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Inner Areas, University, and Territorial Cohesion in Italy: The Sicilian Case Study

Aree interne, università e coesione territoriale in Italia: il caso della Sicilia

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Abstract. In the current paper the authors used the STeMA methodology, adopted in PRIN 2015 Programme and applied to Italian inner areas to check the impact of European and Italian policies to get the objective of territorial cohesion. At first the authors provide a synthesis of scientific and institutional debate on inner areas and inner peripheries. Then they use three indicators, according to the TIA approach, to audit the contributions of important local development factors, such University and three-years graduates. They also studied the policies of cohesion and territorial development in Sicily in planning 2014-2020. Finally, the authors outline some initial reflections on the state of the research carried out and on the necessity for a redesign of the complex relationship between university and territory, as a strategic aspect of the more general national policies for territorial cohesion.

Keywords: territorial cohesion, inner areas, inner peripheries, university, Sicily.

Riassunto. In questo articolo gli autori hanno impiegato la metodologia STeMA, adottata nell'ambito del PRIN 2015 e applicata alle aree interne d'Italia, per valutare l'impatto delle politiche nazionali ed europee nel conseguimento dell'obiettivo della coesione territoriale. Dapprima gli autori hanno riportato una sintesi del dibattito scientifico e istituzionale sulla definizione di aree interne e periferie metropolitane. Poi hanno utilizzato tre indicatori per monitorare, secondo l'approccio del *Territorial Impact Assessment* (TIA), la valorizzazione di importanti fattori di sviluppo localizzati, come le Università e la distribuzione dei laureati triennali. Hanno quindi considerato la politica di sviluppo territoriale della Regione Siciliana nel periodo di programmazione 2014-2020. Infine gli autori traggono delle prime riflessioni sullo stato della ricerca svolta e sulla necessità di una riconfigurazione del complesso rapporto tra università e territorio, come aspetto strategico della più complessiva politica nazionale per la coesione territoriale.

Parole chiave: coesione territoriale, aree interne, periferie metropolitane, università, Sicilia.

1. Introduction

The main goal of the PRIN 2015, “Territorial Impact Assessment (TIA) of Territorial Cohesion in the Italian Regions”, is to provide a model for the evaluation of policies aiming to develop the green economy in inner areas (IAs) and inner (metropolitan) peripheries (IPs), under the planning for 2014-20 and on the base of the Europe 2020 strategy (see in this special issue Prezioso for an in-depth discussion on methodology of PRIN programme and STeMA software; also Prezioso 2018). As part of the project, this paper intends to discuss the role of peripheral areas and of university in the framework of the cohesion policies in Italy, with a focus on the case of Sicily. The project presents several new elements that may assist in reaching this objective. The first of these is the use of the STeMA methodology, which allows for the investigation of the territorial impact of the policies, which may be progressively modified by researchers and stakeholders, whose role is to assist in the process of decision making, so that the tools of planning and programming are sustainable and integrated within the sphere of territorial cohesion (Prezioso 2018, 23). A second, but not less important, element concerns the territorial contexts interested in the application of the model. Even if the project concerns economically backward, and socially weak areas, they are not defined as such with reference to the European classification of backward areas (regions which were first classified as objectives 1, 2, 3, and later as areas of convergence) but, instead, are considered as IAs and IPs.

The necessity for evaluation of the TIA of policies and actions for territorial cohesion has been felt both by national and European institutions and by scientific researchers (EC 2017; Prezioso 2006; 2011; 2018, 38). To that end, over time, various lists of indicators have been developed which, through the TIA, can facilitate the monitoring of decision-making capacity and economic-financial performance of regional administrations, as well as recognising the contributions of important local development factors, such as R&S, and the innovative capacities of the regions (Prezioso 2018, 35). Given the centrality of innovation and of talent as fundamental assets in development, and as key factors in the 2014-20 programming and the Europe 2020 strategy, a key role is afforded to the university as a hub of education, research and knowledge, also for peripheral areas, with responsibility for training, retaining and attracting talent.

The paper is structured as follows: In the next section, the authors provide a synthesis of scientific and institutional debate on IAs and IPs, as declining areas characterised by a number of infrastructural, social, eco-

nomic and geographical problems and weaknesses. The section n. 3 discusses and analyses three specific indicators: the number of university students entering university in the Italian regions and provinces, the numbers leaving, and the number of graduates. The information obtained allows, on the one hand, for mapping of the sector, including student movements in Italian regions and provinces and, on the other hand, for indirect evaluation of the role the university has played in the areas concerned. Comparing the map of the IAs in Italy with those elaborated on the basis of the 3 indicators studied, further observations become possible. The section n. 4 considers the territorial development policies of the Sicilian Region, during the planning period 2014-2020. In the final section, the authors outline some initial reflections on the state of the research carried out and on the necessity for a redesign of the complex relationship between university and territory, as a strategic aspect of the more general national policies for territorial cohesion. In this regard, a key role is played by the academic system of the South, including Sicily, and its capacity to best exploit the European Structural and Investment Funds (ESI funds).

2. The debate on internal areas and metropolitan peripheries

In Italian historical-geographical studies, the definition of internal areas refers not only to geographical and morphological characteristics, but also to the social, economic and functional marginality of the territories, with respect to the centrality of large and medium-sized urban agglomerations. It was in this context that, since the late seventies, several Italian scholars have begun to deal with them, individually and also in scientific associations (see the reflections of the AGEI research group on Marginal Areas in the Eighties: Cencini et al. 1983; Cafiero 1986; Leone 1986). These studies were often influenced by the approach of socio-economic and infrastructural marginality, which implies that the discomfort of a territory, measured in terms of demographic decline, also weakens the propensity to consume, the production of income and the demand for local services, which generates further pressures to depopulate the area (see the monographic issue of *Geotema* 10/1998). However, there are also contributions that take geomorphological features of the internal areas into consideration, such as high altitude and distance from the coast, along which the major conurbations are assembled¹ (Ruggi-

¹ In Italian academic literature on inner areas, the role of geomorphological characteristics has been emphasised and often it has been linked

ero, Scrofani 1998; Cruciani 2005). In international literature, the concepts most relevant to the topic of the overall disadvantageous conditions that characterize a territory are territorial deprivation and socio-economic and infrastructural marginality. That is to say the presence, at a local level, of critical issues in the production/supply of earnings, of health services, of criminal phenomena and literacy indexes. This academic debate has not been unmindful of new suggestions inspired by the changed external scenarios, such as the relations between the global economy and the local context, also focusing on contemporary urban conurbations, which are increasingly assuming the form of urban sprawl and city regions (Scott 2001; Couch et al. 2007).

The attention of the PRIN to IPs must not be misunderstood with reference to the traditional meaning of the backward regions and areas, but it must be specifically traced back to the debate carried out at the level of the EU. Especially the concept of IPs has acquired a central role in European politics and in its territorial agenda, offering a significant contribution to the debate concerning the most important challenges and potentials associated with peripheral areas, in terms of territorial recalibration of welfare and regional economic development.

In the European ESPON project, IPs are defined as those areas “in the shadow” of contiguous metropolitan areas, in a macro-regional context which, as a result of different social and economic processes, are disconnected from the main dynamics of growth and characterized by limited access to services of general interest (ESPON 2013). In a recent report, entitled “Inner Peripheries: national territories facing the challenges of access to basic services of general interest”, three main types of IPs are identified: 1) areas with low levels of economic potential that are interstices between central areas with higher economic potentials; 2) areas characterized by poor access to services of general interest; 3) areas affected by the absence of “organized proximity”, be it economic, political or social (Espon2020 2017).

This classification, in many respects, has been shaped by the conceptualisation of peripheral areas developed by the Italian national strategy for inner areas (NSIA), which identifies IAs by using evaluation and classification methodologies that consider a number of causes and processes of peripherality in order

to improve the overall well-being of local populations, implement personal services and trigger local development processes (Dipartimento per lo sviluppo e la coesione economica 2012; Ministero per la coesione territoriale 2013; Barca et al. 2014). The NSIA attributes the character of marginality in terms of the accessibility of the local population to basic goods and services, both in terms of quality and quantity. Inspired by the theory of the German geographer Walter Christaller, who designed market areas for goods and services offered by central localities (urban poles) and elaborated the principle of hierarchical dependence of one centre on another with greater services, the Italian government identified the poles of attraction as centres offering services and functions, using some basic services as parameters to determine centrality/marginality. These included the presence of upper secondary schools of all types, the presence of at least one hospital with emergency and overnight facilities, and a railway station classified by Trenitalia as silver. Once the gravitation poles were identified, the remaining municipalities were classified in 4 bands: belt areas (distance in minutes from the nearest pole less than 20); intermediate areas (travel times between 20 and 40 minutes); peripheral areas (between 40 and 75 minutes); and ultra-peripheral areas (over 75 minutes). This approach allows to recognize that 61% of the national territory (which corresponds to 53% of Italian municipalities) is in this condition, and that 23% of the Italian population (about 13.5 million people) is resident in IAs characterized by the marginality phenomena. While subsequently amending this methodological approach, there remain some inconsistencies such as that, while recognizing that inland areas are affected by the exodus of young people, they still adopt indicators such as health services, which are of little significance in terms of improving the supply of services that create opportunities to prevent this.

The methodology for identifying IAs in Italy, consolidated over the course of decades of study, had the undoubted merit of showing that the problematic nature of these territories involves three aspects:

- The reduced capacity to attract, and decreases the number of its inhabitants in absolute terms, the greater its distance from the town of reference;
- The logistical problems and the inadequacy of infrastructural network, together with the suffering of demographic decline, and the loss of local population especially in favour of large metropolitan areas;
- Small and very small towns in the hinterland (those with a few thousand or even hundreds of inhabitants) have even more difficulty in retaining their population.

to the conditions of environmental degradation as a consequence of the abandonment of agricultural land (Talia 1969; Talia, Galluccio 2014, 325). The rural exodus to the cities in the Italian Mezzogiorno was reported and analysed by eminent scholars such as Rossi Doria and Francesco Compagna (1959), and more recently Coppola (1997) and Viganoni (1999).

The role of small municipalities becomes crucial for combatting the demographic and socio-economic decline of IAs, even if they are fragile, less equipped with skills and characterized by situations of isolation. Small municipalities nevertheless constitute defence of the territory in terms of the provision of administrative services and support for an increasingly aging population. This function of small municipalities suggests a further perspective for reflection: it is necessary to start from a consideration of identity heritage, which consists of rural activities, small-scale production, artistic and cultural resources, and the potential for the territories to attract tourists. In short, it is necessary to rethink the priorities of the municipalities, provinces, regions and the central authorities, when they concern the issue of territorial development policies.

Both IAs and IPs need adequate collocation within socio-economic planning and infrastructure policies, especially with reference to issues of quality of the territory and its maintenance, in order to preserve its integrity and avoid its degradation, pursuing clear objectives of territorial rebalancing, as envisaged by European and national cohesion policies.

3. University and territory: analysis of STeMA indicators

3.1 Graduates in Italy

The role of the university has long been at the centre of studies of the processes of economic, social and cultural development of the territories. This has become even truer in recent decades, during which the themes of knowledge and culture have become a strategic priority for territorial development. There is a web of complex relationships among territory, culture, innovation and research, which has got a priority role in the current knowledge-based capitalist system. More generally, since the 1980s, there have been profound changes that have affected the university both in terms of institutional reorganization, training proposals and research activities, and in terms of contributing to technological advancement and economic development at regional and national level.

The geographer Lazzeroni (2019) has put forward a proposal for the classification of the different forms of relationship between university and territory, based on the role that the university institution can play in the development of a community and a territory: 1) as an international gateway, and therefore an interface between local and global that acts as an attractor for

both teachers and students; 2) as a driver of technology and business clusters; 3) as a driving force for regional economic development, strongly oriented towards a post-industrial and knowledge-based model; 4) as a promoter of new partnerships with the local community, in the form of civic engagement; 5) as a component of identity and urban transformation; 6) as the driving force behind the progress of peripheral areas.

In general, even more than in the past, the university is seen as one of the protagonists of territorial transformation, with tasks and missions that often go beyond the areas of action conventionally attributed to academic institutions. Nevertheless, the Italian university has for several years been described by scholars, researchers and analysts of various backgrounds as a system in constant decline (Viesti 2016; Capano et al. 2017), whose role as an engine of development and growth of Italian society and of the territories, especially in the post-crisis context, must be thoroughly reconsidered (Savino 2015). This is primarily due to the reduction in the importance of Italian universities, when compared to other more advanced countries. This trend is clearly highlighted by all the main indicators: numbers of enrolled students, graduates, teaching staff, research funding, etc. In the context of austerity that followed in the wake of the global economic crisis, it is plain that Italy has cut investment in its universities, in contrast with what has happened in the other advanced countries.

Among the many indicators available, the percentage of young people (30-34 years) with a degree compared to the total population appears to be of particular importance, also because it is one of the indicators for EU 2020, the aim being to achieve a target of 40% of young graduates. In 2014, Italy ranked last among the 27 Member States and, even with the corrected target of 27% in 2020, which has been announced, it would continue to occupy last place.

It is also equally important to assess the incidence of the population in possession of a three-year degree compared to the total population, a factor that was measured in the context of research activities under the PRIN 2015, with reference to the single year 2016. From analysis of indicators on a regional scale (NUTS 2), the highest values were found in the central-southern regions (Molise, followed by Basilicata, Abruzzo, Campania and Calabria), down to the last place in Tuscany, just preceded by Piedmont and Liguria. The regions with lower income and with less dynamic and innovative entrepreneurial systems have more graduates than the areas commonly understood as the engine of Italian economic and industrial development. Even more detailed data on a provincial scale (NUTS 3) (Fig. 1), where the first plac-

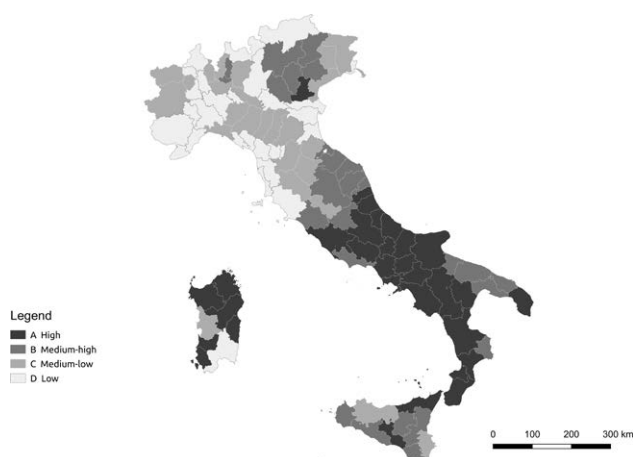


Figure 1. Populations with three-year degree (NUTS 3). Source: authors' elaboration.

es were occupied by small and medium-small southern cities, such as Nuoro, Isernia, Avellino, Benevento and Campobasso stand out. At the bottom of the ranking, by contrast, are Bolzano, Pistoia and Livorno. The data concerning the 14 metropolitan cities show the same tendency, with southern contexts, such as Reggio Calabria, Messina, Naples, Rome, Bari and Catania showing values higher than those of Milan, Bologna, Florence or Turin.

It therefore seems that there is no connection between more economically advanced areas and those with greater proportions of graduated population, nor is the size of the provinces relevant, as already highlighted with regard to regional data. In other words, there is a disconnection between the business world and the university, which certainly does not promote territorial cohesion. The metropolitan city of Milan, which has over 3.2 million inhabitants, had just over 9.000 new graduates in 2016, while Reggio Calabria boasts 2.000 out of a total population of just over 500.000 inhabitants.

However, these data concern residents, not the single universities. In part, therefore, they must be analysed in connection with data concerning the mobility of students and with the dynamic migration, known as brain drain, which sees an increasingly large number of young people from Southern Italy move to the North to study and perhaps find work afterwards. Of course, the choices are always individual, but it is also possible to insert these different behavioural data into more general dynamics. On the one hand, they could be explained by the existence, in the Centre-North of Italy, of a system of SMEs that succeeds in absorbing a significant proportion of local graduates, and could therefore be an attrac-

tive alternative to a university career. This consideration, however, raises concerns that a less qualified workforce in our country may be, in the medium and long term, a divisive element in terms of our relations with other European partners. On the other hand, it should not be forgotten that in the South the university ends up functioning as a sort of social safety net, one of the few alternatives against the uncertainties of NEETs, i.e. those who neither study nor work.

3.2 The indicators of flow among “university students entering or leaving” in Italy

Within the framework of the PRIN, in order to increase information about the effectiveness of the training system, two other important indicators have been calculated, one relating to incoming students and the other to outgoing students, with reference to regional (NUTS 2) and provincial (NUTS 3) territories, rather than to Italian universities. The offer of three-year and master degree courses has acquired a new physiognomy in Italy over the last few decades. The offer, in fact, although mainly located in the historic academic centres, has now spread over almost the entire national territory thanks to decentralized study courses. Thus, on the one hand, the universities have broadened their range of action, moving know-how and services to areas that may be distant from their headquarters. On the other, the territories have made economic resources, historic buildings, new structures and new geographical research areas available to universities. The territories have therefore become protagonists of the universities' educational offer, often also influencing the choices of students. The mobility of students in the national space turns out to be an important indicator both of the expulsive force of provinces and regions, and, vice versa, of their attractive capacity, which does not depend only - as we shall see - on the quality and quantity of the offer. The educational offer at university level is now spread over almost the entire Italian territory, but this does not mean that there are not very deep differences: provinces that have only one degree course with very few students, provinces that are the seat of several universities (e.g. Rome, Milan, Naples, Turin), polycentric universities (Piemonte Orientale, Insubria), or non-territorial universities (the so-called telematic universities).

The cartographic representation of the incoming students' indicator clearly shows situations that are apparently different, depending on the scale used. At NUTS 2 level, in fact, there is a manifest attractiveness of the Northern regions (excluding part of the Alpine

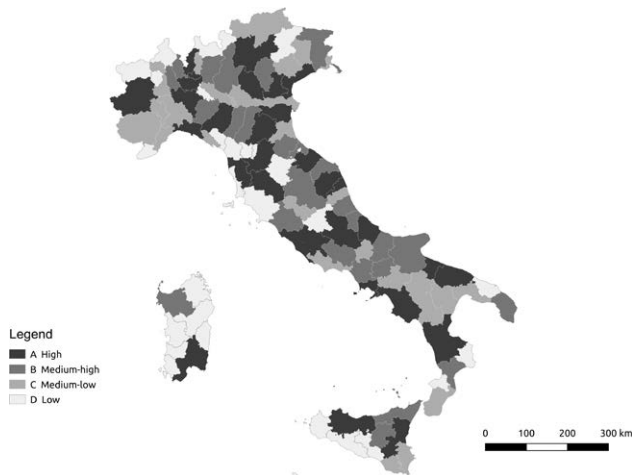


Figure 2. Students entering (NUTS 3). Source: authors' elaboration.

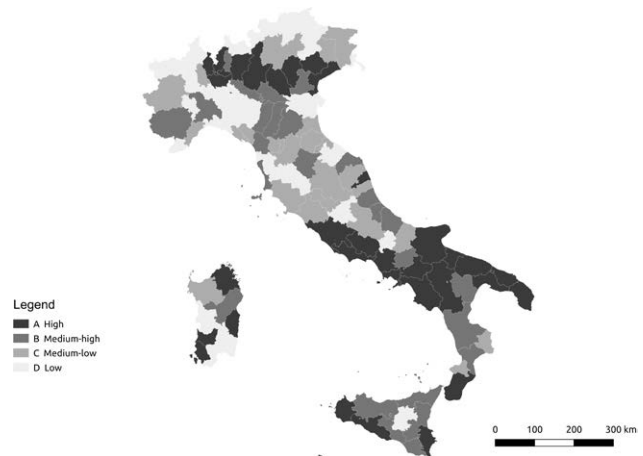


Figure 3. Students leaving (NUTS 3). Source: authors' elaboration.

area) and Central Tyrrhenian Italy. The Central Adriatic area and the Southern and island regions, on the other hand, are less attractive. Looking at the indicator at NUTS 3 level (Figg. 2-3), the situation appears, on the contrary, much more varied, with several high-attractiveness provinces also in the South (normally these are provinces with large universities). In reality, this apparent contrast is explained by the fact that, while many provinces in the Centre-North capture flows from all over the national territory, those in the South (with the sole exception of Naples) have a purely regional dimension, attracting students only from the neighbouring provincial districts. In fact, analysing the flows, we realize that the percentage of non-regional students - as well as foreign students, whose value is actually quite low in Italy - is clearly higher in the Centre-North. The only exception is, in fact, Naples, which still remains very far from the performances of provinces like Rome (which exercises a particularly attractive force, especially in the Central-Southern regions), Milan, Turin and Bologna. It should also be pointed out that the Pegaso Telematic University, which has over 22 thousand students, among which only 8.800 are residents in Campania, constitutes a decisive weight for the indicator in question in the Neapolitan province. Also noteworthy is the case of Messina, which has a very weak influence on the other provinces of Sicily, but which boasts the highest percentage of non-regional students in the South: 25% (5.561), mainly coming from Calabria (5.278), and especially from the province of Reggio.

On the other hand, the information obtained from the Outgoing Students indicator is more complex. At NUTS 2 level the map shows, in fact, that the regions with the highest index are those of the South (with the

exception of Sardinia, Basilicata, Abruzzo and Molise) plus Lombardy and Veneto; those with the lowest index are, instead, Molise, Friuli-Venezia Giulia and the two autonomous provinces of Trento and Bolzano. At the NUTS 3 level the situation does not change; however, we note the high index of students leaving the provinces of Lazio, with the exception of Rieti.

The complexity of the framework for this indicator derives from the fact that a high value may be indicative of peripherality, but also of dynamism and good income levels, just as a low value can be determined both by a good capacity of the territory to satisfy its own internal demand. Secondly, this can also be an index of closure, peripherality and low-income levels.

Overall, in fact, it must be emphasized that the most dynamic areas tend to acquire both a systemic dimension and, in consequence, an exchange of students among themselves. Consequently, in these regions, both the Incoming Students indicator and the Outgoing Students in Exit have high values. For example, about 6 thousand Lombard students' study in Veneto and 8.500 in Emilia-Romagna; about 9.800 Veneto students in Emilia-Romagna and 5.600 in Lombardy; 6.600 Emilian and 10.600 Piedmontese students' study in Lombardy. In point of fact, there is good integration between Emilia-Romagna, Lombardy and Veneto (with weaker flows from Emilia-Romagna to Veneto), and an equally good integration between Piedmont and Lombardy (with flows much more consistent from the first to the second). This situation does not occur in the South, where students are usually enrolled in the nearest university to their residence, or head for the universities of the Centre-North. It is also necessary to point out that, in some provinces, the territorial analysis of the two indicators

is complicated by the presence of the growing telematic universities.

While student mobility of the Centre and, above all, of Northern Italy appears interregional but limited to the respective macro-areas, the demand of the southern students is addressed mainly towards the university closest to their home, or to the provinces of central and, especially, Northern Italy. The flows from the North to the South and from the Centre to the South are very weak. The two indicators underline the condition of internal areas of many southern provinces, especially those without a well-structured university, and show the transition of important financial and human resources from Sicily and the southern regions to those of the Centre and, mainly, the North. In particular, a recent study has estimated “a net flow of resources (taxes, living expenses) from the South to the Centre-North of much more than a billion euros a year”, which certainly does not document the country’s territorial cohesion (Viesti 2016, 16). Without a doubt, the weak attractiveness of the Southern territories is not attributable only to a lack of supply: wider structural and systemic factors penalize the regions and provinces of Southern Italy. There are territorial deficits that should be corrected with specific policies that, in addition to extending the training offer, should aim to improve the physical accessibility of many territories which, as they are poorly connected, appear distant from the main university centres in the region. Further disaggregating the data, it is found that the most significant student exodus concerns the master’s degrees. The students evidently believe that, by completing their studies in the North or in a big city like Rome, they have more chances of entering the labour market, benefiting from an economic environment that is certainly more favourable than that of the regions of Southern Italy, and with which they are already familiar thanks to the training courses required by their degree courses.

It should be emphasized that the entire Italian university education system, when compared with those of other European and Western nations, appears to be going through a crisis phase. The ability to attract students from abroad seems modest, even in the big cities of the North, if compared to that of the most dynamic European metropolitan areas. In fact, there is a growing flow of Italian students - especially from the Northern regions - towards foreign universities. The Italian university system appears, at least, broken into two sub-systems, that of the industrialized regions of the Centre-North, where the lowest percentages of graduates (in comparison with even the most dynamic European regions) correspond to a fair level of mobility within the same macro-region, and that of the South, characterized

by a worrying share of young unemployed graduates and the exodus of young people to the university towns of the Centre-North.

4. Policies of cohesion and territorial development in Sicily in planning 2014-2020

Sicily is not homogeneous, with its atavistic and systemic delays; nor have the policies and interventions so far undertaken made a decisive contribution to real cohesion. The lack of homogeneity in Sicily has recently been highlighted by NSIA, according to which, almost all IAs in Sicily are defined as marginal or extra-marginal areas and only intermediate in some cases. The marginal and extra-marginal IAs in Sicily are mostly municipalities with fewer than 5,000 inhabitants (especially in the North-Western part of the island), a figure in line with the national one. These are small municipalities that, over the last twenty years, have shown a real process of depopulation. Over the past forty years, entire municipalities have increasingly taken on the appearance of ghost towns with very few residents and fewer young people, both in terms of numbers and in possible competences that can be exploited in the labour market (Novembre 2015). In these most recent years of economic crisis, the Sicilian IAs are suffering a profound occupational haemorrhage that mirrors the weakened structure of the economy: around 81% of municipalities specialize in the primary sector, just over 10% in the secondary sector and 9% in the tertiary sector (Ministero per la Coesione Territoriale 2012). The demographic aging and the reduction of some essential public services, such as education and health, have been accompanied by an economic and social degeneration of numerous local productive systems, with negative repercussions on employment. Furthermore, environmental deterioration has intensified due to hydrogeological instability and the degradation of landscape values, which are also caused by the abandonment of maintenance activities of agricultural soils, when they are not exploited for the production of income. The average taxable income per inhabitant, for income tax purposes, which derives above all from the primary sector, remains well below the income generated by the main coastal urban centres (Ibid 2013). In this situation, providing for new development models for these areas, in an attempt to anchor at least the local communities to the municipalities of residence, appears to be a problematic exercise.

In census data from the last three decades, the tendency to concentration of the population along the

Northern and Eastern coasts has been strengthened, especially in the vicinity of the large metropolitan centres. This accentuates the differences between urbanized areas, and inland areas, which are even more isolated, scarcely populated and almost completely lacking in basic services. Even if some areas straddling metropolitan cities could be defined IPs (the struggling industrial area in Augusta-Priolo between Siracusa and Catania, for example), the hard core of disadvantaged areas is represented by small municipalities, characterized by an economy which is public and/or agricultural, with decreasing levels of skills that can be spent in the labour market, and which are sometimes poorly connected to the transport network. European funds might represent an opportunity to reverse the course of the disturbing dynamics of Sicily, since their topics are appropriate, and their policies have the aim of relaunching such disadvantaged areas.

Through the Europe 2020 program and the 2014-20 programming of the ESI Funds, the EU has set itself the goal of supporting smart, sustainable and inclusive growth of Member States, increasing competitiveness, increasing employment and quality of the labour market, and strengthening research, education and innovation.

In this context, a potentially very significant and detailed role is attributed to the university system, as an active promoter of local and regional development, responsible not only for the production and transfer of knowledge but also for enacting innovation processes, both technological and social. The basic logic behind this program relates to the reduction of the gap between the levels of development of the various regions, bridging the gap of the less favoured or island regions, and paying particular attention to rural areas, those affected by industrial transition, as well as regions with severe and permanent natural or demographic disadvantages.

To address these challenges, there has been a revision of the legal structures of various funds, such as the European Regional Development Fund (ERDF), the European Social Fund (ESF), the European Agricultural Fund for Rural Development (EAFRD) and the European Fund for Maritime Affairs and Fisheries (EMFF). These will be regulated through a single organic regulatory framework, as required by European Union regulation (no. 1303 of 2013), and known as ESI Funds.

The restructuring of European intervention gives new impetus to the Cohesion Policy, and aims not only to overcome the crisis, but also to fill the gaps in our growth model and create the conditions for more intelligent, sustainable and supportive growth. This will provide territories with the tools able to trigger resilient capacities, and they will thus find themselves better pre-

pared for future negative events. Furthermore, the new programming cycle has stipulated, as an *ex-ante* condition for the use of community resources, that European national and local authorities must develop regional innovation strategies for smart specialization (RIS3), to favour a more efficient use of ESI Funds and achieve greater synergies between different EU, national and regional policies, as well as between public and private investments.

The 2014-2020 Cohesion Policy was divided into 11 Thematic Objectives (TOs), for each Thematic Objective (also referred to as the priority axis); specific objectives and investment priorities were identified, in order to enhance interventions and optimize and to direct spending more efficiently.

The question of the ineffectiveness of projects financed by European funds is particularly evident in Sicily. This is shown by the ruling of the EU Court of Justice which, in June 2019, definitively rejected Italy's appeal against the cut in funding envisaged by the 2000-2006 programming, which was due to serious deficiencies in management and controls, and obliged Sicily to repay 380 million euros, spent mainly in the ESF (Sabella 2019). Furthermore, the Court of Auditors also gave the Sicilian Region, in 2015, an unflattering record as the top Italian region among those attempting to fraudulently grab community resources. This involved a total of 168 million euros in the agriculture and fisheries sectors, in not regular public contracts and funds for innovation (Giornale di Sicilia 2017). The incapacity of Sicily - as well as of other Italian regions - leaves room for government agencies and European bodies which, by suggesting plans and practices, fill the local gaps and provide the opportunity to finalize the expenditure of European resources. However, this *modus operandi* entails the homogenization of local development practices, confirming the best practices of the most virtuous territories, which are recommended and then applied to the weakest and most disorganized regions (Cerimele 2005).

The European and national programs, which mainly allocate resources to Sicily, are summarized below, with the caveat that regional decision-making capacity (in the conscious and autonomous sense) has often been lacking, and therefore recourse has been made to the directives and schemes of governmental and community bodies:

- The ERDF Operational Program (OP) provides for an allocation of € 4.273 million for the Sicilian Region, with the aim to combine innovation and citizenship by joining multiple innovative thrusts in an original way, strengthening the competitiveness of production systems and research, and favouring social development and quality of life.

- The ESF OP of the Sicilian Region was adopted on 26 February 2015. The budget is expected to exceed € 820 million. The OP is based on four priority axes. The purpose of the ESF is to improve employment opportunities, promote education and lifelong learning, strengthen social inclusion, contribute to the fight against poverty and develop the institutional capacities of public administration.
 - The EAFRD OP supports the Sicily Rural Development Plan 2014-2020, and represents its implementation tool. The financial allocation is over € 2.212 million. The RDP is based on six intervention priorities divided into 18 focus areas, and three long-term strategic objectives: the competitiveness of the agricultural sector, the sustainable management of natural resources, and the balanced development of rural areas. Its purpose is to stimulate the competitiveness of the agricultural sector, guarantee the sustainable management of natural resources and climate action and achieve a balanced territorial development of rural economies and communities, including the creation and maintenance of jobs.
 - The EMFF OP represents the EU financial instrument dedicated to the fishing and aqua-culture sectors. The financial allocation is over € 118 million. The EMFF in Sicily is based on four priorities, and includes technical assistance. The purpose of the European Maritime Affairs and Fisheries Fund is to promote competitive fishing and aqua-culture, of environmentally sustainable, economically viable and socially responsible kind, to promote the implementation of the Common Fisheries Policy, to promote the balanced and inclusive territorial development of fisheries and aqua-culture areas, to foster the development and implementation of the Union SME in a way that complements both the policy of cohesion and the Common Fisheries Policy.
 - The Program of Action and Cohesion allocates € 1.882 million to Sicily, of which € 249 million is destined for the completion of the projects included in the 2007/2013 Structural Funds programming, and about € 335 million for purification interventions regarding wastewater. The Complementary Operational Program is divided into 11 Priority Axes coinciding with the ERDF and ESF Structural Funds. The Pact for Sicily of the Development and Cohesion Fund (FSC), established in 2011, is the main instrument of intervention for supporting development with national resources; it derives from the older Fund for Underutilized Areas (FAS), of which 80% were allocated for areas of delayed development. The budget is equal to almost € 64 million.
- Resources to date have been allocated to infrastructure, environmental interventions, product development and tourism.
- The Pact for Catania, Messina and Palermo of the FSC. After the approval of the NOP Metropolitan Cities 2014-2020, the Pacts for the development of the cities of Catania, Palermo and Messina were stipulated on 2016 by agreement between the Presidency of the Council of Ministers and the Mayors of the Cities. The financial allocation was € 332 million, for each of the Metropolitan Cities. Through the Pact, signatories agreed to “initiate and support a unitary path of intervention on the territory of the city and the Metropolitan Area of the cities, aimed at the economic, productive and occupational development of the area, as well as the environmental sustainability and security of the territory”.
 - The Regional Council approved the RIS3 in Sicily on 2016 by selecting Agro-food, Life Sciences, Energy, Smart Cities, Tourism-Cultural Heritage-Culture, and Economics of the Sea as priority domains of future specialisation (Di Bella et al. 2019).
 - Within this policy framework, Sicilian universities are to be allocated a key role as promoters of regional development, responsible for the production, dissemination and exploitation of the knowledge produced both within their own departments and in the wider local production system. Without denying the complexity of these new tasks attributed to the university system, the strategic and financial opportunities offered by the 2014-20 programming of the ESI Funds and by the implementation of a territorial approach of the RIS3 are apparent, especially for those territories, such as Sicily, that are characterized by conditions of relative disadvantage and delays in production and innovation.
- These new opportunities, which are connected to the ESI Funds and support a multiplicity of interventions, from lifelong learning to cultural and civil animation, appear even more precious in the current situation of serious hardship that the entire university system is facing in Sicily. The last few years have seen a process of downsizing and shrinking in the territorial distribution of significant academic offices (even the establishment of the Kore University in the province of Enna seems to be an attempt to recover a lost cultural centrality). Nonetheless, this has not translated into greater sustainability and efficiency of the system itself, nor into better performance in terms of the third mission and hence, territorial development (Caserta 2016). The process is directly connected to that of progressive cuts in the ordinary fund which, together with the increasingly widespread

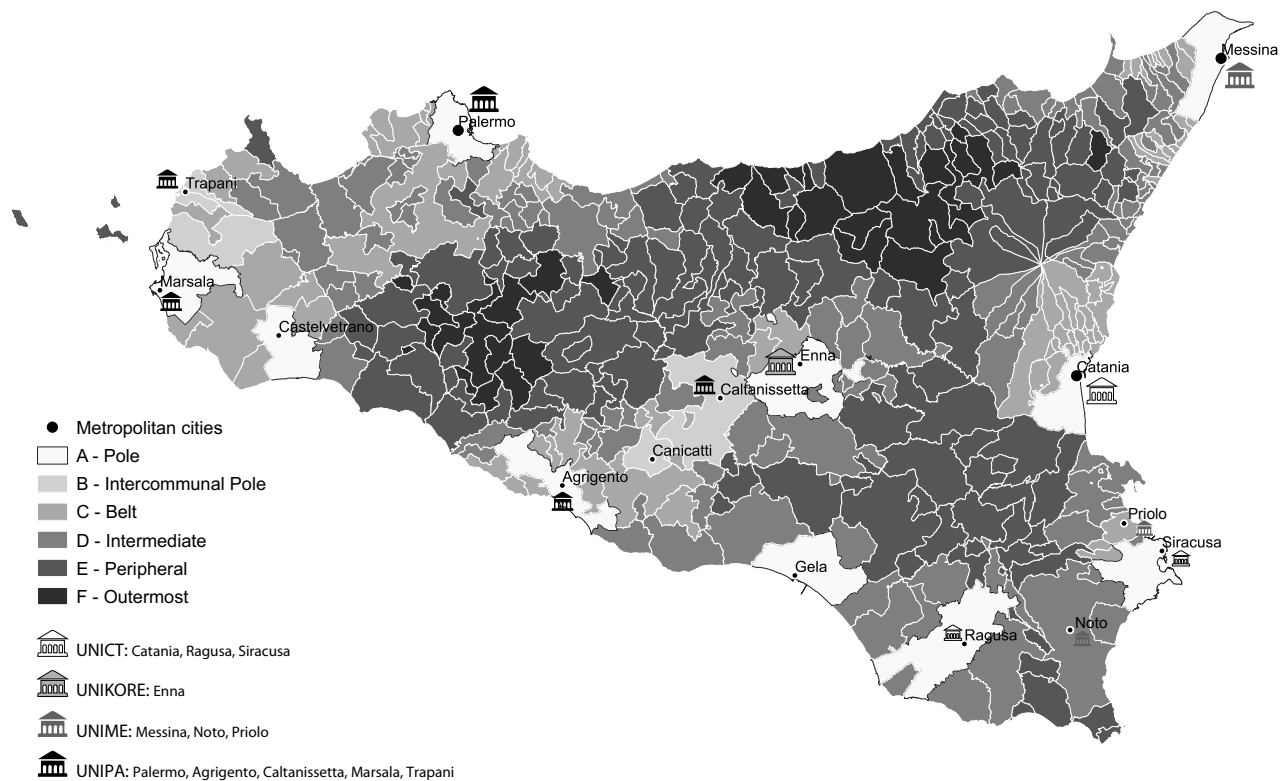


Figure 4. Sicilian inner areas according to NSIA with University sites. Source: authors' elaboration.

use of local and regional resources, has produced a further widening of the gap between the Northern and Southern Universities of the country. This has, in consequence, seen the disruption both of the territorial cohesion of the university system, and the right to education and research, as significant components of the rights of citizenship.

5. Preliminary considerations

Italy will have to spend 3.24 billion by 2019, with 13.7% of this figure being borne by Sicily, in order to avoid the automatic cessation of the resources of the European development and investment funds. Sicily will have to allocate, by December 2019, about € 388 million for the ERDF and € 68 million for the ESF fund. These figures are, respectively, 34.6% and 35.8% of the amounts set as targets by the Region for liquidation three years after the expenditure commitment entered the budget. These data raise the difficulty, which is almost endemic, in Sicily as in the rest of the South, of an autonomous spending capacity. The replacement of

national money flows with those of European programs has not improved a situation which has been resolved by applying the principle of subsidiarity: models of expenditure that are successful in other territories are imposed on regions, replacing and subtracting the autonomy needed to make them aware and responsible for their own resources and potentials, which are necessary pre-conditions for truly self-centred development.

Furthermore, depopulation through the exodus of young people, which afflicts the many inland areas of the country, not only in the South and on the islands, necessitates urgent attention from those actors able to cause a turnaround. In this sense, universities appear as qualified institutional actors who, due to their local roots and their parallel integration into international networks, can contribute to a significant change. At the moment, as showed by indicators discussed above, especially in the Southern Italy the role of university for territorial development remains particularly weak, in so far as the phenomenon of brain drain remains dominant, differing from the reality of the North where the student mobility appears to be a more variegated and multi-directional form of brain exchange.

Furthermore, the strengthening of traditional university sites localised in the larger cities together with the closure of many decentralised sites had further disadvantaged inner areas. Especially in the South, in order for their activities to have positive effects on local development, it is absolutely necessary for the third mission to prevail over teaching and research. Relationships with the territory, with other local institutions, associations, and companies must be unearthed and reinvigorated, because they offer the means to create an adequate training offer, and research carried out may address issues of local interest. Recent data, such as those of Eurostat, show that Italian graduates between 30 and 34 years of age, who find jobs three years after obtaining their degree, are about 63%. This means that in Europe, Italy only precedes Greece, with 59%, which seems to confirm the current gap between Italian university education and the needs of the labour market (Seghezzi 2019, 16).

On the one hand, only a relationship of constant collaboration with the territory can drive effective educational activity for the better integration of graduates in the world of work. On the other hand, university research can represent a critical mass for the local economy in the absence of adequate private research, helping to bring out talent, creating opportunities for local businesses and filling those gaps in organizational, managerial and coordination positions which characterize many territories, especially in Southern Italy. In this perspective, although the role of regional planning cannot completely counterbalance the pressures towards divergence in the South and Sicily in terms of the university system, EU funds nevertheless offer new strategic and financial opportunities. These can increase both the attractiveness of the Sicilian and Southern universities for talented young people, as well as their role for territorial development and for reversing the processes of peripheralization that affect a multiplicity of territories. In this regard, as shown in other work (Di Bella et al. 2019), the implementation of a territorial approach to S3 can find fertile ground even in peripheral Sicilian areas (with reference to the active role of technology for social inclusion in inner areas see also EC 2020), becoming a synergistic tool for territorial innovation, functional to the sustainable, inclusive and intelligent development of the entire regional territory (Fig. 4).

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