Migration Letters
May 2023
Volume: 20, No: 3, pp. 411 – 420
ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)
www.migrationletters.com

Received: 15 November 2022 Accepted: 17 February 2023
DOI: https://doi.org/10.47059/ml.v20i3.2854

Internal Migration Patterns of National and Foreign Population in Italy. A Local Spatial Comparative Approach

Alessio Buonomo[1], Rosa Gatti[2], and Federico Benassi[3]

Abstract

A local spatial comparative approach to study internal migration of national and foreign population in Italy is proposed in the paper. Univariate and bivariate local analysis of spatial autocorrelation of internal migration rates of the two populations is conducted. Results are mapped and crossed with municipalities typologies identified by the Degree of Urbanization (Degurba) classification. The local scale of analysis allows to appreciate specific patterns of internal migrations normally ignored. Specifically, a dual spatial regime emerges between geographical patterns of internal migration of nationals and foreigners in terms of urban-rural divide and level of spatial polarization.

Keywords: *Internal migration; spatial demography; foreigners; nationals; local analysis*

Introduction

The foreign population residing in Italy exceeds nowadays 5 million and has become a structural element of its society (Colombo & Dalla Zuanna 2019). That presence is not spatially homogeneous. Indeed, at least in a first stage, metropolitan and large urban areas, especially in the Centre-North, profited most from the migration of foreign citizens from abroad (Strozza et al. 2016). This phase of spatial concentration is usually followed by a subsequent phase of redistribution and dispersion (Belanger & Rogers 1992). These processes of spatial redistribution occur through internal migration, a process that naturally affects the native population, albeit with normally less relevant intensities than the foreign one (Finney & Catney 2012). Internal migration in Italy is a historically consolidated phenomenon that found its maximum expression during the years of the economic boom after the Second World War. Internal migration has then decreased since the 1970s due to the oil shocks (with rates between 20 and 25 per thousand). From the late 1990s until the economic crisis of 2008, there was a growth in internal migration. This increase is mainly associated with the growth in the number of resident foreigners. After the onset of the Great Recession of 2008, internal migration (i.e., change of residence) decreased from 1.39 to 1.13 million to increase again to 1.36 in 2011 (Bonifazi & Heins 2017). Even today, internal migration continues to affect many people, including young people (Bonifazi et al. 2021). According to a macro geographical scale, one of the privileged axes of these flows has always been the South-North one, i.e. from the economically less developed areas to the economically more developed areas of the

[1] Alessio Buonomo, University of Naples Federico II, Italy. E-mail: alessio.buonomo@unina.it
[2] Rosa Gatti, University of Naples Federico II, Italy. E-mail: rosa.gatti@unina.it
[3] Federico Benassi, University of Naples Federico II, Italy. E-mail: federico.benassi@unina.it
Acknowledgement: This work was supported by the University of Naples Federico II, under the grant E66J17000330001, D.R. n.408 of 07/02/2017, and by Ministry of Education, University and Research (MIUR), under the grant 2017N9LCSC_004 (PRIN 2017).

country, typically the metropolitan and industrial areas of the North[4]. Naturally, along with this type of long-range flows, there were intense and articulated shorter-range migratory flows that affected the different phases of urban growth according to the pattern of centripetal, centrifugal, and inter-city migrations (Pumain 2006). The combination of these migratory movements has contributed to shaping the different urban structures, also changing the demographic sizes and profiles of both origin and destination areas (Termote 2005). The result of these internal migratory flows, which naturally tie in with the international ones, can be traced back to urbanisation and counter-urbanisation processes (Lerch 2016). The geographical scale of previous analyses on this issue is in most cases quite coarse (regions or provinces), and they are mostly carried out by means of non-spatial approaches. This is quite surprising if we consider that space is instead a key dimension in the definition of migration processes and therefore in their modelling (Raymer et al. 2019). This seems particularly relevant in Italy where demographic and socio-economic territorial disparities are persistent (Asso 2021). Based on these premises and on the idea that demography is essentially a spatial social science (Voss 2007), in this contribution we propose an original approach to the study of internal migration of nationals and foreigners[5] in Italy. Using data on internal migration (i.e., change of residences) at the municipal level and referring to the year 2019, we propose a local spatial comparative analysis of the internal migration of nationals and foreigners. The research questions are four. Are the internal mobility patterns of foreigners and nationals a locally spatially dependent phenomenon? (RQ1) If yes, does this dependence manifest itself according to the same geographical patterns for both population? (RQ2) Is there a spatial attraction or repulsion between the same forms of internal migration of nationals and foreigners? (RQ3) How the degree of the urbanization of the local contexts interacts with internal migrations of both populations? (RQ4) To answer these questions we have calculated, for each of the almost 8,000 Italian municipalities, crude rates of internal emigration and immigration broken down by country of citizenship. Subsequently, univariate and bivariate local spatial autocorrelation analysis was conducted. The results of the local spatial autocorrelation analysis are then crossed with the municipalities' degree of urbanization.

Internal migration patterns in Italy. A brief overview

Internal migration has played a key role in determining the socio-demographic characteristics of Italian society in the post-war period and to boost the economic development (Golini 1977). Between 1955 and 1975 were took place the most intense emigration from the South to the richest regions of the Centre-North, especially in the more industrialized North-West area (Benassi et al. 2019). In these years, a new phenomenon occurred for internal migration in Italy: large masses of people attracted by the possibility of social mobility left the countryside and moved to the city. In the next twenty years (1970s and 1980s), there was a gradual, but intense, reduction in internal migration flows (Piras & Melis 2007). In addition, in this period the population moved away from the city centres and poured into the surrounding areas fuelling the suburbanization process (Martinotti 1993). In the last three

[4] Some figures about North-South divide can help to figure out push and pull factors that still play in shaping internal migration flows in Italy. In 2019, the same year to which our analysis refers to, in Italy the percentage of NEET (young people not in education, employment, or training) was equal to 23.1%. In the North the index was equal to 17.0% while in the South was much higher (32.2%). The unemployment rate for the same year was equal to 9.9% for Italy, to about 6.1% for the North and to almost 18% for the South.

[5] In this contribution, foreigners are individuals without the Italian citizenship, the counterpart are nationals.

decades, foreigners have played a key role in internal migration. The number of immigrants living in Italy has progressively increased from 350,000 residents surveyed in 1991 to more than 5 million at the beginning of 2022. This increase resulted in a growth in the potential migrant population that played a significant role in shaping internal migration (Strozza & de Filippo 2011). Indeed, immigrants have a larger propensity to migrate compared to natives (Silvestre & Reher 2014). The reasons for that are many and these range from economic and demographic aspects to social and housing issue[6]. According to the population register data, in the period 1991-2022 the internal migration of nationals, while continuing to represent the larger number of internal migrations in absolute terms, has decreased in relative terms in favour of that of foreigners. However, since the economic crisis (2008), the total internal emigration rates of foreigners has begun to decline, determining a reduction in the gap between the migratory indicators of nationals and foreigners. This trend is a result of both the negative economic situation and their growing and increasingly stable presence in the territory (Impicciatore & Strozza 2015). The growing attraction of the North-East macro area (Svimez various years) and the increasing migration flows from the South to the rest of the peninsula, although at significantly lower levels than in the 60s, have characterized the past two decades. At the same time, the short-distance (mainly intraregional) migrations multiplied. Internal migration has radically changed over the years: migratory behaviour has become much more complex and the trajectories of origin and destination of migration flows have changed, drawing a spatial profile that has radically changed over time (Basile et al. 2021). Considering the specificity of the Italian case mentioned above, we expect that internal mobility patterns to be a spatially dependent phenomenon (RQ1->Hy1). Furthermore, based on the different characteristics of the two populations considered, we expect that the mobility patterns for national and foreigner populations manifest different geographical patterns (RQ2->Hy2). We hypothesise that there is a local spatial attraction between the same forms of internal migration of foreigners and nationals with reference to the same territory (RQ3->Hy3). Finally, based on the spatial and settlement characteristics of the Italian territory, we hypothesise that the degree of urbanisation of local contexts interacts with the internal migrations of both populations according to different spatial clusters (RQ4->Hy4).

Data and Methods

Data are provided by the Italian National Institute of Statistics (Istat) and refer to municipalities' population registers. We used data on internal migration flows (changes of residences occurred between Italian municipalities) of nationals and foreigners occurred from the 01.01.2019 and the 31.12.2019. Data on migration flows by country of citizenship are collected and disseminated by Istat and freely available on the institutional website (www.istat.it). On the base of these flows, we computed two different kinds of gross migration rates for foreigners and nationals (i.e., Italians): Internal Immigration Rate (IIR) and Internal Emigration Rate (IER). Although these ratios have some obvious limitations[7], they are the only ratios that can be calculated at the local level. Moreover, as we are not interested in comparing the level or intensity of different local migration rates in order to grasp their spatial distribution, the limitations of these rates seem to have less importance and impact. Therefore, we have four basic rates: two for foreign population (IIR^F and IER^F) and two for national

[6] See, among others, Rogers & Castro (1981), Belanger & Rogers (1992) for international contexts. For the Italian case see, among others, Bonifazi et al. (2021), Casacchia et al. (2022).

[7] These are gross measures that do not take into account the age structure.

population (IIR^N and IER^N). In the first part of the paper, we explored the spatial distribution of the gross migration rates by using thematic maps. After, we performed a local spatial autocorrelation analysis using the local version of univariate Moran's *I* index (Anselin 1995). Here we were interested in verifying where the distribution of the migration rates was random or not and in identifying local spatial cluster. Next, we ran the same indices but in a bivariate way (Anselin et al. 2022) to detect the local spatial correlation between the same migration rates computed for nationals and foreigners. The idea is whether there is local spatial attraction between the same forms of mobility of two different populations with reference to the same territory. Maps of the local version of univariate Moran's *I* were used to identify any significant clusters of migration rates that could be characterised as either homogenous spatial regimes (a combination of high–high or low–low attribute values among neighbouring areas as defined by the spatial weight matrices) or spatial outliers (derived from high–low or low–high patterns). On the contrary, the bivariate version of the index allowed consideration of the spatial distribution of both variables simultaneously. In particular, the local version of the index can reveal the spatial correlation (or even disparity) of the relationship between migration rates computed for nationals and foreigners. For the attribution of spatial weights, we used a first-order 'Queen' based contiguity matrix so that two territorial units (municipalities in our case) were considered neighbouring if they shared a boundary or a vertex geographically. In all spatial autocorrelation analyses, the variables were expressed in a standardised form, such that their means were zero and their variance one. In addition, the spatial weights were row standardised. The hypothesis of the existence of a condition of univariate or bivariate spatial clustering was tested at a 5% level of statistical significance (p-value$\leq$0.05)[8]. The results of the local univariate and bivariate spatial correlation analysis are then crossed with the Degree of Urbanization (Degurba) classification at municipality level. Degurba is a classification proposed by Eurostat that indicates the character of an area. Based on the share of local population living in urban clusters and in urban centres, Degurba classifies Local Administrative Units (i.e., municipalities in our case) into three types of areas: cities (densely populated areas); towns and suburbs (intermediated density areas) and, rural areas (thinly populated areas)[9].

Results

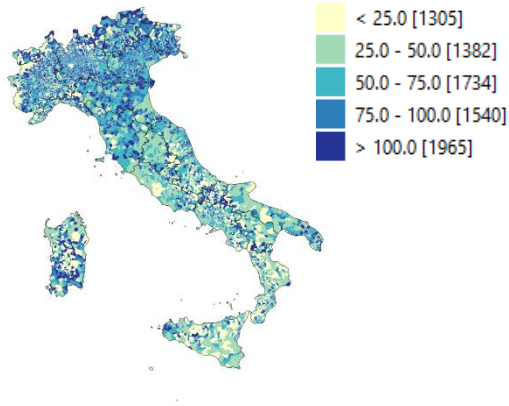
The migration rates related to internal migration flows of nationals and foreigners present a relevant spatial variability (Figure 1). However, in the case of foreign population this variability does not follow clear macro spatial patterns. This is particularly true in North Italy where the distribution of both migration rates seems to be random. In the case of nationals more clear patterns emerge. In particular, it is quite clear a South-North divide with the first macro area with comparative higher values of immigration rate and the second with comparative higher values of emigration rate. What is confirmed is the higher mobility of foreigners compared to the one of nationals and this is true for internal migration flows and internal emigration flows.

[8] Local spatial indices were computed using GeoDa (version 1.18 10.12.2020). Thematic maps were created using Qgis 'Odense', version 3.20.2.

[9] For more details on Degurba see: https://ec.europa.eu/eurostat/web/degree-of-urbanisation/background

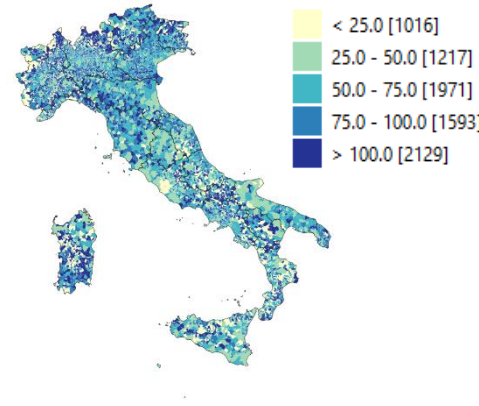
Figure 1. Internal migration rate (‰). Foreign population and national population.

IIR^F



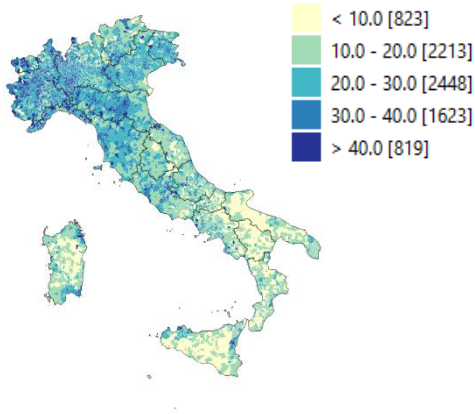
Mean: 79.6; Median: 68.3; Standard deviation: 82.9; Q1: 38.3; Q3: 100.0; IQR: 61.7

IER^F



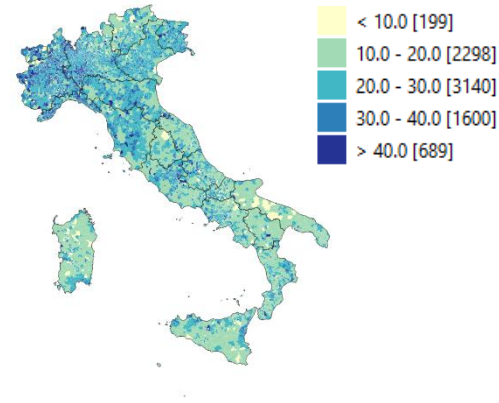
Mean: 87.4; Median: 71.7; Standard deviation: 91.8; Q1: 46.3; Q3: 103.9; IQR: 57.7

IIR^N



Mean: 24.8; Median: 23.8; Standard deviation: 12.8; Q1: 15.4; Q3: 32.2; IQR: 16.8

IER^N



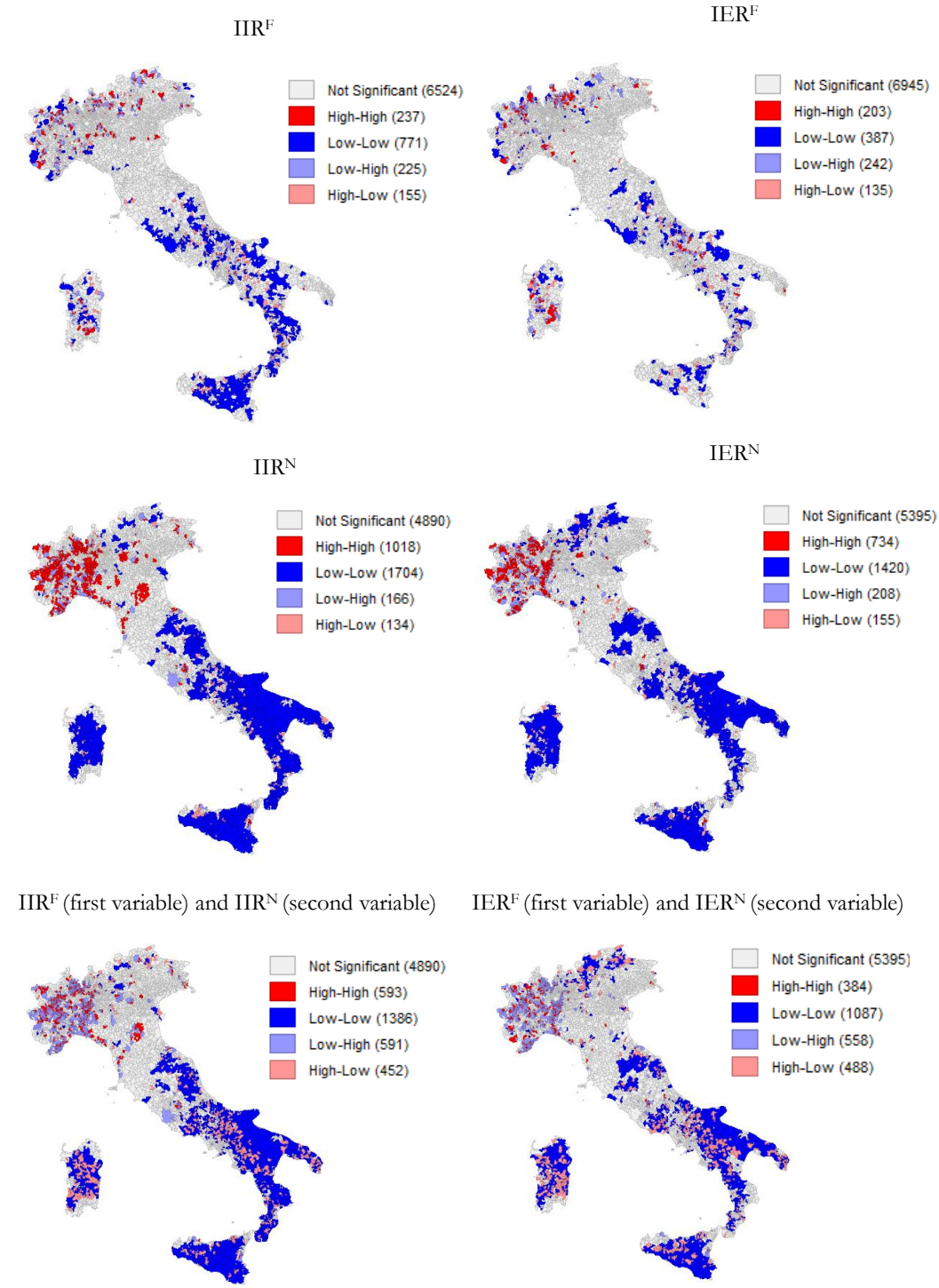
Mean: 25.9; Median: 24.6; Standard deviation: 10.9; Q1: 18.4; Q3: 31.4; IQR: 13.0

These are descriptive non-spatial statistics. Indeed, they don't consider the Tobler's first law of geography: everything is related to everything else, but near things are more related than distant things (Tobler 1970). This "law" represents the bulk of spatial analysis and the core of

our contribution[10]. From the analysis of Figure 2, interesting and counterintuitive results seem to emerge. The distribution of migratory rates of the foreign population tends to little cluster. With reference to the first migration rate (IIR) the number of municipalities where the distribution is random is equal to 6,524 (82.3% of the total municipalities). In reference to emigration rate (IER) the number of municipalities where the distribution is random is even higher, 6,945 (87.6% of the total municipalities). This indicates that the distribution of internal migration rates of the foreign population presents low level of (local) spatial autocorrelation. This is not true for all municipalities. A condition of positive spatial autocorrelation of LL type occurs in most of the case among non-random spatial distribution both for immigration (771) and emigration (387) rates. These clusters of municipalities are concentrated in the Southern part of Italy but also in the Centre, especially in Lazio region (municipality of Rome and its surrounding areas). The HH clusters of municipalities are few (about 200 in both cases) and they do not follow clear spatial patterns. Migration rates of nationals show opposite spatial patterns. The distribution is here more clustered, the number of municipalities where the distribution of the migration rates is random decrease to 4,890 and 5,395 municipalities in terms of immigration and emigration respectively, and, more important, a clear South-North patterns emerges both in relation to immigration and emigration. The HH clusters of municipalities are concentrated in Northern and Central areas of Italy across and around the major urban contexts. This is true both for immigration and emigration rates even if in the second case the number of HH cluster is minor (734 versus 1,018) and more concentrated in the North-West. Bivariate local Moran's are computed considering the same form of internal migration for nationals and foreigners. Left side map refers to bivariate cluster obtained using internal immigration rate of foreigners as first variable and the same rate for nationals as second variable. Results indicate that a condition of spatial correlation is numerical relevant since the number of municipalities in which this relation is not spatially dependent is equal to 4,890. Between municipalities in which the bivariate distribution of rates is not random, prevail a condition of spatial attraction (positive spatial bicorrelation, LL and HH clusters, for a total of 1,979 municipalities) above a condition of spatial repulsion (negative spatial bicorrelation, LH and HL clusters, for a total of 1,043 municipalities). More in details, results tell us that where the local level of internal immigration of foreigners is low, the same holds for national people. This happens especially in the Southern part of Italy, where the level of immigration is low both for nationals and foreigners. The spatial distribution of the HL cluster reveals that most of the municipalities that belong to this cluster are concentrated in the Southern part of Italy as well, exactly in the same macro area of LL cluster. The HL cluster indicates conditions in which a high level of immigration rate of foreign population is spatially clustered with low level of immigration of national population. Therefore, we can infer that in the macro-geographical division where the immigration rate is comparative low, and where the majority of LL cluster is concentrated (the South), condition of high level of immigration rates of foreign population spatially correlates with low level of immigration rates of national population. This means that, in this part of Italy, although in a framework of low immigration, a dual spatial regime between the two population emerges (i.e., bivariate negative spatial autocorrelation).

[10] The meaning of the Tobler's law is the follow: in processes that are spatially dependent, we should reject the hypothesis that value at one location does not depend on values at other (neighbouring) locations. The analysis of local spatial autocorrelation of internal migration rates allows us to verify if the process here observed (i.e., internal migration of nationals and foreigners) is spatial random or not.

Figure 2. Univariate and bivariate local Moran's *I* map. Migration rates of foreign population and national population. Italian municipalities.



The HH cluster of municipalities is the second largest (593 municipalities), here high level of immigration rates is recorded for both populations in spatially contiguous municipalities. This cluster is concentred in the Northern part of Italy. Therefore, in this area low level of immigration rate of foreigners correlates to high level of immigration of nationals. This is quite interesting: in the South where the condition of LL cluster prevails, we find the concentration of the HL clusters. The opposite happens in the North. This general scheme, although with some variations, is the same that we find in relation to emigration flows. What about "vertical" territorial distribution of the rates? Table 1 provides some data on this point. To be brief, we refer our comments only to positive spatial autocorrelation (HH and LL). In the case of univariate spatial autocorrelation for foreigners *towns and suburbs* are the contexts where the spatial polarisation of rates is greatest. In the national population, on the other hand, *cities* also register significant cases of spatial clustering of the HH type. In the case of bivariate spatial autocorrelation, a clear distinction between internal migration typology (immigration or emigration) and degree of urbanization emerges. *Cities*, in the case of the bivariate distribution of emigration rates, do not show HH situations, whereas 16.4% of the municipalities classified as *cities* in the case of immigration rates of foreigners and nationals do. In the case of *towns and suburbs*, it is still the immigration rates of nationals and foreigners that register higher HH rates than the same typology but referring to internal emigration flows. The distribution relative to *rural areas* with respect to immigration rates, on the other hand, seems to be more similar.

Table 1. Municipalities in which the distribution of migration rates (univariate or bivariate) is not random by type of spatial clusters and degree of urbanization (Degurba). Percentage values.

	Type of spatial clusters						Type of spatial clusters				
IIR^F	HH	LL	LH	HL	Total	IER^F	HH	LL	LH	HL	Total
Cities	0.0	72.2	27.8	0.0	100.0	*Cities*	0.0	85.7	14.3	0.0	100.0
Towns/surburbs	20.8	56.4	15.5	7.2	100.0	*Towns/surburbs*	18.0	52.1	23.4	6.6	100.0
Rural areas	16.5	55.1	16.2	12.3	100.0	*Rural areas*	21.8	37.1	25.5	15.6	100.0
Total	**17.1**	**55.5**	**16.2**	**11.2**	**100.0**	**Total**	**21.0**	**40.0**	**25.0**	**14.0**	**100.0**
IIR^N						IER^N					
Cities	40.0	40.0	18.2	1.8	100.0	*Cities*	21.1	44.7	34.2	0.0	100.0
Towns/surburbs	49.4	45.3	3.7	1.6	100.0	*Towns/surburbs*	42.5	49.9	6.0	1.5	100.0
Rural areas	27.0	61.4	5.9	5.7	100.0	*Rural areas*	23.7	59.4	8.6	8.2	100.0
Total	**33.7**	**56.4**	**5.5**	**4.4**	**100.0**	**Total**	**29.2**	**56.4**	**8.3**	**6.2**	**100.0**
IIR^F and IIR^N						IER^F and IER^N					
Cities	16.4	38.2	41.8	3.6	100.0	*Cities*	0.0	44.7	55.3	0.0	100.0
Towns/ surburbs	29.7	37.9	23.4	9.0	100.0	*Towns/surburbs*	17.6	40.6	30.9	10.8	100.0
Rural areas	15.6	49.4	17.4	17.7	100.0	*Rural areas*	14.6	44.2	17.8	23.4	100.0
Total	**19.6**	**45.9**	**19.6**	**15.0**	**100.0**	**Total**	**15.3**	**43.2**	**22.2**	**19.4**	**100.0**

Discussion and conclusions

Our results show that the internal mobility patterns are only partially a locally spatially dependent phenomenon, presenting distinct characteristics for nationals and foreigners. Looking at the foreign population, its level of local spatial autocorrelation is very low and lower than the one related to nationals. The distribution of their internal migration rates is little influenced by space (Hy1). Furthermore, the distribution of their local cluster does not follow a clear spatial pattern. Only for the LL cluster a South concentration is detected. Conversely, in the case of national population clear South to North patterns emerge. In the

South, we find LL and HL clusters. Exactly the opposite is true for the Northern part of Italy (Hy2). Our results reveal the presence of a dual spatial regime, confirming a North-South dichotomy of the Italian model (Hy3). Finally, considering the relevance of urban and non urban areas in migration phenomena (Qi 2019), an urban-rural difference was found for nationals and foreigners (Hy4). The relevance of the spatial dimension draws attention to other social phenomena and processes associated with the distribution of the population in space, such as disparities in demographic, economic and social development. Considering this, future developments involve the use of global spatial regression models and local multiscale spatial regression models, using explanatory variables relating to specific domains. Of course, this study has limitations that need to be made explicit. We do not have origin-destination matrices of migration flows and, therefore, the analysis only refers to raw migration rates at municipal level without any reference to the trajectories of these migration flows. Furthermore, we do not have information on the specific characteristics of migrants (e.g., individual country of citizenship, age, educational qualification, etc.) that could greatly enrich the analysis. Lastly, the analysis refers to only one calendar year, 2019. We intend to work on resolving at least some of these limitations in future studies.

References

Anselin, L. (1995). Local indicators of spatial association—LISA. *Geographical analysis*, *27*(2), 93-115.

Anselin, L., Syabri, I., & Smirnov, O. (2022). Visualizing multivariate spatial correlation with dynamically linked windows. In: Anselin, Luc; Rey, Sergio (Eds.) *New Tools for Spatial Data Analysis: Proceedings of the Specialist Meeting*, University of California, Santa Barbara: Center for Spatially Integrated Social Sciences (CSISS).

Asso, P. F. (2021). New perspectives on old inequalities: Italy's north–south divide. *Territory, Politics, Governance*, 9(3), 346-364.

Basile, R., De Benedictis, L., Durban, M., Faggian, A., & Mínguez, R. (2021). The impact of immigration on the internal mobility of natives and foreign-born residents: evidence from Italy. *Spatial Economic Analysis*, 16(1), 9-26.

Belanger, A., & Rogers, A. (1992). The internal migration and spatial redistribution of the foreign-born population in the United States: 1965–70 and 1975–80. *International Migration Review*, *26*(4), 1342-1369.

Benassi, F., Bonifazi, C., Heins, F., Licari, F., & Tucci, E. (2019). Population Change and International and Internal Migration in Italy, 2002-2017: Ravenstein Revisited. *Comparative Population Studies*, 44.

Bonifazi, C., & Heins, F. (2017). Internal migration patterns in Italy: Continuity and change before and during the Great Recession. *Rivista Italiana di Economia Demografia e Statistica*, 71, 2-10.

Bonifazi, C., Heins, F., Licari, F., & Tucci, E. (2021). The regional dynamics of internal migration intensities in Italy. *Population, Space and Place*, *27*(7), e2331.

Casacchia, O., Reynaud, C., Strozza, S., & Tucci, E. (2022). Internal migration patterns of foreign citizens in Italy. *International Migration*, 60(5), 183-197.

Colombo, A. D., & Dalla-Zuanna, G. (2019). Immigration Italian style, 1977-2018. *Population and Development Review*, 585-615.

Finney, N., & Katney, G. (Eds.) (2012). *Minority internal migration in Europe*. International population studies series. Surrey: Ashgate Publishing.

Golini, A. (1977). *Population distribution, internal migration, and urbanization in Italy*. In S. Goldstein & D. F. Sly (Eds.), Patterns of urbanization: Comparative country studies (pp. 383–432). Dolhain: Ordina Editions.

Impicciatore, R. & Strozza, S. (2015). *Migrazioni internazionali e interne di italiani e stranieri*. Universale Paperbacks. Bologna, Il Mulino, 674: 109-140.

Lerch, M. (2016). Internal and international migration across the urban hierarchy in Albania. *Population Research and Policy Review*, 35, 851-876

Martinotti, G. (1993). *Metropoli: la nuova morfologia sociale della città* (Vol. 399). Il Mulino, Bologna.

Piras, R. and Melis, S. (2007) Evoluzione e tendenze delle migrazioni interne. *Economia Italiana* 2: 437-469.

Pumain D. (2006) The urbanization process, in Graziella Caselli, Jacques Vallin & Guillaume Wunsch (Eds.) *Demography: Analysis and Synthesis*, vol.2, 319-328, London, Elsevier.

Qi, Z. (2019). An Overview of Rural to Urban Migration in China and Social Challenges. *Migration Letters*, 16(2), 273–282.

Raymer, J., Willekens, F., & Rogers, A. (2019). Spatial demography: A unifying core and agenda for further research. *Population, Space and Place*, *25*(4), e2179.

Rogers, A. & Castro, L.J. (1981). *Model Migration Schedules*. Laxenburg, Research report, International Institute for Applied Systems Analysis RR-81-30.

Silvestre, J., & Reher, D. S. (2014). The internal migration of immigrants: Differences between one-time and multiple movers in Spain. *Population, Space and Place*, 20(1), 50-65.

Strozza, S., Benassi, F., Ferrara, R., & Gallo, G. (2016). Recent demographic trends in the major Italian urban agglomerations: the role of foreigners. *Spatial Demography*, *4*(1), 39-70.

Strozza, S., & de Filippo, E. (2011). Le migrazioni interne degli stranieri in Italia. *Le migrazioni interne degli stranieri in Italia*, 1000-1028.

SVIMEZ (2009-2015). *Rapporto 2009-2015 sull'economia del Mezzogiorno*. Il Mulino, Bologna.

Termote M. (2005). Implicazioni urbane dei mutamenti demografici e economici nei Paesi sviluppati. Il caso Italiano. *Rivista Italiana di Economia, Demografia e Statistica*, vol. LIX, no. 3/4, 75-85.

Tobler W. (1970). A computer movie simulating urban growth in the Detroit region. *Economic Geography*, 46(2): 234-240.

Voss, P. R. (2007). Demography as a spatial social science. *Population research and policy review*, *26*(5), 457-476.