



# In search of spatial justice. Towards a conceptual and operative framework for the analysis of inter- and intra-urban inequalities using a geo-demographic approach. The case of Italy

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## Abstract

Although still needing a definite theoretical status, spatial justice represents an inspiring framework for geographical analysis and for planning. In this paper we try to operationalize the concept through a geo-demographic approach. By using demographic and social differences as proxy of the concept at the urban level we define five socio-territorial clusters based on the characteristics of the population residing in the enumeration area of 14 Italian local labour market areas (LLMAs) whose capital is also the capital of a metropolitan city. The first results of the analysis show a high level of heterogeneity and the absence of compact and segregated peripheries. At the same time the analysis highlights the need for further methodological investigations to attain a better representation of social justice in its spatial dimension.

## KEYWORDS

local labour market areas, spatial justice, urban inequalities

## 1 | INTRODUCTION

The paper proposes an operative framework for the representation of the concept of spatial justice. Although with a more limited media impact than the concept of well-being (Stiglitz, Sen, & Fitoussi, 2009), the debate on social justice recently has regained strength as a reaction against the current emphasis on competitiveness and the overwhelming



power of neoliberal policies, particularly at the urban level (Fanstein, 2010; Harvey, 2012; Marcuse, 2009). In this context, the term *spatial justice*, resulting from the combination of social justice and space,<sup>1</sup> is an emerging, although still contested and unexplored, concept in geography and planning, grounded in different theoretical approaches. There is no single and clear definition of the concept. Spatial justice is first an analytical framework that foregrounds the role of space—defined in lefebvrian terms as a container of social relations—in producing justice and injustice (Williams, 2013).

One of the most popular approaches uses spatial justice as an interpretative tool to analyse imbalances and unequal resource allocation across territories at different scales, in particular at the regional level. In this stream of literature, the concept of social justice refers to the equal distribution of tangible and intangible goods in a given territory and is analysed through the mere comparison of territories at different geographical scales (Bailly, 1981; Dorling, 2011; Knox, 1975; Reynaud, 1981). Space is considered in a linear or administrative fashion, a container of socio-economic agents and phenomena.

A more recent approach to spatial justice consists of conceiving the relationship between space and social justice in its intrinsic dialectic nature. Social justice assumes a strong local and contingent meaning in which distributional elements are only one of the multifarious expressions of social injustice inscribed in people and space (Soja, 2010). According to Dikeç (2001), social injustice also implies that the existing spatial structures (*permanences*) can produce and perpetuate injustice through space. In this approach, space is a social product, determined by unfair policies which further reinforce social injustice.

From a methodological point of view, the first approach is operationalized through traditional comparative analysis of different territories, where regions and cities are treated as instrumental actors (Hadjimichalis, 2006) instead of places shaped by the personal and collective histories of inhabitants and by natural and cultural specificities.

The transition from *space* to *place* is a key point in the operationalization of the concept of spatial justice. If spatial justice is conceptualized in a multidimensional way and as a spatially dependent issue, then it can't be represented only through traditional indicators at an administrative level. The concept of *place* needs a scale of analysis able to represent the multifarious aspects of social, demographic, and economic conditions of inhabitants and, at the same time, their similarities and differences from one place to another.

To overcome the limits of traditional analysis and its narrowing vision of spatiality considered in its administrative dimension, we propose a methodology that enables a quantitative representation of spatial justice at a very fine-tuned geographical scale using the 2011 demographic census data at an inter- and intra-urban level for the most important Italian cities. Why is the city the right scale for the analysis of spatial justice? In the past 30 years, cities became a metaphor of the current model of development based on economic rationality and competitiveness. Although they are defined as the engine of growth (Glaeser, 2011), at the same time they are characterized by deepening income inequalities, high rates of material deprivation, and social exclusion (Roy, 2009). The city is not only a space delimited by borders but a planetary condition (Brenner & Schmid, 2015) in which, simultaneously, act several claims, the control of political power, and the social and political organisations that seek to counteract. Marcuse and von Kempfen (1997) identify some determinants through which social dynamics are visible in urban space: spatial strategies of firms, migration flows, racial segregation, and public housing. In particular, spatial segregation seems to produce new forms of exclusion and becomes the engine of further social injustice, establishing a dialectical and cumulative relationship between space and social form. There is a huge literature about the role of space in the explanation of social injustice although not fully investigated in its empirical aspects. Benassi and Alberio (2014), highlight the importance of the neighbourhood effect in the analysis of urban poverty. In particular, Ellen and Turner (1997) identify the *spatial mismatch*, that is, the spatial segregation as one of the most influential elements in the production and reproduction of social injustice that tends to concentrate in space. In this perspective, space becomes an

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<sup>1</sup>The term *social justice* is a contested concept that concerns philosophers, jurists, economists, and sociologists for centuries, in balance between universalism and particularism, between redistribution and recognition. This multifarious status also applies for the concept of *space* seen in geometrical, relative, and relational terms (Harvey, 1969) and often opposed to the concept of *place* (Tuan, 2001).



independent variable in the formation of the phenomenon itself. In a different context, Hillier (2007), establishing a clear directionality in the relationship between space and society, demonstrate that architecture can cause social malaise because some types of housing can restrict freedom of movement producing an impoverishment of the sense of community based on the human movement.

Finally, although not explicitly based on the framework of spatial justice, in the recent past some empirical analysis about segregation/diversity have been carried out by scholars on the Italian case (Barbagli & Pisati, 2012; Bressan & Radini, 2009; Cousin, 2012; Petsimeris & Rimoldi, 2015; Pratschke, 2007).

The paper is structured as follows. Section 2 presents the geographical contexts of analysis, data, and methods applied. Section 3 shows the results of an analysis of inter-urban socio-demographic differences and then an analysis at the intra-urban level, taking into account three case studies. Section 4 offers a discussion of the results and conclusions.

## 2 | GEOGRAPHICAL CONTEXTS OF ANALYSIS, DATA AND METHODOLOGY APPLIED

### 2.1 | Some general considerations

There are many methodological problems related to the measurement of socio-economic differences at the spatial level. One of the main problems concerns the so-called *ecological fallacy* occurring when conclusions about individuals are based only on the characteristics of the areas in which they live (Corbetta, 2014). Another problem concerns the choice of the significant spatial unit of analysis. In particular at intra-urban level one should consider the trade-off between the need to go beyond administrative territories, the privacy protection rules concerning the data and their availability.

The methodology used in this paper refers to geo-demographic analysis, a discipline that, starting from the work of human ecologists in the 1920s and 1930s, has found many applications in social analysis especially in the USA and UK (Singleton & Spielman, 2014). The idea is that populations and places of residence are inextricably linked: knowing where a person resides provides information on the area's characteristics because people and families with similar features tend to aggregate in space. From the opposite perspective, information on age, occupational status, educational achievement, family type, citizenship, and so on are useful in defining the functional typology of the portion of the city concerned.

In this first attempt, demographic and social differences are used as proxy of the concept of spatial justice at the urban level, aware of the implications of this reductive choice due to the slippery and contested nature of such terms as *injustice*, *inequality*, and *fairness* in the wide and varied debate on the subject which often is characterized by opposing visions and largely dependent on the peculiarity of the different socio-cultural context (Fanstein, 2010).

The pattern of residences in space is the result of three factors:

1. the functional organization expressed in the present and everyday life;
2. the evidence of the hierarchies implicit in social stratification (the city of the rich and the city of the poor);
3. the result of the accumulation of knowledge, which is what ultimately makes the city so attractive to people and economic activities.

The latter is what defines, in particular, urban areas. There, historically, the settlements of strong and weak groups oppose each other. There, phenomena such as residential segregation, the creation of ethnic enclaves, and the predominance of spaces of elites give rise to social geographies that often overlap the administrative ones, offering a cognitive instrument of primary importance to scholars, policy-makers, and local communities. Following the Vickers and Rees (2007) methodology, we conducted a cluster analysis using data collected from the population and housing census of 2011 identifying socio-territorial clusters based on the socio-demographic characteristics of the population residing in enumeration areas. In other words, cluster analysis is applied to identify heterogeneous spatial groups and, therefore, urban spatial injustice is empirically identified through spatial heterogeneity. Although reducing the



complexity of the concept of spatial justice as described above, this method allows a fairly reliable description of the urban demo-social patterns and a first informative step to be followed by more place specific analysis in the explanation of spatial justice.

It should be noted that according to the 2012 Post Enumeration Survey, the 2011 census data are affected by under-coverage problems: 1.07% for the whole population and 11.07% for foreigners at national level (Istat, 2015a), and by geocoding errors of about 4% between contiguous enumeration areas (Istat, 2016). The analysis refers to the 14 local labour market areas<sup>2</sup> (LLMAs) whose capital is also the capital of a metropolitan city. The indicators considered allow us to differentiate the areas according to their demographic and socio-economic features and to identify the spatial distribution of social differences among and inside the urban contexts selected.

## 2.2 | Context of analysis, data and methods

As mentioned, the spatial dimension of social differences is interesting not only at the national and regional levels but especially at the urban level where the diversity, the concentration and proximity of different subjects and realities, constitutes the strength and fragility of cities.

The analysis of the distribution of social group through the urban space—defined by nationality, sex, age, occupational, educational, and housing status—becomes an instrument to better understand the complexity and enables us to move from a mere representation of administrative spaces to a more in-depth characterization and representation of places.

From this perspective, the study has been carried out on the following 14 LLMAs:

- Turin, Milan, Venice, Genoa, and Bologna in North of Italy;
- Florence and Rome in the Centre of Italy;
- Naples, Bari, and Reggio di Calabria in South of Italy;
- Palermo, Messina, Catania, and Cagliari in the Islands.

The 14 LLMAs roughly correspond to the metropolitan areas defined by the law 56/2014, representing the main urban realities in Italy. Within the LLMAs, we studied separately the *core* (the metropolitan municipality) and the *ring* (the functional area surrounding it).

These areas contain 661 municipalities, totalling 85,310 enumeration areas. More than 17.5 million inhabitants (29% of the national population in 2011), half of which live there in the 14 core municipalities. We removed from the analysis the tracts with zero population (4,114 empty tracts) and those with very low population density (2,194 additional ones). These last two enumeration areas have been automatically assigned to a cluster called “Green/Low demographic density areas” which has not been considered in the analysis.

The elementary indicators considered in the multivariate analysis allow to differentiate the areas according to population structure by age, sex, citizenship (Italian vs. foreign), and socio-economic features such as education attainment, dimension of the household, employment and profession, and so on. Table 1 presents the detail of the indicators used in the classification analysis.

To avoid problems due to the redundancy of the indicators, we measured their correlation level. Because it was rather low, we decided to keep for the analysis the complete set of indicators. Moreover, following the Vickers and Rees (2007) approach, each indicator has been standardized by applying the following formula:

$$I_i^{ST} = (I_i - I_{\min}) / (I_{\max} - I_{\min}),$$

<sup>2</sup>Local labour market areas are functional areas identified by the Italian National Institute of Statistics using a gravitational approach on daily work commuting flows (Istat, 2015).

**TABLE 1** Indicators used in the cluster analysis

Number	Indicator	Computation	Dimension
1	Population density	Population/land area	Population
2	Share of foreigners	Foreigners/population	Population
3	Age ratio	Population age 65 and older/population age 0–14	Population
4	Age dependency ratio	Ratio of dependents – people younger than 15 and older than 65 – to the working-age population (15–64 years old)	Population
5	Childhood ratio	Population age 5–9/total population	Population
6	Sex ratio	Females/males	Population
7	Illiteracy rate	Illiterate population/population age 6 and older	Human capital
8	Share of population with at most primary education	Population with at most the primary school title/population age 6 and older	Human capital
9	Share of population with lower secondary education	Population with at most the lower secondary school title/population aged six and above	Human capital
10	Share of population with upper secondary education	Population with at most the upper secondary school title/population aged six and above	Human capital
11	Share of population with tertiary education	Population with a bachelor degree or equivalent/population aged six and above	Human capital
12	Employment rate	Employed population age 15 and older/population age 15 and older	Employment
13	Unemployment rate	Unemployed population age 15 and older/labour force age 15 and older	Employment
14	Tenancy rate	Tenancy/total housing tenure	Housing
15	Owner-occupancy rate	Owner-occupancy/total housing tenure	Housing
16	Other tenure rate	Other housing tenure/total housing tenure	Housing
17	Share of one-person households	One-person households/total households	Households
18	Share of medium-size households	2–3-person households/total households	Households
19	Share of large-size households	4–5-person households/total households	Households
20	Share of extended-size households	6+ person households/total households	Households
21	Share of blue-collar workers	Skilled agricultural, forestry and fishery workers, craft and related trades workers, plant and machine operators and assemblers, elementary occupations/population age 15 and older	Profession
22	Share of white collar workers	Clerical support workers, services and sales workers/population age 15 and older	Profession
23	Share of white collar workers	Managers, professionals, technicians and associate professionals, armed forces/population age 15 and older	Profession
24	Share of family helpers	Family helpers/population age 15 and older	Profession
25	Share of retired persons	Retired persons/population age 15 and older	Profession
26	Share of managers	Managers/population age 15 and older	Profession

where  $I$  is the indicator, and  $i$  is the  $i$ -th enumeration area. As a result of the standardization, each indicator ( $I^{ST}$ ) assumes a value between 0 and 1. Combining the 79,002 statistical units of analysis ( $c$ ) and the 26 elementary indicators ( $v$ ) we obtain a  $\mathbf{M}_{(c,v)}$  matrix of 2,054,052 elements.

The clustering method applies the K-means algorithm. This method is considered computationally more appropriate than hierarchical methods when the number of units of analysis is, as in our case, particularly high



(Everitt, Landau, & Lee, 2001; Vickers, Rees, & Birkin, 2005) and is widely used in geo-demographic analysis (Harris, Sleight, & Webber, 2005). The measure of dissimilarity adopted is the squared Euclidean distance. The Euclidean squared distance metric uses the same equation as the Euclidean distance metric, but does not take the square root. Squared Euclidean distance is frequently used in optimization problems in which distances only have to be compared. Clustering with the Euclidean squared distance metric is faster than clustering with the regular Euclidean distance. The K-means classification algorithm requires the definition of a number of a priori clusters. As mentioned by Vickers and Rees (2007) and Callingham (2003), the initial number of clusters should be about six. Taking this as starting point, we performed several tests by varying the number of clusters between four and eight. The best results identified five clusters. The choice also took into account the size of clusters and group variance. The exercise carried out produced five types of defined areas based on all the characteristics of the residents: upper-middle class areas, middle-class areas, ageing population areas, young household areas, and working class areas/declining areas. The description of these areas is provided in Section 3. When reading the descriptions and the analyses presented, it is good to keep in mind two cautionary elements. The first is that each area is qualified according to the predominant, but not exclusive, profile of the population living in the area itself. So one should read the results in terms of territorial specialization of the different portions of the city. The second is that the classification exercise is carried out over the whole of the 14 LLMAAs. As a consequence, in addition to the characteristics of the single city, the analysis highlights the features common to all the cities belonging to the same region. For this reason, Southern cities are different from those of the Centre-North, and sometimes the differences between metropolitan cities look more relevant than those within them.

### 3 | RESULTS

In this section, we first provide a brief description of the five areas identified, then we analyse inter and intra urban socio-demographic differences with a focus on three LLMAAs, Milan, Rome and Naples.

#### 3.1 | A brief description of the five areas identified

Upper-middle class areas are residential areas with a medium to high profile. These areas, where 16.5% of the population of the local systems of the 14 metropolitan cities (nearly 2.9 million people) resides, have a rather high residential density, a noteworthy presence of older adults, an employment rate higher than the other areas, and the lowest unemployment rate. Residents are highly trained and qualified, with a particularly high relative presence of graduates. When employed, residents' occupations are highly specialized (freelancers, entrepreneurs, etc.). Their households are small and characterized by owner-occupancy dwellings. This kind of area is particularly widespread in the cities of the Centre-North, where they represent the most frequent typology.

Middle-class areas are residential areas with a medium profile. Here lives 40.9% of the population (more than 7.1 million people). These districts lack salient features regarding age, gender, educational attainment (lower or upper secondary education is frequent), and household size (2–3 components). Residents in these areas mostly live in owner-occupancy houses. The employment rate is just above the average. People are occupied as skilled workers, clerks, and service and sales workers more often than the average.

Ageing population areas show a high density. Residents (more than 3.0 million people, 17.3% of the population of metropolitan cities) often are old and retired, but there is also a foreign presence of some importance. Households are small, often one person, and occupy their houses as tenants. The educational attainment is in line with the average. Alongside the elderly, there is also a quota of younger employees with similar socio-demographic characteristics (low or middle educational attainment and low-skilled occupation).

Young household areas are popular areas with young tenants. These are densely populated areas (nearly 3.4 million people, accounting for 19.3% of the total). The resident population is mostly Italian, relatively young, with a low



educational attainment, living in families of four or more members, and dwelling in tenancy or other tenure houses. The unemployment rate is high, the highest recorded in the five typologies identified. If employed, the inhabitants of these areas mostly have low-skilled occupations. This kind of area is widespread in the cities in the Mezzogiorno and particularly in Naples and Palermo.

Working class areas and declining areas are popular areas at risk of degradation. These are areas with very high residential density, where little more than 1 million people reside, accounting for 5.9% of the total. They differ from the popular areas with young tenants described above, especially with a higher average age and the presence of foreigners. Other characteristics, however, are similar to the previous group: large families living as tenants, high unemployment, low employment, low educational attainment, and low skill occupations (e.g., blue collars in agriculture and manufacturing, clerical support workers, family helpers).

### 3.2 | Inter-urban differences

Figures in Table 2 show details for each of the 14 LLMA's according to the population within the identified areas. There is a clear difference between LLMA's located in the Centre-North and those located in the South of Italy. In the former, about half of the population dwells in territorial units characterized by an average profile (*middle-class areas*). The share varies between the maximum of 68.9% in Venice, to 58.1% in Milan, 51.1% in Florence, 48.0% in Turin, 47.2% in Bologna, ending with Rome and Genoa with 43.8% and 36.7%, respectively. Moreover, 10–30% of the population lives in units with a higher residential quality (*upper-middle class areas*), ranging from 9.1% in Turin to 30.2% in Rome.

This picture is consistent with what happened in these territories during the economic boom of the 1950s and 1960s. The greatest employment opportunities and the great expansion of the built residential environment have fostered the growth and consolidation of these big conurbations. They were the 'natural' destination of massive internal migrations, coming mainly from Southern Italy. With time and generational passages intervening, what once was the social class of immigrants (predominantly factory workers) has become the 'new' middle class.

**TABLE 2** Distribution of areas within individual LLMA's (percentage of total population)

LLMA's	Areas					Total
	Upper middle class	Middle class	Ageing population	Young household	Working class/ declining areas	
Turin	9.1	48.0	37.7	1.6	3.5	100.0
Milan	17.1	58.1	18.6	0.5	5.7	100.0
Venice	9.5	68.9	18.0	0.7	2.8	100.0
Genoa	23.9	36.7	36.4	0.4	2.6	100.0
Bologna	18.1	47.2	32.2	0.3	2.2	100.0
Florence	20.7	51.1	22.2	0.2	5.8	100.0
Rome	30.2	43.8	17.5	2.2	6.3	100.0
Naples	6.1	8.3	4.2	68.7	12.7	100.0
Bari	6.9	39.3	6.4	43.0	4.4	100.0
Reggio Calabria	12.8	26.2	12.3	40.7	7.9	100.0
Messina	18.7	30.2	8.9	40.9	1.3	100.0
Palermo	10.2	12.6	6.0	65.7	5.5	100.0
Catania	10.4	30.0	5.2	51.6	2.7	100.0
Cagliari	16.7	60.0	3.5	16.2	3.6	100.0
14 LLMA's	16.5	40.9	17.3	19.3	5.9	100.0

Source: Our own elaboration on Istat, Population and Housing Census 2011 data.



The second major social connotation of the Central-North territories is represented by areas inhabited mainly by elderly people (*ageing population areas*). In Turin, Genoa, and Bologna these sections concentrate more than 30% of the population (37.7% in Turin). Even in Florence, Milan, Venice, and Rome it reaches or exceeds 20%. Ageing, which is now relevant to the entire Italian population, in this analysis emerges as a distinctive feature of the urban condition.

For each of the local systems located in the Centre-North of Italy, the relative weight of the enumeration areas classified in the other typologies is smaller. However, where immigration has been more intense or longest-standing, the *working class/declining areas*—are more populous, as in the case of Rome (6.3%) and Milan (5.7%).

One should read these data with due caution, however. They do not take into account the very important distinction between the *core* (the central municipality) and the *ring* (i.e. the periphery, all other municipalities) of local systems. This nevertheless is a fundamental distinction to highlight territories characterized by relatively small, but well-defined social groups concentrated in specific localities.

When we move to the Mezzogiorno, the local systems show a widespread presence of weak and fragile socio-demographic conditions. This is especially true for the indigenous component (*young household areas*, i.e., popular areas with young tenants), even if with some exceptions. Nevertheless, one should note the great heterogeneity, both internal (within an individual local system) and external (between different local systems).

The shift towards fragile profiles could be ascribed to the weak economic and territorial attraction that characterizes the South of Italy, although the well-known dualism with the Centre-North is feebleness than expected and even contradicted, at least in part, by the exercise conducted here.

Most of the population dwells in *young household areas* (popular areas with young residents): 68.7% of the population of the local system in Naples and 65.7% in Palermo, 51.6% in Catania, 43.0% in Bari, 40.9% in Messina and 40.7% in Reggio di Calabria. Conversely, the *middle-class* and *upper-middle-class* residential areas are relatively small: 8.3% and 6.1%, respectively, in the case of Naples and 12.6% and 10.2% in Palermo. In the Bari local system, however, the percentage of sections with *upper-middle-class* profiles is limited (6.9%), although the proportion of *middle-class areas* is quite relevant (39.3%). This greater heterogeneity, which we also find in the remaining local systems in the Mezzogiorno, is due to several factors. For instance, the monocentric or polycentric feature of the regional territorial structure has a clear impact on the role and functions of the most important metropolitan cities. This explains why in the local system of Cagliari a significant proportion of the population dwells in areas with a *middle-class* or *upper-middle-class* profile (60% and 17%, respectively). On the other hand, the population dwelling in *young household areas* represents 16.2% of the total.

The share of the population living in enumeration area characterized as *working class and declining areas*, popular areas at risk of degradation are, in many cases, significantly higher than those found in the Centre-North local systems. This again is the case with Naples (12.7%), Reggio di Calabria (7.9%), and Palermo (5.5%).

Illegal building activity—typical of the Mezzogiorno of Italy over a long time—has probably played an important role in shaping these patterns. According to some theories, illegal construction activity would have favoured greater integration with respect to the rigid functional spatial policies typical of a planned urbanism from above, as in the case of the *banlieues* of the French metropolis.

Finally, as compared to the local systems of the Centre-North, the enumeration area classified as the *ageing population areas* are less concentrated, though with some exception, revealing that Southern cities are less 'old' than the average.

### 3.3 | Intra-urban differences

At a micro-territorial level the five typologies of areas identified and described in Section 3.1 design an urban social geography consisting of small spatial portion of territory corresponding to the differentiated and plural character of urban and metropolitan social relationships. The "ecological" analysis carried out on micro-areas (enumeration area) enables us to investigate on a fine-tuned spatial scale where and how socio-demographic differences used as proxies



of social justice are located in urban space. If our goal is to represent the importance of the spatial dimension in the production and reproduction of socio-economic inequalities this unit of analysis could provide a quite good operationalization of the concept of spatial justice, despite some methodological constraints above described.

As mentioned previously, the underlying hypothesis of the analysis is that the context affect the characteristics of social aggregates in a complex process of socio-spatial interactions where places are produced by residents but, in turn, contribute to the shape of the living conditions, the reproduction of poverty, and social exclusion (Soja 2010).

To better investigate this hypothesis, we focus our analysis on three Italian cities particularly interesting for their demographic dimension, geographic location, and socio-economic position in the national context: Milan for the North, Rome for the Centre, and Naples for the South.

Each of this cities have its own geographical, cultural, socio-economic, political specificity that one should consider in the explanation of data analysis.

In Milan, the identified areas shape an urban fabric historically characterized by a concentric circular structure (Mela, 2015). The old town, which includes some areas with a high concentration of foreign immigrants, is dominated by the *upper-middle class areas* and *ageing population areas* representing, respectively, 43.7% and 28.8% of the LLMA's entire population in spatial terms.

An element that clearly emerges is the exclusion of the middle class areas from the central and semi-central areas of the city. The hypothesis is that this population has moved from these areas towards social housing multi-family dwellings like big condominiums in the hinterland of the city due to the rising prices of the real estate market in the last half century.

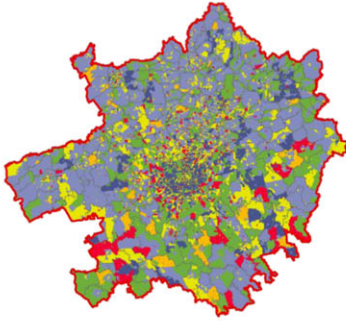
The same argument applies to the young households areas that, although considerably lower than in Rome and Naples (0.1% of the population), are located at the edge of the municipal boundaries.

In the semi-central part of the city, the areas abandoned from middle classes and sometimes subject to degradation processes, we find the *working class/declining areas* with foreigners of recent immigrations sharing the same space with Italian dwellers with low levels of education and mainly employed in low skilled sectors. Even in Milan, however, apart from some exceptions, the areas characterized by these fragile social typologies are not extensive in terms of area, suggesting that there is no real spatial segregation of the most disadvantaged groups. Enumeration areas defined as *working class/declining areas*, in fact, represent here the 11% of the population.

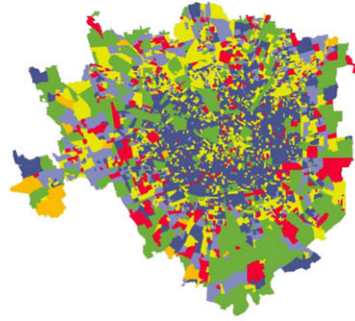
As for Rome, the element that emerges from an initial analysis is a clear social fragmentation. The old town shows a relatively compact morphology with a prevalence of *upper and middle class* areas, representing 38.9% of the population, scattered among areas where residents are mostly elderly. According to the characteristics described previously, it can be argued that in these areas there is a progressive rise in the average age and a decrease in the average size of households (Carlucci & Salvati, 2015). Besides this social typology, which coincides more or less with the central municipality, there are areas of the middle class and the elderly population that in Rome represent a significant part of the population, 34.3% and 17.2% respectively, which reflects their weight in spatial terms. In the *working class/declining areas* (8.1% of the resident population) different types of social and economic malaise coexist. Italian and foreign dwellers share the same space: low qualification occupations, middle-low education level, and households with a relatively high number of components. *Young households areas* are characterized by a prevalence of Italian residents with a high unemployment rate, low levels of education and middle-sized households account for 1.6% of the population. These areas are, for the most part, localized at the boundaries of the municipal urban perimeter. Finally, for the city of Naples, the distribution of social groups shows the prevalence of *young households areas* living in house for rent and characterized by residents with a high unemployment rate or occupied in low qualification sectors, low education levels, relatively young age, and by large and extended households. These areas account for 44.1% of the total resident population. This high spatial concentration of disadvantaged groups in Naples seems to confirm what is termed "integrated poverty" (Paugam, 1996), which is a condition of structural poverty with strong family connotation, handed down from generation to generation and with a strong identity related to the residential context. Although large and representative in terms of population, these disadvantaged areas cannot be defined as *ghetto* areas because, in a complex operation of social syncretism, they are situated side by side, at the border of



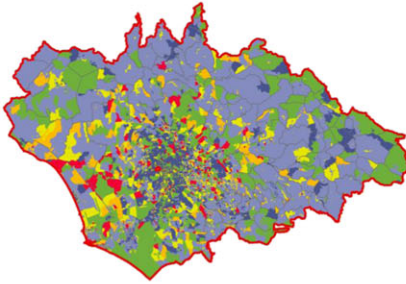
Milan LLMA



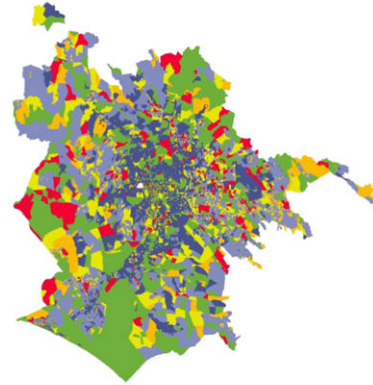
Milan core area



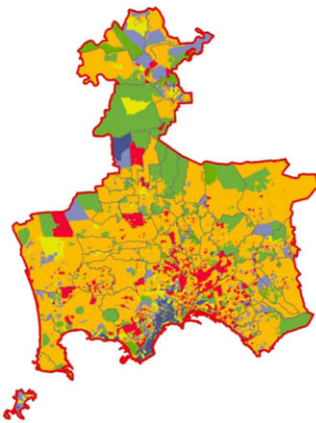
Rome LLMA



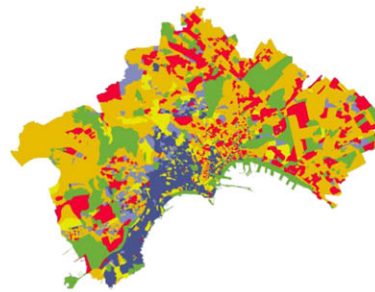
Rome core area



Naples LLMA



Naples core area



**FIGURE 1** The geographies of the five typologies of areas: Milan, Rome, and Naples LLMA and their core area  
 Source: Our own elaboration on Istat, Population and Housing Census 2011 data.



areas that include all other social typologies identified: *upper-middle areas*, particularly in some parts of the historic centre (15.3%), *working class/declining areas* (23.3%), *middle-class areas* (10.1%), and *ageing population areas* (7.1%). Alongside the widespread “city of the poor” (Secchi, 2013) made up of *young household areas* and *working class/declining areas* – (approximately the two-thirds of the population) – in the hilly area and in the coastal area west of the port, we observe a large area characterized by medium-high profiles consisting of residents with a high level of education living in property houses, a high old-age index, and a level of education characterized by a significant share of people with academic degree (Figure 1).

## 4 | DISCUSSION AND CONCLUSION

The five typologies of areas allow for an ecological analysis to understand where and how social, demographic, and economic differences are located in urban space. The first element that emerges is complexity. We observe a high level of heterogeneity in which next to the traditional core-periphery pattern arise a spatial process consisting in a progressive transformation of the urban and peri-urban social structure that design new and varied geographies of the social mobility.

The second common element that arise in most cases analysed in this paper is the absence of social uniformity of the peripheries and of a residential segregation of the most disadvantaged groups. It does not emerge, therefore, an urban pattern defined by large areas characterized by the exclusive presence of specific social groups. This porosity between different areas and groups is an element of strength in the perspective of a greater social integration. At the same time, it is a possible cause of social conflict in particular in contexts where job insecurity, degraded living conditions, difficult access to services, and low liveability levels prevail.

The third element that exemplifies the different urban typologies resulting from the analysis is the presence of compact areas characterized by a strong prevalence of medium-high social profiles. However, these areas also show evolutionary processes of contamination by different social groups, such as foreign-born immigrants working in manual labour and personal services.

The analysis carried out consists of a mere spatial distribution exercise about the prevalent socio-demographic characteristics of residents. The picture that arises, although limited by the caveats described above, shows that if some common patterns emerge in the demographic and socio-economic urban morphology, each city has its own specificities, suggesting that injustice can be considered a complex condition inscribed, at the same time, in people and in space. According with some recent theories on urban epistemology (Brenner & Schmid, 2015) cities should no longer be statically investigated in its traditional borders because the “urban” is a universal condition and should be analysed in a dynamic way, considering social, economic dynamics and historical trajectories. From this perspective, the concept of spatial justice and its operationalization proposed in this paper can be considered as a promising framework to analyse the complex dynamics of the contemporary cities, not limited to the case studies analysed here. Moreover, the path towards a more complex and exhaustive representation of the spatial justice should consider two different methodological issues. The first concerns the search for a better scale of analysis since the enumeration area is likely to emphasize local heterogeneities that could not affect the overall features of a neighbourhood. The second is the need for a multifarious approach that can disentangle the different levels of spatial justice at urban level focusing, in turn, on quantitative or qualitative aspects: accessibility to services, mobility, economic and environmental conditions, and the overall degree of living.

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**Resumen.** Aunque todavía necesita un estado teórico definitivo, la justicia espacial representa un marco inspirador para el análisis geográfico y la planificación. En este trabajo se intenta hacer operativo el concepto a través de un enfoque geodemográfico. Se utilizan las diferencias demográficas y sociales como indicador sustitutivo del concepto a nivel urbano, con el objeto de definir cinco grupos socio-territoriales basados en las características de la población que reside en el área de enumeración de 14 áreas locales del mercado laboral italiano, en las que su capital es también la capital de una ciudad metropolitana. Los primeros resultados del análisis muestran un alto nivel de heterogeneidad y la ausencia de periferias compactas y segregadas. Al mismo tiempo, el análisis destaca la necesidad de investigaciones metodológicas adicionales para lograr una mejor representación de la justicia social en su dimensión espacial.

**抄録:** まだ明確な理論的地位を必要としているが、空間的正義は地理的分析と計画の刺激的なフレームワークの代わりとなる。本稿では、この概念を地理人口学的アプローチにおいて実行することを試みる。都市レベルでの概念のプロキシとして人口統計学的および社会的差異を用いて、その地域の主要都市が大都市圏の中心部でもあるイタリアの14の地方労働市場地域(local labour market areas: LLMA)の列挙地域に居住する人口の特性に基づいて五つの社会-領域クラスタを定義した。分析の最初の結果は、高レベルの不均一性とコンパクトで分離した周辺部の欠如を示した。同時に、分析から、その空間的次元で社会正義のより良い表現を得るための、更なる方法論的調査の必要性が強調された。