



**COLLANA DEL
DIPARTIMENTO DI ECONOMIA**

**SYNERGIES AND CONFLICTS BETWEEN EU POLICIES AND THE
OBJECTIVE OF TERRITORIAL COHESION**

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Synergies and conflicts between EU policies and the objective of territorial cohesion

Riccardo Crescenzi¹, Fabrizio De Filippis² and Fabio Pierangeli³

Abstract

The paper looks at the overall structure of the European Union's regional, agricultural and rural development policies in order to assess their coordination and synergies at the territorial level and their degree of compatibility with the objective of territorial cohesion. The regression analysis - covering the 20-year period 1994-2013, and approximately 90% of total Community expenditure - reveals that the compatibility of the various areas of Community policy in terms of the objectives of territorial cohesion has not progressed in a linear fashion over time. Shifting resources in the Community budget from one policy area to another does not, by itself, appear capable of guaranteeing virtuous paths in terms of territorial cohesion. The increase in the territorial 'vocation' of overall Community spending will, therefore, crucially depend upon the definition of appropriate allocative mechanisms and interventions, based upon the characteristics of each region and its 'local' needs.

JEL classifications: O18, R11, R58

Keywords: Regional Policy, Regional Development, Rural Development, European Union

1. Introduction

An equitable territorial distribution of the benefits of the integration process is a founding principle of all European Union (EU) policies (article 175 of the European Union Treaty) and, as such, has been strongly emphasised in recent strategic programming documents including 'Europe 2020' (European Commission 2010a). In the framework of current reflections upon the future of EU policies, one idea has clearly emerged, namely that the objective of social and territorial cohesion within the Union cannot be wholly entrusted to cohesion policies (EESC 2007). On the one hand, the contribution made by all other policies - also those which are non-territorial by nature - towards the achievement of this objective (5th Cohesion Report, European Commission 2010) should be taken into account and, on the other, the mechanisms coordinating the various Community policies in this field reconsidered for Maximising their synergies (Barca 2009).

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Notwithstanding the explicit request by EU policymakers for instruments able to perform a territorial-level assessment of the interrelations between policies of different nature and their correlation with territorial cohesion a significant gap still exists in this area of academic literature. Although some contributions (whether academic or more markedly policy oriented) have undertaken an analysis of the EU's regional and agricultural policies to determine their impact on the cohesion processes, the attention of these scholars and analysts has alternated between one or the other policy area and overlooked both their interactions (synergic or conflicting) and joint impact at the territorial level. This separation can be explained by the different disciplinary approaches of the scholars concerned (mainly agricultural economists for agricultural policies and regional economists/economic geographers for regional policies, Kilkenny 2010) as well as by the division of responsibilities within Community bodies (DG AGRI and DG REGIO respectively) and the ministries of the single member states. As a result today's literature offers few analytical insights for understanding the relationships *between* policies and the possibilities of influencing territorial cohesion by modifying the *territorial allocation* and composition of overall Community spending in favour of instruments with a more markedly territorial vocation.

This work is an attempt to respond to the foregoing request and to contribute towards the present debate on the future of Community policies after 2013, by undertaking a comprehensive analysis of the EU's regional, agricultural and rural development policies, accounting, as they do, for almost 90% of total Community spending.

In the first place, it is necessary to adopt a territorial approach if we are to make a comprehensive analysis of policies designed and implemented for different objectives and addressing highly variegated range of beneficiaries. Thus, the evaluation of their compatibility with the cohesion objectives requires us to consider their capacity, on the one hand, to interact within the same territory and, on the other, to target spending on the factors of structural disadvantage in each area (Barca 2009). Consequently, in this study we shall adopt a territorial perspective in order to take due account of the profound systemic interactions operating at this level between the various beneficiaries of the different policies influencing growth and development dynamics and, hence, territorial cohesion itself. In the second place - unlike much extant literature - the analysis proceeds by considering the *a priori* structure of the policies rather than by attempting to evaluate their ex-post impact. The latter approach would be considerably hampered by the difficulties (also conceptual) of quantifying the effects of very different policies that can manifest themselves after different periods of time and in many different ways and forms. Furthermore, our approach to the analysis of Community policies also enables us to develop evaluation criteria for the structure of current expenditure (programming period 2007-2013) while an ex post impact analysis can only take place after a considerable lapse of time from the conclusion of the programming cycle. Most contemporary studies refer to expenditure prior to 2000 thereby preventing policymakers from drawing any "lessons" -even provisional - from the experience of the two programming periods that followed on the heels of important reforms. In order to overcome these difficulties, our analysis concentrates upon the spatial structure of the funds as regards the various policy areas that they cover in order to evaluate potential synergies and conflicts before their attendant measures are implemented. Therefore, the analysis is concentrated upon the result of the resource allocation process at the territorial level in order to determine its spatial structure (territorial allocation), the synergies between the different policy areas (composition of expenditure and territorial coordination).

In the third place the analysis is focused on the assessment of the coherence between the distribution of funding and the geography of regional structural disadvantage factors. As will be further discussed in the conceptual section of the paper, this approach is based on the idea that Community support – where aiming to increase territorial cohesion – should be targeted towards the regions where structural disadvantage is concentrated. While different policies will tackle different ‘components’ of this disadvantage a growing body of literature has suggested that the capacity of any policy to promote territorial cohesion is premised upon its elimination by means of a balanced policy-mix. As a consequence the ‘a priori’ coherence between the EU policies and the objective of territorial cohesion will be assessed in terms of their capability to channel resources towards structurally disadvantaged areas as a necessary (though certainly not sufficient) pre-condition for pro-cohesion effects.

From this standpoint the paper looks first at the existing EU policy documents and regulations that have shaped the structure and the development over time of the three areas of Community policy in

order to highlight the possible points of contact that EU policymakers strove and still strive for with special reference to their reciprocal coordination and the principle of territorial cohesion. The subsequent empirical analysis of the territorial structure of Community spending for each of the three policy areas over a period of almost two decades (1994-2013) will test if any correspondence obtains between actual spending and the "potential" synergies highlighted by the preceding policy-documents analysis. Furthermore, the extent of the time interval considered enables us to evaluate the potential impact of moving resources from one policy area to another (e.g. from essentially sectoral, "first pillar" CAP policies in favour of "territorial" measures for rural development policies) in terms of spatial structure, and the level of coordination while also revealing what association, if any, may exist between structural disadvantage and overall Community spending, thereby throwing light on the coherence of such reallocation with the objective of territorial cohesion

2. Sectoral and territorial policies and the structural disadvantage of European regions

In the present debate on the future composition of the EU budget and its policies, there seems to be a consensus on the need to harmonise the different Community policies and ensure their compatibility with the objective of territorial cohesion. This consensus is by now part and parcel of the Union's overall growth and development strategy ("Europe 2020"⁴) and an essential component of its guidelines for reforming the single policies in line with this strategy ('Fifth Cohesion Report' and 'Barca Report'⁵ for regional policies; 'The CAP Towards 2020'⁶ for agricultural and rural development policies). The construction of an appropriate analytical and evaluative framework to sustain the resulting priorities – above all in order to evaluate their translation into real policy changes – must first overcome the rigid separation between '*sectoral*' and '*place-based*' policies that has long dominated EU policies (and their analysis). While some policies may be considered "space neutral" in terms of both their intent and outcomes– for example competition policies – others, albeit neutral in their intent – as in the case of the CAP – exhibit a considerable spatial impact (Duhr et al. 2010). And it is thanks to this common spatial outcome that a comprehensive analysis can be undertaken of regional and agricultural policies so that not only can "non-coordination cost" be quantified (Robert et al. 2001) but also the real progress made towards coordination evaluated as a result of changes in the allocation mechanisms and in the composition of Community spending.

2.1 Agricultural policies from the "old" sectoral paradigm to territorial centrality.

2.1.1 First Pillar CAP

From its institution, CAP should –notwithstanding its sectoral policy nature – have pursued an approach whereby the measures taken reflected the fact that agriculture is as an integral part of the economy therefore recognising that specific sectoral problems could not be resolved by measures exclusively addressed to the agricultural sector (European Commission, 1968). However, excessive emphasis on support for agricultural markets along with the very marginal role of the measures in support of agrarian structures that characterized the first 20 years of the CAP, produced significant imbalances in the distribution of financial resources. In the 1980s, the RICAP study (Commission of the European Community, 1981) which examined the impact of CAP resources on the European regions NUTS1 in the preceding 20 year period, warned of a trend towards the polarisation of agricultural incomes generated by CAP spending and forewarned against its potentially perverse impact in terms of "distributive equity". And it is precisely the lack of equity within the sector and across territories that was identified as one of the principal "failures" of the CAP intervention model (Barbero et al. 1984; European Commission, 1985).

⁴Economic, social and territorial cohesion will remain at the heart of the Europe 2020 strategy (...). Cohesion policy and its structural funds, while important in their own right, are key delivery mechanisms to achieve the priorities of smart, sustainable and inclusive growth in Members States and regions' (European Commission 2010a p.20)

⁵ 'The European Agriculture Rural Development Fund (EARDF or Rural fund) and the European Fisheries Fund (EFF or Fisheries fund), which financed interventions for these two fields of action, were moved out of the realm of cohesion policy and included under "agricultural policy" and "fisheries policy" respectively, although most of their interventions are inspired by principles similar to those of cohesion policy' (European Commission 2009, p.61)

⁶ 'Together, the present set of policy measures results in what is the main contribution of the CAP – a territorially and environmentally balanced EU agriculture within an open economic environment.' (European Commission 2010b, p.4)

A profound overhaul of the CAP commenced with the Mac Sharry reform of 1992 and continued with Agenda 2000 (1999), the Fischler reform (2003) and, finally, the *Health Check* (2008). These reforms made a considerable impact upon the financial weight of the various types of spending and attempts to change the foregoing imbalances. Moreover, it also led to the replacement of the original European Agricultural Guidance & Guarantee Fund (EAGGF) with two new distinct funds: the first, the European Agricultural Guarantee Fund (EAGF) for financing market measures, and the second, the European Agricultural Fund for Rural Development (EAFRD) designed to finance rural development programmes (RDP) according to a place-based approach. However, the impact of successive changes in the organisation and financial structure of the CAP on the real territorial distribution of resources is not altogether clear. Tarditi and Zanas (2001) highlighted a recurrent problem of equitable distribution as between the beneficiaries of the policy (whereby 80% of the beneficiaries receive less than 20% of the overall payments⁷) which remained unchanged within the EU15 until 2006 (Velazquez, 2008). On the other hand, the most disappointing feature of the Mac Sharry reform, which set into motion the CAP reform, was precisely the problem of redistribution insofar as the calculation of (direct) payments per hectare was based upon a "compensatory" criterion that was also retained in Agenda 2000. Furthermore, even in successive reforms the redistribution question was never handled head-on and in, any case, still remains heavily dependant upon the decisions of individual member states (Chatellier and Guyomard, 2010). The ESPON study (2004) finally threw full light upon the spatial implications of this enduring distributive iniquity. Using much more detailed spatial disaggregation data than previous studies, revealed the anti-cohesion impact of first-pillar CAP spending, which was only potentially mitigated by the then fledgling rural development measures (Shucksmith et al. 2005). The analyses by Bivand and Brundstad (2003) continued in the same direction and using more sophisticated spatial econometric techniques highlighted the negative impact of CAP payments on the economic convergence processes taking place between the EU regions in the 1990s. Esposti (2007) with reference to the same time period also underlined how the enormous volume of CAP spending had no positive effect upon regional growth, although not constituting "counter-treatment" with respect to the new regional policies. However, requests for greater equity and coordination for the purpose of bringing the policy into line with the Lisbon strategy were also largely ignored in the successive Fischler reform as far as first pillar spending was concerned, and were only partially met in the second-pillar reform (Esposti, 2007). Furthermore, with reference to the CAP trend foreseen after 2013, existing analyses concur in emphasising the risk of a fundamental conflict between the effects of agricultural intervention and the objectives of the cohesion policy⁸ (Bureau and Mahè, 2008).

The capacity on the part of CAP to progress towards intervention models that take due account of its spatial nature is made extremely difficult by interactions between "path dependency" and "temporal resilience". In the first place, the essential components defining the CAP go back to the origins of the European integration process, when present-day priorities of social and territorial cohesion were not fully developed. The principle of cohesion first saw the light with the Single European Act (1986) and was only "formally" incorporated into CAP objectives in the latest programming period (Esposti 2008), while the territorial implementation of the principle is even more recent⁹. Moreover, the distribution of agricultural spending (with reference to the first pillar) – notwithstanding the changes made to CAP instruments and the new roles and functions attributed to agriculture – is still linked to the old logic of price support and the Common Organisation of Agricultural Markets. In other words, the CAP's sectoral vocation is still far from being a regional vision. The sectoral vocation of the policy is directly proportional to the recourse made to historic models by each Member State (since 2005) for the calculation of de-coupled direct payments: the higher the reliance on historical criteria

⁷ [...] 80% of the support provided by FEOGA is devoted to 20% of farms that also account for the greater part of the land used in agriculture". Communication of the Commission to the Council, COM(91): The Development and Future of the CAP, Reflection Paper, Brussels, February 1, 1991.

⁸ 'First-pillar measures of the CAP – which account for most of the budget – do not contribute much to the cohesion' (Bureau and Mahe', p.5) objectives, given the uneven nature of their benefits across countries, regions and sectors.

⁹ The territorial cohesion objective was formally introduced into the CAP with the Green Paper on Territorial Cohesion: Turning Territorial Diversity into Strength (European Commission 2008)

the stronger the perpetuation of the pre-existing distribution of financial resources based on strictly sectoral criteria (Bureau e Mahè, 2008).

2.1.2 Rural Development

The growing awareness of first-pillar CAP's potentially perverse redistributive effects supported the idea that this distortion originates in the 'disembedding of agriculture from regional and local context' (Gallent et al. 2008, p. 108), which accentuates the concentration of the policy's benefits upon a few major producers situated in more economically dynamic rural areas. The vitality of rural areas cannot be determined exclusively by the modernisation of its agricultural structures while the growing diversification of economic activities in rural areas calls for a response able to satisfy needs with an increasingly territorial (Saraceno, 2002) and "place-based" approach. This awareness has also been enhanced with the recognition by the parts involved in the political debate of a need for greater integration between the various areas of Community policy, as acknowledged by the first reform of the structural funds (European Commission 1988)¹⁰. This, therefore, is the context in which a series of innovations have come to fruition, such as the coordinated and joint exploitation of Community funds (ERDF, EDF, EAGF – GUIDANCE, FIFG), multi-year programming, and the concentration of measures upon priority objectives and additionality. Nevertheless, the territorial component continues to occupy a marginal position with respect to other policy objectives that have instead emphasised the modernisation of agricultural structures thereby forfeiting potential territorial synergies and inter-sectoral complementarity that rural areas require (Saraceno, 2002). With the formulation of *Agenda 2000* the need for the territorial integration of agricultural policies became more apparent. And on this issue, the European Conference on rural development held in Cork in 1996 "*Rural Europe – Future Perspectives*" (1996), confirmed that action was necessary as regards: a further reinforcement of rural development policy; the relevance of rural areas in the framework of cohesion policies; the need for a multidisciplinary and multi-sectoral approach calibrated upon the territorial dimension; and the concentration of resources. This then was the phase that inaugurated a more systematic approach to rural development policies in an attempt to rationalise and reorganise all the instruments within a single second-pillar CAP container. Unfortunately, the mere juxtaposition of a set of highly heterogeneous measures under the same label in obedience to a political compromise only underlined the predominance of the sectoral function within the framework of rural development more apparent (De Filippis and Storti 2002). In point of fact, *Agenda 2000* introduced a two-track rural development programming system designed for Objective 1 regions and regions outside Objective 1. In the former, the integration with structural fund programming, and the structural measures financed within the framework of the regional operational programmes (ROP) of the EAGF – GUIDANCE remained in place, while their accompanying measures formed part of a separate programming procedure linked to Rural Development Programmes (RSP) and financed by the EAGF – GUARANTEE¹¹. The regions outside Objective 1, instead, were limited to a single programming procedure through the RSP entirely financed by the GUARANTEE fund. This double track approach highlights some important limitations. For example, with respect to Objective 1 regions, it has prevented the identification of a single source of financing and accentuated the detachment of structural measures from the financial measures of the GUARANTEE fund, thereby causing the latter to become part of a separate programming procedure. However, the system managed to maintain an integrated approach with Structural Fund programming, which was lacking in the regions outside Objective 1.

In the 2007-2003 programming period, the EAGF – GUIDANCE and part of the specific resources of the EAGF – GUARANTEE earmarked for rural development were absorbed by a new fund for rural development, namely the European Agricultural Rural Development Fund (EARDF) which finances all measures to promote rural development that fall outside the legal framework of cohesion policy. This new reorganisation zeroed interrelations between the rural development policy and regional policies, and consolidated the reform process within the framework of the CAP. Even if the (EC) regulation n° 1698/2005 (article 5) lays down that RDPs must be in line with the objectives of the

¹⁰ 1988 was an important year: it determined the foundations for both regional policy and rural development policy, which will guide both action and Community interventions in successive programming periods.

¹¹ The areas subsumed under Objective 2 were allowed to maintain integrated programming through the Single Programming Documents – SPDs. In this regard an interesting exception is constituted by French programming 2000-2006, with over twenty SPDs.

other funds (such as for example competitiveness and cohesion) and that their contribution to the attainment of Community priorities should be evaluated (Esposti, 2008): ‘the most widespread concern is with the separation of the Rural Development component of the Agriculture-Rural Fund (EARDF) from the whole of cohesion policy’ (Barca 2009, p.162). Having ascertained the difficulty – for the foregoing reasons – of making first-pillar CAP spending functional for measures pursuing social and territorial cohesion purposes, the debate remains concentrated on the advantages from a cohesion standpoint of shifting resources towards rural development intervention measures that have a territorial and place-based nature. The empirical analysis conducted in this paper will evaluate the real significance of such opportunities.

2.2 Regional Policies and economic and territorial cohesion: no axiomatic nexus.

The Single European Act (1986) endowed cohesion policy with its own legal basis and assigned it the objective of reducing development disparities between the various European regions. As such this policy is "spatial" in both its intention and outcome insofar as characterised by a place-based approach. However, its real contribution towards the cohesion process – i.e. an effective capacity to address the factors of regional disadvantage – can certainly not be taken for granted in the light of the significant distortions that characterise its institutional development and implementation.

As regards the institutional development of cohesion policy, its turning point, namely when it ceased to be a simple instrument coordinating national development policies¹² (e.g. in the area of big transnational infrastructures where the need for such coordination is stronger) and became a truly Community-level policy, coincided with the accession to the then European Community of Denmark, the United Kingdom and Ireland. If the accession of these three new countries (and Ireland in particular), sharpened the degree of existing disparities, the key political pressure for the establishment of the Community Cohesion policy came from the UK, which put this issue at the centre of accession negotiations with the EC. “In a Community whose budget was heavily skewed towards the support of continental agriculture, the UK, with less than 2 per cent of its working population active in the primary sector, considered the establishment of a Regional Fund as a way of recovering some of the payments delivered to the EC budget” (Rodriguez-Pose, 2002 p.44). In the 1980s, the accession of Greece, Spain and Portugal emphasized both Union-wide regional disparities and the demand for a more favourable redistribution of financial resources through the EU budget since their agricultural specialisation patterns prevented them from taking full advantage of the Agricultural Policy that was then in place in the EU. These new members of the Union (together with Ireland) used their bargaining power within the EU to increase the expenditure in favour of “poor regions” and “offset the burden of the single market for southern countries and other less favoured regions” (European Commission’s http://europa.eu.int/comm/regional_policy/intro/regions2_en.htm).

The increase in the resources devoted to regional policies was justified as a compensation for the asymmetric distribution of the socio-economic costs of the process of integration that seemed to sharpen territorial disparities, which, in turn, would have been a source of tension among member states (Armstrong and Taylor, 2000; Batchler and Wren 2006). Since then, the growth (in absolute and relative terms) of structural spending has gone hand-in-hand with a further integration of the EU and its subsequent enlargements. However, as Baldwin and Wyplosz (2006) put it, “since 1994 the connection between poor nations and structural spending has been greatly diluted (as) large parts of Finland and Sweden were designated as eligible, and even some Austrian regions, together with all of the former East Germany”(paragraph 242). In the period 1994-1999, over one half of the Community population was situated in areas earmarked for support, despite the commitment towards a greater concentration of funds. This, together with the pressure exercised by the research for new resources to finance the eastward enlargement of the Union, was the motor behind the pursuit of more effective Community interventions by further concentrating resources and continuing the simplification process (Armstrong 2001). Nevertheless, the need for a greater concentration of Community spending continued to emerge in the debate on regional policies in successive programming periods. The Third Cohesion Report (Commission of the European Communities, 2004) targeted concentration,

¹² The European Regional Development Fund (ERDF) was initially designed as a subsidiary source of financing for national policies and allocated on the basis of a system of national quotas that emphasized its “compensatory” nature rather than being translated into a truly supranational policy.

programming and partnership as the "key principles for improving the efficiency of structural spending, while emphasising that 'the evaluations' (of regional policy) suggested that Community resources were often still allocated to an excessively high number of beneficiaries and in relative limited amounts" (p.22).

This theme was also invoked for the 2007-2013 programming period in the debate on cohesion policies, when the convenience of a further concentration of financial resources upon the countries and regions most in need of structural support was reiterated. The concentration was to be obtained by reinforcing the principle of devolving cohesion policies towards the regions and local communities (Wren 2005; Wren and Taylor 1999). The debate centred upon the design of the reform, which primarily revised the priority objectives, the financial instruments and the allocation of resources between the priority objectives. In the framework of this debate, the principle of concentration was attributed considerable importance (Batchtler and Polverari 2007; Crescenzi 2009).

As concerns the impact of the EU's regional policy on the objective of economic and territorial cohesion, the empirical evidence is somewhat contradictory. A large part of these studies whether neoclassical in their approach (Boldrin and Canova 2001), or inspired by the perspective of the "New Growth Theory" (Magrini 1999) or adopting the standpoint of the New Economic Geography (Martin 1999; Puga 2002), highlight the very limited or non-existent impact of the EU regional policies on the convergence process, and stress the fundamental distortion of market equilibria. Some more recent contributions, which adopt theoretical approaches capable of evaluating policies in terms of the interaction with a potentially much wider range of factors, while agreeing upon the limited nature of the policies' impact upon the degree of convergence, have proposed a more varied set of explanations for their findings. Midelfart-Knarvic and Overman (2002), for example, stress the distortions produced by Structural Funds on the localisation choices made by companies with the highest innovative potential (in response to the incentives offered by the localisation policies in "disadvantaged" areas) which thereby find themselves situated in areas with an insufficient endowment of human capital, thus determining an incongruence between the demand for and the supply of skilled labour. With the same close attention to innovative dynamics but from a neo-Schumpeterian viewpoint, Cappellen et al. (2003) concluded (somewhat paradoxically) that the impact of Structural Funds essentially depended upon the receptor capacity of beneficiary regions, and that this impact was greater in relatively less disadvantaged areas. This result was confirmed from a neoclassical standpoint by Ederveen et al. 2006. However, diametrically opposing conclusions were reached by Beugelsdijk and Eijffinger (2005), who after examining the institutional conditions of the recipient countries (rather than the single regions) concluded: 'less clean countries (or as we measure it, more 'corrupt' countries) of the current EU-15 do not gain less economic growth from the structural funds' (p.48). Nonetheless, Rodriguez-Pose and Fratesi (2004) evaluated the impact of Structural Funds on the convergence process by distinguishing the role played by the various axes of intervention (the composition of spending). This approach enables us to highlight how an imbalanced distribution of funds (above all in favour of investments in transport infrastructures) represents an important explanation of the limited impact of the policy observed in the convergence analysis, thus showing how *a priori* distortions of the policies themselves can limit their effectiveness. Mohl and Hagen (2010) reviewed at least 15 other quantitative studies, which with similar approaches to those discussed above reached altogether conflicting conclusions on the impact of cohesion policies.

The analysis of the institutional development of regional policies as also that of their ex-post impact clearly demonstrate that the compatibility of place-based interventions with territorial cohesion processes cannot be taken for granted and consequently should be the subject of careful empirical evaluation – which is precisely what this paper sets out to do. Moreover, this is particularly necessary when it comes to evaluating the manner and extent to which changes in the composition of overall Community spending from sectoral interventions in favour of explicitly place-based policies (not only through an increase in the overall budget quota reserved to cohesion policies in the strict sense of the term but also through the incorporation in the same framework of other types of intervention such as Rural Development interventions) contribute towards cohesion processes.

3. In tandem for cohesion? The empirical analysis of a complex relationship

As discussed earlier, the compatibility of the three areas of Community policy with the general objective of territorial cohesion is of increasing importance for Community policy makers. However – as our review of the literature indicates – there is no clear consensus on the contribution made towards the cohesion process by any of these policies. Existing studies – with differing methodologies – address the problem of evaluating the territorial impact of regional and agricultural policies by trying to come to grips with the problem of identifying an appropriate counterfactual ("What would have happened had the policy never been implemented?"). This problem becomes extremely important whenever a simultaneous and comparative evaluation is attempted of the contribution made to the regional growth processes by the different policies (such as the regional and agricultural policies). The impact of the different policies on economic processes takes place through various mechanisms that imply not only different timescales before any effects become apparent but also possible and differential "collateral effects".

The difficulties raised by the construction of an appropriate counterfactual counselled us to take a different approach, especially when attempting, as in this work, to evaluate the synergies operating between the various policies. Thus our approach consists in evaluating the structure of a policy by analysing the manner in which resources are assigned to objectives in order to determine the correspondence between declared intentions and resources actually earmarked to them. In other words, this is an analysis of the a priori structure of policies rather than an attempt at evaluating their ex-post impact. It means concentrating our analysis on the spatial structure of the funds in relation to the various policy areas before the interventions associated with them were implemented. Therefore, the analysis is concerned with the outcome of the resource allocation process at the territorial level so as to evaluate both the spatial structure and its coherence with the geography of factors of structural disadvantage, upon whose elimination the capacity of any policy to promote territorial cohesion depends.

In order to evaluate the a priori compatibility of Community fund allocation with territorial cohesion objectives, it is necessary – as asserted by the European Commission itself on the occasion of the successive reforms of regional policies – to analyse its degree of territorial concentration, i.e. the capacity to keep the effects of the policies within the areas subject to intervention by ring-fencing spillovers, as far as possible, within the disadvantaged areas (Dall'Erba 2005) and, therefore, maximising the potential impacts of the policies themselves. In point of fact such "external" effects represent an important component of the policy. "The benefits of the Structural Funds when viewed in isolation are modest, thus suggesting that the real long-term benefits depend upon the manner in which the disadvantaged economies react to the opportunities offered by the rest of the EU" (p.197).

In the second place, the degree of compatibility of the three areas of Community policy with respect to the cohesion objectives can be evaluated in terms of the association between the actual allocation of financial resources and the regions' factors of structural disadvantage, which is "the measure" of a policy's capacity to direct its resources to where a concentration of disadvantage prevents regions from expressing their potential (Mairate 2006). An assessment of the correspondence between the geographies of structural disadvantage and fund allocation is necessary if we are to evaluate the existence of distortions that could, a priori, prevent the policy from achieving its specific objectives, thus confirming a broad and generalised trend on the part of "spatial" policies to "lose territorial focus" over time (Greenbaum and Bondonio 2004), thereby frustrating the benefits of a place-based approach and resurrecting the equitable distribution problem associated with the "old sectoral paradigm".

3.1 Methodology and the empirical analysis model

An analysis of the regional allocation of Community funds for Regional Policies, and Rural Development and agricultural policies will enable us to perform empirical tests upon:

- a) potential inconsistencies/conflicts in the allocation of funds as between the various policies (composition of expenditure and territorial coordination);
- b) the coherence between the various policies and the principle of territorial concentration (the spatial structure of spending);

- c) the (potential) capacity of the policies to further the cohesion process through their association with factors of structural disadvantage (coherence with territorial cohesion).

The analysis of the spatial structure will be performed through the calculation of an autocorrelation index (Moran's I). Moran's I is calculated using the formula:

$$I = \frac{\sum_{i=1}^n \sum_{j=1}^n (x_i - \bar{x}) w_{ij} (x_j - \bar{x})}{\sum_{i=1}^n (x_i - \bar{x})^2} \quad (1)$$

Where w_{ij} is a sequence of normalised weights that relates the observation (region) i to all the other observations (regions) j in the dataset. If the I index values are greater (lower) than the expected value $E(I) = -1/(n-1)$ this will denote a positive (negative) autocorrelation.

In the empirical analysis conducted in this article, the element w_{ij} of the weight matrix is:

$$w_{ij} = \frac{1}{d_{ij}} \frac{1}{\sum_j \frac{1}{d_{ij}}} \quad (2)$$

where d_{ij} is the linear distance between region i and region j .

To answer questions a) and c) the following regression model for panel data is specified:

$$y_{i,t} = \alpha + \mu_i + \tau_t + \beta' X_{i,t} + \gamma' P_{i,t} + \varepsilon_{i,t} \quad (3)$$

where:

Y is the per-capita spending at the regional level for the various policies: Regional, Rural Development and first-pillar CAP;

X is the index of structural disadvantage of the regions calculated with the Principal Components Analysis (PCA);

P is the per-capita spending in *OTHER* areas of Community policy other than y

μ are fixed individual effects: the non-observable features of regions that impact upon the allocation of funds but which remain invariant over time;

T is the temporal trend

ε is idiosyncratic error

And where i represents the region and t the programming period (94-99, 2000-06, 2007-13) and $t-1$ for the Index of Structural Disadvantage is the year preceding each programming period (i.e. 1993, 1999 and 2006 respectively).

The estimate of parameter β , therefore, indicates the funds' capacity to target the most disadvantaged regions of the European Union thereby promoting economic convergence. A significant and positive value of parameter β would denote a systematic association between the structural disadvantage of the European regions and the "intensity" of the support provided by the various policies. This association offers a measure of the compatibility of policies – regardless of their different specific functions – with the more general objective of territorial cohesion. Vice-versa, the lack of significance for this coefficient would suggest a substantially "neutral" distribution of Community resources from the territorial viewpoint and potentially in conflict with the cohesion objectives announced by Community policy makers as discussed above. The estimate of parameter γ , on the other hand, is a measure of the trade-offs or synergies operating between different policy areas. A significant negative value of this parameter would suggest that a "compensatory" mechanism is at work among the policies thus maintaining a substantial equilibrium as between the transfers received from the various regions of the Union. On the contrary, a positive value of this parameter would suggest a trend in the funds of the different policies towards targeting the same areas with a "cumulative" and/or "knock-on" process among the policies. In addition, the estimation of an interaction term between structural disadvantage and the funds allocated for the various policies will make it possible to evaluate if this cumulative effect among the policies coincides with the most disadvantaged areas (suggesting the presence of "pro-cohesion" synergies) or if it is linked to the capacity of the regions to attract funds from different policies by virtue of characteristics other than their being disadvantaged.

The structural disadvantage index of the regions (X) is defined on the basis of those structural characteristics of regional economies that the economic literature as a whole associates (either singularly or in various combinations) with a reduced or non-existent capacity to converge upon levels of growth and development that characterise the "heart" of the EU (Boschma 2004; Budd and Hirmis 2004; Cheshire and Magrini 2000; Huggins 2009a; Pike et al. 2006; Rodriguez-Pose 1998a and b). Such features refer to three principal dimensions: the accumulation of human capital (Lundvall 1992; Malecki 1997; Crescenzi 2005; Huggins 2009b), the productive use of such capital in terms of the demand for and supply of specific sectoral skills (Gordon, 2001) and the overall endowment of basic infrastructures (Chancre e Thompson 2000; Crescenzi and Rodriguez-Pose 2008) which makes the circulation and productive utilisation of regional resources possible. Each of these possible sources of structural disadvantage finds justification in different strands of the literature on the economic performance of the regions. Thus while the neoclassical approach has given greatest emphasis to the role played by physical capital endowments (public and private) in improving the productivity of a local factors, the latest theories linked to "endogenous growth" draw attention to the importance of human capital and its "qualitative" composition (in terms of skill composition) in line with – and especially as regards the latter feature – the literature on the operation of global markets at local levels and upon the determinants of the spatial concentration of unemployment. The synergies between the different theoretical approaches have been exploited in some recent contributions (Crescenzi and Rodriguez-Pose 2009; Crescenzi et al 2007; Kitson et al. 2004), which were specifically designed to integrate various theoretical contributions in order, first and foremost, to identify empirically, the factors impeding not only the innovative capacity of European regions but also their growth. The simultaneous presence of various factors of "socio-economic disadvantage" constitutes a permanent obstacle to the long-term development of the European regions (as also those of the United States). The effectiveness of regional development policies therefore depends upon their capacity to "target" in an "equilibrated" fashion all these factors simultaneously. For this reason the capacity of the EU policies to re-distribute Community financial resources, in a manner more or less compatible with the general objective of territorial cohesion, has been empirically tested by evaluating the relationship between structural disadvantage – i.e. the simultaneous presence of factors of disadvantage in all the dimensions discussed earlier – and the funds earmarked to each region. The distributive mechanisms of a policy are, therefore, deemed "virtuous" from the point of view of territorial cohesion whenever they manage to channel a greater volume of resources towards the most

deserving areas in structural terms, i.e. those where structural disadvantage is highest. This criterion applies independently of the evaluation of the impact of the single policies. Different policies propose different objectives and, therefore, impact on different factors (ranging from the safeguarding of agricultural prices for the first pillar CAP to the formation of human capital for some regional development programmes). However, the overall geography of the distribution of Community resources has a consistent impact on the most general processes of cohesion and economic convergence through synergies or conflicts that arise between various policy areas. Therefore, an assessment of the capacity of Community redistributive mechanisms to channel resources towards structural disadvantage constitutes an a priori measure of their general compatibility with the requirement of territorial cohesion. In addition the empirical analysis of the evolution over time of the relationship between disadvantage and funds received by the regions enables us to evaluate how both successive reforms of allocation and intervention mechanisms and the shifting of resources from one policy area to another have modified the relationship between EU policies and cohesion.

The concept of Structural Disadvantage as applied to the European regions is operationalised by identifying suitable proxies for each of the foregoing three "dimensions": the "Percentage of the Population with a Tertiary Educational Attainment" and the "Percentage of the Economically Active Population with a Tertiary Educational Attainment" are chosen as proxies for the accumulation of human capital, the "Long-Term Unemployed as a Percentage of All Unemployed" and "the Percentage of the Economically Active Persons in Agriculture" (Federico 2005) are chosen as the proxy for the productive use of human capital and "Kilometres of Motorway per 1000 Inhabitants" is the proxy for basic infrastructural assets. The choice of these simple indicators is dictated by the limited availability of homogeneous statistical data for all the European regions commencing from 1993, i.e. the year prior to the first programming period considered in this analysis. The information contained in the variables chosen is synthesised as a single indicator (the Index of Structural Disadvantage) by means of Principal Component Analysis (PCA) (Duntanam 1989; Joliffe 1986) whose results, set out in Tables A1 and A2 in Annex A, generate the Index of Structural Disadvantages used in the following analysis. The eigenanalysis of the correlation matrix shows that the first principal component alone is able to account for around 50 percent of the total variance (Table A2). The first principal component scores are computed from the standardised value of the original variables by using the coefficients listed under 'Component 1' in Table A-1. These coefficients assign a large positive weight to educational achievement and infrastructure endowment; these are major components of the socio-economic tissue of the regions. A negative weight is assigned, instead, to the long term component of unemployment and to the percentage of agricultural labour. This first Principal Component ('Component 1') - that explains 50% of the total variance of the original indicators - constitutes the "Index of Structural Disadvantage" introduced into the regression analysis as an aggregate proxy for the structural disadvantage of each region. The index is calculated for each year $t-1$ preceding each programming period holding constant the PCA weights (calculated on the longitudinal data¹³). This should minimize the potential endogeneity between allocated financial resources and regional disadvantage and, at the same time, account for the conditions observed by the policy-makers when allocating the funds.

3.2 A single territorial databank for Community spending from 1994 to 2013.

The analysis carried out in this article is based upon an innovative databank developed for this paper and containing information on the first and second pillar of the CAP and the Structural Funds of regional policy in the last three programming periods (1994-1999, 2000-2006 and 2007-2013) that referred to the member states of the EU15, and represented approximately 90% of overall Community spending over the last 20-year period. To our knowledge such a complete and territorially detailed coverage of Community spending is unprecedented in the existing literature.

The data contained in the databank are aggregate data at the level of the relevant administrative authorities in the framework of the policies considered. Obviously, the administrative level of interest to us (i.e. the authority managing an operative or rural development programme) will vary from one

¹³ Before implementing this procedure we tested the stationarity of the variables. The tests confirmed the stationarity of the series as discussed in footnote 23, allowing us to implement the PCA analysis on the panel dataset.

Member State to another according to how the responsibilities for agriculture, rural development and regional policies are distributed. Therefore, in general terms the information gathered contributes towards the establishment of a homogeneously regionalised databank, expenditure data are organised with reference to different territorial levels (NUTS levels)¹⁴ in different member states.

The information gathered constitutes the sum of the resources directly funded by the European Union. Consequently, financial resources deriving from national financing do not form part of the databank used for the analysis. There are two reasons for this: first, the analysis sets out to establish an a priori geographical allocation of resources spent rather than their territorial impact; second, as we wish to draw attention to the structures of the negotiated policies at a Community level, co-financing would modify the relations between the first-pillar CAP, which does not envisage a national contribution, and the second pillar CAP and the Structural Funds.

The timescale considered is characterised by an evolutionary trend involving objectives assigned to policies, financial instruments and types of programming, as illustrated in the following table 1. As concerns the first pillar of the CAP existing literature has encountered considerable difficulty in obtaining consolidated data on agriculture for the EU15 regions and for a relatively long time intervals. Some criticism has also been made in recent years on account of the fragmentation and quality of publicly available expenditure data, notwithstanding the “*European Transparency Initiative*” (Reg. (EC) n° 1290/2005) that requires member states to annually publish the beneficiaries of appropriations made from the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Rural Development Fund¹⁵. To overcome these limitations, first-pillar CAP data have been processed in this work in an innovative manner based on the *Farm Accountancy Data Network* (FADN) databank, while the financial appropriations actually allocated to each territorial unit have been utilised for rural development and regional policy. (See annex B for a detailed discussion of the procedures followed for the development of this section of the databank. Additional information is available in Crescenzi and Pierangeli 2010 that includes an extensive discussion of this databank).

In the framework of rural development, as noted earlier, interventions were financed not only by the EAGGF guarantee section but also by the EAGGF guidance section up until the last programming period when the resources were merged into a single fund (EAFRD). As regards both the 1994-1999 programming period and Agenda 2000, the data referring to rural development policy come from two sources: DG REGIO, for data on EAGF guidance, which comprise the operating programmes and the Leader+ programmes; DG AGRI¹⁶ for data on EAGF-guarantee. In the 2007-2013 programming period, the EAFRD data derived from the single programming instruments of the EU15 member states¹⁷.

Structural Fund data were derived from an ad hoc dataset provided by the Directorate General for Regional Policy of the European Commission (DG REGIO) in May 2009. For each programming period and for each single fund the country, programme reference code, programme title (which indicates the reference region) together with spending allocated, committed, paid and the relative performance have been set forth. Therefore the databank contains all such information on each single programme referring to each management authority.

Altogether the databank comprises about 3000 observations that specify the estimate of actual expenditure (for the first-pillar) and the funds allocated (for the Structural Funds and rural development) in the three programming periods considered with regard to the regions of the EU 15 member states¹⁸.

¹⁴ Regions in Belgium, Germany and the United Kingdom are classed at NUTS1 level while Denmark, Ireland and Luxembourg have no sub-national divisions: for the remaining EU15 member states expenditure has been classified at the NUTS2 level.

¹⁵ AgraFacts n.35/09.

¹⁶ The data derive from the PSRs of the EU15 (http://ec.europa.eu/agriculture/rur/countries/index_en.htm).

¹⁷ http://ec.europa.eu/agriculture/rur/countries/index_en.htm

¹⁸ With reference to the financial instruments that require multi-year financing at the administrative authority (AA) level, the number of programming documents requested has progressively declined over time: the number of observations fell from about 1,700 units in the period 1994-1999 (but excluding the interventions financed by EAGF guidance for accompanying measures) to 340 in the period 2007-2013. This contraction clearly shows a thoroughgoing process of programming simplification and the concentration of objectives that the Commission set itself and pursued during the programming periods.

EUROSTAT was the source of the data on the structural characteristics of the regions that we used for the computation of the Structural Disadvantage Index.

3.3 The structure of fund allocation for European region Community policies: empirical evidence

By following the methodology illustrated in the foregoing paragraph, it is possible to analyse the structure of Community resources distributed among the European regions according to the information contained in the databank on spending decisions for EU regional, rural development and agricultural policies. For the purpose of evaluating the capacity of the single policies to contribute in a coordinated manner towards the objective of territorial cohesion we shall first, therefore, commence with an analysis of the correlation of regional spending for the various policies and in the various programming periods, which will also serve the purpose of evaluating persistence in regional spending allocations. Second, we shall examine the spatial structure of such spending in order to analyse the degree of territorial concentration. The analysis of the association between structural disadvantage and EU funds will, instead, be entrusted to an estimate of the model illustrated in equation 3.

3.3.1 Expenditure correlations by policy area

Table 2 sets out a preliminary analysis of the simple correlations (and of their statistical significance) between per capita expenditure at a regional level for, respectively, the regional policies, rural development and first-pillar CAP in the three programming periods considered (1994-1999; 2000-2006; 2007-2013). If we observe the correlation between expenditure allocations for the same policy in successive programming periods we can evaluate the level of persistence over time of the policy itself in the distribution of its resources at a territorial level. The analysis of persistence in regional expenditure allocations enables us to make a first evaluation of the territorial impact of the reforms that succeeded one another over time in the various Community policy frameworks. This concerns not only the shift in financial resources from one policy area to another (composition), but also the application of the principle of the geographical concentration of resources that was energetically pursued in the framework of regional policy (allocation), especially in the first two programming periods (1994-99 and 2000-06)¹⁹, despite the potential eligibility of all Community territory for rural development measures ushered in by Agenda 2000. Both regional policies and first-pillar CAP exhibit a high level of persistence in the regional allocation of funds between programming periods: for regional policies a 97% correlation was found between the programming period 94-99 and that of 2000-2006, and a 92.5% correlation between the 2000-2006 and 2007-2013 programming periods; as regards the regionalised spending of first-pillar CAP the correlation was respectively 94% and 93 %, a sign of the ongoing link between present-day agricultural policy and the "old" market policy (in terms of regional distribution as well as final beneficiaries, as seen in paragraph 2.1.1, and even with intervention instruments that were clearly less distortive than in the past). As regards rural development policies it was possible to observe a relatively higher level of dynamism over time, as indicated by the correlations between successive periods of, respectively, 64% between 94-99 and 2000-2006; and 80% between 2000-2006 and 2007-2013. The impact of Agenda 2000 seems to be well established, which if, on the one hand, had the merit of introducing a more organic rural development policy, on the other, was responsible for its "dilution" by suppressing rural zones as areas of specific intervention, and including within a single container tools of differentiated nature with a strong emphasis on interventions with an agricultural sectoral function.

By referring to Table 2 we can evaluate the level of correlation between the various policy areas in the same programming period as well as its evolution over time so as to evaluate the degree of complementarity/substitutability between different EU policies. In this context a significant reduction in the correlation of regional level spending between regional policies and rural development is immediately evident: from 80% in the period 94-99, it falls to 59% in the period 2000-06 and to 50% in the period 2007-13, thus suggesting that these two policy areas are progressively moving apart. As

¹⁹ The share of the population of the 15 member states that benefit from objectives 1 and 2 declined from 51% to a level of about 40%.

mentioned before, it seems that the origin of this process can be found in Agenda 2000, and that it has been reinforced during the present programming period, probably on account of the "abandonment" of the integrated programming approach. The association with other policy areas is inferior in relative terms but substantially stable over time. Therefore the differential persistence over time of the various policies can be associated with an evolution in their reciprocal relations in response to successive reform processes.

3.3.2. Coherence with the territorial concentration principle

The analysis of the correlation between regional allocations for the same policy in successive programming periods and between different policies in the same time period has brought to light a complex equilibrium between persistence and compensation in the relations between the various areas of Community policy. However, in order to throw light on the relationship between equilibria among policies and their potential compatibility with the objective of territorial cohesion, it is necessary to study the distribution of their financial resources in space and their capacity for geographical concentration in line with the structural disadvantage of regions.

Table 3 illustrates the MORAN'S I Indices calculated on the basis of Equation 1 discussed earlier for each policy and programming period and for the Structural Disadvantage index of the regions. The lack of spatial autocorrelation in the allocation of funds – with an I index close to the expected value, $E(I)$, indicated in the table – would seem to point to an indiscriminate distribution of funds. On the contrary, a positive Moran I index that is significantly different from $E(I)$ denotes the presence of a positive spatial autocorrelation: high spending areas are associated with a "neighbourhood" of areas with relatively high spending levels, in line with the principle of the "geographical concentration" of spending for the purpose of maximising its effectiveness in territorial terms.

The Moran I index for regional policies points to there being a clear concentration of Community spending that tends to increase, albeit marginally, in response to successive reforms and to a progressive reinforcement of the criterion of the territorial concentration of spending. Rural Development Policies, although exhibiting a level of territorial concentration considerably lower than that of the regional policies, reveal a significant increase in their capacity to "focus" financial resources upon specific areas of intervention, commencing from the last programming period. Despite the progressive "decoupling" from regional policies discussed earlier, the mechanisms to select the beneficiaries of the policy developed for the 2007-2013 programming period still seem able to guarantee a higher level of territorial focus. On the other hand, the geography of first-pillar CAP spending – in line with the sectoral and non-territorial nature of this policy – exhibits a much lower degree of territorial concentration (and statistically less significant) with respect to rural development. Furthermore, this differential tends to widen in the period 2007-2013.

In order to evaluate whether or not the degree of territorial concentration reached by the policies is suitable for tackling the persistent structural disadvantage of the economic "periphery" of the EU, it is necessary to compare the degree of spatial autocorrelation with that of the Structural Disadvantage Index. Structural disadvantage (Table 2) exhibits much more spatial concentration than Community funds, which should, instead, be contributing towards attenuating this disadvantage, thereby suggesting the need to move towards a further increase in the territorial concentration of interventions.

Altogether these results suggest that shifting resources from first-pillar CAP to Rural Development interventions can increase the coherence of overall Community spending in terms of the territorial concentration criterion, and potentially that the degree of coherence can move closer towards the degree of structural disadvantage of the regions. However, if the CAP is to contribute towards the achievement of the EU's long-term objectives, it does appear necessary to make an improvement in the distributive criteria from the standpoint of taking greater account of the economic and territorial disadvantages that characterise the context in which agricultural activity is performed. Such an improvement is especially necessary in the framework of rural development in view of its own specific territorial component, and could require a "reconsideration" of the integrated approach to multi-fund programming.

3.3.3 The association between funds received and structural disadvantage

After analysing the spatial structure of Community resources, a more detailed assessment is required of the capacity of these funds to develop reciprocal synergies (brought into question by the simple correlation between different spending areas) and to target the more disadvantaged areas more effectively by promoting processes of economic social and territorial cohesion.

The estimate of the regression model specified in Equation 3 offers a systematic analysis of the territorial structure of the Community funds. Table 4 sets out the results of the cross-section estimate of the empirical analysis model, which was estimated separately for each Community policy and each programming period. The per capita spending at regional level for each Community policy is, therefore, regressed onto the Structural Disadvantage Index discussed above and onto a set of "national" dummies whose purpose is to isolate any national "fixed effect": the systematic capacity of regions belonging to the same country to receive more (or less) funds regardless of their degree of disadvantage with respect to other areas of the Union.

The results concerning Regional Policies (Table 4, columns 1-3) highlight a positive and statistically significant link between structural disadvantage and funds received by the regions. A higher degree of structural disadvantage is associated with a higher level of spending on regional policies regardless of the country to which the region belongs. The association between disadvantage and Community spending increased from 2000 as shown by an increase in the significance of the coefficient. The analysis of the coefficients associated with national dummy variables provides confirmation of the model's explanatory power. The regions of post-unification Germany received (in the period 94-99) systematically higher level of financing with respect to the other regions, in addition to what would have been "justified" by their degree of structural disadvantage. However, this effect tends to disappear in the successive programming periods. On the contrary, the "premium" for the regions of the cohesion countries, Portugal, Spain and Greece, is systematic and persistent – positive and statistically significant in all programming periods. This premium is provided in addition to the Cohesion Fund reserved for cohesion countries and Ireland, and from which the latter withdrew in January 2004²⁰. The data provide no confirmation, instead, of the hypothesis that a redistribution mechanism operates between various policy contexts so as to systematically favour the United Kingdom as "compensation" for the limited benefits obtained from the first pillar of the CAP²¹.

As regards Rural Development Policies (Table 4, columns 4-6) the association between funds and structural disadvantage appears to be considerably weaker than that of the regional policies, and above all is found to wane over time commencing from the 2000-2006 programming period. This weakness also seems to underline the predominance of the sectoral function in the criteria used for distributing resources within the framework of rural development. Therefore, the progressive "decoupling" between the regional policies and rural development interventions, as observed in the preceding paragraph, is accompanied by a reduction in the association between the two policies and the structural disadvantage of the regions probably due to the abandonment of the integrated programming among the various funds. If we consider the distribution of the "national premiums" implicit in the regional allocation of funds for Rural Development we shall, also in this case, find a mechanism for the assignment of premiums to cohesion countries (significant and positive national dummies in all programming periods) that, furthermore, was later extended – commencing from the period 2000-2006 – to some economically strong countries such as Sweden, Finland and Austria; which may in part be explained by their possessing a high proportion of agricultural land classified as Less Favoured Areas (IEEP, 2006)²².

As concerns the first-pillar of the CAP (Table 4, columns 7-9) the association with disadvantage remains positive and significant, in line with the findings of Tarditi and Zanas 2001. However, the total variability in the regional allocation of funds as explained by the model (as indicated by the R-square) is relatively limited and decreases with time. And as the following table clearly illustrates, this relationship disappears altogether when additional controls for the characteristics of the regions are

²⁰ The Cohesion Fund has not been included in the databank as its resources are allocated at a the national level.

²¹ The imbalance in the UK's contribution position led to the Fontainebleau Agreement (1984) and the determination of a permanent rebate of its contribution towards the Community budget (De Filippis, Sardone, 2010).

²² This is especially true for Austria and Finland which in 2005 accounted for 72% and 100% respectively of SAU (IEEP, 2006).

introduced into the model. Nevertheless, it is possible to ascertain that as regards the first-pillar – in line with our expectations – no "premium" mechanism is detectable in favour of countries on the EU's periphery, even if the initial penalisation of Portugal (found for the period 94-99) seems to have been corrected in successive periods. In addition, even the penalisation to which the Italian and British regions were subject also appear to have disappeared in the more recent programming periods although in these same periods the "premium" for the French regions was reinforced.

The availability of regionalised expenditure data for the three consecutive programming periods enables us to make simultaneous use of both the cross-section and time-series variability of the data through the methodologies of panel data analysis. The estimation of the empirical analysis model in its fixed effects panel data specifications makes it possible to evaluate the relationship between structural disadvantage and Community funds after controlling for all the specific characteristics of each region that are non-observable/non-measurable and invariant over time (fixed effects) and for all factors common to all regions and subject to development over time (temporal dummies). This specification, therefore, allows us to evaluate the capacity of the various policies to target their funds upon structural disadvantage by removing from this relationship not only the effects of belonging to a certain country (as in the cross-section analysis discussed earlier) but also – for example – those of geographical position, historical factors, institutional quality (i.e. the general capacity of local institutions to "attract" EU resources over and above their structural disadvantage), sectoral macro-structure, firm-size structure etc.. Table 5 sets out the results of the estimation of the model of empirical analysis as specified in Equation 3, estimated with two-way fixed effects panel methodology²³.

Columns 1 and 2 of Table 5 reveal a weak relationship between structural disadvantage and funds for Regional Policies after controlling for the time-invariant characteristics of the regions. A low correlation between funds and structural disadvantage that varies over time denotes a limited capacity on the part of regional policies to target the more structurally backward areas by tackling the factors of disadvantage that can develop over time. If we observe the relationship between various policy areas (column 2) it does not appear that any "compensatory" mechanism exists at a regional level between regional policies and the first pillar of the CAP: receiving an amount of funds that is higher (lower) with respect to the average in terms of first-pillar CAP funds is not compensated for by a larger (smaller) appropriation in terms of Structural Funds, as indicated by the non-significant coefficient. The relationship between the two policy areas is found to be non-systematic even when it is attempted to relate potential compensation synergies/mechanisms to structural disadvantage by introducing an interaction term between the two variables (column 3).

The analysis of the structure of rural development policies – which as suggested by the foregoing analysis have undergone very significant development in recent years, in terms of their financing and territorial structure - reveals a good capacity to target financial resources upon the most disadvantaged areas (column 4). The somewhat "hybrid" nature of the Rural Development Policies, which is the result of a place-based transformation of the "old" sectoral policies, clearly emerges when we consider the "knock-on effect" of the rural development funds with regard to both first-pillar CAP funds (column 5) and regional policy funds (column 7). After controlling for conditions of structural disadvantage, the areas that obtain more funds for rural development policies are those which have received a relatively higher amount of funds for the other two areas of Community policy, which denotes a dragging effect not found in the regional policies. Is this a virtuous process for concentrating the resources of different policies in disadvantaged areas? The interaction term between

²³ The choice of a Fixed Effects approach is justified on both conceptual and empirical grounds. From the conceptual point of view, the regions included in the dataset cannot be considered as a 'Random Sample' of the EU regions. In addition the individual components cannot be considered as uncorrelated with the explanatory variables as assumed in a Random Effects approach. From the empirical standpoint, the Hausman test confirms that Fixed Effects estimation has to be preferred over Random Effects. The F-test for the joint significance of individual effects also confirms the high significance of the regional fixed effects.

In our dataset the cross-sectional dimension is significantly larger than the time dimension (the explanatory variables cover the 1993-2006 period). In this context, the low time-series variability of the dataset a priori prevents non-stationarity from affecting our estimates through spurious correlation. The hypothesis of stationarity is confirmed by three different unit root tests for panel data (the Im-Pesaran-Shin, the augmented Dickey-Fuller and the Phillips-Perron tests) which, as expected, reject the hypothesis of non-stationarity at conventional significance levels.

spending on "other" policies and the index of structural disadvantage indicates that synergies of this type are absent: as concerns both first pillar CAP spending (column 6) and regional policies (column 8), the concentration of funds in the same areas does not coincide with the most disadvantaged areas. The rural development policies, therefore, seem to be significantly influenced by the other policy areas with respect to which they absorb resources and 'borrow' intervention models. However, this influence does not translate itself into synergetic financial allocations in favour of the more disadvantaged areas. Conversely, the reduction in the relative weight (in terms of the Community budget) of first pillar CAP spending would seem to favour an increase in the overall relationship between spending and structural disadvantage (thus making the EU budget altogether more "pro cohesion"): first pillar CAP spending is quite unrelated to the disadvantage of beneficiary areas (column 9). However, a regional allocation of funds that is the most compatible with the territorial cohesion objectives is not an "automatic" consequence of the shifting of resources from one policy area to another. A systematic reading of the results suggests that the reinforcement of rural development policies can potentially promote compatibility between the allocation of total EU resources and cohesion. Yet the development of synergies in disadvantaged areas is still very limited as this is crucially conditioned by the need for a more pronounced "territorial vocation" of these policies, as also for a stronger integration and coordination with other policies "on the ground". In the same way the capacity of regional policies to target resources upon the weaker areas has still to be improved and such a capacity is certainly very much influenced by changes in the mechanisms of policy regulation.

4. Conclusions

The structural and systematic analysis of the territorial structure of EU spending upon regional, rural development and agricultural policies over a period of almost 20 years (three programming periods from 1994 to 2013) has shown that the relations between the various policy areas and their degree of compatibility with the objective of EU territorial cohesion is constantly evolving and is still far from being "consolidated".

The analysis of EU documents exhibits a growing emphasis upon coordination between policies and their compatibility with the cohesive territorial development of the European Union. However, the analysis of the impact that successive "adjustments" to the Community budget and the macro processes of reform have had upon the spatial structure of expenditure, demonstrate that if, on the one hand, various policy areas show significant interrelations, on the other, the synergies between policies remain relatively limited and reveal a trend that is not always in line with the "declared" objectives of the reforms undertaken. Furthermore, it emerges that there is no clear trend towards a more favourable overall allocation to the cohesion process driven by greater spatial concentration and/or a more accentuated orientation in favour of the more structurally disadvantaged areas. Successive reforms carried out in all policy areas (territorial allocation) and the reallocation of resources between policies within the Community budget (composition) have not produced an unambiguous impact on the level of compatibility with territorial cohesion processes.

Nevertheless, the results produced do make it possible to clearly identify the weaknesses of the various policies with respect to territorial cohesion and the occasions when such factors have emerged, and offer useful suggestions for the current debate on the composition of the Community budget (in terms of resources to be attributed to the various policies) and the reform of the intervention mechanisms of the single policies that determine the territorial allocation of their resources and the corresponding impacts on cohesion.

As regards the composition of Community spending, the results highlight the need to increase coordination between the various contexts of Community policy by leveraging the synergies and reciprocal functions that may be forthcoming from a coherent and integrated use of resources. Yet it is also clear that neither coordination with regional policies nor the shifting of resources from one policy area to another are "virtuous" in themselves as regards territorial cohesion. All areas of Community policy – including regional policies – have their light and dark sides in terms of how they target resources on structural disadvantage: the capacity to make a positive contribution to territorial cohesion depends crucially upon the policies actually implemented "on the ground" within the single policy areas and upon the respective allocation mechanisms.

As regards the trend in the composition of Community spending, the case of first-pillar CAP is of enormous importance. This policy still accounts for a significant component of the Community budget (about 1/3), and its spending is not constrained by factors of structural disadvantage thereby allowing it to retain a fundamentally sectoral approach, despite the growing emphasis by policy makers on the need that this policy adopt a regional vision. Its "counter treatment" nature with respect to cohesion policy interventions can only be justified for quintessentially sectoral objectives (e.g. the conservation of agricultural land, food quality, food security) of the policy, which would suggest the need for them to be carefully evaluated. In this sense, therefore, from the viewpoint of compatibility with territorial cohesion processes, the trend in the budget composition with its progressive movement towards the second-pillar may, potentially, be virtuous in terms of the objective of promoting economic cohesion. This, though, is largely dependent upon the capacity of these policies to "remain focused" in thematic and spatial terms, especially by learning from the experience of regional policies but without replicating their defects. Thus, our results suggest that incorporating rural development policies in a more complex framework of cohesion policies – along the lines of the Barca Report proposal – would not by itself constitute a guarantee of greater orientation of these interventions towards cohesion. And also as regards regional policies, there is still significant room for improvement in these funds' allocation mechanisms from the point of view of increasing spatial concentration and focus on disadvantage. The progressive increase in the resources earmarked to this area of Community policy has not produced benefits in terms of spending structure but rather seems to have led to a partial "dilution" in the interventions over time.

In the debate on the future of the EU regional policy two different views have emerged. On the one hand some economists and academics call for "some reallocation of the funds across target regions [that] would lead to higher aggregate growth in the EU and could generate faster convergence than current scheme does" (Becker et al 2010 p.1). On the other hand the Barca Report suggests a "conservative view on territorial allocation" (pp.113 and 158) on the basis of the lack of valid alternatives to the existing distribution criteria, and the risk that "embarking on a complex revision of parameters would once again focus the policy debate on financial issues, distracting from the pressing issue of how the funds are used" (p.113). Our analysis suggests that these views should be reconciled: It showed that the geographic allocation of financial resources can be improved in all spheres of Community policy but it also suggests that this objective should be pursued by means of a careful evaluation of the specific needs of each region (also in terms of thematic priorities). For this purpose a set of robust indicators of economic and social disadvantage can certainly support a more transparent redistribution of financial resources. However, more effective targeting of financial resource towards structural disadvantage also requires the mobilization of national and local actors that the 'strategic development contracts' between each Member State/Region and the Commission proposed by the Barca Report can certainly facilitate.

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Table 1 – Databank structure by programming period, policy area and source of funding

	Programmes	1994-1999			Programmes	2000-2006		Programmes	2007-2013	
Agricultural policies	CAP - first pillar	EAGGF - Guarantee			CAP - first pillar	EAGGF - Guarantee		CAP - first pillar	EAGF	
Rural development		EAGGF - Guarantee (Accomp. measures)*				EAGGF - Guarantee			EAFRD	
	Ob. 1	EAGGF - Guidance			Ob. 1	EAGGF - Guidance				
	Ob. 5A									
	Ob. 5B				Leader +					
	Ob. 6									
Leader II										
Cohesion Policies	Ob. 1	ERDF	ESF	FIFG	Ob. 1	ERDF	ESF	FIFG	Convergence	ERDF
	Ob. 6	ERDF	ESF	FIFG		ESF				
	Ob. 2	ERDF	ESF		Ob. 2	ERDF	ESF	Regional Competitiveness and Employment	ERDF	
	Ob. 5B	ERDF	ESF						ESF	
	Ob. 3	ESF			Ob. 3	ESF			ESF	
	Ob. 4	ESF								
	13 Comm. Initiatives	several funds			4 Comm. Initiatives	several funds		Territorial Cooperation	ERDF	

**Information on accompanying measures for the period 1994-1999 (EAGGF-guarantee) are not currently available.*

EAGF: European Agricultural Guarantee Fund

EAFRD: European Agricultural Fund for Rural Development

ERDF: European Regional Development Fund

ESF: European Social Fund

FIFG: Financial Instrument for Fisheries Guidance - The databank has no information on the Cohesion Fund

Table 2 - Correlation Analysis: Per Capita Expenditure for Regional Policy, Rural Development and PAC 1st Pillar

	Regional Policy 94-99	Regional Policy 00-06	Regional Policy 07-13	Rural Development 94-99	Rural Development 00-06	Rural Development 07-13	PAC 1st Pillar 94-99	PAC 1st Pillar 00-06	PAC 1st Pillar 07-13
Regional Policy 94-99 (Per Capita Expenditure)	1								
Regional Policy 00-06 (Per Capita Expenditure)	0.9680* (0.000)	1							
Regional Policy 07-13 (Per Capita Expenditure)	0.8961* (0.000)	0.9250* (0.000)	1						
Rural Development 94-99 (Per Capita Expenditure)	0.8090* (0.000)	0.7884* (0.000)	0.7464* (0.000)	1					
Rural Development 00-06 (Per Capita Expenditure)	0.5553* (0.000)	0.5946* (0.000)	0.5645* (0.000)	0.6377* (0.000)	1				
Rural Development 07-13 (Per Capita Expenditure)	0.4498* (0.000)	0.4909* (0.000)	0.4982* (0.000)	0.5626* (0.000)	0.7998* (0.000)	1			
PAC 1st Pillar 94-99 (Total Regional Payment pc)	0.4126* (0.000)	0.4475* (0.000)	0.4156* (0.000)	0.4755* (0.000)	0.3699* (0.000)	0.3390* (0.000)	1		
PAC 1st Pillar 00-06 (Total Regional Payment pc)	0.3897* (0.000)	0.4315* (0.000)	0.4110* (0.000)	0.4760* (0.000)	0.4545* (0.000)	0.4961* (0.000)	0.9374* (0.000)	1	
PAC 1st Pillar 07-13 (Total Regional Payment pc)	0.3869* (0.000)	0.4126* (0.000)	0.3800* (0.000)	0.4687* (0.000)	0.4152* (0.000)	0.4155* (0.000)	0.8498* (0.000)	0.9347* (0.000)	1

Tab.3 - Measures of global spatial autocorrelation

Variables	I	E(I)	sd(I)	z	p-value*
Regional Policy 94-99	0.244	-0.007	0.042	5.973	0.000
Regional Policy 00-06	0.25	-0.007	0.042	6.14	0.000
Regional Policy 07-13	0.258	-0.007	0.042	6.305	0.000
Rural Development 94-99	0.13	-0.007	0.042	3.254	0.001
Rural Development 00-06	0.11	-0.007	0.04	2.932	0.002
Rural Development 07-13	0.201	-0.007	0.042	5.01	0.000
PAC 1st Pillar 94-99	0.116	-0.007	0.042	2.922	0.002
PAC 1st Pillar 00-06	0.12	-0.007	0.042	3.03	0.001
PAC 1st Pillar 07-13	0.105	-0.007	0.042	2.676	0.004
Index of Structural Disadvantage (PCA)	0.339	-0.007	0.042	8.209	0.000

*1-tail test

Table 4 - Cross Section Analysis with country dummies

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Regional Policy 1994-99	Regional Policy 2000-06	Regional Policy 2007-13	Rural Development 1994-99	Rural Development 2000-06	Rural Development 2007-13	PAC 1st Pillar 1 1994-99	PAC 1st Pillar 1 2000-06	PAC 1st Pillar 1 2007-13
Index of Structural Disadvantage (PCA)	54.05** (20.82)	85.97*** (28.58)	80.38*** (23.87)	17.27*** (6.038)	35.89* (18.34)	21.02* (11.13)	189.3*** (44.94)	263.7*** (63.44)	224.0*** (67.28)
SE	28.97 (33.09)	21.67 (88.38)	85.08 (68.78)	7.375 (10.66)	114.0*** (22.32)	173.6*** (11.21)	-193.8 (148.8)	139.4 (145.7)	132.7 (150.4)
DE	242.3*** (91.83)	273.1* (145.8)	219.0** (106.5)	59.75* (32.60)	91.04* (46.15)	89.73** (35.91)	-228.5 (153.1)	-157.5 (166.9)	-61.47 (189.6)
IT	131.6 (88.24)	71.79 (147.1)	51.63 (113.1)	34.07 (30.67)	25.39 (77.78)	89.90 (54.96)	-650.0*** (220.7)	-708.8** (276.7)	-543.4* (298.7)
FR	40.13 (50.94)	-72.09 (97.10)	-107.4* (61.45)	-0.0428 (15.31)	-3.962 (40.70)	31.67 (24.87)	304.2 (208.7)	450.9* (236.7)	544.8** (250.0)
AT	-27.67 (70.94)	-78.80 (123.9)	-139.9* (83.59)	-9.364 (17.34)	323.4*** (45.77)	420.3*** (26.96)	-466.7*** (168.0)	-116.7 (190.3)	-302.3 (205.8)
BE	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
PT	1,095*** (99.77)	1,402*** (184.6)	1,310*** (195.3)	125.6*** (29.75)	206.5** (85.07)	227.0*** (49.44)	-587.4** (259.3)	-642.8* (335.9)	-521.2 (343.2)
NL	20.15 (50.57)	-93.19 (96.87)	-154.4*** (53.73)	-10.51 (12.98)	-48.99* (29.25)	-30.30* (18.24)	-129.2 (154.1)	-317.6* (162.7)	-249.6 (172.3)
UK	83.71 (59.20)	-14.93 (90.97)	24.00 (84.98)	-10.92 (12.94)	-39.82 (27.58)	24.46 (21.95)	-325.6** (152.7)	-294.1* (159.4)	-161.0 (174.7)
ES	615.0*** (86.93)	677.9*** (134.7)	430.2*** (102.1)	84.62*** (19.48)	187.1** (71.97)	156.3*** (45.40)	-32.19 (211.0)	367.6 (278.0)	617.5** (305.9)
GR	1,193*** (112.3)	1,754*** (177.7)	1,109*** (115.0)	150.1*** (28.72)	241.2*** (80.30)	237.4*** (49.07)	419.9 (270.0)	393.3 (331.8)	421.0 (402.7)
FI	29.19 (54.28)	175.4 (138.1)	142.1 (100.2)	33.78* (20.01)	197.1 (191.5)	511.2*** (169.5)	735.7*** (168.6)	1,914*** (339.8)	1,619*** (331.9)
Constant	129.9** (50.88)	338.7*** (97.31)	326.9*** (61.41)	40.06*** (15.06)	111.9*** (40.76)	78.88*** (25.15)	925.5*** (157.9)	1,103*** (172.3)	946.5*** (191.7)
Observations	139	139	139	139	139	139	139	139	139
R-squared	0.811	0.827	0.787	0.502	0.421	0.604	0.537	0.539	0.465

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Tab. 5 - Panel Data Analysis (Fixed Effect Two-Way): Regional Policy, Rural Development Policy, PAC 1st Pillar 1994-2013

VARIABLES	(1) Regional Policy	(2) Regional Policy	(3) Regional Policy	(4) Rural Development	(5) Rural Development	(6) Rural Development	(7) Rural Development	(8) Rural Development	(9) PAC 1st Pillar 1
	1994- 2013	1994- 2013	1994- 2013	1994-2013	1994-2013	1994-2014	1994-2013	1994-2014	1994-2013
Index of Structural Disadvantage (PCA) Panel	44.27 (27.45)	47.71* (26.06)	30.17 (30.00)	27.40* (14.33)	32.06** (13.79)	44.55*** (14.25)	24.81* (13.51)	26.92* (14.26)	-54.84 (50.63)
PAC 1st Pillar		0.0627 (0.0565)	0.0630 (0.0578)		0.0849*** (0.0326)	0.0847*** (0.0318)	0.0753** (0.0309)	0.0749** (0.0304)	
Regional Policy							0.152*** (0.0241)	0.157*** (0.0290)	
Interaction Term Disadvantage*PAC 1st Pillar			0.0153 (0.0185)			-0.0109 (0.00865)			
Interaction Term Disadvantage*Regional Policy								-0.00472 (0.0101)	
TD00	96.02*** (27.00)	89.25*** (25.89)	89.14*** (26.03)	-19.89 (13.89)	-29.06** (13.72)	-28.98** (13.81)	-42.62*** (12.82)	-42.39*** (12.80)	108.0** (43.17)
TD94	169.6*** (34.05)	159.3*** (36.18)	155.6*** (36.57)	-159.7*** (20.26)	-145.7*** (20.09)	-148.4*** (20.09)	-121.5*** (21.26)	-121.1*** (21.39)	-164.2*** (60.91)
Constant	557.1*** (20.38)	493.7*** (64.10)	486.6*** (66.82)	222.3*** (10.04)	136.6*** (34.12)	141.7*** (32.82)	61.53 (40.02)	61.01 (40.33)	1,010*** (38.53)
Observations	417	417	417	417	417	417	417	417	417
R-squared	0.291	0.297	0.299	0.325	0.354	0.358	0.403	0.404	0.277
Number of id	139	139	139	139	139	139	139	139	139
Robust standard errors in parentheses									

APPENDIX A – Index of Structural Disadvantage of the EU Regions: Principal Components Analysis (PCA)

Table A.1 – Index of Structural Disadvantage: Principal Components Analysis, Scoring coefficients
sum of squares(column-loading) = 1

Variable	Component 1	Component 2	Component 3	Component 4	Component 5
Agricultural Labour Force	-0.4357	-0.1607	0.5541	0.6907	-0.0137
Long Term Component of Unemployment	-0.1988	0.6518	0.5816	-0.439	0.0674
Education Population	0.5864	-0.1657	0.3517	0.0632	0.7078
Education Employed People	0.582	-0.0958	0.3971	0.0123	-0.703
Kms of motorways per thousand inhabitants	0.2967	0.716	-0.2706	0.571	0.0052

Table A.2 – Index of Structural Disadvantage: Principal Components Analysis, Principal components/correlation

Component	Eigenvalue	Difference	Proportion	Cumulative
Component 1	2.424	1.29763	0.4848	0.4848
Component 2	1.12637	0.102927	0.2253	0.7101
Component 3	1.02344	0.611799	0.2047	0.9148
Component 4	0.411645	0.397104	0.0823	0.9971
Component 5	0.0145409	.	0.0029	1

APPENDIX B – Methodology for the computation of Common Agricultural Policy- First Pillar expenditure at the Regional Level

The following Farm Accountancy Data Network (FADN) PUBLIC DATABASE indicators have been used for the computation of CAP-First Pillar Payments: Total Subsidies on Crops²⁴ (SE610), Total Subsidies on Livestock²⁵ (SE615) and Decoupled Payments²⁶ (SE630). Conversely, “Environmental Subsidies” (SE621) as per art. 69 Reg. (CE) n. 1782/2003 have not been included in the computation of total regional expenditure.

The following steps have been followed for the computation of ‘Total Regional Expenditure for first-pillar CAP:

- 1) The above-mentioned annual subsidies (Euro/Farm) have been added up for each region and multiplied by the number of farms located in each region (total regional subsidies) and each member state (total national subsidies);
- 2) Total national subsidies calculated on the basis of FADN data have been compared with actual payments as reported in the Yearly Financial Reports of EAGGF – Guarantee / EAGF (European Commission, 1994-2009);
- 3) In order to account for non-commercial farms not covered by the FADN database, the difference between actual and estimated national payments has been subdivided across regions proportionally to their share of non-FADN farms (i.e. Number of Non-FADN Farms in Region i / Total Number of Non-FADN Farms in Country j) calculated from EUROSTAT data for each region;
- 4) Total regional subsidies have calculated as the sum of ‘Total regional subsidies for FADN-Farms’ (Step 1) and ‘Total regional subsidies for Non-FADN-Farms’ (Step 3).
- 5) Total payments in each Programming Period (to match Structural Funds and Rural Development expenditure) have computed reiteration of Steps from 1 to 4 for each individual year.

As a robustness check, Total Regional Payments estimated with this procedure have been compared with a sample of actual payments at the regional level available from the Italian National Paying Agency. The Pearson Correlation between regional level payments is very high (0.98)²⁷.

²⁴ Including:-Amounts paid to producers of cereals, oilseeds and protein crops (COP crops) and energy crops payments. - Amount of premiums received by COP producers obliged to set aside part of their land. Such land may, however, be used for certain non-food crops -All other farm subsidies on field, horticultural and permanent crops.

²⁵ Including: Any subsidies on dairy products, All farm subsidies received for cattle other than dairy cows in production, Any subsidies on sheep/goat milk products, All other farm subsidies on other livestock or livestock products.

²⁶ Including: Single Farm payment, Single Area payment, Amount resulting from the application of modulation to the first EUR 5000 or less of direct payments

²⁷ Detailed table available upon request