Chapter 20
Immigrant Location Patterns in a Southern European Metropolis: The Case of Athens

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Abstract Over the last two decades, Greece has seen a substantial influx of economic immigrants giving rise to a number of studies examining the social, economic and spatial implications immigration has for the country. In terms of the spatial impact, the observed tendency is immigrants to move primarily into metropolitan areas, which offer employment opportunities and anonymity. However, very little is known with regard to the specific, intra-urban, locations immigrants choose for their residence and the factors that affect such decisions. The current study attempts to shed light on the above issues, analysing the spatial distribution of economic immigrants within the metropolitan area of Athens, their mobility patterns and the resultant metropolitan structure. Our findings indicate a slight preference for central areas, but, over the time, the general dispersion of such immigrants to peripheral locations. On these grounds, spatial segregation, to the formation of clear ethnic enclaves, seems less plausible.

Keywords Immigrants • Location • Segregation • Athens

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1   Introduction

Over the last 20 years or so, Greece has seen a substantial influx of immigrant populations originating primarily from the countries of ex USSR, the Balkans and Eastern Europe, as well as from Asia and Africa. Currently, according to official estimates, people originating from such places make up about one million of Greece total population, compared to about 50,000 in 1991, of which the vast majority (over 60 %) are economic immigrants from Albania (Arvanitidis and Skouras 2008).

This phenomenon has attracted increasing attention in the literature, giving rise to a number of studies examining the economic, social and spatial implications immigration has for the country (see Lazaridis 1996; Psimmenos 1995, 1998; Lianos 2001; Cavounidis 2002; Lianos and Papakonstantinou 2003; Labrianidis et al. 2004; Baldwin-Edwards 2005; Arapoglou 2006; Rovolis and Tragaki 2006; Maloutas 2007; Arvanitidis and Skouras 2008; Cavounidis et al. 2008). As regards its spatial impact, the general trend reported is that new-comers move primarily into the metropolitan areas (Rovolis and Tragaki 2006), which offer anonymity and substantial employment opportunities. Within the urban frame, immigrants seems to show a preference for central locations (Maloutas 2007), where accessibility is high (due to transport networks) and low-cost housing is available (Arvanitidis and Skouras 2007).

In the light of these arguments the current study analyses the residential distribution of various immigrant groups within Athens' metropolitan area, to assess their locational preferences, the degree of their mobility and the pattern of their spatial development. In doing so, the paper utilizes data from the 2001 National Census, whereas the spatial unit of data collection and analysis is the Census Collection District (*apografikos tomeas*), which is the smallest available.

The paper is structured as follows. The next section outlines the theoretical models that have been developed to explain immigrants' spatial behaviour. On these grounds, Sects. 3 and 4 review the empirical literature to delineate the international and national experience respectively. These are followed by Sect. 5, which briefly outlines the research method employed, and Sect. 6, which discusses immigrants' intra-urban locational pattern and assesses the degree of segregation exhibited. Finally, Sect. 7 concludes the paper by summarising the key findings.

2   The Spatial Behaviour of Immigrants: Conceptual Considerations

The location preferences of immigrants, as well as any minority group in general, and the spatial patterns that result from their decisions have been discussed in the literature under the theme of *segregation*. Initial approaches to segregation, however, dealt with space implicitly, simply assuming that the social environment
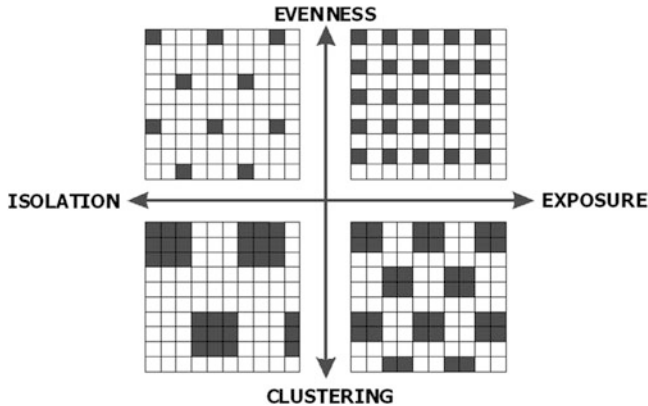
Fig. 20.1 Dimensions of spatial segregation (Source: based on Reardon and O'Sullivan 2004)

of different groups corresponds to some organisational unit that has a spatial substance. These treatments have been repeatedly criticised in the literature for their simplistic approach and their inability to properly project such social phenomena on space (see Openshaw and Taylor 1979; White 1983; Massey and Denton 1988; Morrill 1991; Wong 1993, 1997, 2002; Reardon and O'Sullivan 2004).

A notable attempt to put space into the forefront of the analysis of segregation is Massey and Denton (1988). Employing notions available from the economics literature, they identified five separate dimensions to the segregation of any one group: evenness, exposure, concentration, clustering, and centralization. *Evenness* refers to the differential distribution of the subject population, *exposure* denotes the likelihood of interaction between groups, *concentration* addresses the relative amount of physical space occupied, *centralization* indicates the degree to which a group is located near the urban centre, and *clustering* specifies the gathering of group members into one certain space.

More recently, other scholars (Reardon and O'Sullivan 2004) have elaborated on the above approach to develop more refined measures of spatial segregation that analyse patterning along two axes: one indicating spatial exposure or spatial isolation and the other indicating spatial evenness or spatial clustering (see Fig. 20.1). Spatial exposure/isolation refers to the extent that people belonging to one group are mixed with people of other groups or remain spatially isolated in their local spatial environments. Spatial evenness/clustering assesses the distribution of a group in the residential space, specifying the extent to which its members prefer to locate close to each other (i.e. to cluster together). The combination of the two analytical concepts gives four patterns of residential location, as shown in Fig. 20.1. The upper half of the diagram presents two patterns of evenly distributed ('black' and 'white') households, indicating low levels of spatial clustering (or high levels of spatial evenness). The difference between the two is on the degree of exposure they go

through. People of the two groups in the upper-right pattern are equally mixed with each other, whereas in the upper-left quadrant 'black' households are more isolated. In turn, both patterns at the bottom half of the figure indicates high degrees of clustering: the right one presents a 'black' community with higher exposure, whereas at the left one higher degrees of isolation are evident.

Turning to the reasons behind the development of the various patterns of residential segregation, two major streams of explanation have been put forward: cultural and economic. Cultural explanations argue that minority group members tend to locate close to each other in order to take advantage of their closely-integrated social networks and to retain valued elements of their cultural heritage, such as language and religion (Boal 1976; Hugo 1996; Dunn 1998). Economic explanations draw attention to the functioning of both the labour and the housing markets, asserting that newcomers tend to concentrate in specific areas of the city (usually the least expensive ones) due to income and information limitations (Massey 1985; Bartel 1989; Boal 1996; Kempen and Ozuekren 1998). These arise, firstly, because immigrants are usually low-skilled, low-paid, unemployment-prone workers (Tripier 1990; Ulrich 1994), and, secondly, because they are faced with both restricted access to housing and other information regarding the institutional mechanisms of the host society (Yinger 1986; Kesteloot 1995; Petsimeris 1995; Pacione 1996). It is important to mention that economic explanations see intra-urban low-priced housing as the cause behind the spatial clustering of minority group members, whereas for cultural explanations low-priced houses is rather a side-effect caused by the decrease of desirability of the particular location to other groups of inhabitants.

In order to analyse the dynamics of spatial settlement of immigrants, three fully fledged explanatory models have been put forward (Freeman 2000). These are the *spatial assimilation* model, the *spatial stratification* model and the *residential preference* model, which are discussed next.

The spatial assimilation model, developed by the Chicago School of Human Ecology, argues for the time-progressive dispersal of initially spatial-concentrated immigrant groups (Dunn 1998). Concentration is rooted in the cultural character of immigration but is reinforced by economic considerations that affect the immigration process. It is expected that during the initial stages of immigration, newcomers would cluster together in order to take advantage of the social and kinship networks of their co-ethnics (Cutler et al. 1999). These networks provide social support and information as well as employment opportunities. However, as time goes by, the gradual acquisition of the language, values, and manners of the host society (a process called *acculturation*), achieved through prolonged contact with natives and through mass institutions such as schools and the media, would lead to the spatial assimilation of the immigrants (Freeman 2000). This is because, as the degree of acculturation increases and the socioeconomic status of the immigrants rises, the social distance between natives and immigrants diminishes, leading to a decrease in the spatial distances between them (Hawley 1950; Park 1926). Thus,

immigrants move out of the poor inner-city areas to the outer suburbs, starting to integrate spatially with the natives (Massey 1985; Kempen and Ozuekren 1998).

Although the spatial assimilation model describes relatively well the progress of spatial settlement for most immigrant groups, e.g. the non-English speaking populations in Sydney and Melbourne in Australia (Grimes 1993; Hugo 1996) and the black Caribbean people in Greater London (Peach 1996), it encounters serious problems in explaining the spatial patterns of minorities with African heritage, namely African Americans and Puerto Ricans, in the USA (Freeman 2000). This has led to the development of the place stratification model.

The place stratification model considers urban space as a hierarchy of places ordered in terms of desirability and the quality of life they provide to urban dwellers (Logan 1978). Natives occupy the most desirable places, keeping immigrants, and generally ethic and racial minorities, at a distance (Cutler et al. 1999). This situation reflects the perception that the natives have of immigrants and their place in the society. Immigrants are attributed with a low social status and remain segregated, even if they are financially able to take up residence in areas occupied by natives (Alba and Logan 1993; Freeman 2000). The place hierarchy is maintained through institutional mechanisms (red-lining, exclusionary zoning, etc.) and/or discriminatory acts on the part of the host society, which can be explicit, such as violence against minorities (Cutler et al. 1999; Anas 2004), or implicit, such as discrimination on the housing and land market (Yinger 1986; Cutler et al. 1999; Ahmed and Hammarstedt 2008). In the case of hierarchy disturbance, natives are expected to depart from the 'invaded' area in a progressive manner, leaving immigrants to constitute, slowly but steadily, the majority population in the area.

While the place stratification model envisages spatial segregation being imposed on immigrants (by other urban groups), the residential preference model asserts that this is in fact a decision of the immigrants themselves. That is, members of the immigrant group 'prefer' to reside with their co-ethnics and to remain spatially segregated, even when they have the financial means or the social status that would enable them to move elsewhere (Freeman 2000; Anas 2004). There are many benefits to be gained from such spatial behaviour. To newcomers, the community's social network would provide not only emotional, social and cultural support, but also other vital 'resources', such as housing and valuable information (on the host institutional framework and the labour market) (Freeman 2000). To all other members, the community represents the stronghold of their own cultural identity (in a sense it constitutes a specific ethnic local public good). It enables them to sustain aspects of their pre-migration cultural practices (religion, language, etc.) while also facilitating their assimilation into wider society. This element constitutes the key difference between the residential preference model and the spatial assimilation model; that is, there is no acculturation process envisaged in the former.

3   Some International Evidence on the Spatial Behaviour of Immigrants

What becomes apparent from the above discussion is that the intra-urban location decisions of immigrants are determined by both cultural and economic factors. When cultural reasons prevail over economic ones, immigrant concentration is expected to be strong and sustained in the long-run. In contrast, dominance of economic considerations over cultural ones would lead, in the long-run, to smoother residential patterns characterised by greater evenness. A number of studies have attempted to explore these issues in empirical research and to assess the role played by, and significance attached to, each set of determinants with regard to the developed urban residential structure.

In a study examining patterns of residential location among immigrants in Oslo, Blom (1999) supported the view that the most significant factor in determining immigrant's locational behaviour is economic resources; though cultural reasons also appear to play an important causal role. This is interpreted as an assimilation tendency where immigrants, after a certain length of stay, start to conform to local residential patterns. On these grounds, dispersal of foreign-born inhabitants is observed after an initial period of concentrated immigrant housing. Djuve and Hagen (1995) come to a similar conclusion, drawing on survey research they conducted on a sample of 329 refugees in Oslo. They found that affordability of housing was the main reason behind the latter's decision to settle in a particular residential area within the city, rather than 'preferences for living close to countrymen'. Analogous evidence has also been provided by Zang and Hassan (1996); Lan-Hung and Jung-Chung (2005) and Burnley (2005), who explored the residential preferences of immigrants in Australian metropolises. These studies indicated that, while immigrant groups may prefer to settle in close proximity to their family and kin for practical and/or emotional reasons, their locational choice depends largely on income and housing affordability, availability of neighbourhood services and closeness to work, giving rise to more assimilated residential patterns.

In a recent study investigating immigration dynamics and resulting residential patterns in the four largest Dutch cities (i.e. Amsterdam, Rotterdam, The Hague and Utrecht), Bontje and Latten (2005) observe a strong exchange of population subgroups. Natives show an ongoing outflow from certain urban neighbourhoods, where foreign-born population is increasingly settling in. These neighbourhoods have formed the basis of immigrant communities that are growing fast through family reunification and family formation. In fact, in some areas the share of foreigners has reached "... levels above 70 per cent and even 80 per cent, in contrast to the national share of 10 per cent" (Bontje and Latten 2005: 450). This can be seen as an example of joint implementation of economic and cultural factors, where economic reasons account for the initial stages of immigrant concentration,

and cultural reasons justify its enhancement and longevity. Similar conclusions are drawn by Bolt et al. (2002) who, on the basis of both income and ethnicity, predict further strengthening of segregation and concentration of immigrants in the Dutch cities. However, there are researchers (Deurloo and Musterd 1998; Musterd and Deurloo 2002) who assert that the observed patterns of immigrant residential concentration tend not to be stable and therefore spatial integration is to be seen.

The situation across the Atlantic appears to be more complex. Scholars, such as Freeman (2000), Johnston et al. (2003) and Myers and Liu (2005), report a process of immigrant clustering in the American Metropolises similar to the one described above (i.e. fuelled by a time-lagged implementation of economic and cultural factors), but only for certain ethnic groups. Thus, it is argued that initially Asian and Latino immigrants were located in the degraded inner-city areas due to economic reasons, whereas subsequent newcomers of the same ethnic groups settled in the same neighbourhoods on the basis of cultural reasons. However, as they climb up the socioeconomic ladder they tend to move out and to assimilate into 'white' neighbourhoods. In contrast to Asian and Latino groups, the form of residential patterning exhibited by African Americans is somewhat different, in both its character and intensity (Massey and Denton 1985, 1987; Denton and Massey 1988; Harrison and Weinberg 1992; Alba and Logan 1993; Logan et al. 1996; Clark and Ware 1997; Freeman 2000). This ethnic group seems to place greater emphasis on cultural factors and, on these grounds, to show more concentrated patterns of residential location.

A similar situation is also observed in some European cities, such as Lisbon. Malheiros (2000) and Malheiros and Vala (2004) distinguish between two groups of immigrants with different locational behaviour. African-origin immigrants are more 'consolidated' in their residential pattern, whereas all other groups (dominated by Eastern Europeans and Brazilians) temporarily settle within their co-ethnics, only to flee out when their socio-economic conditions improve. Malheiros (2000) argues that a significant factor behind this dual pattern of immigrant settlement is the housing market and the policies adopted by the local authorities (of freezing property rents, tight controls over evictions, and loose enforcement of legal procedures over illegal constructions) that have reinforced the concentration of the less-affluent African-origin immigrants.

Concluding this discussion, it becomes clear that is no common pattern of immigrant residential location evident in the majority of places. Stated differently, economic and cultural factors influence the locational choice and the residential patterns of immigrants to a different degree, depending on the local conditions, policies and institutions, the cultural and economic background of immigrants and the time that immigration takes place. It is on these grounds that Musterd et al. (1998), having analysed immigrant residential behaviour in nine European metropolises, identifies the establishment of four spatial patterns: (a) clustering of immigrants in inner-city locations, (b) concentrations of immigrants outside central areas, (c) scattered immigrants but with clustering in inner-city locations, and (d) scattered immigrants but with concentrations in locations outside the city centre.

Fig. 20.2 Number of foreign
citizens in Greece (population
censuses 1951–2001)
(Source: own elaboration
[ESYE])
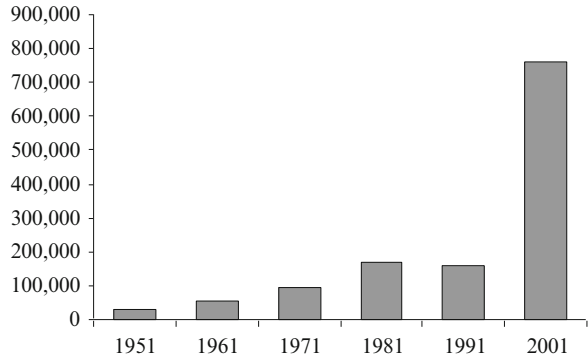
4 Immigrants in Greek Metropolises: A Review of the Literature

For many decades Greece has been a labour-exporting country. In fact, almost two million Greeks emigrated since the end of the nineteenth century to countries of North America (especially to the USA), Oceania and northern Europe (Kotzamanis 2008). The reversal of migratory balance started in the mid-1970s with the returning of the first waves of 'repatriates',[1] but it really took off in the early 1990s (see Fig. 20.2), fuelled by the border opening in East Europe and the subsequent adoption of restrictive policies by the traditional destination countries of northern Europe (King 2000; Rovolis and Tragaki 2006). During this period the vast majority of immigrants which entered the country were undocumented, whereas legal status was granted under the first, second and third regularisation programmes, took place in 1997–8, 2001–2 and 2005–6 respectively. Despite these regularisation campaigns and relevant legislative attempts aiming to deal with immigration in a more comprehensive way,[2] illegal immigration has remained an issue of concern and integration proved to be quite a challenge for both the Greek state and the Greek society in general (Cavounidis 2007).

Today, migrants constitute a significant part of Greece's population. According to the 2001 Census of the National Statistical Service (ESYE), which provides the most recent and reliable information, the estimated number of non-nationals living in the country was 762,191 people, amounting to approximately 7 % of the total

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[1] Consisted of returning Greek guest workers, members of the Greek Diaspora from Egypt or elsewhere, as well as political exiles from the time of the Civil War of the 1940s.

[2] Laws 2910/2001, 3386/2005 and 3536/2007, and Presidential Decrees 358/1997, 359/1997, 131/ 2006 and 150/2006.

Table 20.1 Immigrants in Greece (2001)

Origin	Numbers	%	Sex ratio[a]
Europe	640,997	84.10	1.14
Southeastern	500,280	65.64	1.33
Central and East	74,682	9.80	0.60
EU-15	46,869	6.15	0.67
Rest of Europe[b]	19,166	2.51	0.86
Asia	68,361	8.97	2.07
America	27,293	3.58	0.88
Africa	15,620	2.05	1.99
Oceania	9,060	1.19	0.87
Albania	438,036	57.47	1.42
Bulgaria	35,104	4.61	0.66
Georgia	22,875	3.00	0.76
Romania	21,994	2.89	1.30
India and Pakistan	18,346	2.41	17.91
Russia	17,535	2.30	0.60
Ukraine	13,616	1.79	0.33
Poland	12,831	1.68	0.85
Egypt	7,448	0.98	3.24
Philippines	6,478	0.85	0.31
Total	762,191	100.00	1.20

Source: own elaboration (2001 population census, ESYE)
[a]Males to females
[b]Mainly Cypriots

population (as compared to 1.4 %, 10 years earlier). It is important to note that other studies have put this figure up to one million, when unregistered or Greek ethnic immigrants are taken into account (OECD 2001; Lianos et al. 2008). By 2003, there have been approximately 130,000 foreign children attending state schools (of which about 32,000 were ethnic Greeks), comprising 11 % of primary school registrations and the 8 % of secondary school registrations (Baldwin-Edwards 2005).

Contrary to the experience of other European countries, the majority of immigrants in Greece comes from a restricted number of countries, with few, if any, historic or cultural links (Rovolis and Tragaki 2006). Thus, only five countries of origin (out of more than 200 in total) count for about 70 % of all non-nationals, while ten countries represent more than 80 % of them (see Table 20.1). The majority of immigrants (eight out of ten) come from Europe, especially from Albania (57.5 %) and to a lesser extent from other Balkan countries, the Central-eastern Europe and the Republics of ex-USSR. Asians represent 9 % of the foreign population, Africans about 2 %, and those from America and Oceania, which are largely repatriates who have returned to their homeland with their families, amount to 4.8 %.

Table 20.2 Immigrants in Athens metropolitan region in 2001 (ranked by size)

	Nationality	Numbers	In percentage (%)	
			of total	cumulative
1	Albanians	209,333	62.06	
2	Poles	11,529	3.42	65.48
3	Russians	11,465	3.40	68.88
4	Bulgarians	11,141	3.30	72.18
5	Romanians	10,270	3.04	75.23
6	Pakistani	10,133	3.00	78.23
7	Ukrainians	9,996	2.96	81.20
8	Egyptians	7,187	2.13	83.33
9	Iraqis	6,618	1.96	85.29
10	Filipinos	6,484	1.92	87.21
11	Bangladeshi	4,767	1.41	88.62
12	Syrians	4,713	1.40	90.02

Source: own elaboration (EKKE-ESYE 2005)

Immigrants in Greece tend to be young (average age of about 29 years old), mostly men (about 55 %) that come to the country mainly for economic reasons (although women migrate for family reasons too) (Rovolis and Tragaki 2006). The majority of them work in construction, agriculture, manufacturing and various low and semi-skilled services in tourism, catering, domestic service, etc. (Lianos and Papakonstantinou 2003; Kanellopoulos 2008). Partly because of the exclusionary legal framework and partly due to the structural characteristics of the Greek labour market, the big bulk of immigrant labour has been absorbed by the underground economy and informal employment remains widespread for large shares of foreign workers, even after legal status is achieved (Kanellopoulos et al. 2006).

In terms of geographical location, the majority of immigrants found residence in the metropolitan areas of Athens and Thessaloniki (Rovolis and Tragaki 2006; Kotzamanis 2008). As regards the immigrant's intra-metropolitan location pattern, researchers (Lazaridis 1996; Psimmenos 1995, 1998; Baldwin-Edwards 2005; Maloutas 2007) have reported a tendency of the former to concentrate in the old city centre and other poor areas of Athens, which are characterised by low-quality housing and lack of public facilities. This literature identifies three reasons that inform such decisions. The main explanation is economic, where immigrants choose to take up residence in these areas simply because rents are low and there is housing stock available. This is supported by cultural issues. Co-ethnics already reside in these areas, and newcomers decide to settle there too, in order to take advantage of the social and kinship networks which offer social and emotional support and valuable information regarding the host institutions and opportunities.
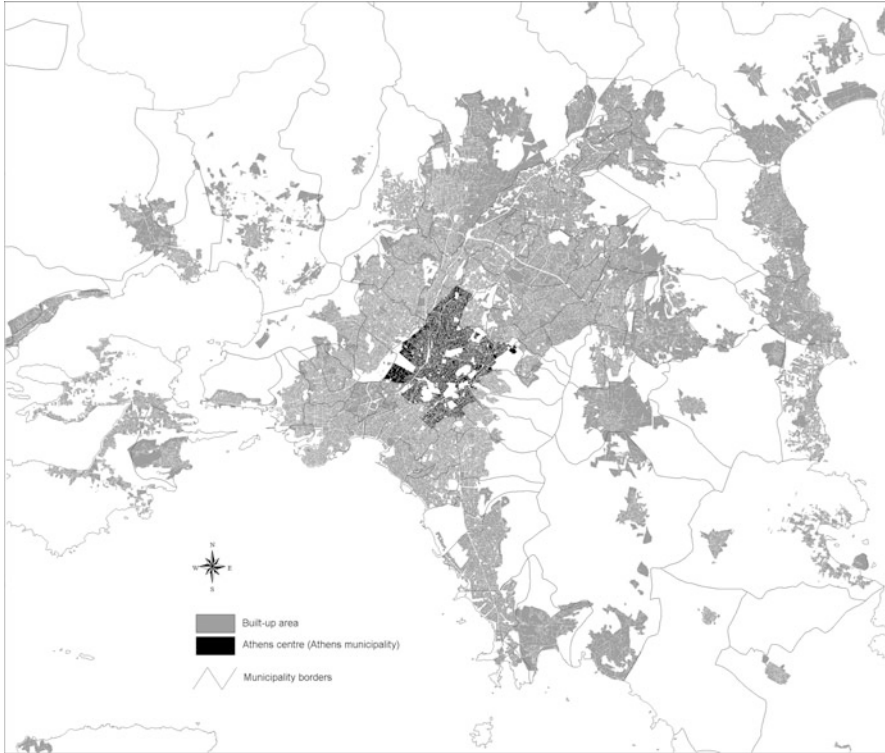
Map 20.1 Athens metropolitan region (Source: own elaboration [EKKE cartographic platform])

Interestingly, however, concentration seems to be fuelled by a third factor: the xenophobic intolerance of the natives. Greece has a history of high levels of xenophobia recorded in opinion polls, although rather less visible in reality. In support of this argument Baldwin-Edwards (2005) mentions the results of a survey conducted in 2002 amongst 2,100 households living in Athens metropolis: it was found that 44 % of respondents believed that immigrants should live separately from Greeks, in other areas.[3] Although high levels of racial intolerance are clearly linked with low educational and income levels, the point that clearly emerges is that

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[3] Other incidents that could be interpreted along this line include the continuing public advertisements and notices in Athens refusing to rent property to foreigners. As Psimmenos (2001) clearly states, few natives would be willing to rent their property to a foreigner (especially of Albanian origins) if there are chances to rent it to someone else.
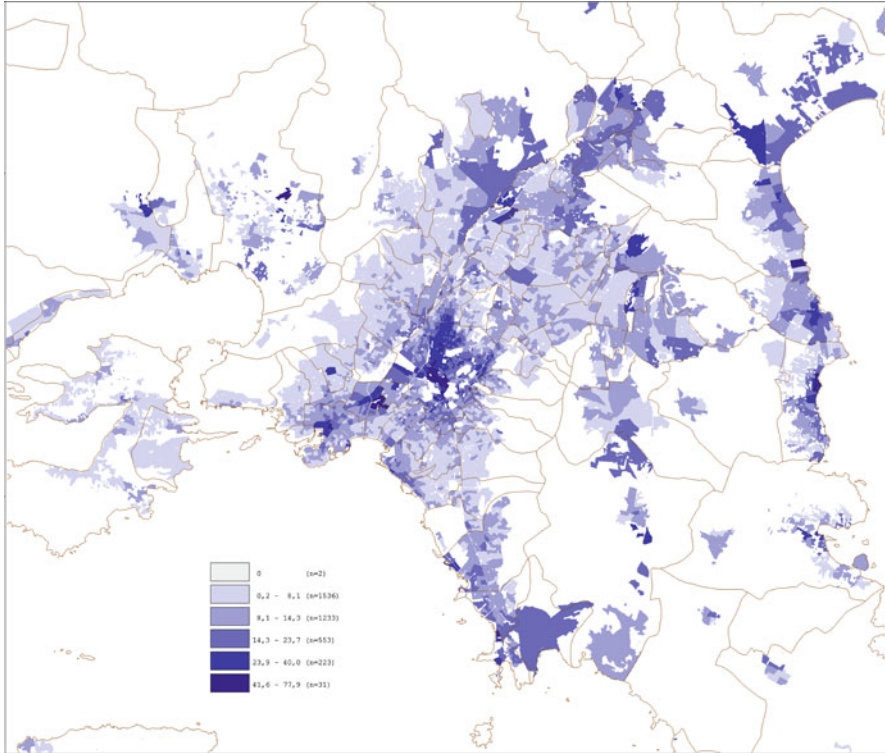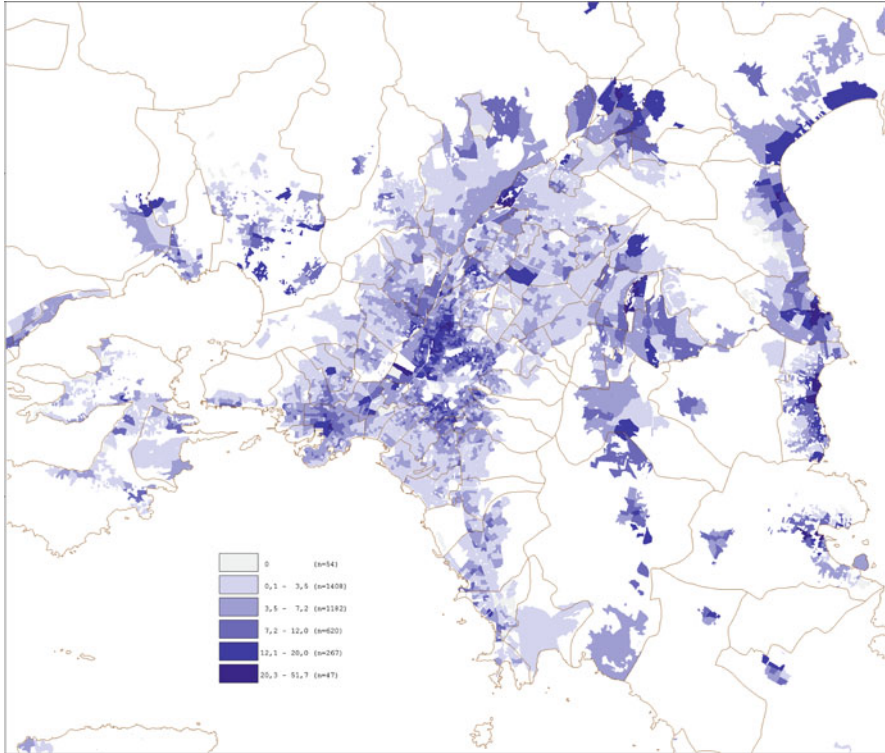
Map 20.2 Immigrants' spatial distribution within Athens metropolitan region (all nationalities) (Source: own elaboration [EKKE cartographic platform])

Greeks would not object to the creation of ethnic ghettos, presumably with little comprehension of their long-term implications.

This tendency of immigrants (a significant number of whom have been illegal) to locate in Athens inner-city over the 1990s worried the Greek government, who consequently intensified the policing of such areas.[4] Actually, this was so intense that in June 1998, migrants had held a rally for the first time in Athens demonstrating for their right to have a place to live[5] (Lazaridis and Psimmenos 2000). Under the

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[4] Researchers such as Lazaridis and Psimmenos (2000) have linked those measures to an overall local-government strategy to regenerate the centre of Athens.

[5] Baldwin-Edwards (2005) argues that after intense criticism from leading academics, several state institutions and agencies dealing with immigrants on a regular basis have started to become more sensitised to issues relating to immigrants' rights and social integration. These agencies include various arms of the Ministry of Labour (OAED, IKA) and also the Greek police, to which clear instructions have been given in a circular from the Ministry of Public Order to respect immigrants' rights and prohibit police violence.

Map 20.3 Albanians spatial distribution (Source: own elaboration [EKKE cartographic platform])

weight of these pressures some immigrants had moved out of the city centre, finding residence in the surrounding municipalities. In spatial terms this gave rise to higher rates of integration between immigrants and natives and to a more dispersed residential pattern of the former.

Thessaloniki presents a very similar picture to the case of Athens. Economic reasons on the part of the immigrants, and a hesitancy to rent property to foreigners on the part of the natives, led the immigrant population to take up residence in both the inner-city and the western suburbs where housing is cheap, constructions are old and the residential quality is low (Velentzas et al. 1996; Hatziprokopiou 2003). However, there are no visible clusters of immigrants and the resulting patterns of residence do not seem to lead to any kind of excessive concentration in which ethnic ghettoes could be developed (Kokkali 2005).
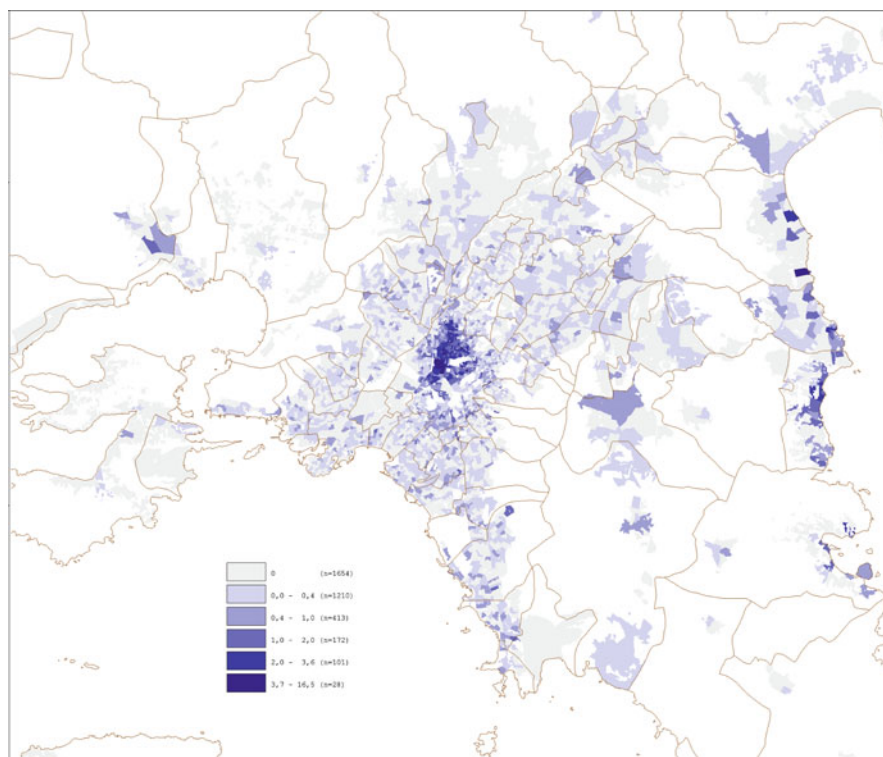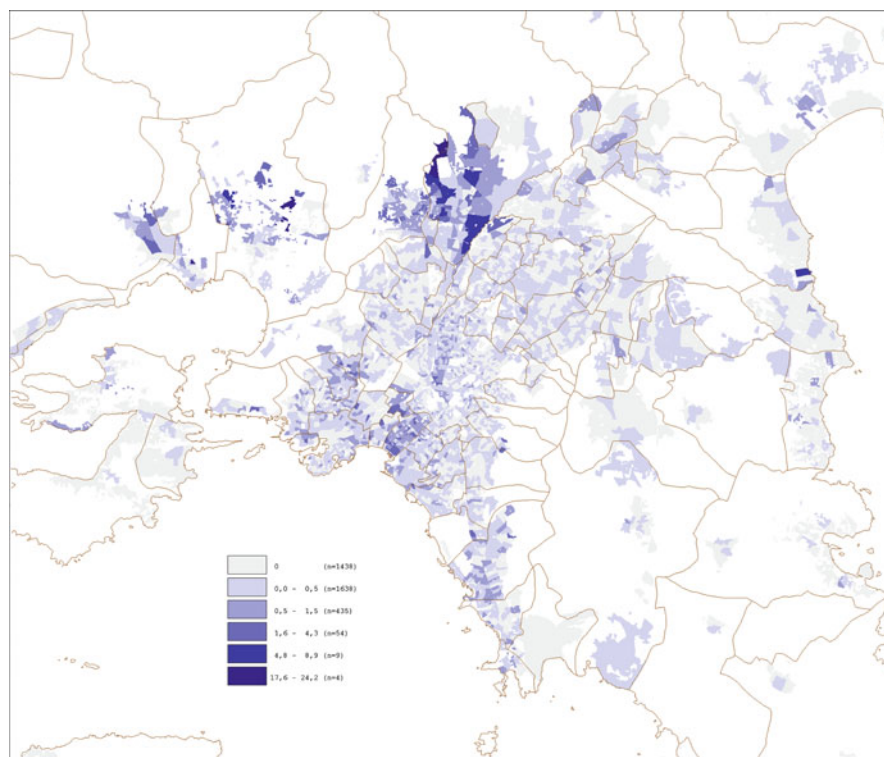
Map 20.4 Poles spatial distribution (Source: own elaboration [EKKE cartographic platform])

5 Exploring Immigrant Location in Athens Metropolitan Area: Methodological Issues

Having outlined some general trends in immigrants' locational behaviour, the rest of the paper analyses the residential distribution of various immigrant groups within Athens metropolitan region. The aim is to shed light on their locational preferences, exposing the pattern of their spatial arrangement over time and assessing the degree of their segregation. In doing so, data from the 2001 National Census were acquired at the smallest available spatial unit, which is the Census Collection District – CCD (*apografikos tomeas*).

The populations chosen for analysis are immigrants from Eastern Europe (post-socialist countries), Africa and Asia. These are largely economic immigrants[6]

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[6] Although the majority of these people are economic (labour force) immigrants there is a small number of refugees and asylum seekers coming mostly from Iraq.
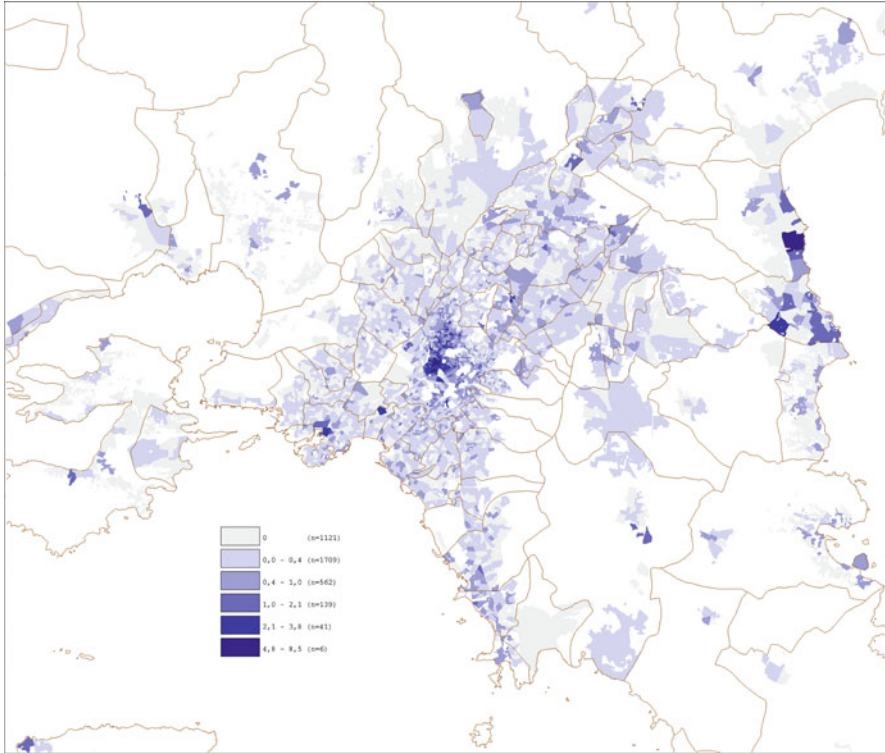
Map 20.5 Russians spatial distribution (Source: own elaboration [EKKE cartographic platform])

coming primarily from 12 countries: Albania, Poland, Russia, Bulgaria, Romania, Ukraine, Egypt, Iraq, Syria, Pakistan, Bangladesh, and Philippines. These populations as a whole exceed the 90 % of the total number of immigrants found residence in Athens metropolis (see Table 20.2).

Two methods of analysis have been employed. First we examined the degree of residential segregation exhibited within specific areas. In particular, we calculated the Dissimilarity Index[7] (D) in each one of the municipalities comprising the metropolitan region, in order to assess the relative dominance of each immigrant group in an area as compared to the native population (or the proportion of immigrants that would need to move out in order to achieve an even distribution). The basic formula for the Index is:

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[7] This is the most widely-used measure of residential segregation developed by Duncan and Duncan (1955).
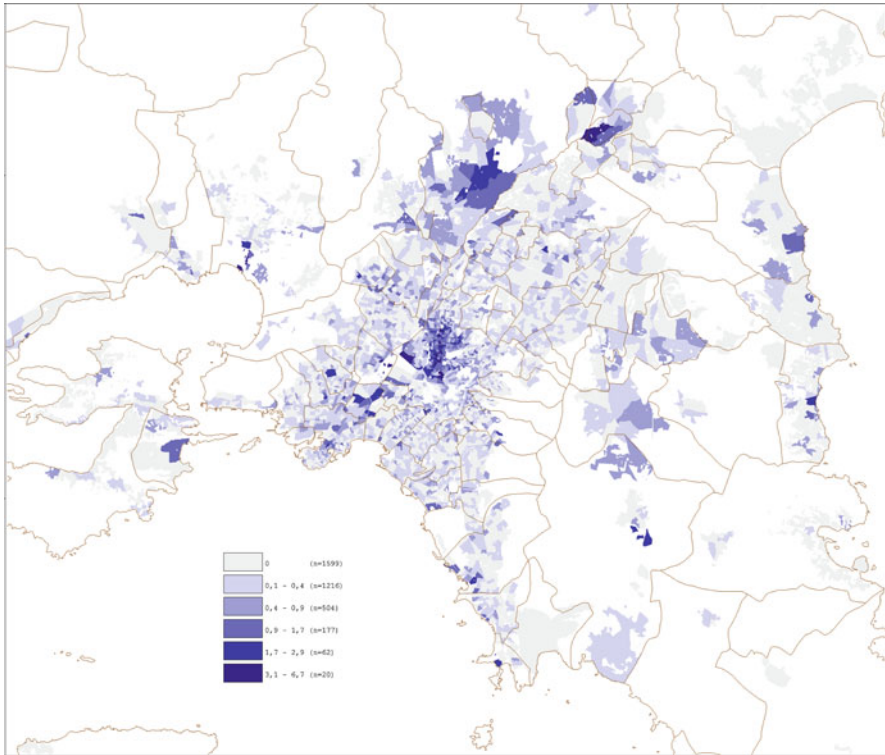
Map 20.6 Bulgarians spatial distribution (Source: own elaboration [EKKE cartographic platform])

$$D = \frac{1}{2} \sum \frac{M_i}{M} - \frac{N_i}{N}$$

where M_i is the population of immigrants that reside in a spatial unit i, M is the overall immigrant population living in the metropolitan region, and N_i and N are the populations of natives in unit i and the whole region respectively. The Dissimilarity Index varies from -1 to 1. Zero denotes an even distribution between the two groups (immigrants and natives), whereas the values of -1 and 1 indicate the dominance of natives and immigrants in the area respectively.

Analysis based on the Dissimilarity Index moved in two directions. We started by comparing the indices of the city centre (Athens municipality), for each immigrant group, with those of the periphery (that is all other municipalities) to investigate whether there is any immigrant population that is over-represented (that is,

Map 20.7 Romanians spatial distribution(Source: own elaboration [EKKE cartographic platform])

concentrates) either in the city centre (*centralization*) or in the rest of the region. Next, we examine the dissimilarity indices of all municipalities to identify those areas where specific ethnic populations dominate.

Segregation analysis was complemented with cartographic presentations of the residential location of immigrants in order to expose the current pattern of spatial distribution (in 2001) and its changes over time. First, we started with a simple display of the relative distribution of immigrants (as a percentage of the total population) in order to identify patterns of clustering and isolation. Then, we looked into mobility patterns to assess changes in the locational preferences of immigrants over time. In particular, we examined whether immigrants had changed their residence either 1 or 6 years before 2001 (where the National Census took place), that is in 1995 or 2000 respectively. Since detailed information on the mobility pattern of each ethnic group of immigrants is not available (apart from Albanian
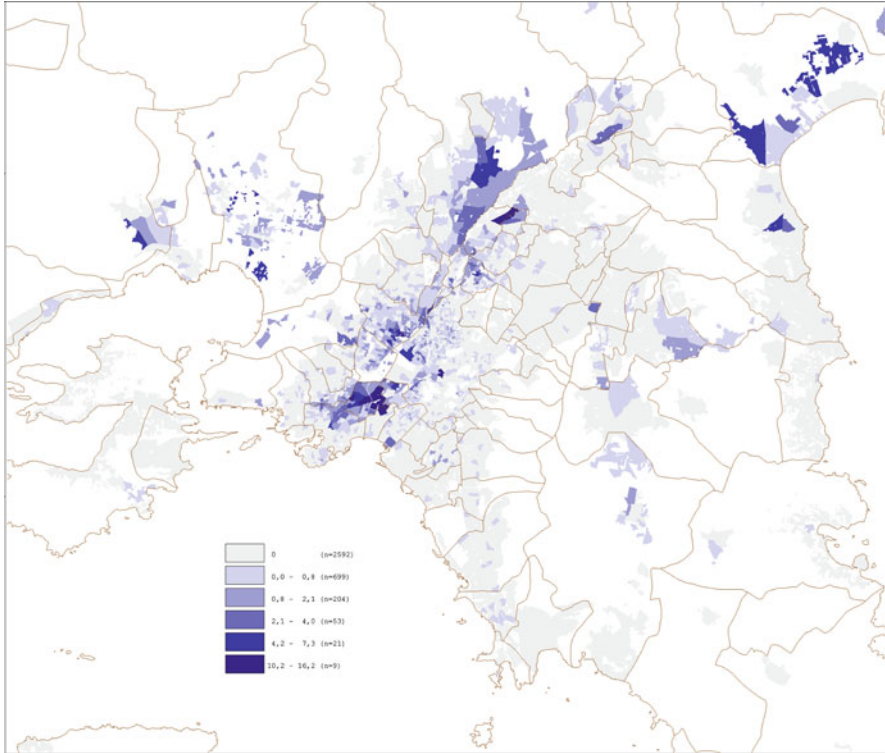
Map 20.8 Pakistani spatial distribution (Source: own elaboration [EKKE cartographic platform])

which comprise more than half of the immigrants in total), analysis at this stage was conducted on an aggregate level of immigrants' region of origin (i.e. Eastern Europe, North Africa, West Asia, Central-South Asia and South-East Asia).

6 Exploring Immigrant Location in Athens Metropolitan Area: Analysis and Discussion

Analysis starts by examining the degree of immigrant evenness/clustering (with the use of D) within each one of the municipalities comprising the metropolitan region. It then moves to consider the overall pattern of immigrant distribution across Athens region and to assess the extent of their clustering and isolation. Table 20.2
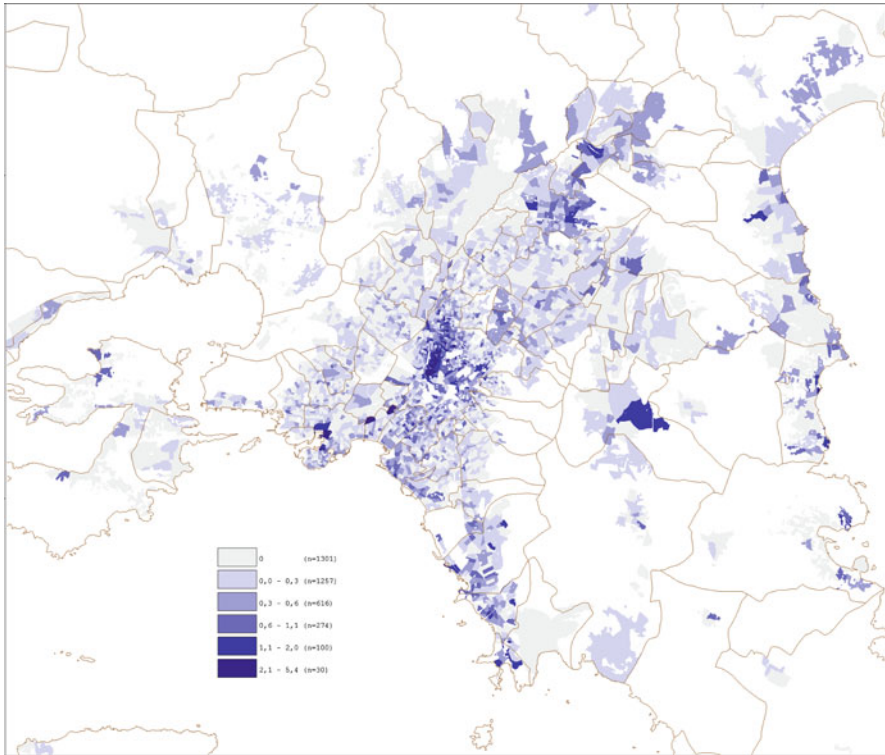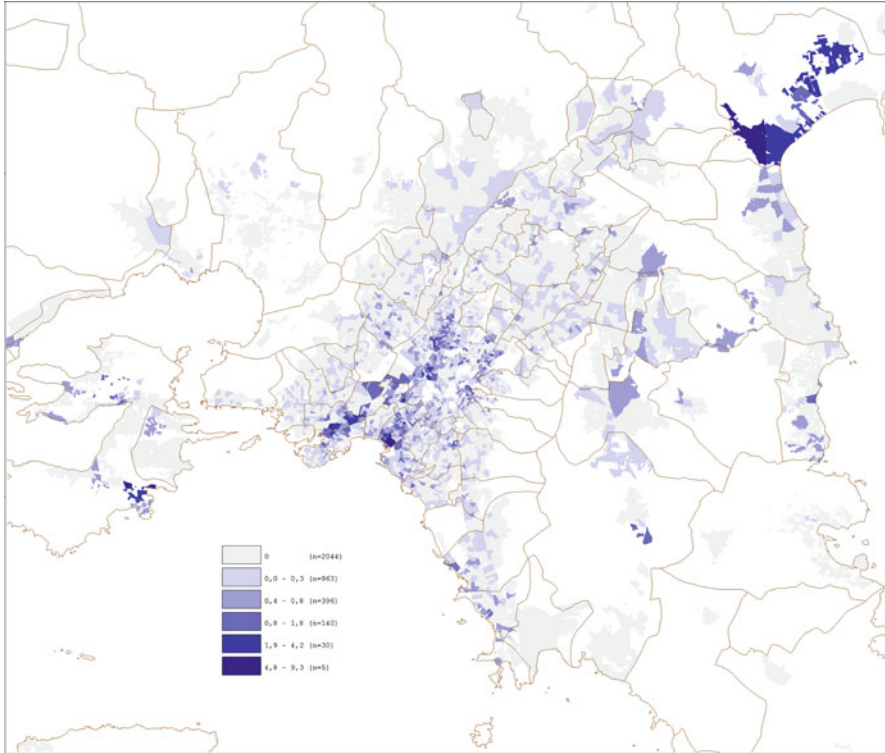
Map 20.9 Ukrainians spatial distribution (Source: own elaboration [EKKE cartographic platform])

provides the D values of each immigrant group for Athens centre and periphery, as well as such values for all municipalities in the region. Map 20.1 provides a picture of the built up areas in Athens region, whereas Maps 20.2, 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 20.10, 20.11, 20.12, 20.13, and 20.14 depict the spatial distribution of each immigrant group (CDD is the unit of analysis). The darker the colour, the higher the proportion of immigrants in the area is.

As can be seen from Table 20.3 (see also Map 20.2), Athens central area seems to exert an attraction to the totality of immigrants that find residence in the Greek capital. This verifies the previously reported trend of immigrants to concentrate in the Athens inner-city (see Sect. 4 above). Out of the 12 nationalities that have been examined, only three groups, Russians, Pakistani and Iraqis, seems to be overshadowed by the native population in the city centre (negative D value).

Map 20.10 Egyptians spatial distribution (Source: own elaboration [EKKE cartographic platform])

Of the rest, the greatest clustering is exhibited by Bangladeshi (D is close to 0.4), followed by Filipinos and Poles (both Ds are close to 0.2).

The Dissimilarity Indices on the second column of Table 20.3 make clear that apart from central Athens, immigrants as a whole are over-represented (at a minor degree) in 11 other municipalities. These are the areas of Ag Ioannis Rentis (0.002) and Dafni (0.002) both neighbouring Athens centre at the south, Voula (0.002), Vouliagmani (0.002) and Vari (0.001) which are on the south-east end of the city, Kropia (0.002), Artemida (0.002), Nea Makri (0.002) and Marathonas (0.002) which are on the east (the last three on the Aegean seaside), Ag Stefanos (0.002) on the north and Aspropyrgos (0.002) on the west of the metropolitan region.

For those municipalities dominated by immigrants, the degree of segregation of each immigrant group is as follows (see Table 20.3). In Ag. Ioannis Rentis seven
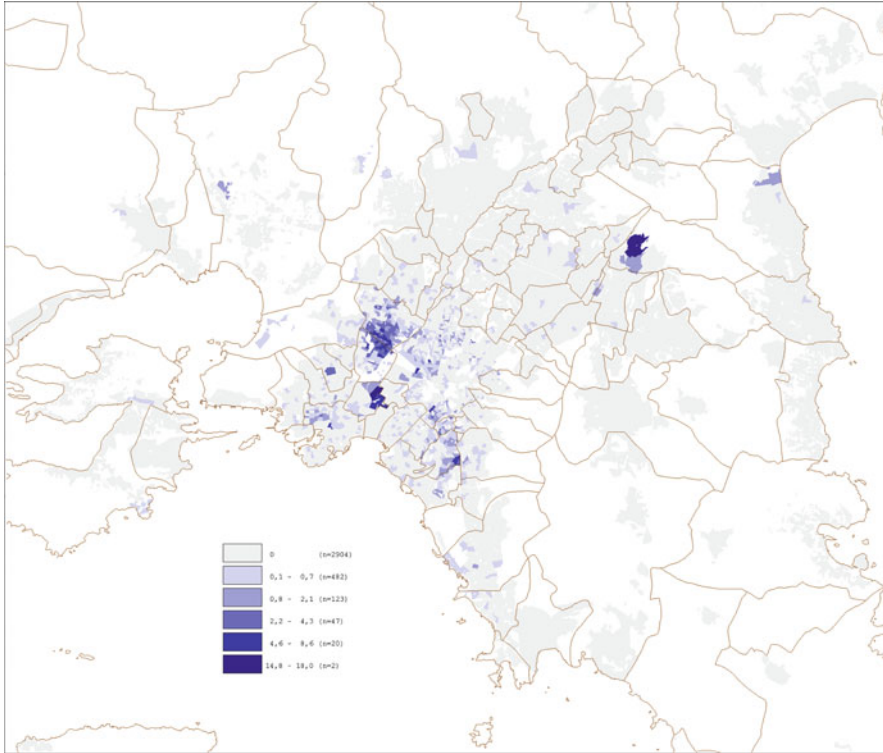
Map 20.11 Iraqis spatial distribution (Source: own elaboration [EKKE cartographic platform])

out of the 12 nationalities are over-represented, with Pakistani (0.034), Iraqis (0.008), Bangladeshi (0.006) and Egyptians (0.005) showing the highest segregation degree. Bangladeshi (0.020), Egyptians (0.011) and Pakistani (0.006) are also over-represented in Piraeus. In Acharnes segregation is high for immigrants of Russia (0.098), Pakistan (0.041), Romania (0.010) and Bangladesh (0.007), whereas in Metamorfosi over-representation is evident only in Pakistani (0.012). Filipinos, working primarily in domestic help, are found in excess in the high-class areas of Kifisia (0.007), Vouliagmeni (0.004) and Voula (0.002).

Other municipalities with relative dominance of immigrants are Peristeri and Aegaleo, both over-represented by Iraqis (Ds are 0.156 and 0.133 respectively). Of all areas examined, those which provide residence to five and above immigrant groups of high segregation are the following: Ag. Ioannis Rentis (seven groups),
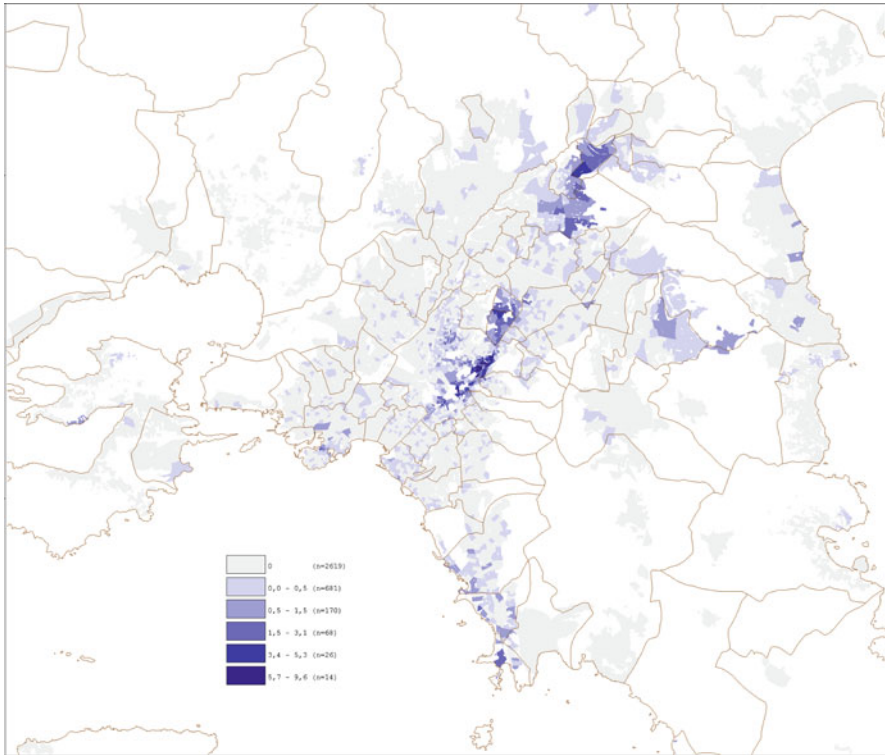
Map 20.12 Filipinos spatial distribution (Source: own elaboration [EKKE cartographic platform])

Avlona (five), Voula (five), Tavros (five) and Psychiko (five). In contrast, those municipalities where immigrants are under-represented (which means that natives dominate) are: Ag. Paraskevi, Amarousio, Ampelakia, Argyroupoli, Vrilissia, Vyronas, Galatsi, Gerakas, Glyka Nera, Ilioupoli, Iraklio, Melissia, Nea Smyrni, Neo Psychiko, Papagos, Perama, Pefki and Xolargos.

The overall pattern of immigrant distribution is displayed in Map 20.2. As can be seen immigrants as a whole are scattered all over the metropolitan region, indicating low levels of isolation. High clustering is evident in city centre, though it extends down to Piraeus through the neighbouring municipality of Ag. Ioannis Rentis. In the periphery, clustering is observed in Aspropyrgos on the west, in the areas of Metamorfosi, Acharnes and Kifisia on the north of the city, in Ag. Stefanos further up, in Penteli and Anthousa on the city east and in Voula, Vouliagmani and
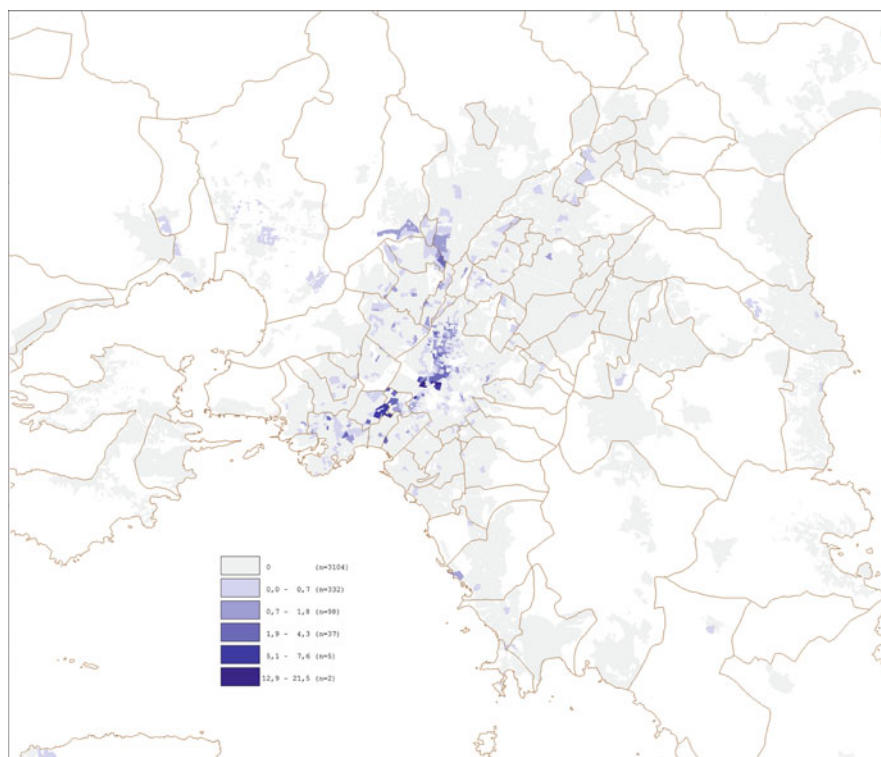
Map 20.13 Bangladeshi spatial distribution (Source: own elaboration [EKKE cartographic platform])

Vari on the city south-east. In addition, a considerable degree of immigrant concentration is apparent in the east side of the region, across the Aegean seaside (municipalities of Marathonas, Nea Makri, Rafina and Artemida).

Maps 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 20.10, 20.11, 20.12, 20.13, and 20.14 provide a picture of the spatial distribution of each one of the immigrant group examined. Albanians, comprising the 62 % of the immigrants as a whole, deserve special attention. Observing the pattern of their distribution across the region (Map 20.3), it becomes evident that they exhibit the greatest dispersion, as compared to the other nationalities. They are over-represented in 28 municipalities of the metropolis, with central Athens receiving the majority of these people (D is 0.166). Around the city centre, areas with relatively high percentage in Albanian population are Dafni, Ag. Ioannis Rentis and Piraeus on the south, and Ag.
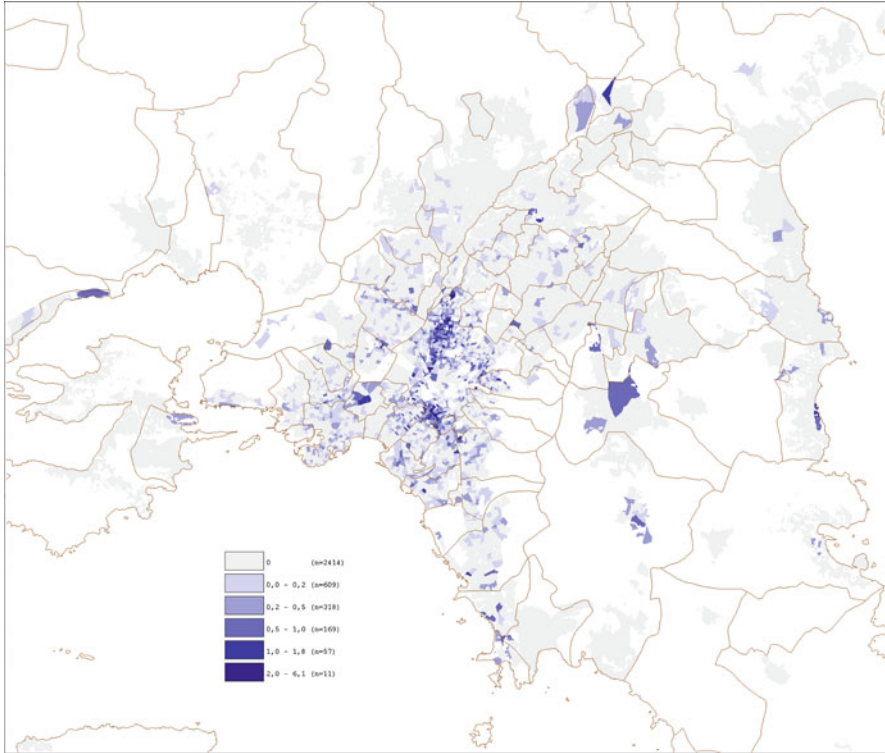
Map 20.14 Syrians spatial distribution (Source: own elaboration [EKKE cartographic platform])

Anargyroi, Nea Ionia and Amarousio on the north. In the periphery, clustering is evident in Aspropyrgos on the west, Metamorfosi, Kifisia, Acharnes and Ag. Stefanos on the north, in Penteli and Anthousa on the east as well as in a number of municipalities on the east seaside (Marathonas, Nea Makri, Rafina, Artemida and Markopoulos).

Although immigrants as a whole are dispersed all over the metropolitan region, the exposure/isolation pattern of each one of the nationalities under study differs. Two groups can be identified: one of relative exposure and one of isolation. As Maps 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 20.10, 20.11, 20.12, 20.13, and 20.14 indicate, people originating from Eastern European countries (Albania, Bulgaria, Poland, Romania, Russia and Ukraine) seems to follow a pattern of relative dispersion across the metropolitan region. In turn, those coming from North Africa and Asia (Egypt, Syria, Iraq, Pakistan, Bangladesh and Philippines) appear to live

Table 20.3 Dissimilarity index per area

Municipality	Total	Albanians	Poles	Russians	Bulgarians	Romanians	Pakistani	Ukrainians	Egyptians	Iraqis	Filipinos	Bangladeshi	Syrians
Athens inner-city (Athens municipality)	**0.18042**	**0.16554**	**0.19105**	−0.05754	**0.13976**	**0.12146**	−0.03138	**0.11134**	**0.10679**	−0.00026	**0.19732**	**0.39641**	**0.15785**
Periphery (all other municipalities)	−0.17806	−0.16554	−0.58756	−0.09188	−0.48543	−0.44903	−0.14410	−0.42885	−0.41998	−0.20625	−0.60071	**0.08655**	−0.52211
Acharnes	−0.00386	−0.00826	−0.01859	**0.09826**	−0.01736	**0.00971**	**0.04067**	−0.01292	−0.01937	−0.02011	−0.01981	**0.00699**	−0.01976
Aegaleo	−0.00668	−0.00708	−0.01825	−0.01164	−0.01560	−0.00784	**0.01621**	−0.01656	−0.01625	**0.13330**	−0.02014	**0.00247**	−0.01288
Ag. Anargyroi	−0.00094	**0.00288**	−0.00735	−0.00416	−0.00715	−0.00404	**0.00998**	−0.00507	−0.00746	−0.00778	−0.00848	**0.00840**	−0.00711
Ag. Dimitrios	−0.00655	−0.00529	−0.00962	−0.00808	−0.01308	−0.01359	−0.01257	−0.01161	−0.01183	**0.03576**	−0.01771	−0.00170	−0.00728
Ag. Ioannis Rentis	**0.00201**	**0.00104**	−0.00355	**0.00066**	−0.00261	**0.00329**	**0.03435**	−0.00271	**0.00525**	**0.00827**	−0.00352	**0.00596**	−0.00092
Ag. Paraskevi	−0.00506	−0.00882	−0.01213	−0.01253	−0.00869	−0.01330	−0.01350	−0.00924	−0.01127	−0.01547	−0.01451	−0.00026	−0.01489
Ag. Stefanos	**0.00234**	**0.00548**	−0.00219	−0.00232	−0.00104	−0.00127	−0.00068	−0.00199	−0.00162	−0.00262	−0.00233	−0.00026	−0.00031
Ag. Varvara	−0.00405	−0.00393	−0.00723	**0.01141**	−0.00669	−0.00561	−0.00134	−0.00590	−0.00631	**0.00383**	−0.00840	**0.00148**	−0.00768
Alimos	−0.00240	−0.00688	−0.00699	−0.00410	−0.00587	−0.00704	−0.01044	−0.00343	−0.00613	−0.00400	−0.00955	**0.00090**	−0.00531
Amarousio	−0.00709	−0.00934	−0.01586	−0.01486	−0.01225	−0.01341	−0.01897	−0.01314	−0.01568	−0.01883	−0.01669	−0.00133	−0.01551
Ampelakia	−0.00100	−0.00058	−0.00185	−0.00143	−0.00159	−0.00101	−0.00196	−0.00167	−0.00136	−0.00195	−0.00186	−0.00020	−0.00155
Ano Liosia	−0.00275	−0.00268	−0.00641	**0.01020**	−0.00591	−0.00299	−0.00163	−0.00483	−0.00478	−0.00686	−0.00507	**0.00674**	−0.00491
Argyroupoli	−0.00348	−0.00383	−0.00626	−0.00550	−0.00607	−0.00673	−0.00819	−0.00563	−0.00620	−0.00891	−0.00861	−0.00093	−0.00520
Artemida	**0.00215**	**0.00579**	**0.00156**	−0.00309	−0.00301	−0.00288	−0.00475	**0.00009**	−0.00284	−0.00483	−0.00435	−0.00036	−0.00388
Aspropyrgos	**0.00231**	**0.00514**	−0.00739	**0.02651**	−0.00595	−0.00132	**0.02194**	−0.00526	−0.00725	−0.00578	−0.00764	**0.00009**	−0.00750
Avlona	**0.00098**	**0.00173**	−0.00116	−0.00082	−0.00118	−0.00042	**0.00692**	−0.00114	**0.00017**	**0.00082**	−0.00133	**0.00047**	−0.00129
Dafni	**0.00201**	**0.00508**	−0.00325	−0.00463	−0.00186	−0.00350	−0.00390	−0.00407	−0.00411	**0.01383**	−0.00421	**0.00081**	**0.00671**
Drapetsona	−0.00164	−0.00132	−0.00290	**0.00254**	−0.00207	−0.00089	−0.00350	−0.00289	−0.00289	−0.00346	−0.00349	**0.00013**	−0.00277
Elefsina	−0.00066	−0.00085	−0.00613	**0.03383**	−0.00490	−0.00196	−0.00386	−0.00377	−0.00604	−0.00676	**0.00964**	**0.00063**	−0.00700
Elliniko	−0.00104	−0.00221	−0.00326	−0.00086	−0.00295	−0.00384	−0.00321	−0.00056	−0.00305	−0.00140	−0.00388	**0.00003**	−0.00301
Fili	−0.00020	**0.00021**	−0.00077	−0.00059	−0.00064	−0.00042	−0.00082	−0.00068	−0.00082	−0.00057	−0.00072	−0.00008	−0.00082
Filothei	**0.00003**	−0.00197	−0.00168	−0.00039	**0.00141**	−0.00179	−0.00206	**0.00294**	−0.00166	−0.00205	**0.00662**	−0.00008	−0.00165
Galatsi	−0.00670	−0.00358	−0.01034	−0.01143	−0.01012	−0.01168	−0.01577	−0.01028	−0.01320	−0.01518	−0.01560	−0.00100	−0.00803
Gerakas	−0.00143	−0.00037	−0.00286	−0.00282	−0.00266	−0.00347	−0.00371	−0.00310	−0.00357	−0.00350	−0.00387	−0.00039	−0.00333
Glyfada	**0.00024**	−0.00711	−0.01509	−0.00043	−0.01264	−0.01318	−0.02153	−0.00614	−0.01417	−0.01891	−0.01346	−0.00078	−0.01572
Glyka Nera	−0.00058	−0.00003	−0.00168	−0.00124	−0.00099	−0.00144	−0.00041	−0.00170	−0.00184	−0.00184	−0.00184	−0.00130	−0.00130
Ilio (Nea Liosia)	−0.00800	−0.00078	−0.01523	−0.01738	−0.01706	−0.00979	−0.00726	−0.01837	−0.02002	−0.01590	−0.02212	**0.00241**	−0.01516
Ilioupoli	−0.01067	−0.00898	−0.01695	−0.01319	−0.01374	−0.01669	−0.02036	−0.01607	−0.01622	−0.01757	−0.02023	−0.00175	−0.01127

(continued)

Table 20.3 (continued)

Municipality	Total	Albanians	Poles	Russians	Bulgarians	Romanians	Pakistani	Ukrainians	Egyptians	Iraqis	Filipinos	Bangladeshi	Syrians
Iraklio	−0.00655	−0.00538	−0.01069	−0.00949	−0.00881	−0.00884	−0.00565	−0.00895	−0.01141	−0.01268	−0.01223	−0.00091	−0.01022
Kaisariani	**0.00018**	**0.00097**	−0.00414	−0.00521	−0.00375	−0.00491	−0.00733	−0.00374	−0.00146	−0.00683	−0.00437	−0.00012	−0.00569
Kallithea	−0.00279	−0.00832	−0.02093	**0.05045**	−0.01405	−0.01374	−0.01533	−0.00314	**0.04741**	−0.02189	−0.02571	**0.00651**	−0.00102
Kalyvia Thorikou	**0.00056**	**0.00212**	−0.00284	−0.00217	−0.00253	−0.00250	−0.00262	−0.00126	−0.00228	−0.00312	−0.00271	−0.00021	−0.00296
Kamatero	−0.00343	−0.00247	−0.00470	−0.00158	−0.00553	−0.00491	−0.00468	−0.00464	−0.00569	−0.00594	−0.00609	**0.00943**	−0.00551
Keratea	−0.00110	**0.00038**	−0.00346	−0.00284	−0.00276	−0.00360	−0.00367	−0.00332	−0.00347	−0.00367	−0.00367	−0.00037	−0.00367
Keratsini	−0.01031	−0.00627	−0.01510	−0.00638	−0.01660	−0.01468	−0.01801	−0.01186	−0.01305	−0.02007	−0.01776	**0.00082**	−0.01603
Kifisia	−0.00015	−0.00711	−0.01043	−0.00742	−0.00609	−0.00844	−0.00863	**0.00032**	−0.00816	−0.01208	**0.00969**	−0.00062	−0.00839
Korydallos	−0.00806	−0.00658	−0.01585	**0.00399**	−0.01307	−0.00727	−0.01543	−0.01084	−0.01463	−0.00139	−0.01813	**0.00401**	−0.01435
Kropia	**0.00174**	**0.00461**	−0.00295	−0.00140	−0.00518	−0.00350	**0.00531**	−0.00369	−0.00530	−0.00699	−0.00642	−0.00070	−0.00319
Lavreotiki	−0.00140	−0.00220	−0.00289	−0.00067	−0.00252	−0.00234	−0.00294	−0.00266	−0.00165	−0.00226	−0.00284	−0.00029	−0.00267
Lykovrysi	−0.00080	−0.00043	−0.00200	−0.00181	−0.00172	−0.00173	**0.00212**	−0.00191	−0.00226	−0.00226	−0.00226	−0.00023	−0.00226
Mandra	−0.00119	−0.00018	−0.00261	**0.00133**	−0.00279	−0.00223	−0.00031	−0.00295	−0.00301	−0.00339	−0.00332	−0.00035	−0.00351
Marathonas	**0.00160**	**0.00158**	−0.00211	−0.00187	−0.00126	−0.00248	**0.01126**	−0.00149	**0.01561**	−0.00248	−0.00248	−0.00025	−0.00234
Markopoulos	−0.00058	**0.00156**	−0.00288	−0.00379	−0.00268	−0.00391	−0.00373	−0.00326	−0.00421	−0.00431	−0.00393	−0.00043	−0.00417
Megara	−0.00168	**0.00197**	−0.00719	−0.00770	−0.00687	−0.00623	**0.00647**	−0.00672	−0.00737	−0.00777	−0.00758	−0.00078	−0.00749
Melissia	−0.00118	−0.00226	−0.00506	−0.00427	−0.00354	−0.00373	−0.00531	−0.00330	−0.00448	−0.00535	−0.00490	−0.00055	−0.00398
Metamorfosi	−0.00256	−0.00137	−0.00494	−0.00429	−0.00466	−0.00382	**0.01183**	−0.00542	−0.00699	−0.00738	−0.00719	**0.00012**	−0.00684
Mosxato	−0.00256	−0.00280	−0.00354	**0.00035**	−0.00440	−0.00397	−0.00276	−0.00253	−0.00149	−0.00646	−0.00627	**0.00217**	−0.00578
Nea Chalkidona	**0.00022**	**0.00092**	−0.00091	−0.00124	−0.00137	−0.00148	**0.00594**	−0.00100	−0.00213	−0.00270	−0.00244	**0.00107**	−0.00133
Nea Erythraia	−0.00004	−0.00069	−0.00331	−0.00326	−0.00280	−0.00385	−0.00423	−0.00157	−0.00372	−0.00419	**0.00150**	**0.00067**	−0.00418
Nea Filadelfia	−0.00104	−0.00221	−0.00326	−0.00086	−0.00295	−0.00384	−0.00321	−0.00056	−0.00305	−0.00140	−0.00388	**0.00003**	−0.00301
Nea Ionia	−0.00262	**0.00493**	−0.01500	−0.01116	−0.01040	−0.01256	**0.02684**	−0.01251	−0.01516	−0.01697	−0.01729	**0.00233**	−0.01643
Nea Makri	**0.00175**	**0.00205**	**0.00325**	**0.00052**	**0.00027**	−0.00296	−0.00140	−0.00143	−0.00092	−0.00123	−0.00324	−0.00041	−0.00369
Nea Peramos	−0.00053	**0.00015**	−0.00206	−0.00131	−0.00067	−0.00126	−0.00122	−0.00157	−0.00127	−0.00206	−0.00206	−0.00021	−0.00165
Nea Smyrni	−0.00427	−0.00940	−0.01397	−0.00358	−0.00823	−0.01442	−0.01994	−0.00464	−0.00997	−0.00964	−0.01640	−0.00145	−0.01000
Neo Psychiko	−0.00122	−0.00170	−0.00224	−0.00145	−0.00134	−0.00203	−0.00295	−0.00086	−0.00284	−0.00304	−0.00084	−0.00018	−0.00290
Nikaia	−0.00960	−0.00598	−0.02209	−0.00565	−0.01845	−0.01016	**0.01031**	−0.01861	−0.01988	−0.01973	−0.02498	−0.00087	−0.01619
Paiania	−0.00095	**0.00033**	−0.00270	−0.00315	−0.00220	−0.00239	−0.00352	−0.00191	−0.00270	−0.00360	−0.00341	−0.00036	−0.00183
Palaio Faliro	**0.00068**	−0.01011	−0.01278	−0.00036	−0.00782	−0.01087	−0.01747	−0.00119	−0.00124	−0.01577	−0.00974	−0.00132	−0.00523
Pallini	−0.00033	**0.00071**	−0.00365	−0.00375	−0.00266	−0.00230	−0.00365	−0.00361	−0.00247	−0.00466	−0.00313	−0.00034	−0.00425
Papagos	−0.00218	−0.00340	−0.00298	−0.00251	−0.00160	−0.00332	−0.00372	−0.00246	−0.00332	−0.00372	−0.00239	−0.00025	−0.00345

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Pefki	−0.00317	−0.00354	−0.00470	−0.00366	−0.00385	−0.00528	−0.00530	−0.00379	−0.00455	−0.00529	−0.00497	−0.00055	−0.00541
Perama	−0.00323	−0.00203	−0.00494	−0.00134	−0.00547	−0.00441	−0.00523	−0.00126	−0.00369	−0.00717	−0.00488	−0.00072	−0.00486
Peristeri	−0.01114	−0.00871	−0.03197	−0.02235	−0.02737	−0.02281	**0.05898**	−0.02853	−0.02221	**0.15581**	−0.03658	**0.00966**	−0.02543
Petroupoli	−0.00911	−0.00861	−0.01035	−0.00933	−0.01130	−0.00230	−0.01298	−0.01159	−0.01298	−0.01260	−0.01319	**0.00037**	−0.01184
Piraeus	−0.00557	−0.00006	−0.03641	−0.01725	−0.02965	−0.02323	**0.00601**	−0.02194	**0.01079**	−0.02040	−0.03557	**0.02036**	−0.02800
Psychiko	**0.00126**	−0.00297	−0.00106	**0.00820**	**0.00245**	**0.00083**	−0.00291	**0.00037**	−0.00198	−0.00283	**0.01503**	−0.00006	−0.00294
Rafina	**0.00136**	**0.00323**	0.00016	−0.00232	0.00199	−0.00263	−0.00305	−0.00189	−0.00221	−0.00317	−0.00263	−0.00008	−0.00289
Spata-Loutsa	−0.00003	**0.00188**	−0.00267	−0.00253	−0.00192	−0.00243	−0.00224	−0.00199	−0.00134	−0.00283	−0.00283	−0.00028	−0.00283
Tavros	**0.00008**	**0.00007**	−0.00347	**0.00455**	−0.00282	−0.00140	**0.00739**	−0.00205	**0.00260**	−0.00391	−0.00387	**0.00804**	−0.00130
Vari	**0.00145**	**0.00157**	−0.00023	**0.00089**	−0.00220	−0.00217	−0.00305	**0.00160**	−0.00215	−0.00280	−0.00190	**0.00153**	−0.00006
Voula	**0.00220**	−0.00282	−0.00399	−0.00236	−0.00203	−0.00424	−0.00578	−0.00024	−0.00335	−0.00526	**0.00193**	**0.00002**	−0.00427
Vouliagmeni	**0.00244**	**0.00002**	−0.00073	−0.00006	−0.00034	−0.00079	−0.00070	**0.00137**	−0.00120	−0.00179	**0.00354**	**0.00092**	**0.00011**
Vrilissia	−0.00334	−0.00581	−0.00607	−0.00383	−0.00347	−0.00657	−0.00715	−0.00393	−0.00574	−0.00723	−0.00599	−0.00072	−0.00682
Vyronas	−0.00469	−0.00080	−0.01159	−0.00739	−0.00991	−0.00589	−0.01497	−0.01060	−0.01259	−0.01668	−0.01477	−0.00097	−0.01135
Xaidari	−0.00829	−0.00788	−0.01142	−0.00905	−0.01029	−0.00981	**0.00244**	−0.01065	−0.01101	−0.00891	−0.01261	−0.00068	−0.01194
Xalandri	−0.00555	−0.00678	−0.01727	−0.01401	−0.00830	−0.01320	−0.01812	−0.00663	−0.01575	−0.01701	−0.01249	**0.00608**	−0.01740
Xolargos	−0.00334	−0.00416	−0.00735	−0.00711	−0.00517	−0.00691	−0.00900	−0.00414	−0.00770	−0.00886	−0.00737	−0.00090	−0.00790
Ymittos	−0.00048	**0.00039**	−0.00236	−0.00197	−0.00134	−0.00216	−0.00311	−0.00198	−0.00281	−0.00086	−0.00282	−0.00031	−0.00120
Zefyrio	−0.00194	−0.00157	−0.00235	−0.00124	−0.00221	−0.00097	−0.00246	−0.00246	−0.00235	−0.00245	−0.00245	**0.00172**	−0.00232
Zografos	−0.00200	−0.00477	−0.01486	−0.01390	−0.00800	−0.01707	−0.02057	−0.01287	−0.01069	−0.01574	−0.01102	**0.00009**	−0.00344

Source: own elaboration (EKKE-ESYE 2005)
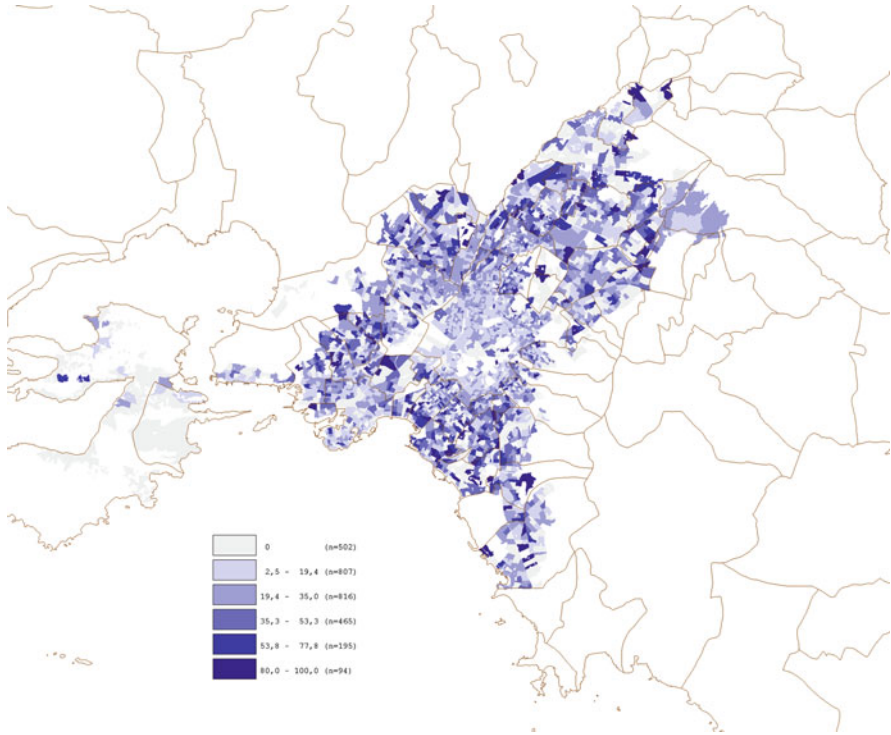
Map 20.15 Albanians destinations (moved in at 1995) (Source: own elaboration [EKKE carto-graphic platform])

in relative isolation. As discussed in Sect. 2, such behaviour is driven by cultural and/or economic factors. Religion might be an important parameter here since in five out of the six countries of the second group, i.e. Egypt, Syria, Iraq, Pakistan and Bangladesh, the official creed is Islam, whereas the Greek official religion is Christianity. As concerns Filipinos, the other nationality of the second group, economic reasons might be of primary importance, since these people (who are not in their majority Muslims) are employed largely in domestic help and reside with the wealthy families that employ them in specific parts of the city (Psychico, Ekali, Kifisia, Vouliagmeni).

As regards the clustering/evenness dimension, we observe eight nationalities of immigrants to exhibit a similar pattern, which is described by both high
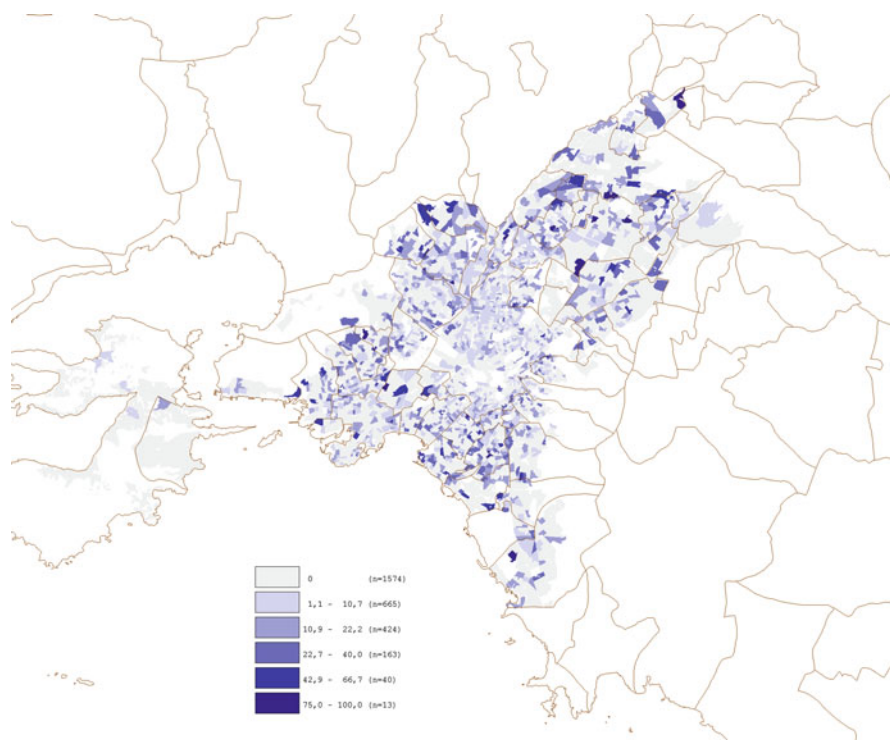
Map 20.16 Albanians destinations (moved in at 2000) (Source: own elaboration [EKKE cartographic platform])

concentration within the city centre (centralisation) and relatively lower concentrations in other parts of the metropolitan region. In particular, apart from central Athens, people originating from Poland and Bulgaria show a preference for residence in municipalities at the east coast (Marathonas, Nea Makri, Rafina, Artemida), Romanians in local concentrations in Ag. Ioannis Rentis and Acharnes, whereas Ukrainians are deployed in Mosxato and Piraeus at the south and Filothei and Psychiko at the north of the city centre, as well as in the adjacent areas of Kifisia, Acharnes, Nea Erythraia and Ekali (see Maps 20.4, 20.6, 20.7 and 20.9 respectively).

Syrians and Egyptians (Maps 20.14 and 20.10 respectively) are quite centralised, showing a preference for the inner-city and nearby municipalities at the south (Dafni, Kallithea, Tavros, Ag Ioannis Rentis and Piraeus). So do Bangladeshi (Map 20.13), who apart from the city centre, where their over-representation
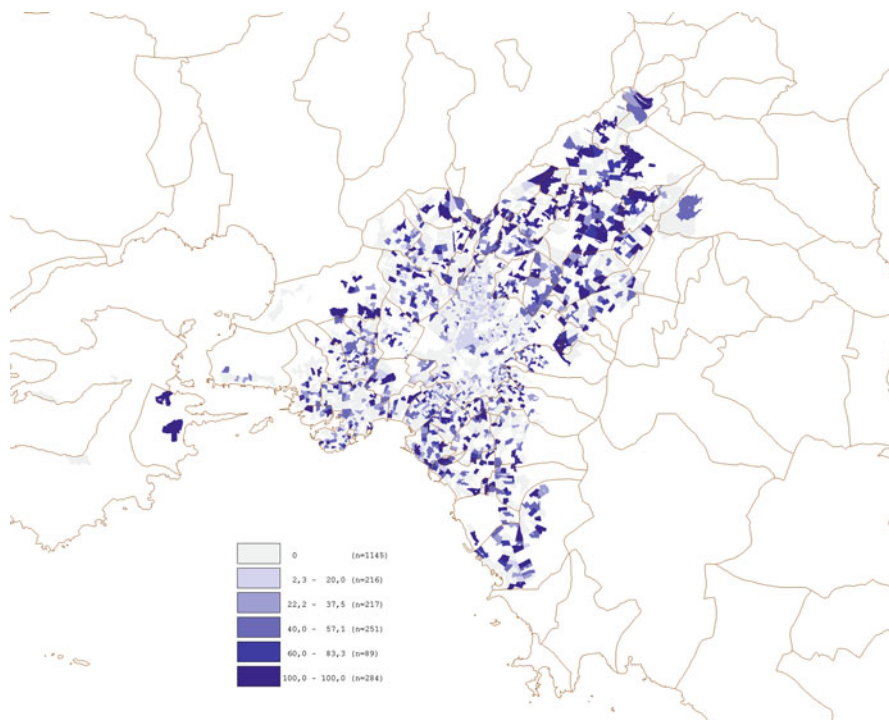
Map 20.17 East Europeans destinations (moved in at 1995) (Source: own elaboration [EKKE cartographic platform])

(measured by D) is almost double as compared to those of other immigrants groups, find residence in Ag Ioannis Rentis and Piraeus (southern at the city-centre), as well as in the adjacent area of northern municipalities of Kamatero, Acharnes, Zefyrio and Ano Liosia. In turn, Filipinos are seen to reside (Map 20.12) not only in central Athens but also in the high-income areas of Filothei and Psychico at the north of the city centre, Kifisia and Ekali further up, and Vouliagmeni at the south-east of the city, where they are employed in the domestic help.

The rest three nationalities of immigrants, i.e. Iraqis, Pakistani and Russians seems to follow a different location pattern, characterised by low centralisation. In particular, the vast majority of Iraqis, which exhibit the most isolated and clustering pattern of the three,[8] find home in the adjacent municipalities of Ag. Ioannis Rendis,

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[8] This behaviour might be related to the fact that most Iraqis are in fact asylum-seekers and refugees rather than economic immigrants. We thank the anonymous referee for bringing this point to our attention.
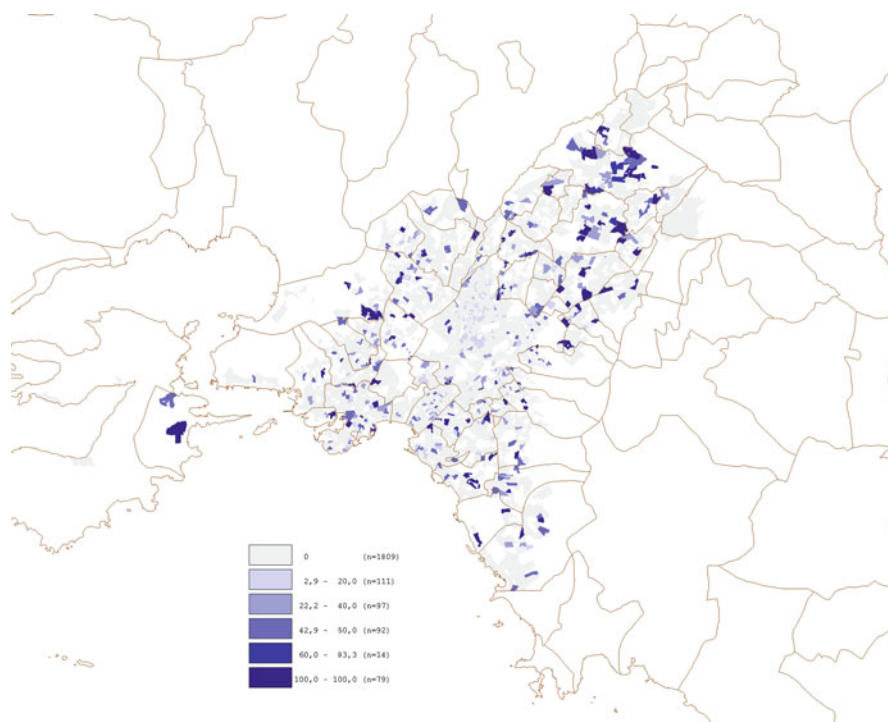
Map 20.18 East Europeans destinations (moved in at 2000) (Source: own elaboration [EKKE cartographic platform])

Aegaleo and Peristeri located on the west of central Athens (Map 20.11). In turn, Pakistani are deployed along a west-north corridor (across the Kifisou Avenue), taking up residence in the municipalities of Ag. Ioannis Rendis, Aegaleo, Peristeri, Ag. Anargyroi, Acharnes and Metamorfosi (Map 20.8). Finally, Russians, who in their majority are repatriated Greek-ethnic Pontians, exhibit a highly exposure pattern but with increased clustering in Acharnes and Ano Liosia (Map 20.5). These are areas where land had been made available (at low cost) by the Greek government aiming to assist Greek-Pontians' residency and integration.

Apart from determining the current distribution of immigrants across Athens metropolitan region, the study is also interested in its dynamics, which are reflected on the mobility pattern of the immigrants. On these grounds, the rest of the paper
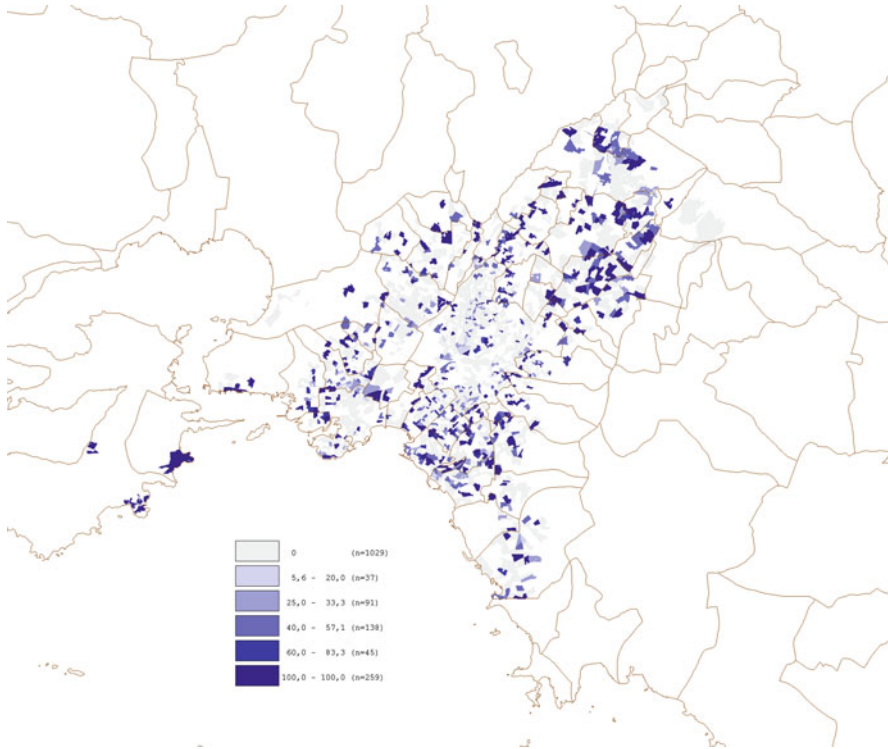
Map 20.19 West Asians destinations (moved in at 1995) (Source: own elaboration [EKKE cartographic platform])

looks at the changes in immigrant residential location took place in the years of 1995 and 2000, where data from the 2001 census are available. In particular, Maps 20.15, 20.16, 20.17, 20.18, 20.19, 20.20, 20.21, 20.22, 20.23, 20.24, 20.25, and 20.26 highlight those areas (at the CDD level) where immigrants have recently moved in, or more precisely, the areas where immigrant reside during the 2001 census but they have moved in there either a year or 6 years ago (that is in 2000 or in 1995, respectively).

What becomes evident from the cartographic representations below (Maps 20.15, 20.16, 20.17, 20.18, 20.19, 20.20, 20.21, 20.22, 20.23, and 20.24) is a clear tendency of immigrants to decentralise, that is, to move out of the central Athens and to take up residence in the peripheral municipalities of the city. This is the case both in 1995 and in 2000 time points. This exodus, however, is not uniform
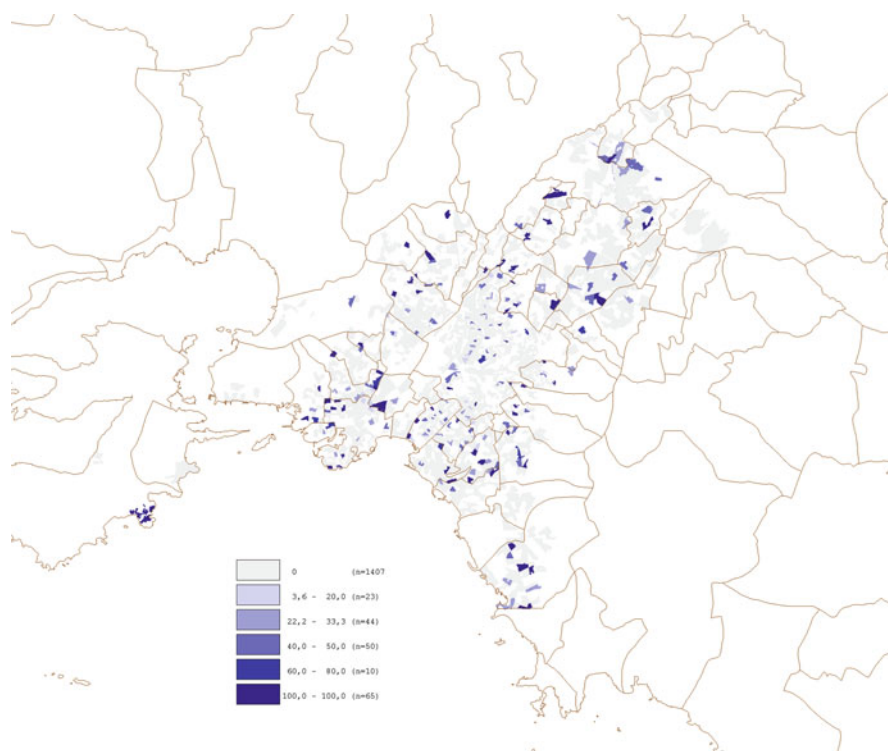
Map 20.20 West Asians destinations (moved in at 2000) (Source: own elaboration [EKKE cartographic platform])

either across time or across immigrant groups. As regards the former, the data indicate the gradual increase of immigrants' decentralisation over time. In particular, changes in residential location took place in 2000 constitute the 23 % of the totality of movements occurred since 1995. This means that one out of four immigrants who have changed area of residence within this 6 years time frame she did so over the last year.

The second point raised highlights the fact that mobility is not the same for all immigrant groups examined. In particular, people of East European countries, and especially Albanians, exhibit a much higher mobility degree as compared to Asians or Africans. Actually, about half (45 %) of the Albanians that live in Athens have, within the examined period, moved houses from the central area to

	0	(n=712)
	1,9 - 22,2	(n=71)
	23,1 - 40,0	(n=60)
	42,9 - 60,0	(n=64)
	62,5 - 83,3	(n=17)
	100,0 - 100,0	(n=135)
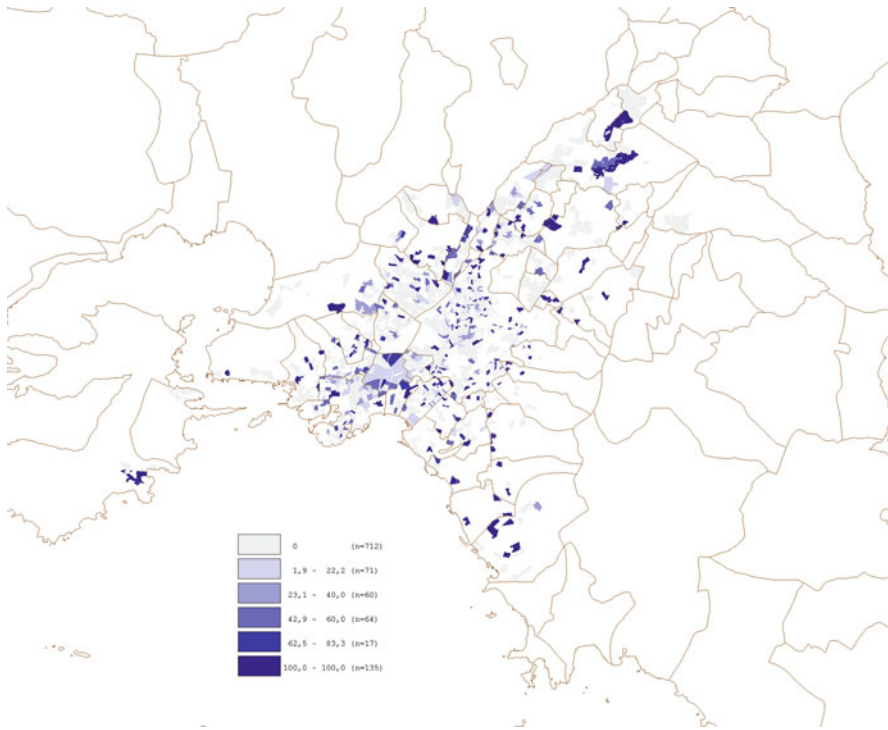
Map 20.21 Central-South Asians destinations (moved in at 1995) (Source: own elaboration [EKKE cartographic platform])

municipalities in the periphery, whereas the respective figure for Asian or Africans is below 10 %.

7   Conclusions

The current research has analysed the residential distribution of various immigrant groups within Athens metropolitan region. In particular, it has determine both the pattern of isolation, clustering and centralisation immigrants display and the degree of segregation exhibited within specific areas, and assessed the dynamics of the aforementioned configurations. Such analysis enables to shed light on the locational
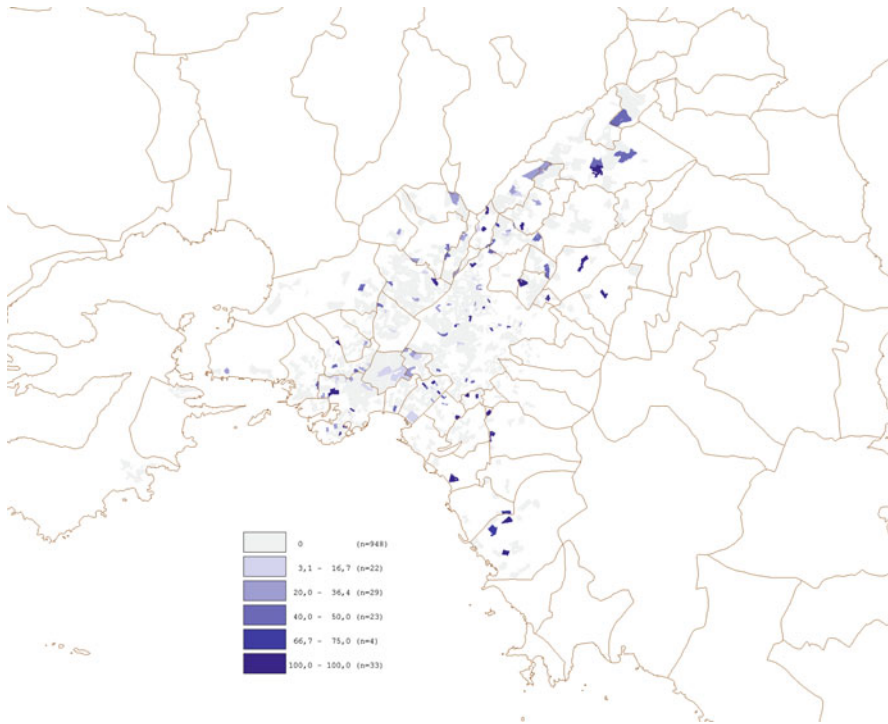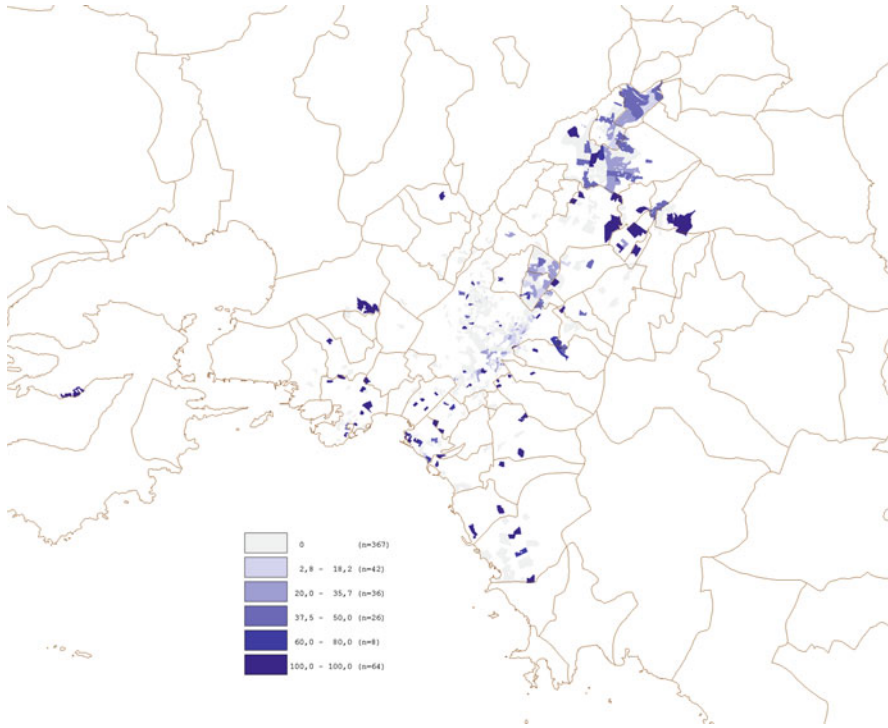
Map 20.22 Central-South Asians destinations (moved in at 2000) (Source: own elaboration [EKKE cartographic platform])

preferences of various immigrant groups, on possible changes of these preferences over time, and on the emerging form of their spatial arrangements.

Our findings indicate the preference of immigrants for central locations, where accessibility is high, due to transport networks, and low-cost housing is available. This trend has been also reported in other studies, such as Psimmenos (1995, 1998), Baldwin-Edwards (2005) and Maloutas (2007), but the current research adds four clarifications on the issue.

First, the emerging pattern of immigrants' residential location is described as one of increasing exposure and decentralisation. This is principally attributable to the locational behaviour of Eastern Europeans, and particularly of Albanians,[9] which is characterised by relative dispersion on the one hand, and increasing

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[9] Note that Eastern Europeans comprise more than 78 % of the totality of immigrants, with Albanians being the 62 %.

Map 20.23 South-East Asians destinations (moved in at 1995) (Source: own elaboration [EKKE cartographic platform])

mobility from central areas to the peripheral locations on the other. Along these lines it is of interest to note that an important role to the aforementioned distribution is played by Russians, which is the third, in terms of size, group of immigrants, exhibiting a highly exposure pattern with relative clustering in away-from-the-centre northern municipalities of the metropolis.

Second, the locational pattern and dynamics are not uniform to all groups of immigrants. Whereas Eastern Europeans (with possible exception this of Poles) show signs of dispersion, and perhaps integration with the local population, those who are coming from Asia and Africa are seen to exhibit a rather seclusive behaviour and a pattern of location characterised by relative isolation and low mobility. Given the present small size of the latter groups it can be argued that no
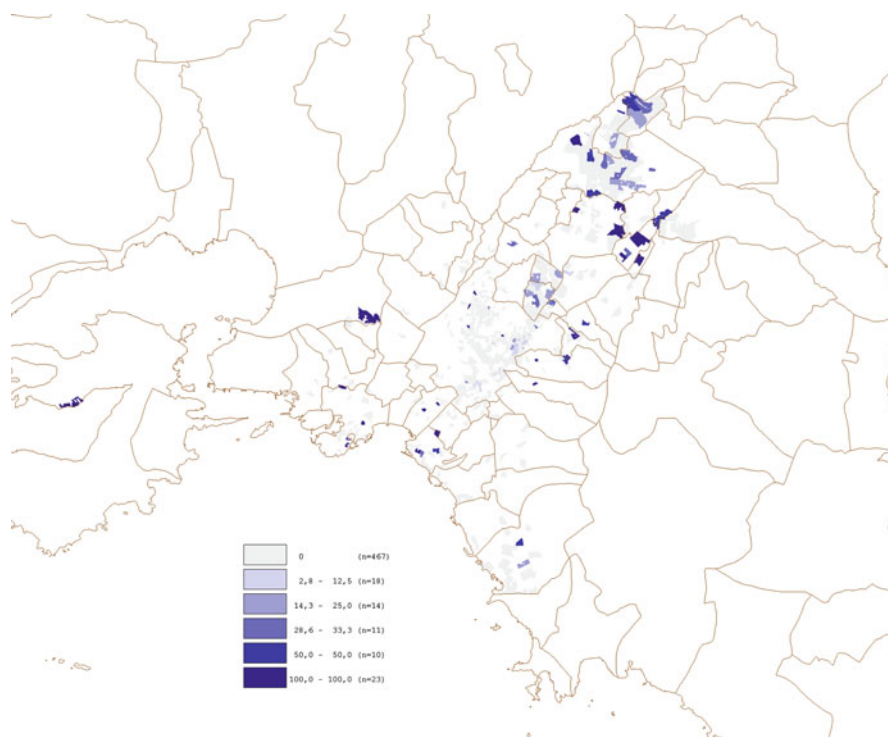
Map 20.24 South-East Asians destinations (moved in at 2000) (Source: own elaboration [EKKE cartographic platform])

specific ethnic ghettos are under formation, though there are no guarantees that this will be the case in the future.

Third, although economic factors are significant determinants of immigrants' locational decisions, it seems that cultural reasons play a key role too, especially for specific immigrant groups. Thus, for instance, one can easily attribute the initial location of newcomers from Philippines within the wealthy neighbourhoods of Ekali, Vouliagmeni, Psychico and Kifisia, to pure economic reasons, as these people were primarily employed in the domestic help of the high-income families residing in those areas. However, there are difficulties in explaining why people remained there, once the community increased its size with the arrival of further Filipinos, without reference to cultural reasons. Similarly, the initial location of Russian-Pontians in Acharnes may be due to economic reasons, and in particular
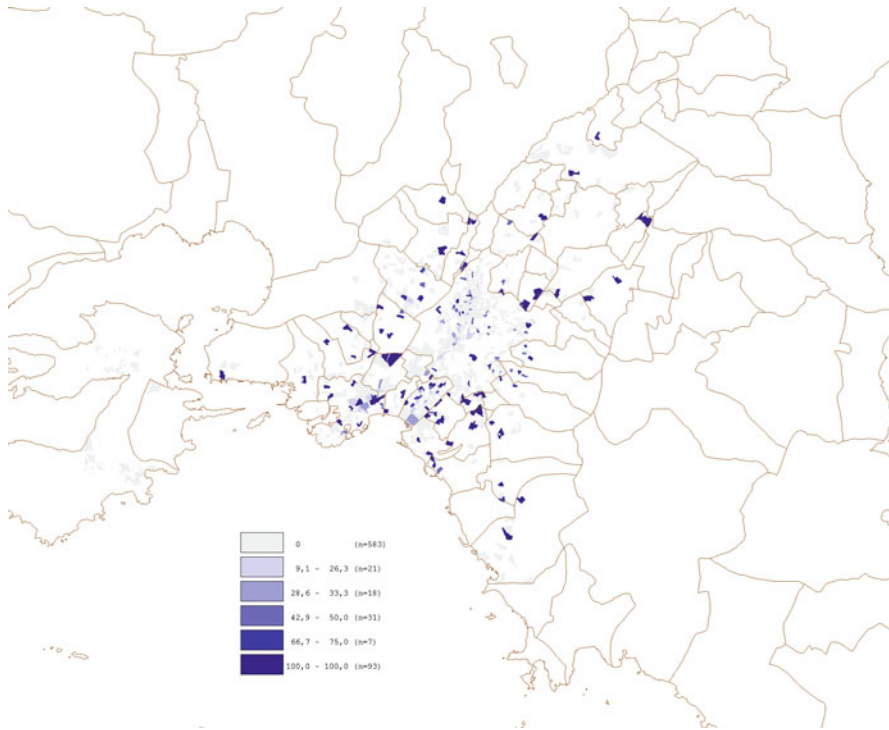
Map 20.25 North Africans destinations (moved in at 1995) (Source: own elaboration [EKKE cartographic platform])

to the policies of low-cost housing put forth by the Greek government over the 1990s, but the further enlargement of the community within the same area should be seen as a side-effect of the close-knit ethnic networks of support developed in the area.

Finally, it becomes evident that we know relatively little of the processes and factors determining the intra-urban locational decisions of immigrants. Perhaps this may be due to the too-short experience Greece has on the issue, and perhaps it might be necessary for patterns to establish before we could be able to draw firm conclusion on the subject. At the moment we can argue that both economic and cultural features affect the locational choices of immigrants, but further research needs to be put forward in order to shed light on these matters, investigating in more detail the specific qualities (which might be related to the housing stock, labour opportunities, local institutions, immigrants' nationality, religion, family structure, etc.) that define the locational behaviour of these people.
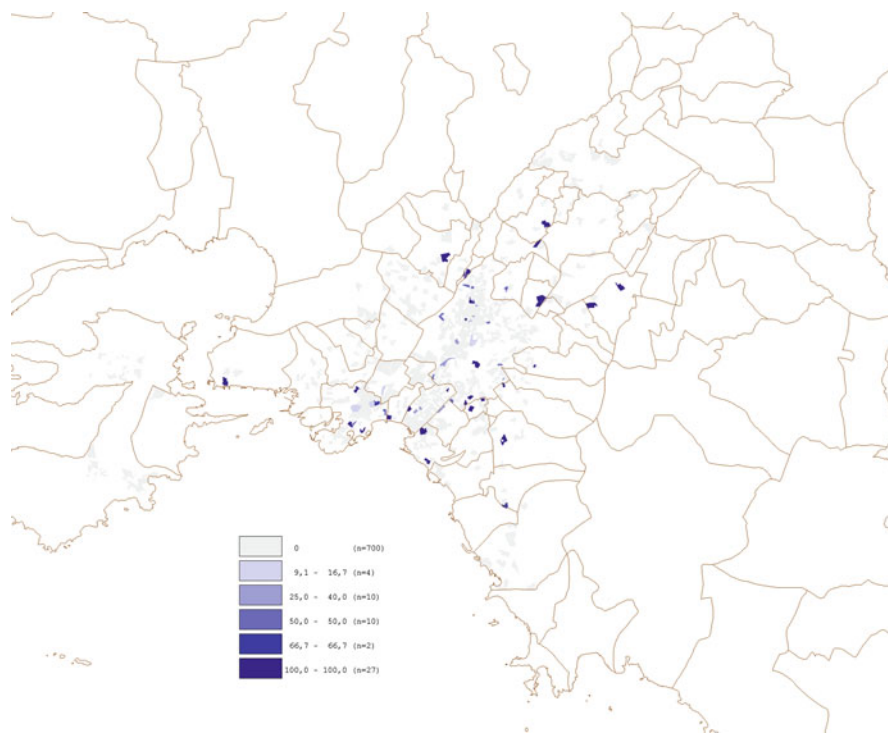
Map 20.26 North Africans destinations (moved in at 2000) (Source: own elaboration [EKKE cartographic platform])

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