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Urban and Social Regeneration in Abruzzo: An Open Problem and a Possible Way Forward

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Abstract

Urban and social regeneration occurs through the recovery of disused built-up areas, requalifying them with respect to environmental sustainability and the recovery of the relational relationship between social actors. In the last few years, the practices of sociourban regeneration have made great strides, establishing themselves as an opportunity to promote policies of social participation, stimulating employment, and local entrepreneurship. Sociourban regeneration can thus be defined as a set of actions that focuses on the recovery of sociality and the requalification of an urban space. The regeneration process takes place by means of rehabilitation interventions at the level of infrastructures and services, thereby limiting the consumption of land in order to protect environmental sustainability. Regeneration also allows the community to re-appropriate and re-live the regenerated spaces with clear improvements in the quality of life and in the social, economic, and environmental spheres. This paper focuses on exploring the relationship between urban and social regeneration and economic growth in Abruzzo (Italy) by using a set of indicators that measures equitable and sustainable well-being (Bes). A descriptive analytical method was adopted to evaluate the level of urban quality in order to identify the most appropriate interventions leading to sustainable local development. The main finding indicates that Abruzzo shows interesting potential, but it has yet a long way to go in the area of urban and social regeneration.

Keywords: Social regeneration, urban regeneration, social policies, labour policies

I. Introduction

Abruzzo can be considered a paradigmatic region. From the post-war period to the present day, it has basically experienced two paths of economic growth. The first was the transition from a situation of extreme backwardness to one of great productive development, which has placed the region in a prestigious position among all the regions of southern Italy and seventh in Italy for added value and employment in the industrial sector. The second turning point occurred during the 2000s for a whole series of reasons such as globalization, technological intensity, competition from emerging countries, and innovative processes which curbed its productive momentum.

The emergence of the Abruzzo's structural model can be traced back to two phenomena. On the one hand, it is becoming increasingly convenient for large companies to relocate parts of their production to geographical areas where they can cut labour costs, increase productivity, and reduce the trade union conflicts typical of large companies, which can be explained by the crisis linked to the Fordist concept of vertical cycle production. On the other hand, it is the skills and productive knowledge existing in the area that pushes former artisans and workers to turn into small entrepreneurs. This is due to the low barrier to entry in low-added value sectors and the abundance of financial resources.

Abruzzo's evolutionary path, characterized by the legitimization of the role of small enterprises and the stimulating presence of large enterprises not engaged in basic sectors, reaches a turning point in the territorial implications of major changes in the international economic scenario. As a result, the financial crisis of 2007/2008 made the general economic picture even more complex. However, the economic model entered into crisis before this last event (Mulino, 2014). There is no doubt that an initial cause of the slowdown in production can be attributed to the end of European financial subsidies linked to the so-called Objective 1.

Another aspect to focus on is innovation. The great economic transformations, in addition to the phenomenon of globalization, have as their reference point the digital economy, technology, and innovation in general. This is a profound change that is pushing towards more advanced production structures so as not to remain trapped, as it has happened, in low growth.

More so, the changes that have taken place over the last few years have introduced a number of elements of uncertainty into the Abruzzo 'economic model', which cannot be conceived and assessed using the tools of the past. Firstly, there is the problem of revitalising the system of widespread industrialisation. The foreign projection of SMEs is one of the gaps that must

be bridged. It is also important to note that small enterprises represent the backbone of the production system, which is an important reality in the economic landscape of Abruzzo. Furthermore, greater versatility and technological standards have ensured competitive equilibrium. As a result, the evolutionary path requires that the romantic vision of the role of small enterprises is put aside since it passes through the removal of the constraints that hinder their growth. The spread of new technologies implies an investment-risk combination that in some cases may not be compatible with a modest production scale. Thus, entrepreneurial dwarfism is no longer seen as an asset. Secondly, it seems appropriate to define the Abruzzo 'model' within a strategic vision, which indicates priorities, resources, and objectives to be pursued. Also, it is significantly important to seize the opportunities offered by the European "Recovery Fund" programme, which focuses on the transition towards digital technologies and sustainability. In this context, urban regeneration can be a driver of new growth, massive public investment, and new quality jobs.

This paper aims to make a contribution to the urban and social regeneration studies at regional level by analyzing the relationship between economic growth and territory. Methodologically, a descriptive analytical approach based on socioeconomic indicators was adopted to quantify the levels of urban quality.

The structure of this paper is as follows: In the second section, the main links among territory, economic growth, as well as the salient features of the sociourban regeneration issue in Abruzzo are outlined. In the following section, the descriptive evidence from the Abruzzo's economic evolution and the data used in the analysis are presented. The methodology and the main results are given in the fourth section. The last section contains the conclusions.

II. Theoretical Framework

There is a very close relationship between territory and economic growth. It is a significant link between the prospects of urban centers and development prospects. The territory cannot be conceived as a mere physical-technical space, but as a place where local development processes are activated and paths of interaction between the economy, society, and the environment are established (Njuguna et al., 2014; Ipole & Okpa, 2019). Even in a dynamic context, such as the current one in which the principles of globalization prevail from an economic point of view, territorial management maintains its importance intact. Although the competition had the role of companies as a reference point in the past, the territory provides the tools for a sustainable, high-profile economy today. If the territory fails, businesses fail also. A well-organized urban center in terms of public services, logistics, and

social infrastructure helps to create significant competitive advantages (Ali & Rafique, 2015). Subsequently, in addition to spatial organization, microeconomic and macroeconomic aspects must be considered in order to better identify the factors of growth at regional level, including factors that appear complementary and intrinsically linked to the territory (Fratesi & Senn, 2009).

On the basis of these considerations, the territory becomes a crucial variable in explaining the opportunities that are seized in some regions and the constraints placed on the development process. In addition, space ceases to be a source of cost for businesses to take on the role of a favorable environment for them. This creates external economies and a meeting point between market forces which allows the formation of social relations (Garofalo & Mazzoni, 1994).

The link between the two areas of analysis shows that the question of the regeneration of urban centers cannot be dealt with separately from the economic question. The two phenomena which seem to condition each other appear to be somewhat interdependent and manifest the need for a study that is as integrated as possible (Favaretto, 2000).

On the one hand, the urban center contains factors relating to architectural and construction quality, primary services, and problems connected with land use or environmental degradation. On the other hand, the knowledge of certain economic indicators may provide significant elements for a complete assessment of the area.

In addition, the knowledge of certain economic indicators can provide significant elements for a comprehensive assessment of the area. Certainly, the largest urban centers are also places where local interrelationships can enable the formation of an innovative milieu or nodes of interchange and flows in global networks. The connections between urban centers and economic phenomena are highlighted in Figure 1. As can be seen from the figure in the circuit highlighted, PIL, employment, external projection, characteristics of the productive system, infrastructural endowment, tourist intensity, and welfare system are the indicators that are considered most appropriate to outline the characteristics of urban centers from the economic point of view.

Therefore, it is this mix of knowledge that prompts a rethink of urban and building policies, which must necessarily be anchored to economic issues. Consequently, urban centers should be perceived not only as simple spaces but also as a broader container where actors, the availability of resources, territorial perspectives, and individual and collective needs converge. This is a top-down approach where other indicators of a more particular and specific nature can be added to those mentioned above. These include the entrepreneurship index which measures the ratio between the number of businesses and the resident population; the size index which indicates the

number of employees in relation to the total number of businesses; and the entrepreneurial dynamism rate which is the ratio between the birth rate and the death rate of businesses. Particular attention can also be paid to the study of small and medium-sized enterprises that are present in a delineated area. This can be done through the concentration index, which provides the number of employees of small enterprises within the considered territory compared to the number of employees at regional level. A further indicator to be taken into account is the sectoral specialization index, which aims to identify the intensity of productive specialization of the small enterprises operating in the area so as to include them in the circuit of enterprise networks.

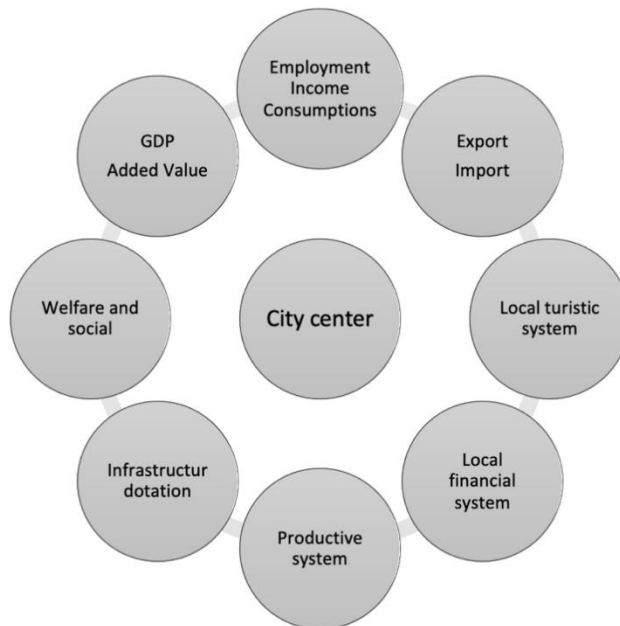


Figure 1. The main areas of evaluation
Source: Mascarucci (2011)

Also with regard to the strictly territorial aspect, there are indicators capable of highlighting the functional characteristics of the urban center. An example comes from social infrastructures (institutions, health, culture, etc.) that are fundamental for improving the productivity of the labour force and raising the rate of entrepreneurship (Perloff, 1963). This type of infrastructure is obviously different from the tangible infrastructure (road network, motorways, ports, airports) and the intangible infrastructure that affects the innovation rate of the area. A further element of analysis is the "social mobility" index referring to the use of public transport. Other important indicators are outlined as follows:

- a. the endowment of services of the urban center, which includes the surface of green areas on the total urbanized land and the surface of other public services, i.e., the use of urban land;
- b. the rate of urbanization of the territory, which is obtained by measuring the agricultural and productive surface area on the total urbanized land;
- c. the accessibility of the territory, which is calculated on the basis of the number of incoming cars;
- d. the naturalness of the territory, which expresses the restricted surface area over the total urban area.

Once the cognitive elements of the territorial area, its potential, and possible criticalities have been defined, it is possible to prepare a cost-benefit analysis aimed at assessing the most appropriate interventions. Basically, it is a question of identifying the valuation gaps, which should be the focus of the strategic plan, with projects that are sustainable in terms of urban planning and economic viability.

Figure 2 shows a possible virtuous circuit aimed at illustrating the interdependence between the two disciplinary profiles with the final objective of sustainable local development. Cost-benefit analysis appears to be significantly important. It not only helps to define the content of the strategic action to be pursued but it also assesses the net social benefits of the intervention program. It is based on the principle of "Paretian equilibrium", which leads to the evaluation of the social value of the intervention in a specific area without diminishing the benefit of other areas. The reasons that underline the importance of the economic study in the context of urban centers include the following: to grasp the economic and social trends of the territory, to identify the vocations and peculiarities, and to outline the priorities on which to focus so as to enrich the cognitive trajectory of the urban center in order to live it in a more concrete way.

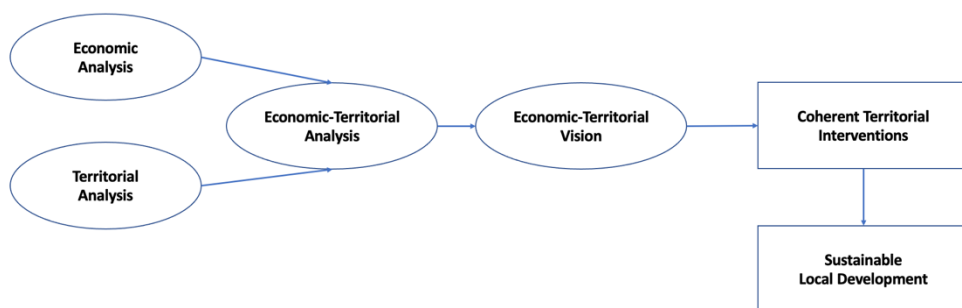


Figure 2. Economy, territory and sustainable development
Source: Mascarucci (2011)

In recent years, as a result of the pandemic, both European (Next Generation EU) and national (PNRR) documents have focused on two key conditions for economic growth, namely digitization and sustainability. Digital transformation implies an organizational revolution on the part of businesses and public administration in order to overhaul business processes and administrative activity. However, the central issue indicates that there will be no prospects for growth if these do not have a matrix of sustainability. In a framework of economic incentives, environment and sustainability represent an opportunity to be cultivated as reference points for the new generations. Generally speaking, the reduction of carbon emissions in production processes cannot be postponed and the objective of reducing emissions by 55-60% by 2030 must be pursued.

At the same time, there is a need to use sustainable materials because of the assumption that sustainability can now be seen as a change in the production paradigm, thereby influencing markets and consumer activity. In other words, it is an essential component for the future of the economy and for being able to compete in innovative terms, knowing how to combine profits and social responsibility for companies. In addition, the theme of sustainability has always been present in economic literature. As early as 1981, the economist Daly Herman (1981) defined the criteria as:

- the principle of sustainable efficiency: resources must be consumed at a rate that allows the environmental system to replenish them;
- the principle of absorption capacity: the production of goods must not generate waste and pollution that cannot be absorbed by the system in a reasonable short time; they must not produce cumulative effects. The cycle of transformations of natural capital is in equilibrium if the speed of the resource consumption phase is equal to the speed of the regeneration phase.

The issue of regeneration of urban centers is part of this broad problem. Regeneration is the tool to direct the transformation of urban centers towards the criteria of environmental sustainability. This is in line with strong positive implications with regard to the risks linked to climate change (Barbarossa et al., 2013).

In this context, the environment takes on a priority value. This is because it is not one of the many problems to be tackled on the territory, but the great issue of the future that will define the forms of economic and social development. Thus, for a long time, the lack of attention paid to the environment implied that the effects of urban planning choices on economic issues were overlooked, forgetting that many inequalities, including social inequalities, have an environmental matrix (Uzobo & Dawodu 2015; Mostafa 2018; Quansah et al., 2020). An effect of the environment-territory-economy

nexus is the stimulus that the environment can exert on internal demand through the joint action of consumption and investment. From this point of view, the economic effects may concern two specific dimensions (Agnoletti & Bocci 2014). The first, which is of a proactive nature, involves the use of land for productive and residential purposes, as well as the transformation of the building stock and infrastructural choices. The second, which is of a constraining nature, involves the limitation of building activity. However, it determines the increase in environmental and landscape quality derived from it.

The concept of urban quality therefore takes on a high profile meaning and is understood as the capacity of the urban environment to satisfy the different needs emerging from the territory in an integrated form, i.e., in qualitative and quantitative terms (Martincigh, 2003). More so, the final result of material and immaterial needs is the intersection between supply and demand. This is observed between the demand for liveability and efficiency expressed by the local community and the capacity of the city (urban center) to satisfy it (Bagnasco, 2005).

Accordingly, urban quality interprets different individual and collective needs and becomes an expression of social, environmental, economic, and cultural components. This is based on a qualitative conception as a result of the encounter between environmental quality, social quality, and the quality of life (Agnoletti & Bocci, 2014).

Figure 3 below explains the implications of the notion of urban quality. Also, in addition to the aspects mentioned above, other factors are derived such as the natural and anthropic system, the socioeconomic system, and cultural elements.

In this context, the need for intervention on the regeneration of urban centers appears to be growing. Legislative Decree No. 32 of April 18, 2019, defines urban regeneration as the "systematic complex of urban and building transformations in urban areas on areas and building complexes characterized by urban, building, environmental and socioeconomic degradation". Furthermore, it is not only a matter of material adjustments but the objective is a social regenerative action aimed at improving the living conditions of citizens and at generating a sort of virtuous circle between regeneration and development. The aim is to regenerate society by improving the living conditions of citizens and generating a virtuous circle between regeneration and development. An example of this are disused industrial buildings. Regeneration means transforming these abandoned factories into a new use linked to safety and environmental protection and, importantly, stimulating new investment and economic growth. In other words, it means re-appropriating and reviving the community of regenerated spaces on a human

scale with positive effects on the quality of life and the social and economic context.

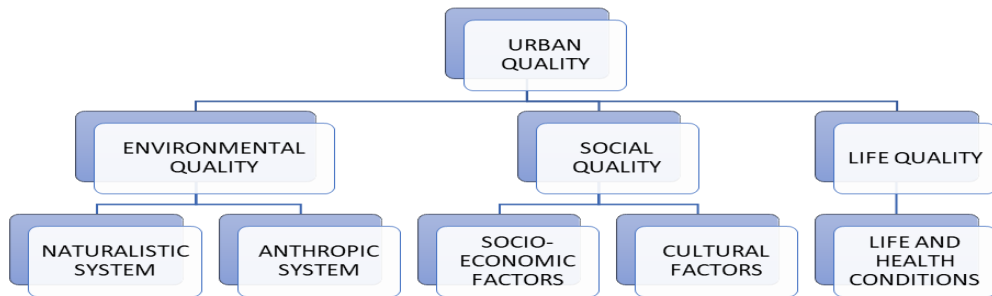


Figure 3. The components of urban quality
Source: De Ciutiis (2008)

In order to be more precise, the National Plan for Sustainable Urban Regeneration indicates the following objectives:

- the securing, maintenance and regeneration of the public and private building stock to reduce seismic and hydrogeological risk;
- the drastic reduction of land consumption and waste of buildings in terms of energy and water, through energy and ecological districts;
- the re-evaluation of public spaces, urban green spaces and neighborhoods services;
- the rationalization of digital infrastructures;
- the safeguarding and revitalizing of historic town centers.

This complex but useful action can be seen from an economic point of view which include the following:

- a reduction in energy expenditure with the possibility of shifting resources to other areas of the economy, both at municipal and regional level;
- improvements in the labour market, thanks to the formation of new areas of employment;
- the preservation of the cultural heritage with positive effects on tourism;
- the creation of an urban habitat conducive for social life through reduced pollution and greater safety.

III. Data and Descriptive Evidence

It is important to focus on the first economic phase, which is development, because it was during this period that the modern Abruzzo was

born and the productive characteristics that are still the region's strong points today were formed. From the 1970s to the 1990s, a sort of industrial route to development was outlined (Mauro, 2019), with a process of convergence towards the most advanced areas of the country. In 1991, the industrialization index was almost twice as high as in the “Mezzogiorno” and is slightly higher than the national average (Table 1).

Table 1. Industrialization index (1951 – 2001)

	1951	1961	1971	1981	1991	2001
Abruzzo	4,4	5,4	7,7	10,7	11,5	10,9
L’Aquila	3,7	4,4	6,1	9,4	8,6	8,2
Pescara	5,5	6,9	8,0	8,5	9,9	7,6
Chieti	4,3	5,0	8,1	11,1	12,5	12,2
Teramo	4,6	6,0	9,0	17,3	14,8	14,7
South	4,1	4,5	5,4	6,2	5,4	5,7
Center-North	11,8	14,9	15,6	16,4	14,6	13,9
Italy	9,3	11,1	12,1	12,8	11,3	11,0

Source: our elaboration on ISTAT data.

PIL confirms this growth even more, as it goes from a value of around 13 thousand billion lire to around 26 thousand billion lire, an increase of 100%. In this regard, if productivity and employment rates are combined (Figure 1), Abruzzo's evolutionary trend clearly emerges (Svimez 2000).

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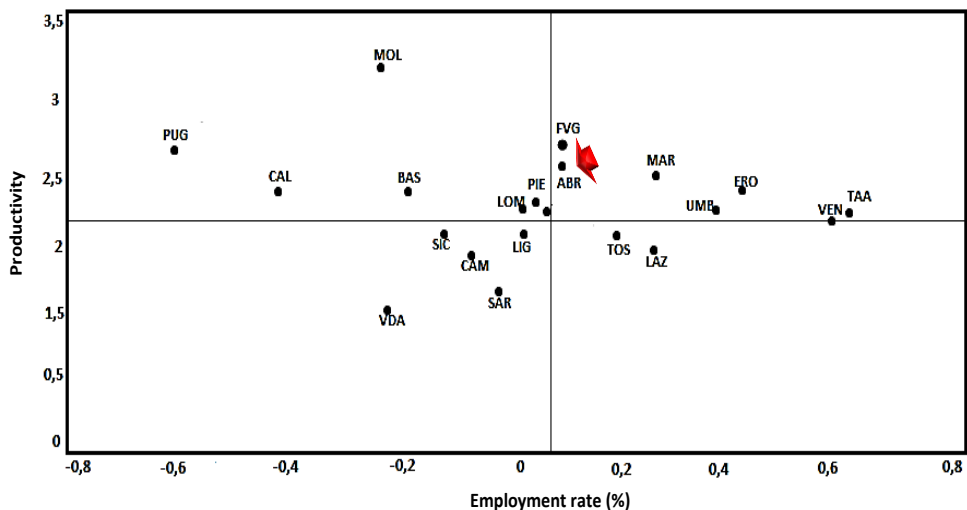


Figure 4. Productivity and employment rate (1970-1998)

Source: Svimez (2000, 2001)

Note: The list of the Italian regions and their acronyms are shown in Table 1.A (Appendix).

The performance of the labour market also provides some interesting indications that confirm the above. Figure 5 illustrates the phenomenon very well, considering that the unemployment rate in the region shows a positive gap of about 14 points with respect to the “Mezzogiorno” (Svimez, 2000).

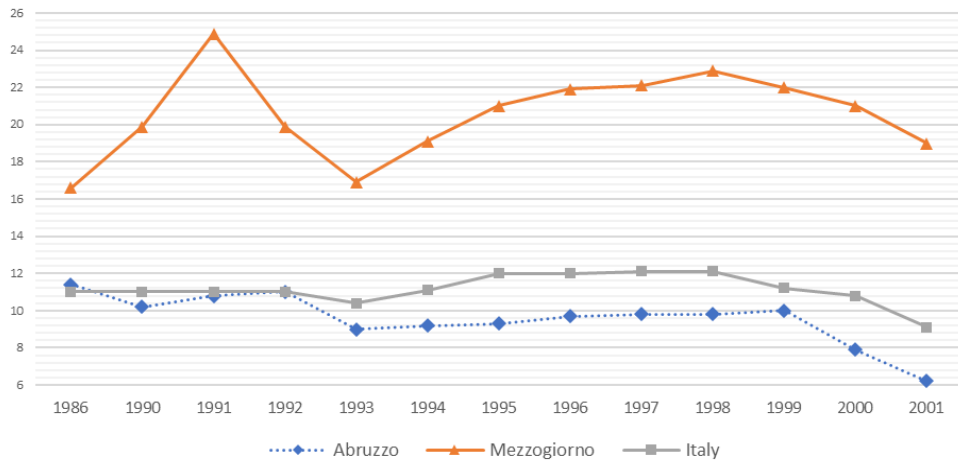


Figure 5. Unemployment rate (1986-2000)
 Source: Svimez (2000, 2001)

There are essentially two factors that explain this impressive development. The first refers to the extraordinary diffusion of a multitude of small enterprises in the territory, based on a theoretical scheme that leads to the logic and functioning of industrial districts (Becattini, 2000). In other words, the industrial system is made up of small independent enterprises, organized on a local basis, which tends to specialize in a particular production phase according to the relationships that exists between competition and cooperation (Pyke, 1992).

The industrial atmosphere, following the Marshallian conception, productive specialization, collective enterprise, tacit and codified knowledge, seem to be the formative elements of the district. Through the concentration of enterprises, Schumpeterian-type competition is stimulated on the one hand and, on the other hand, cooperation mechanisms along the value chain. By virtue of these characteristics, the district is directly linked to the territory, which becomes both an asset, because it is the site of production and social settlement, and a project, because it is the expression of entrepreneurial initiatives. Well, from this point of view, the ISTAT (1997) surveys put Abruzzo in a position that can be described as positive. The Institute of Statistics calculates 19 SLL (local labour systems) and 6 industrial districts for the region, with a specialization in textiles-clothing, leather and footwear, and household goods. Considering the criterion of gradualness, type 2 industrialized areas, that is, with a lower entrepreneurial concentration,

employ more than 50% of the workforce compared to between 10% and 33% for the regions of the Third Italy.

The establishment of large multinational companies is the other component of the impetuous development. Thus, these companies are attracted by the presence of widespread incentives and a network of contextual economies that make the region preferable to other areas in the “Mezzogiorno” (infrastructure, absence of organized crime, institutions). The location of these businesses has significant effects on the territory. Firstly, the backwardness circuit is broken according to the scheme described by Hirschman (1968); secondly, a sort of industrial culture spreads in the area, which leads to the stimulation of innovation; finally, the spin-off phenomena are produced in the area as a result of the innovative growth of locally small and medium-sized enterprises, which aim to take advantage of the induced activity required by large companies for individual work phases. The model described allows the region not only to increase employment levels and GDP, but also to project the region towards international markets, resulting in an export/GDP ratio of around 27% compared to 12% in the “Mezzogiorno” and slightly above the national average.

Abruzzo, as a result of its powerful development, was the first region to leave the incentive mechanisms with a GDP per capita of around 90% of the European average. Hence, this is much higher than the maximum value of GDP per capita of 75% required by EU bodies in order to have access to subsidized financing. The exit from Objective 1 leaves the Abruzzo system in a state of incompleteness, in the sense that many SMEs would have had further need of incentives to consolidate the exit path and to introduce innovative elements. The resulting cost burden in terms of credit, taxation, and labour entails considerable difficulties for a rather young productive apparatus in need of growth. This interrupts the virtuous incentive-business-territory circuit, based on a widespread system of SMEs, which had been the driving force behind the region's industrial development. Thus, this leaves an entrepreneurial and territorial path of undoubted interest halfway through. Thereafter, there are major structural transformations that are accompanying all economic systems and imposing new production models and intense innovation processes, as in the case of globalization. The very entry of emerging countries, particularly China, into the market is affecting some typical Italian-made products. This creates a profound asymmetry with the industrial districts of Abruzzo in terms of trade union constraints, environmental standards, labour costs, and currency dumping. It should be noted that with the introduction of fixed exchange rates and the euro, one of the possibilities experimented in the past of relying on the price factor (devaluation) to stimulate exports has also disappeared.

The reference is to a production structure unbalanced towards small enterprises, which are unable to achieve critical mass to face change and competition. In fact, as the data on exports show, the sectors most affected are those with low-added value such as textiles-clothing, furniture, and leather. In particular, the first sector suffers a strong contraction in international trade. ISTAT data show that in the 2008/2020 period, the sector in question, together with leather and accessories, suffered a 65% drop in exports. This is in contrast to Italy which recorded a 12.8% growth in the same period. It should be noted that this sector once held a very respectable position in Abruzzo. In 1995, for example, its incidence on total foreign sales was 10%, placing it third in the regional ranking; in 2020, the incidence dropped to 3.1%, occupying seventh place. For the province of Teramo, the sector, while still occupying a leading position, has fallen by 33%.

The gap highlighted above between a few large companies and many micro and small enterprises who are engaged in traditional activities helps to explain the region's lag in terms of productivity and innovation. With regard to the productivity argument, analyzing the number of hours worked in the manufacturing sector and setting the year 2000 equal to 100. This is a weak trend that emerges in the region and is lower than the same average in Italy (Figure 6).

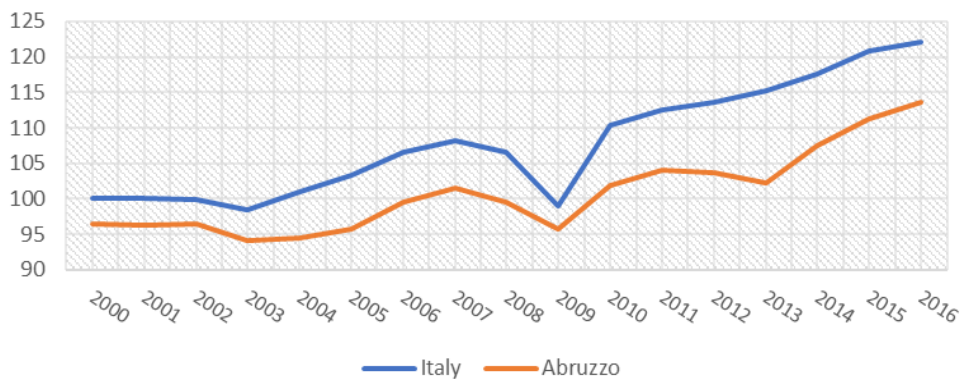


Figure 6. Labour productivity in the manufacturing sector (2000 = 100)

Source: our elaboration on Istat data

The study of the European Commission underlines a similar problem when measuring competitiveness index. The analysis covers 268 European regions and takes into account indices related to efficiency, innovation, and some basic indicators (health, stability, institutions). However, the lowest value occurs in the item 'Institutions', while overall Abruzzo ranks 264th.

Table 2. Regional competitiveness index (2019)

	Abruzzo
Total RCI 2019	34,2 (213)
GDP per capita (UE28=100)	83,1 (153)
Institutions	-1,65 (264)
Infrastructure	-0,71 (176)
Health	0,47 (54)
Higher education	-0,78 (224)
Labor market efficiency	1.26 (238)
Innovation	-0.50 (179)

Source: European Commission

The trend in Figure 3 and the results of the European survey clearly show how important it is to direct production towards levels of higher efficiency and specialization in order to avoid a slow but progressive vulnerability.

Consequently, the first key to understanding the economic evolution of Abruzzo seems to emerge from the above considerations. The changes described help to explain many local productions and to restrict the flow of exports to the rest of the world by SMEs. The slowdown in growth occurred before the great financial crisis of 2007/2008. This is reflected in the evolution of GDP in the period 2001-2007. As Svimez (2018) notes, the cumulative change in GDP is 4.2% against a national average of 8.5% (Mezzogiorno 4.5%). It is clear that that there is a turning point in the development path, marking the passage from a phase of high growth to another of lower evolutionary intensity.

The 2007/2008 financial crisis prompts further reflection. Certainly, the crisis is global, starting with the real estate market (the so-called subprime) in the United States and then spreading to the internal financial market and the real economy. The effects of the crisis on stock markets, GDP, employment, and credit are devastating. At the European level, in 2009, GDP fell by more than 4% and unemployment rose to more than 10%. The deficit/GDP ratio worsened with an average of 6.4%, which practically double the Maastricht benchmark of 3%. Obviously, Italy is suffering the negative consequences of the crisis, and Abruzzo even more so in view of its characteristics as a manufacturing economy that is open to international trade. The Abruzzo model is further weakened by this situation, both in terms of production and employment. By surveying all the Italian regions in terms of GDP and employment units, Figure 7 shows how Abruzzo (also due to the effect of the earthquake that hit the L'Aquila area) has suffered a rather substantial drop in the national ranking of the most affected regions.

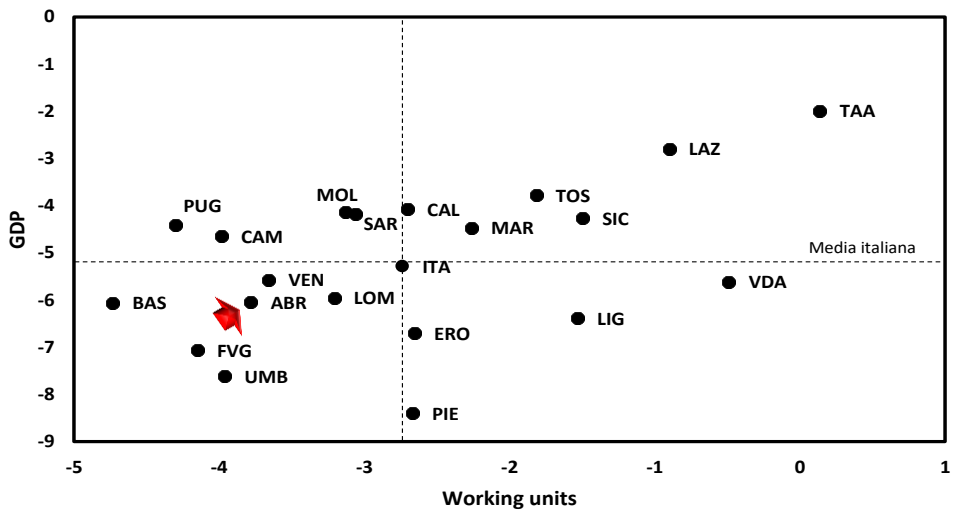


Figure 7. The effects of the crisis in Abruzzo

Source: our elaboration on Istat data.

Note: The list of the Italian regions and their acronyms are shown in Table 1.A (Appendix).

Subsequently, the following years up to the most recent ones do not substantially change the economic development of the region. The pace of recovery appears rather slow and the consequences on the unemployment rate emerge with particular clarity from Figure 8, which considers the 2008-2019 time span. This is a rather significant interval to identify a path, certainly not exciting, that brings the already mentioned rate from 6.6% in 2008 to 11.2% in 2019.

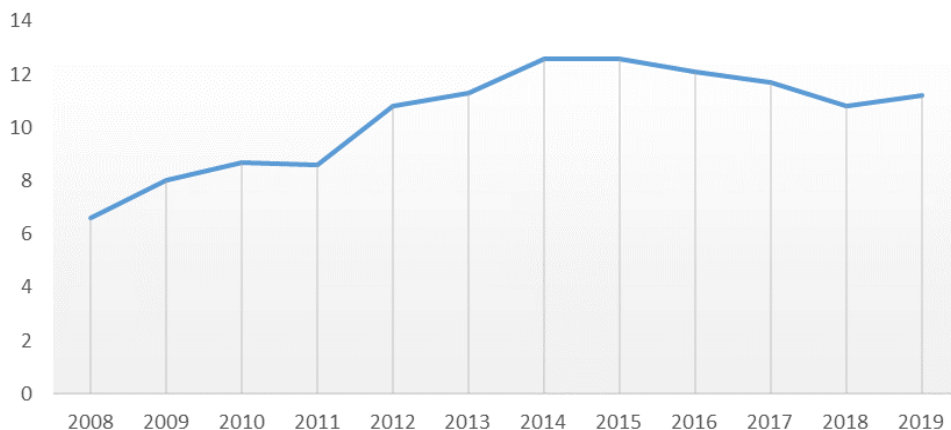


Figure 8. Abruzzo unemployment rate (2008-2019)

Source: Istat

Concerning data relating to the urban quality, the data of the Italian National Institute of Statistics (ISTAT) about equitable and sustainable well-

being (Bes) will be used. Also on the regional level, the Bes project aims at evaluating the progress of society not only from an economic perspective, but from a social and environmental perspective too. By adopting a multidimensional approach, the database collects information on 152 indicators related to production and economic activity as well as measures of inequality and sustainability.

IV. Methodology and Results

There are different methodologies to quantify the levels of urban quality. There are also numerous indicators for defining fair and sustainable well-being which ranges from the environment to economic well-being, from education to landscape and cultural heritage, and from the quality of services to health and safety. As was previously mentioned, this paper relies on descriptive analytical method according to which selected socioeconomic indicators are important factors to provide a record of the urban and social regeneration. The aim is to complement the indicators related to economic activity discussed in the above section with measures of the key dimensions of well-being, together with measures of inequality and sustainability.

Intervention in the most degraded urban fabric, which is characterized by obsolete buildings in terms of both energy impact and earthquake resistance, is one of the central themes of the regeneration process. Some indicators dedicated to Abruzzo in comparison with Italy help to better understand the phenomenon. A general figure concerns the share of degraded territory on the total land surface. According to ISTAT, this index is 5.11% (Italy 7.6%), with a fragmentation of natural and agricultural land of 35.8%. Even other indicators seems to be more significant such as the percentage of people living in urban dwellings with structural (humidity) or overcrowded problems. The percentages are respectively 16.3% and 29.7% for Abruzzo (Italy 13.2% and 33.5%).

The importance of tackling the problems of urban decay and stopping the consumption of public land and new territory can be seen in Tables 3 and 4. Table 3 considers the number of unauthorized buildings per 100 authorized buildings. The figure of 31.2 is almost double that of Italy (17.7) and is not comparable with the North. ISTAT has also calculated the per capita land consumption given by the ratio of $m^2/inhabitant$, where Abruzzo has a consumption index higher than the national average.

Table 3. Unauthorized building

	2016	2017	2018	2019
Abruzzo	36,4	36,3	33,0	31,2
Mezzogiorno	48,2	49,3	48,3	45,2
Center	19,2	21,4	19,1	17,5
North	6,4	6,2	6,1	5,9
Italy	19,6	19,9	18,9	17,7

Source: Istat

Table 4 investigates the density of historical green areas, that is the area in m² of historical green areas and urban parks of considerable public interest in provincial capitals per 100 m² of urbanized area. Once again, the region occupies a rearguard position (0.7) compared to all the other districts considered.

Table 4. Historical green density

	2016	2017	2018
Abruzzo	0,7	0,7	0,7
Mezzogiorno	1,1	1,1	1,1
Center	1,6	1,6	1,6
North	2,4	2,4	2,4
Italy	1,8	1,8	1,8

Source: Istat

The issue of landscape deterioration also emerges from the analysis of the percentage of people aged 14 and above. Thus, landscape deterioration caused by excessive building is one of the five most worrying environmental problems out of the total number of people aged 15 and above.

Table 5. Concern about landscape deterioration

	2016	2017	2018	2019	2020
Abruzzo	12,3	12,7	12,1	10,5	10,9
Mezzogiorno	11,3	11,6	12,0	10,5	11,1
Center	15,1	14,8	14,1	12,5	11,6
North	17,8	17,9	15,7	13,8	13,8
Italy	15,0	15,1	14,1	12,4	12,5

Source: Istat

The indices examining the population exposed to the risk of landslides and floods per 100,000 inhabitants are also worthy of attention. For Abruzzo they are 5.8% and 6.1%, respectively, which is against 2.2% and 10.4% in Italy.

Another element for reflection that can be linked to the previous indicators in terms of its environmental implications stems from the data contained in Tables 6 and 7, which examine, on the one hand, the number of agritourism farms per 100 km² and, on the other hand, the percentage of waste sent to landfills out of the total urban waste collected. In the former, the possibility of reaching the levels experienced in the central and northern areas

of the country seems rather remote. Abruzzo has an incidence, in 2019, of 5.1% compared to a central Italian average of 15.7%. In the second case, the region's landfilling, at 34.4%, is much closer to the southern average (31.2%) than to the northern or Italian average (10.6% and 20.9%).

Table 6. Agritourism companies

	2016	2017	2018	2019
Abruzzo	5,3	5,3	5,2	5,1
Mezzogiorno	3,6	3,7	3,7	3,9
Center	13,4	14,2	14,4	15,7
North	8,7	8,8	8,9	8,9
Italy	7,5	7,7	7,8	8,1

Source: Istat

Table 7. Urban waste

	2016	2017	2018	2019
Abruzzo	33,2	41,3	37,6	34,4
Mezzogiorno	42,4	40,2	36,3	31,2
Center	26,9	23,7	24,3	29,1
North	11,9	12,3	10,8	10,6
Italy	24,7	23,4	21,5	20,9

Source: Istat

Another set of indicators covers water dispersion, air quality, and renewable energy. The average values are not homogeneous. Water dispersion (Table 8) shows rather high values, underlining the need for immediate action in the distribution of drinking water. With regard to air quality (Table 9), however, the assessment tends to change. Measurements exceeding the health reference value defined by the World Health Organization for total annual average concentrations of PM2.5 (concerning urban and suburban traffic) show that Abruzzo is in a relatively better position than the other regions. The improvement between the years 2018 and 2019 seems interesting, when the percentage goes from 90.9 (high) to 72.8. The same applies if the indicator refers to the incidence of electricity consumption from renewable sources on the total gross domestic consumption (Table 10). The corresponding 2018 value of 51% is preferable to the national average, being about 17 points higher.

Table 8. Municipal water network dispersion

	2015	2018
Abruzzo	47,9	55,6
Mezzogiorno	47,9	47,9
Center	48,2	48,7
North	33,2	34,3
Italy	41,4	42,0

Source: Istat

Table 9. Air quality

	2016	2017	2018	2019
Abruzzo	85,7	80,0	90,9	72,8
Mezzogiorno	69,9	69,5	79,8	73,4
Center	80,6	75,4	80,0	74,4
North	94,0	94,8	94,8	91,2
Italy	83,8	82,4	86,8	81,9

Source: Istat

Table 10. Electricity from renewable sources

	2016	2017	2018
Abruzzo	45,9	44,6	51,0
Mezzogiorno	41,5	41,4	42,4
Center	27,9	26,6	28,6
North	30,6	27,7	32,3
Italy	33,1	31,1	34,3

Source: Istat

There is an important relationship between per capita income and environmental impact (OECD, 2002; Cantore, 2010). The regeneration of urban centers represents an opportunity to contain inequalities and promote social inclusion. In other words, it can reduce situations of marginalization and social degradation in a context of better environmental and social quality. Indeed, through its impact on the quality of life, the redevelopment of public spaces can help to increase the sense of belonging to an inhabited place and, above all, reduce the disparities between rich and marginalized areas, thus promoting social cohesion. Without taking into account the devastating effects of the pandemic emergency, the percentage of people living in poverty or social exclusion is quite high in Abruzzo. The incidence is 30.1%, almost three points higher than the national average (27.3%), while the risk of poverty hovers around 19% (ISTAT, 2020).

More precise indications come from the analysis of income inequality (Table 11) based on difficulties in reaching the end of the month (Table 12) and of housing deprivation (Table 13). All these aspects are considered useful to complete the picture of the so-called economic well-being and inclusion factor. Considering the income element, ISTAT calculates the ratio between the total equivalent income received by the 20% of the population with the highest income and that received by the 20% of the population with the lowest income. This ratio is equal to 4.7, lower than that of the South (7.2) and similar to that of the North (4.8), testifying to the existence of inequalities, although not so marked when compared with other areas of the country.

Table 11. Income inequality

	2016	2017	2018
Abruzzo	5,0	4,6	4,7
Mezzogiorno	6,7	7,0	7,2
Center	5,4	5,5	5,2
North	4,9	4,9	4,8
Italy	5,9	6,1	6,0

Source: Istat

The examination of the other two indicators shifts the question as it shows more negative situations for the region. The data concerning the number of families, that believe they are experiencing difficulties in making ends meet (Table 12), is characterized by a non-positive evaluation. 12.8% of the families in Abruzzo show "great difficulties", unlike the North, which records the lowest value (3.9%) and the national average (8.2%).

Table 12. Difficulties in making ends meet

	2016	2017	2018	2019
Abruzzo	14,6	10,7	7,9	12,8
Mezzogiorno	17,0	13,7	15,8	15,3
Center	7,7	5,9	6,6	3,9
North	6,3	4,6	3,6	4,2
Italy	10,9	8,6	9,7	8,2

Source: Istat

The table highlights another aspect, which can be grasped by looking at the period 2016-2019. The downward trend of the value from 2016 onwards was interrupted during the last year of the survey, which shows a considerable leap forward (from 7.9% to 12.8%). The explanation lies in the stagnation of the economy, both in terms of PIL and employment.

The feeling one gets from Table 13 is that Abruzzo has a sad negative record in the field of severe housing deprivation. ISTAT detects this phenomenon on the basis of people living in overcrowded dwellings and presenting structural problems in the dwellings (ceilings, window frames), problems with lighting, and lack of running water in basic services (bath/shower). It was considered that the percentage of 11.9% does not need any particular comment, not so much because of the size of the value, but because of the large gap that separates the Abruzzo indicator from the other Italian regions.

Table 13. Severe housing deprivation

	2016	2017	2018	2019
Abruzzo	12,8	9,9	9,1	11,9
Mezzogiorno	9,7	6,8	6,5	6,0
Center	6,8	5,1	5,7	5,1
North	6,3	4,6	3,6	4,2
Italy	7,6	5,5	5,0	5,0

Source: Istat

In connection with the above considerations, another question seems to emerge from the process of regeneration of urban centers. This question concerns the role that the center can assume in the future. It is felt that the industrial city model has been exhausted and that an alternative model based fundamentally on the production of knowledge or on production processes of an immaterial nature is gaining the upper hand.

Obviously, the issue in Abruzzo is less relevant than in large cities, but some empirical observations make it possible to extend considerations to smaller urban centers. The survey comprises of two stages of analysis. The first concerns the percentage of employed persons with a higher education qualification than the actual employment in the total number of employed persons. The incidence is, in 2019, 30.3%, which is about 6 points above the national average (Table 14). The second relates, in substance, to precarious employment as it considers the number of employees who in the next six months consider it likely that they will lose their job and have difficulty in finding another similar one (Table 15).

Table 14. Over-educated workers

	2016	2017	2018	2019
Abruzzo	30,0	30,0	31,6	30,3
Mezzogiorno	23,2	23,9	24,9	25,6
Center	27,2	27,8	27,4	27,3
North	22,6	22,8	23,4	23,6
Italy	23,8	24,2	24,6	24,9

Source: Istat

Table 15. Perception of employment insecurity

	2016	2017	2018	2019
Abruzzo	8,1	8,4	7,4	6,9
Mezzogiorno	9,7	8,9	7,9	8,0
Center	7,1	6,7	5,6	5,4
North	6,3	5,4	5,1	4,6
Italy	7,4	6,6	6,0	6,7

Source: Istat

Above all, the first indicator demonstrates the region's potential in the field of the knowledge economy, a potential that is not being fully unleashed as shown in Table 14. This is partly due to the particular production structure,

which is characterized by many smaller enterprises. The share of added value of small manufacturing enterprises operating in Abruzzo in the total manufacturing added value is about 10 points lower than the national average, i.e., 32.8% compared to 42.1% in Italy. On the other hand, research and development expenditure as a percentage of PIL in 2017 was 1% compared to 1.37% in Italy. The focus on the number of companies with innovative product and process activities does not substantially change the picture described. In fact, even in this circumstance the percentage of innovative enterprises per 100 enterprises is 33.1%, while the national equivalent is five points higher.

Urban centers, particularly those of higher rank, can in perspective be considered to play the dual role of knowledge hub and consumer hub (Carrillo, 2004; Penco, 2012). Therefore, the relationship between the two poles is described in Figure 9. Abruzzo is home to a number of high-profile scientific research centers and qualified training facilities. The presence of three universities also ensures that the training and knowledge pathway has a significant impact on the development process.

Several empirical studies have provided fairly clear evidence of the existence of a positive relationship between the stock of human capital and the resulting economic growth. The production of knowledge and high skills is a prerequisite for attracting new investment and fueling demand. The university-business link, the geographical location of urban centers, the transport network, and the quality of services and logistics are all factors that can accompany economic growth (Simon, 1998; Audretsch, 2003).

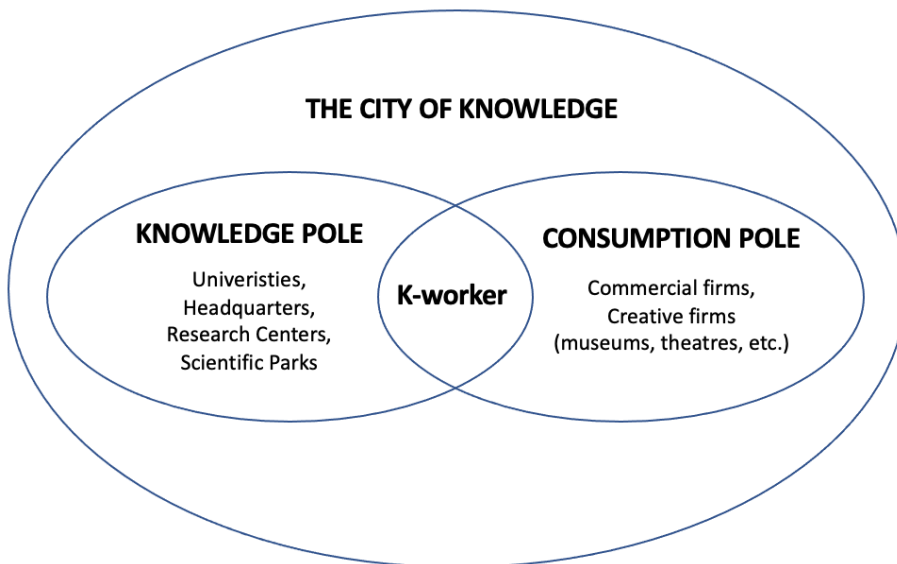


Figure 9. Possible roles of urban centers
Source: Cappellin et al. (2012)

With regard to consumer services, the density of the urban center can favour forms of consumption such as cultural, sports, museums, and restaurants. In this context, the regeneration of the tourist-cultural heritage becomes a lever for development and social inclusion. Abruzzo has a heritage of undoubted value with areas of extremely high natural and environmental content and oases of non-reproducible resources linked to the intrinsic value of the land. There are three national parks, a nature park, and small territorial parks. An invaluable heritage capable of activating a tourism policy is based on the link between sustainability and economic and social inclusion. Such a link can be of great importance in revitalizing even the smallest urban centers, especially at a time when the demand for tourism is tending to shift in an environmental and cultural direction. However, an analysis of the parameter relating to the current expenditure of municipalities on culture reveals a sense of dissatisfaction with the commitment of administrators to this sector. Thus, this is important not only because it creates wealth because of its links with various other productive sectors, but also because it strengthens relations with inland areas and territories. However, the per capita value of accrued payments for the valorization and protection of cultural assets and activities is characterized by its modest size and appears much lower than the national average (Table 16). In 2018, the index is just 8.9 euros per inhabitant, while in Italy the similar index is 19.4.

Table 16. Current expenditure of municipalities on culture

	2015	2016	2017	2018
Abruzzo	9,1	9,1	8,1	8,9
Mezzogiorno	9,4	8,9	8,8	8,9
Center	24,8	23,1	23,3	24,0
North	24,3	24,4	24,4	25,3
Italy	19,2	18,8	18,8	19,4

Source: Istat

Conclusion

Abruzzo, as is well known, has a network of medium-sized cities in which the capacity to generate income, offer collective services, and attract investment is concentrated. Due to its morphological structure, most economic activities are concentrated along the coastal area, not producing inconsiderable congestion. This high concentration of geographical-physical, anthropic, and economic conditions is expressed in the coexistence of systems of widespread industrialization and areas of marginality, and a series of demographic and productive systems around the Chieti-Pescara conurbation, the regional capital, the medium-sized towns (Avezzano, Lanciano, Sulmona, Vasto), the small coastal centers, and the protected areas in the parks (Landini, 1997).

For Abruzzo too, the regeneration of its urban centers is an important field of intervention, which requires an articulated approach because of its

environmental, social, and economic implications. In this context, Abruzzo has an important cultural and environmental heritage. However, there are significant weaknesses resulting from the indicators relating to urban decay, consumption of public land, and inequalities.

Ultimately, regenerating urban centers means moving in the direction of a model that has as its primary objective the quality of life (Veraldi, 2002) and also "the transformation of social relations in space and the reproduction of identities and cultures linked to a place" (Moulaert, 2009).

Aspects related to sustainability, preservation, and enhancement of environmental resources have become central issues in building such a model. As can be seen from this study, the link with the processes of social and entrepreneurial participation is the other side of the coin. In this sense, the effects on the real economy can be significant. It is not, therefore, a mere process of spatial organization or a simple budgetary administration. It is an innovative fact that requires participation and political intelligence. Thus, it is a sort of social capital that involves all the players in the area.

Future research should validate the relationship between urban and social regeneration and economic growth using an empirical and comparative methodology, by relying on a more comprehensive database containing data for several regions.

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Appendix

Table 1.A. Italian regions and their acronyms

Region	Acronym
Abruzzo	ABR
Basilicata	BAS
Calabria	CAL
Campania	CAM
Emilia-Romagna	ERO
Friuli-Venezia Giulia	FVG
Lazio	LAZ
Liguria	LIG
Lombardia	LOM
Marche	MAR
Molise	MOL
Piemonte	PIE
Sardegna	SAR
Sicilia	SIC
Toscana	TOS
Trentino Alto Adige	TAA
Umbria	UMB
Valle d'Aosta	VDA
Veneto	VEN