.
- (2016). Effects of EU regional policy: 1989-2013 (Working Paper Series No. 271). Coventry: Centre for Competitive Advantage in the Global Economy, University of Warwick.
- Bouayad-Agha S. – Turpin N. – Védrine L. (2013). Fostering the development of European regions: A spatial dynamic panel data analysis of the impact of Cohesion Policy. *Regional Studies*, 47(9), 1573–1593.
- Cerqua A. e Pellegrini G. (2017). 'Intensità ed efficacia dei Fondi Strutturali Europei', *EyesReg*, Vol.7, N.6, Novembre 2017
- Cerqua A. e Pellegrini G. (2018). 'Are we spending too much to grow? The case of Structural Funds', *Journal of Regional Science*, Volume 58, Issue 3, June 2018, 535-563
- Dall'Erba S. – Fang F. (2017). Meta-analysis of the impact of European Union Structural Funds on regional growth. *Regional Studies*, 51(6), 822–832.
- Esposti R. – Bussoletti S. (2008). Impact of Objective 1 funds on regional growth convergence in the European Union: A panel-data approach. *Regional Studies*, 42(2), 159–173.
- European Commission (2010). Investing in Europe's future. Fifth report on economic, social and territorial cohesion. Luxembourg.
- Hahn J. – Todd P. – van der Klaauw W. (2001). Identification and estimation of treatment effects with a regression-discontinuity design. *Econometrica*, 69(1), 201–209.
- Hirano K. – Imbens G. W. (2004). The propensity score with continuous treatments. In: G. Andrew, X.-L. Meng (Eds.), *Applied Bayesian modeling and causal inference from incomplete-data perspectives* (pp. 73–84). Chichester: Wiley.
- Imai K. – Van Dijk D. A. (2004). Causal inference with general treatment regimes: Generalizing the propensity score. *Journal of the American Statistical Association*, 99, 854–866.

- Mohl P. – Hagen T. (2010). Do EU Structural Funds promote regional growth? New evidence from various panel data approaches. *Regional Science and Urban Economics*, 40(5), 353–365.
- Pellegrini G. – Terribile F. – Tarola O. – Muccigrosso T. – Busillo F. (2013). Measuring the effects of European regional policy on economic growth: A regression discontinuity approach. *Papers in Regional Science*, 92(1), 217–233.
- 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.
- Thistlethwaite D. L. – Campbell D. T. (1960). Regression-discontinuity analysis: an alternative to the ex post facto experiment. *Journal of Educational Psychology*, 51(6), 309–317.

2. The Challenges of Territorial Cohesion in Europe and in Italy: How to Reorder the Institutions? (Renato Loiero and Chiara Meoli)

- Camerlengo Q. (2015). *La dimensione costituzionale della coesione sociale*, in *Rivista AIC*, 2, 2015.
- Dassi A. (1995). *Fondi strutturali, interventi finanziari e di sostegno*, in U. Draetta (a cura di), *Elementi di diritto comunitario*, Milano, 1995.
- Monti L. (2000). *Politiche di sviluppo e fondi strutturali*, Roma, 2000.
- Monti L. (2005). *L'Europa delle Regioni*, Roma, 2005.
- Presidenza del Consiglio dei Ministri – Ministro per la coesione territoriale e il Mezzogiorno (2018). *Mezzogiorno protagonista: missione possibile*, Atti del Convegno di Matera del 5 giugno 2017, Roma, 2018.

3. European Cohesion Policies and Territorial Capital in a Systemic Approach (Ugo Fratini and Giovanni Perucca)

- Becker S.O. – Egger P.H. – Von Ehrlich M. (2013). 'Absorptive capacity and the growth and investment effects of regional transfers: a regression discontinuity design with heterogeneous treatment effects'. *American Economic Journal: Economic Policy*, Vol. 5, No. 4, pp. 29–77.
- Begg I. (2016). The economic theory of Cohesion policy, in Piattoni S. and Polverari L. (Eds.) "Handbook on Cohesion Policy in the EU". Edward Elgar, Cheltenhampp. pp.50-64.
- Camagni R. (2009). 'Territorial capital and regional development', in Capello, R. and Nijkamp, P. (eds), *Handbook of Regional Growth and Development Theories*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, pp. 118–132.

- Capello R. – Caragliu A. – Nijkamp P. (2011). 'Territorial capital and regional growth: increasing returns in knowledge use'. *Tijdschrift voor economische en sociale geografie*, Vol. 102, No. 4, pp. 385-405.
- Constantin D.-L. – Grosu R. M. – Iosif A. E. (2013). Exploring the territorial capital, global competition and territorial cohesion policy: a SWOT analysis of services of general interest. *Romanian Journal of Regional Science*, 7(Special), 125–141.
- Crescenzi R. (2009). 'Undermining the Principle of Concentration? European Union Regional Policy and the Socio-Economic Disadvantage of European Regions'. *Regional Studies* 43 (1): 111–33.
- Dotti N.F. (2012). 'The unbearable instability of Structural Funds' distribution', *European Planning Studies*, October, 1–19.
- European Union (1999). Council Regulation (EC) No 1260/1999 of 21 June 1999 laying down general provisions on the Structural Funds.
- European Union (2010a) 'Treaty on European Union (consolidated version) ', Brussels.
- European Union (2010b) 'Consolidated version of the treaty on the functioning of the European Union', Brussels.
- Fratesi U. (2016). 'Impact Assessment of European Cohesion Policy: Theoretical and Empirical Issues'. in: Piattoni, S. and Polverari, L. (Eds.) *Handbook on Cohesion Policy in the EU*, Edward Elgar, Cheltenham, pp. 443-460.
- Fratesi U. – Perucca G. (2014). 'Territorial Capital and the Effectiveness of Cohesion Policies: an Assessment for CEE Regions'. *Investigaciones Regionales*, Vol. 29, pp. 165-191.
- Fratesi U. – Perucca G. (2016). 'Territorial capital and EU Cohesion Policy. EU Cohesion Policy: Reassessing performance and direction'. In Bachtler J., Berkowitz P., Hardy S. and Muravska T. (Eds.) (2016) 'EU Cohesion Policy: Reassessing performance and direction'. Routledge.
- Fratesi U. – Perucca G. (2018a) "Territorial capital and the resilience of European regions", *The Annals of Regional Science*, 60/2, pp. 235-240. DOI 10.1007/s00168-017-0828-3.
- Fratesi U. – Perucca G. (2018b) "EU Regional Development Policy and Territorial Capital: A Systemic Approach", *Papers in Regional Science*, accepted and forthcoming. DOI: 10.1111/pirs.12360
- Gripaios P. – Bishop P. – Ne T. – Mcvittie E. (2008). Analysing the impact of Objective 1 funding in Europe: a review, *Environment and Planning C*, 26, 499–525.
- Medeiros E. (2016). 'European Union Cohesion Policy and Spain: a territorial impact assessment'. *Regional Studies*, DOI: <http://dx.doi.org/10.1080/00343404.2016.1187719>.
- Molyneux M. (2002). 'Gender and the silences of social capital: Lessons from Latin America'. *Development and change*, Vol 33, No. 2, pp. 167-188.
- OECD (2001). *OECD Territorial Outlook*, Paris.

- Perucca G. (2014). 'The role of territorial capital in local economic growth: Evidence from Italy'. *European Planning Studies*, Vol. 22, No. 3, pp. 537-562.
- Pieńkowski J. – Berkowitz P. (2015). 'Econometric assessments of Cohesion Policy growth effects: how to make them more relevant for policy makers?'. European Commission Working Paper 02/2015.
- Redding S. J. – Sturm D. M. (2008). 'The Costs of Remoteness: Evidence from German Division and Reunification'. *American Economic Review*, Vol. 98, No. 5, pp. 1766-1797.
- Rodríguez-Pose A. – Fratesi U. (2004). 'Between development and social policies: the impact of European Structural Funds in Objective 1 regions'. *Regional Studies*, Vol. 38, No. 1, pp. 97-113.
- Zasada I. – Reutter M. – Piorr A. – Lefebvre M. – y Paloma S.G. (2015). 'Between capital investments and capacity building - Development and application of a conceptual framework towards a place-based rural development policy'. *Land Use Policy*, Vol. 46, pp. 178-188.

4. Cohesion Policy in Europe: Which Countries Gain? A Comparison of Counter-Factual Evidence for Germany, Italy, the United Kingdom and Spain (Riccardo Crescenzi and Mara Giua)

- Accetturo A. – G. de Blasio – L. Ricci (2014). A Tale of an Unwanted Outcome: Transfers and Local Endowments of Trust and Cooperation. *Journal of Economic Behavior & Organization*, 102, 74–89.
- Barca F. (2009). An agenda for a reformed Cohesion Policy. Independent Report prepared at the request of Danuta Hubner, the Commissioner for Regional Policy, available at: http://ec.europa.eu/regional_policy/archive/policy/future/pdf/report_barca_v0306.pdf (accessed 05 November 2017).
- Barone G. – F. David – G. de Blasio (2016). Boulevard of broken dreams. The end of EU funding (1997: Abruzzi, Italy). *Regional Science and Urban Economics*, 60, 31-38.
- Bachtrögler J. – U. Fratesi – G. Perucca (forthcoming). The Influence of the local context on the implementation and impact of EU Cohesion Policy. *Regional Studies*, 2017.
- Balassone F. - Casadio P. (2011). Le infrastrutture in Italia: dotazione, programmazione, realizzazione. Workshop and Conference Bank of Italy, n.4/2011.
- Becker S. O. - Egger P. H. - von Ehrlich M. (2010). Going NUTS: The Effect of EU Structural Funds on Regional Performance, *Journal of Public Economics*, 94(1–2), 578–590.
- Becker S. O. - Egger P. H. - von Ehrlich M. (2013). Absorptive Capacity and the Growth and Investment Effects of Regional Transfers: A Regression Discontinuity Design with Heterogeneous Treatment Effects, *American Economic Journal*, 5(4), 29–77.
- Black S. (1999). Do Better Schools Matter? Parental Valuation of Elementary Education, *Quarterly Journal of Economics*, 114(2), 577–599.

- Bondonio D. - Greenbaum R. (2014). Revitalizing regional economies through enterprise support policies: An impact evaluation of multiple instruments, *European Urban and Regional Studies*, 21(1), 79-103.
- Castells-Quintana D. – Ramos R. – Royuela V. (2015). Income inequality in European Regions: Recent trends and determinants. *Review of Regional Research*, 35(2), 123-146.
- Cerqua A. e Pellegrini G. (2018). 'Are we spending too much to grow? The case of Structural Funds', *Journal of Regional Science*, Volume 58, Issue 3, June 2018, 535-563
- Crescenzi R. – Giua M. (2016). The EU Cohesion Policy in context: Does a bottom-up approach work in all regions?, *Environment and Planning A*, 48(11), 2340–2357.
- Crescenzi R. – Giua M. (2018). One or many Cohesion Policies of the European Union? On the diverging impacts of Cohesion Policy across Member States, *SERC/Urban and Spatial Programme Discussion Paper No' SERCDP0230*, 02-2018.
- Crescenzi R. – Di Cataldo M. – Rodríguez-Pose A. (2016a). Government Quality And The Economic Returns Of Transport Infrastructure Investment In European Regions, *Journal of Regional Science*, 56(4), 555-582.
- Crescenzi R. – Luca D. – Milio S. (2016b) Resistance to the crisis in Europe: macroeconomic conditions, regional structural factors and short-term economic performance, *Cambridge Journal of Regions, Economy and Society*, 9, 13–32.
- Crescenzi R. – Giua M. (2017). Different approaches to the analysis of the EU Cohesion Policy. Leveraging complementarities for evidence-based policy learning, in Bachtler J., Berkowitz P., Hardy S. and Muravska T. (eds) *EU Cohesion Policy. Reassessing performance and direction* (NY: Routledge), 21-32.
- Crescenzi R. – G. de Blasio – M. Giua (2018). Cohesion Policy Incentives for Collaborative Industrial Research. The Evaluation of a Smart Specialisation Forerunner Programme, *Regional Studies*, DOI: 10.1080/00343404.2018.1502422.
- de Blasio G. – Poy S. (2017). The Impact of Local Wage Regulation on Employment: A Border Analysis from Italy in the 1950s, *Journal of Regional Science*, 57(1), 48-74.
- Dell M. (2010). The Persistent Effects of Peru's Mining Mita, *Econometrica*, 78, 1863–1903.
- Di Cataldo M. (2015). The long-term impact of Objective 1 funding on unemployment and labour market disparities: Evidence from the UK, *Journal of Regional Science*, 57(5), 814–839.
- Einio E. – Overman H. (2012). The Effects of Spatially Targeted Enterprise Initiatives: Evidence from UK LEGI, *ERSA Conference Papers, European Regional Science Association*.
- European Commission (2005). Thematic Evaluation of the Structural Funds' Contributions to the Lisbon Strategy. Brussels.
- European Commission (2009). European Cohesion Policy in the United Kingdom, available at: http://ec.europa.eu/regional_policy/sources/docgener/informat/country2009/uk_en.pdf (accessed 5th November 2017), Brussels.

- European Commission (2017). Reflection paper on the future of EU finances, Brussels.
- Ferrara A. R. – McCann P. – Pellegrini G. – Stelder D. – Terribile F. (2016). Assessing the impacts of Cohesion Policy on EU regions: A non-parametric analysis on interventions promoting research and innovation and transport accessibility, *Papers in Regional Science*, 96, 817–841, doi: 10.1111/pirs.12234.
- Financial Times (2017). Juncker edges away from principle of ever closer union, article by Beesley, A., March 1, 2017, Brussels.
- Freedman M. (2013). Place-Based Programs and the Geographic Dispersion of Employment, *Regional Science and Urban Economics*, 53, 1–19.
- Giua M. (2017). Spatial discontinuity for the impact assessment of the EU Regional policy. The case of the Italian Objective 1 regions, *Journal of Regional Science*, 57(1), 109-131.
- Gibbons S. – Machin S. – Silva O. (2013). Valuing School Quality Using Boundary Discontinuity Regressions, *Journal of Urban Economics*, 75, 15–28.
- Henke R. – Benos T. – De Filippis F. – Giua M. – Pierangeli F. – Pupo D'Andrea M. R. (2017). The New Common Agricultural Policy: How do Member States Respond to Flexibility?, *JCMS: Journal of Common Market Studies*, doi: 10.1111/jcms.12607
- Holmes T. (1998). The Effect of State Policies on the Location of Manufacturing: Evidence from State Borders, *Journal of Political Economy*, 106(4), 667–705.
- Jofre-Monseny J. (2014). The Effects of Unemployment Protection on Migration in Lagging Regions, *Journal of Urban Economics*, 83, 73–86.
- Menon C. – Giacomelli S. (2012). Firm Size and Judicial Efficiency in Italy: Evidence from the Neighbour's Tribunal, *SERC Discussion Papers 0108*. London: Spatial Economics Research Centre, London School of Economics.
- Mohl P. – Hagen T. (2010). Econometric Evaluation of EU Cohesion Policy—A Survey, *ZEW—Centre for European Economic Research Discussion Paper*, No. 09-052. Mannheim, Germany: ZEW—Centre for European Economic Research.
- Papaioannu S. – Michalopoulos E. (2014). National Institutions and Subnational Development in Africa, *The Quarterly Journal of Economics*, 129(1), 151–213.
- Pellegrini G. – Busillo F. – Muccigrosso T. – Tarola O. – Terribile F. (2013). Measuring the Impact of the European Regional Policy on Economic Growth: A Regression Discontinuity Design Approach, *Papers in Regional Science*, 92(1), 217–233.
- Percoco M. (2017). Impact of European Cohesion Policy on regional growth: Does local economic structure matter?, *Regional Studies*, 51 (6), 833-843.
- Petraglia C. – Pierucci E. (2016). Fu vera convergenza? Le politiche di coesione e le periferie dell'Unione. *EyesReg*, 6(1), January 2016.
- Polverari L. (2016). Cohesion policy in the southern periphery. in: Piattoni, S., Poverari, L. (eds) *Handbook on Cohesion Policy in the EU*. 2016. Cheltenham, 2016.

Pontarollo N. (2016). Does Cohesion Policy affect regional growth? New evidence from a semi-parametric approach, in: Bachtler J., Berkowitz P., Hardy S. and Muravska T. (eds) EU Cohesion Policy Reassessing performance and direction. Routledge, 2016.

Part Two: The Impact of Cohesion Policy in Italy

1. The Impact of EU Funds and National Policies on Regional Growth (Gianluigi Coppola, Sergio Destefanis, Giorgia Marinuzzi and Walter Tortorella)

Accetturo A. – de Blasio G. (2012). Policies for local development: An evaluation of Italy's "Patti Territoriali". *Regional Science and Urban Economics*, 42(1), 15-26.

Aiello F. – Pupo V. (2009). L'impatto della politica regionale dell'Unione Europea. uno studio sulle regioni italiane, *Rivista Italiana degli Economisti*, 14 (3), 421-454.

Allen K. – Stevenson A. (1974). *An Introduction to the Italian Economy*. London: Martin Robertson.

Andini M. – de Blasio G. (2014). Local development that money cannot buy: Italy's Contratti di Programma. *Journal of Economic Geography*, 16(2), 365–393.

Arnold J. – Bassanini A. – Scarpetta S. (2007). *Solow or Lucas?: Testing Growth Models Using Panel Data from OECD Countries*, OECD Economics Department WP No. 592, OECD publishing, Paris.

Becker S. O. – Egger P. H. – von Ehrlich M. (2010). Going NUTS: The effect of EU Structural Funds on regional performance. *Journal of Public Economics*, 94(9-10), 578-590.

Becker S. O. – Egger P. H. – von Ehrlich M. (2012). Too much of a good thing? On the growth effects of the EU's regional policy. *European Economic Review*, 56(4), 648-668.

Bernini C. – Pellegrini G. (2011). How are growth and productivity in private firms affected by public subsidy? Evidence from a regional policy. *Regional Science and Urban Economics*, 41(3), 253-265.

Beugelsdijk M. – Eijffinger S. C. W. (2005). The Effectiveness of Structural Policy in the European Union: An Empirical Analysis for the EU-15 in 1995–2001. *Journal of Common Market Studies*, 43(1), 37–51.

Boldrin M. – Canova F. (2001). Europe's Regions, Income Disparities and Regional Policies. *Economic Policy*, 32, 207-253.

Bouvet F. – Dall'Erba S. (2010). European Regional Structural Funds: How Large is the Influence of Politics on the Allocation Process. *Journal of Common Market Studies*, 48(3), 501–528.

Bronzini R. – de Blasio G. (2006). Evaluating the impact of investment incentives: The case of Italy's Law 488/1992. *Journal of Urban Economics*, 60(2), 327-349.

Bun M. J. G. – Kiviet J. F. (2003). On the diminishing returns of higher order terms in asymptotic expansions of bias. *Economics Letters*, 79, 145-152.

- Cappelen A. – Castellacci F. – Fagerberg J. – Verspagen B. (2003). The Impact of EU Regional Support on Growth and Convergence in the European Union. *Journal of Common Market Studies*, 41(4), 621–644.
- Cerqua A. – Pellegrini G. (2014). Do subsidies to private capital boost firms' growth? A multiple regression discontinuity design approach. *Journal of Public Economics*, 109, 114-126.
- Charron N. – Dijkstra L. – Lapuente V. (2014). Regional Governance Matters: Quality of Government within European Union Member States. *Regional Studies*, 48, 68–90.
- Coppola G. – Destefanis S. (2015). *Structural Funds and Regional Convergence: Some Sectoral Estimates in Italy*. In Mussida C., Pastore F. (2015) Geographical Labor Market Imbalances: Recent Explanations and Cures. (pp 307-333). Berlin – Heidelberg: Springer.
- Coppola G. – Destefanis S. (2007). Fondi strutturali, produttività e occupazione. Uno studio sulle regioni italiane, *Rivista di economia e statistica del territorio*, n. 2, 85-113.
- Coppola G. – Destefanis S. – Marinuzzi G. – Tortorella W. (2017). L'impatto delle politiche di coesione sullo sviluppo delle regioni italiane, in *Eyesreg*, Vol.7, N.3, Maggio 2017.
- Coppola G. – Destefanis S. – Marinuzzi G. – Tortorella W. (2017). Politiche di coesione e crescita settoriale nelle regioni italiane (1994-2013), in Ferlaino F., Iacobucci D., Tesauro C. (a cura di), *Quali confini-Territori tra identità e integrazione internazionale*, Collana Scienze Regionali, n. 54, Franco Angeli.
- Coppola G. – Destefanis S. – Marinuzzi G. – Tortorella W. (2018). European Union and nationally based cohesion policies in the Italian regions, *Regional Studies*, <https://doi.org/10.1080/00343404.2018.1447099>.
- D'Acunto S. – Destefanis S. – Musella M. (2004). Exports, Supply Constraints and Growth: An Investigation using Regional Data. *International Review of Applied Economics*, 18(2), 167–188.
- Dall'Erba S. (2005). Distribution of regional income and regional funds in Europe 1989-1999: An exploratory spatial data analysis. *Annals of Regional Science*, 39(1), 121-148.
- De Castris M. – Pellegrini G. (2012). Evaluation of spatial effects of capital subsidies in the South of Italy. *Regional Studies*, 46(4), 525-538.
- de la Fuente A. (2002). On the sources of convergence: A close look at the Spanish regions. *European Economic Review*, 46(3), 569-599.
- Destefanis S. – Sena V. (2005). Public capital and total factor productivity: New evidence from the Italian regions, 1970–98, *Regional Studies*, 39(5), 603-617
- Ederveen S. – de Groot H. – 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.
- European Commission (2000). *Agenda 2000*, Luxembourg, European Communities Commission
- Fayolle J. – Lecuyer A. (2000). Croissance Régionale, Appartenance Nationale et Fonds Structuraux Européens: Un Bilan d'Étape. *Revue de l'OFCE*, 73, 165-196.

- 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.
- Golden M.A. – Picci L. (2005). Proposal for a new measure of corruption, illustrated with Italian data, *Economics and Policy*, 17(1), 37-75.
- Heckman J. – Hotz V. J. (1989). Alternative Methods for Evaluating the Impact of Training Programs. *Journal of the American Statistical Association*, 84(804): 862-87
- Kemmerling A. – Bodenstein T. (2006). Partisan Politics in Regional Redistribution. Do Parties Affect the Distribution EU Structural Funds across Regions? *European Union Politics*, 7(3), 373-392.
- Marinuzzi G. – Tortorella W. (2017). L'effetto doping delle risorse straordinarie sulla spesa della Pa italiana, *Quotidiano Enti Locali e Pa – Sole24Ore*, 16/11/2017.
- Netti N. – Sarno D. (1998). Differenziali di efficienza e impatto dell'ambiente sui costi di produzione dell'impresa meridionale. *Rivista Italiana degli Economisti*, 3 (1), 5-82.
- Paci R. – Usai S. (2000). Technological enclaves and industrial districts. An analysis of the regional distribution of innovative activity in Europe, *Regional Studies*, 34 (2), pp. 97-114.
- Pellegrini G. – Busillo F. – Muccigrosso T. – Tarola O. – Terribile F. (2013). Measuring the Impact of the European Regional Policy on Economic Growth: a Regression Discontinuity Design Approach, *Papers in Regional Science*, 92(1), 217-233.
- Pellegrini G. (2016). Convergence and Growth among Italian Regions: How Important Is Policy?, *Rivista economica del Mezzogiorno*, 1, 227-244.
- 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.
- Wooldridge J. M. (2004). *Estimating average partial effects under conditional moment independence assumptions*. CeMMAP working papers CWP03/04, Centre for Microdata Methods and Practice, Institute for Fiscal Studies, London.
- Wooldridge J.M. (2002). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.

2. European Cohesion Policy in Italy: Empirical Evidence and interpretations (Giuseppe Albanese and Guido de Blasio)

- Abadie A. – Diamond A. – Hainmueller J. (2010). Synthetic control methods for comparative case studies: estimating the effect of California's tobacco control program. *Journal of the American Statistical Association*, 105, 493–505.
- Abadie A. – Gardeazabal J. (2003). The economic cost of conflict: a case study of the Basque Country. *American Economic Review*, 93, 112–132.

- Accetturo A. – de Blasio G. – Ricci L. (2014). A tale of unwanted outcome: transfers and the local endowments of trust and cooperation. *Journal of Economic Behavior & Organization*, 102, 74–89.
- Acemoglu D. – Johnson S. – Robinson J. (2005). Institutions as a Fundamental Cause of Long-Run Growth. In: Aghion P., Durlauf S., *Handbook of Economic Growth*, Elsevier, Amsterdam.
- Agenzia per la Coesione territoriale (2017). Relazione annuale CPT.
- Banca d'Italia (2009). Mezzogiorno e politiche regionali.
- Banca d'Italia (2017). L'economia delle regioni italiane.
- Barone G. – de Blasio G. – D'Ignazio A. – Salvati A. (2017). Incentives to local public service provision: an evaluation of Italy's Obiettivi di Servizio. Bank of Italy Occasional Papers N. 388.
- Barone G. – de Blasio G. – David F. (2016). Boulevard of broken dreams. The end of EU funding (1997: Abruzzi, Italy). *Regional Science and Urban Economics*, 60, 31–38.
- Barone G. – Mocetti S. (2014). Natural disasters, growth and institutions: A tale of two Earthquakes. *Journal of Urban Economics*, 84, 52–66.
- Becker S.O. – Egger P.H. – von Ehrlich M. (2010). Going NUTS: the effect of EU structural funds on regional performance. *Journal of Public Economics*, 94, 578–590.
- Becker S.O. – Egger P.H. – von Ehrlich M. (2012). Too much of a good thing? On the growth effects of the EU's regional policy. *European Economic Review*, 56, 648–668.
- Becker S.O. – Egger P.H. – von Ehrlich M. (2013). Absorptive capacity and the growth and investment effects of regional transfers: a regression discontinuity design with heterogeneous treatment effects. *American Economic Journal: Economic Policy*, 5, 29–77.
- Belloni A. – Chernozhukov V. – Hansen C. (2014). High-dimensional methods and inference on structural and treatment effects. *Journal of Economic Perspectives*, 28, 29–50.
- Cannari L. – Magnani M. – Pellegrini G. (2010). *Critica della ragione meridionale. Il Sud e le politiche pubbliche*. Laterza, Bari.
- Charron N. – Dijkstra L. – Lapuente V. (2014). Regional Governance Matters: Quality of Government within European Union Member States. *Regional Studies*, 48, 68–90.
- Ciani E. – de Blasio G. (2015). European structural funds during the crisis: evidence from Southern Italy. *IZA Journal of Labor Policy*, 4, 1–31.
- D'Adda G. – de Blasio G. (2017). Historical Legacy And Policy Effectiveness: The Long-Term Influence Of Preunification Borders In Italy. *Journal of Regional Science*, 57, 319–341.
- De Angelis I. – de Blasio G. – Rizzica L. (2018). On the unintended effects of public transfers: evidence from EU funding to Southern Italy. Bank of Italy Working Papers N. 1180.
- Glaeser E. (2008). *Cities, agglomeration and spatial equilibrium*. Oxford University Press, Oxford.

- Hall R. – Jones C. (1999). Why do some countries produce so much more output per worker than others?. *Quarterly Journal of Economics*, 114, 83–116.
- Kline P. – Moretti E. (2013). Place Based Policies with Unemployment. NBER Working Paper N. 18758.
- Neumark D. – Simpson H. (2014). Place-Based Policies. NBER Working Paper Series N. 20049.
- Nifo A. – Vecchione G. (2014). Do Institutions play a role in skilled migration? The case of Italy. *Regional Studies*, 48, 1628-1649.
- OECD (2009). How regions grow: Trends and analysis.
- Pellegrini G. – Terribile F. – Tarola O. – Muccigrosso T. – Busillo F. (2013). Measuring the effect of European Regional Policy on Economic Growth: a regression discontinuity approach. *Papers in Regional Science*, 92, 217–233.
- 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.
- World Bank (2009). World Development Report 2009. Reshaping economic geography.
- World Bank (2014). Confusing a treatment for a cure.

3. Divergence and Convergence in the "Periphery" of Europe: Cohesion Policy Cannot Be Left to Itself (Carmelo Petraglia and Giuseppe L. C. Provenzano)

- Giannola A. – Padovani R. – Petraglia C. (2015). Spending review e divari regionali in Italia, *Economia Pubblica – The Italian Journal of Public Economics*, n. 1: 129-155.
- Giannola A. – Petraglia C. – Provenzano G.L.C. (2016). Regional convergence and the future of cohesion policies in the Eu, *Rivista economica del Mezzogiorno*, 30(4): 923-950.
- Giannola A. – Petraglia C. – Provenzano G.L.C. (2018). A note on the post-2020 cohesion policy reform, *Scienze Regionali – Italian Journal of Regional Science*, 17(1): 129-136.
- Petraglia C. – Pierucci E. (2016). Fu vera convergenza? Le Politiche di Coesione e le periferie dell'UE, *Eyesreg – Giornale di Scienze Regionali*, vol. 6, n. 1: 5-10; <http://www.eyesreg.it/2016/fu-vera-convergenza-le-politiche-di-coesione-e-le-periferie-dellunione/>.
- Petraglia C. – Provenzano G.L.C. (2018). L'Italia e la politica di coesione post-2020, *la Rivista Il Mulino*, 31 gennaio 2018; https://www.rivistailmulino.it/news/newsitem/index/Item/News:NEWS_ITEM:4237.
- Petraglia C. – Scalera D. (2018). L'eredità degli anni '80: il Mezzogiorno dopo il fallimento del localismo, *Eyesreg – Giornale di Scienze Regionali*, vol. 8, n. 1; <https://www.eyesreg.it/2018/leredita-degli-anni-80-il-mezzogiorno-dopo-il-fallimento-del-localismo/>.

Presidenza del Consiglio dei Ministri, Ministro per la Coesione Territoriale, *Posizione Italiana sulla Politica di Coesione del post-2020*; <https://cor.europa.eu/Documents/Migrated/Events/Posizione-Italiana-Politica-di-Coesione-post-2020.pdf>.

Provenzano G.L.C. (2018). Il Sud lasciato a sé stesso affossa l'Italia, *Limes – Rivista italiana di geopolitica*, n. 5/18.

SVIMEZ (2014). Le politiche dell'Unione Europea tra austerità e crescita, *Rapporto 2014 sull'Economia del Mezzogiorno*, pp. 333-350, Il Mulino.

SVIMEZ (2015). Le politiche dell'Unione Europea a un bivio, *Rapporto 2015 sull'Economia del Mezzogiorno*, cap. IX, pp. 337-362, Il Mulino.

SVIMEZ (2016). I divari regionali di sviluppo e competitività nell'Unione europea, *Rapporto 2016 sull'Economia del Mezzogiorno*, cap. XII, pp. 335-350, Il Mulino.

SVIMEZ (2017). Il Mezzogiorno in Europa: una riforma delle politiche di coesione, *Rapporto 2017 sull'Economia del Mezzogiorno*, cap. XI, pp. 297-305, Il Mulino.