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Segregation of Foreign Population in a Medium Size City in the Northwest of Spain. The case of A Coruña

I. INTRODUCTION

The purpose of this article is to analyse, quantify and assess the phenomenon of residential segregation of foreign population - through either nationality or country of birth - in the city of A Coruña. This theme, with a long tradition within the social science, have attracted the attention of many Spanish academics due to the demographic and migratory boom experienced in Spain in the last two decades. It must be taken into account that, according to the 1998 Census, 637,085 foreigners lived in Spain, representing 1.6 per cent of the population. Since then, that figure has grown to reach 5,751,487 in 2011, which represented 12.19% of the total, and only from that year, in a context of economic crisis, the total number of foreigners is reduced to 4,572,807 (9.82%) in 2017.

Foreign population is mainly concentrated in the Mediterranean area and Madrid. Only Catalonia concentrates 22%, followed by Madrid with 17% and the Valencian Community with 15%. This distribution explained that these zones are the most studied within the literature on this topic, omitting, nevertheless, the existence of a network of middle size cities located in the northwest of Spain, where the growth of migrants has been sufficiently important to deserve greater attention.

In this fact lies this paper main contribution: the study of a medium-sized city, A Coruña, located in the northwest of Spain and, for this reason, with its own population dynamics. The resident population born abroad represented 4% of the total (9,887) in 1998, having in-creased steadily to stand at 11% (27,009) in 2017. It is an urban centre that grew significantly in the sixties and seventies thanks to immigration from rural areas of the interior of Galicia, so neighbourhoods were created to accommodate the population with lower purchasing power and where the foreign population could have settled.

The structure of the article is as follows, the second section presents a brief description of the concept of residential segregation and the main theoretical and empirical development lines in relation to studies on ethnic minorities, as well as the definition of the main indicators of segregation. Then, a review of the particularities of foreign population segregation in Spain is offered, including the values among which the segregation indexes oscillate in other cities. Four section shows the methodology applied, including data sources, geographical context and national groups under studied.

II. BACKGROUND

The term segregation refers to the fact of separating and marginalizing a person or a group of people for social, political or cultural reasons. A clear example of segregation would be what is commonly known as apartheid, based on the concept of isolationism of a particular racial group by a predominant or majority one, or the Hindu caste system, where discrimination is caused by social and cultural differences rather than race.

The first studies on immigrant population segregation took place in the 20s and 30s in the United States

within the so-called Chicago School, in a context of rapid economic and demographic growth and increasing conflict with a clear racial component. Indeed, many of this school contribution are still valid today, particularly with regard to measurement and segregation analysis methods (Duncan and Duncan, 1955, Massey and Denton, 1988). The term residential segregations refers to the fact that certain social groups live concentrated in certain districts of the city, giving place to what is commonly known as ghetto. This uneven distribution reflects wider social differences and the form in which they are manifested in the development of our cities (Harvey, 1977). These differences are usually associated with different levels of income and ability to access the purchase of housing in certain urban spaces, but also to social aspects such as ethnic, religious idiosyncrasy, employment status or the need for schooling of children. Likewise, a key aspect in the evaluation of residential segregation will be the voluntary or involuntary nature of it (Peach, 1996), that is, whether immigrants have residential choice or, on the contrary, are subject to it.

The literature abounds with examples of how residential segregation negatively affect foreign population (Van Kempen and Özüekren 1998). Some of the problems would be limited access to decent housing, language acquisition or social services and lower possibility of education and employment success. Other authors, however, point out the lack of empirical evidence to confirm causal relationship between segregation and these problems (Musterd, 2003), and argue that lower levels of residential segregation do not necessary imply a greater contact with the rest of the society and may even hide social conflicts and situations of strong discrimination. In the same way, high levels of segregation could contribute to the appropriation of urban spaces by certain groups (Simon, 1998) or the creation of ethnic neighbourhoods (Murdie and Borgegard, 1998), thus constituting "ports" of first entry for new immigrants, who would end up adapting in a better way to the receiving society.

At the empirical level, an exhaustive review of the literature reveals the existence of numerous indicators of segregation, each of which would refer to different dimensions of population settlement patterns. Massey (1988), after reviewing the literature and starting from a generic definition of residential segregation as the level of separation between the place of residence of one group in relation to another, suggests the existence of five dimensions of measurement. (1) Equality: members of a minority may be distributed in such a way that they are overrepresented in some geographic areas and underrepresented in others. (2) Exhibition: this dimension measures the exposure of a minority group in relation to the majority group according to whether they share and to what extent the same neighbourhoods of residence. (3) Concentration: to what extent a minority group is spatially concentrated in a specific urban area, occupying less physical space than members of the majority group. (4) Centrality: finally, it is possible to measure when a group congregates around the urban centre, occupying a more central location than the majority group.

The present study focuses on the analysis of the most widely used indicators in relation to the equality dimension. It is worth reproduce literally the description made by Martori and Hoberg (2004) about what is the idea developed by this type of index: if a group represents 20% of the municipality total population, in each census section there must be, in the case of non-segregation, 20% of the population of this group. The further away from this situation the group in question is, the greater the residential segregation of the same.

The most widely used segregation index in relation to the equality dimension is the Index of Dissimilarity (ID) (Duncan and Duncan, 1955) This index compares the proportions between two groups in different areas of a city. In this study, the proportions between foreign population on the one hand and Spanish population on the other are compared. Thus, the ID is defined as

$$D = \frac{1}{2} \sum_{i=1}^{n} \left| x_i - y_i \right| \quad 0 \le D \le 1$$

Where y_i is the number of individuals of the majority group (population born or with Spanish nationality) in each census section, and Y the total population of this group in the municipality. If the index is equal to zero, the minority group is equally distributed. It is also bounded between zero (minimum segregation) and one (maximum segregation).

On the other hand, the Location Coefficient. This indicator relates the proportion of population of each nationality in each section with the proportion in the whole municipality. Values close to one would indicate that the majority of foreigners of the nationality in question would reside in the same section, while values close to zero would indicate a high dispersion. Its formula is

$$QL = \frac{(X_i / T_i)}{(X / T)}$$

Where QL = location quotient, X_i = population of a given nationality in the district, T_i = total population in the district, X = total population of the given nationality in the municipality, T = total population in the municipality.

III. RESIDENTIAL PATTERNS OF FOREIGN POPULATION IN SPAIN

Residential segregation can be addressed from different perspectives (economic, demographic, labour, religious and ethnic). The low percentage of foreign population until nineties in Spain caused that this field was primarily linked to migration flows from rural to urban areas and with a particular focus on the demographic and labour perspective. However, as Spain joins the dynamics of reception of migratory flows from developing countries, studies on the levels of residential segregation of foreign population become more relevant since then. The residential patterns of foreign population in Spain confirms the southern European model proposed by Malheiro (2002), that is, low segregation rates together with a strong precariousness (understood as less access to housing and worse living conditions), a greater importance of access to it through informal channels and greater peripherization. The tendency observed in several cities of Spain should be noted, as it often reproduce the residential patterns of previous migratory flows. Districts that during the 60s and 70s welcomed population from rural areas with lower purchasing power, such as Trinitat Vella and Ciutat Meridiana-Vallbona in Barcelona (Bayona, 2007), are now receiving migratory flows of foreign population.

Segregation indexes in Spain range from those considered moderate to low and have declined in recent years (Galeano, 2016, Alberich and Roquer, 2012, Dominguez et al, 2010, Bayonne, 2007). Taking as a reference the study carried out by Domínguez et al (2010) we can conclude that none of the main Spanish cities register dissimilarity indexes higher than 0.35 between foreign and Spanish population. These figures contrast with, for example, the 0.64 observed between the population of African and Asian origin in the county of Franklin, Ohio, the United States (Brown and Chung, 2006) or the 0.77 between blacks and whites in Washington DC (Wong, 2005).

There are, however, important differences depending on the country of origin. In this sense, nationalities with greater cultural, linguistic and religious differences exhibits higher levels of segregation in the urban space. This is the case of African and Asian nationalities, with figures of segregation usually high in almost all Spanish cities, especially Nigerians, Senegalese and Pakistanis which reach rates above 0.70 (Domínguez et al, 2010) Social and labor reasons are behind the residential segregation of some national groups. The preference to reside near the place where the businesses are located favours their greater concentration in certain areas, as occurs with the Chinese or the Moroccans. In addition, the cultural and linguistic proximity means that foreigners from Spanish-speaking countries register relatively low rates.

Authors such as de Frutos and García (2016) talk about the existence in Spain of ethnic enclaves. They are the result of the migration flows since 2000 and, especially, during the years of the real estate bubble development (2001-2005), as well as its absorption through neoliberal policies of governments and municipalities in the design of territorial and human urbanization. This circumstance, the authors warn, would have caused the appearance of up to 112 ethnic neighbourhoods and more than one million vulnerable people due to their vulnerability and foreign status.

Special mention deserve foreigners from economically advanced countries. Previous studies point to a relatively high population segregation from countries such as Germany or Great Britain. Unlike other nationalities, these have a greater concentration in more exclusive residential areas and aimed at the more affluent socioeconomic strata (García, 2014, Bayona 2007), which responds more to a type of segregation sought and voluntary.

Finally, studies on segregation of foreign population in Spain confirm the patterns identified by previous researchers in the European and American context with regard to the temporal variations of residential patterns. At the moment when economic stability is reached and, in certain situations, when the process of family reunification ends, there is a greater urban dispersion in search of better living conditions (Bayona, 2011; Fullaondo, 2008). As recent studies point out (Galeano, 2016), the drop in the segregation indexes in Spain since the irruption of the crisis is not only due to a lower weight of the foreign population over the whole population since the year 2011, but also, in some cases, to the redefinition of its sectional layout.

IV. METHODOLOGICAL NOTES

Before presenting the results, some explanatory notes on the methodology used are included, namely: informa-

tion sources, definitions and indicators of segregation applied, description of the geographical scope and, finally, the national collectives studied.

1. INFORMATION SOURCES, DEFINITIONS AND SEGREGATION INDEXES APPLIED

Foreing population data were collected from the so-called *Padron*, a municipal census of inhabitants published online by the National Institute of Statistics (www.ine.es) This census differences between population born abroad (susceptible of being nationalized) and population of foreign nationality, both variables were considered. This is one of the innovative aspects of this research as most of previous studies frequently omit the first variable. Indeed, the differences between both variables in the municipality of A Coruña make it convenient to include them: in 2017 there were 10,463 foreign residents in the city, compared to 27,009 foreign born abroad. A small part would be children of Spaniards born outside of Spain, although the majority must correspond with naturalized foreigners. Therefore, for the purpose of this study, foreign population is defined as those residents, who either have a nationality other than Spanish one or were born abroad, having or not obtained the Spanish nationality later.

On the other hand, following the theoretical framework beforehand discussed, residential segregation is defined as the degree of inequality in the territorial distribution of population across different city zones (Alberich and Roquer, 2012, Martori and Hoberg, 2008). Dissimilarity index (ID) and location quotient (QL) were applied. Since the ID provides a single value for the municipality as a whole, the QL is used, as it allows obtaining a value for each district and represent them cartographically.

2. GEOGRAPHICAL CONTEXT

The geographical area selected for the analysis is the municipality of A Coruña, located in the northwest of Spain. This territory has been little studied in the literature compared to the Mediterranean zone. With an area of 38.7 km^2, A Coruña is the second most populated city in the Autonomous Community of Galicia, behind Vigo, with a total of 244,099 inhabitants according to the 2017 Register. It is a city with a marked urban character, as can be deduced from its high population density: 6,409.6 inhabitants per square kilometre, which contrasts with

143.2 in the province and 93.4 at the region. The city stands as the largest industrial and commercial centre in the North of Galicia, also fulfilling administrative functions as provincial capital.

The analysis of residential segregation of foreign population is based on information from the Population and Housing Census and the Municipal Register of Inhabitants (*Padrón*). The Census divide the city in 32 sections, which in turn are grouped into 10 districts. Districts 6 and 4 exhibits the highest population density, with 58,871 inhabitants per km^2 and 31,494 inhabitants per km^2 respectively. At the other extreme would be districts 9 and 10, located in the periphery, with values close to 1,000 inhabitants per km^2, and where a good part of industrial activity is located, as well as university campuses and areas with low-floor housing like A Zapateira or Elviña.

3. NATIONAL GROUPS UNDER STUDY

Index of Dissimilarity is calculated for the 37 nationalities distinguished in the Municipal Register of Inhabitants. Yet, the complexity of the second indicator, Location Quotient (LQ), which provides one value per section and nationality, made convenient to aggregate the data in regions of the world as follows: European Union, non-EU Europe, Africa, America (Central and Caribbean, South America) and Asia.

V. RESIDENTIAL SEGREGATION AND FOREIGN POPULATION IN A CORUÑA

1. TRENDS IN THE NUMBER OF FOREIGN INHABITANTS

The analysis of population trends in A Coruña throws into relieve the importance of the inflow of foreigners since the end of the last century. Population born abroad and with foreign nationality have gone from representing 0.65% and 4.07% of the total population to 5.37 and 10.60 in 2013, respectively, when they reach its historical maximum. As of that year, and in a context of economic crisis, the weight of the foreign population gradually decreases to represent 4.29% of the total, approximately three thousand. Regarding the population born abroad, this increases slightly in recent years, representing 11.06% in January 2017.

Foreign population in A Coruña is proportionally greater than the Galician Autonomous Community av-

erage, with percentage of 3.22 and 7.94 foreigners and population born abroad, respectively. Despite the lower presence of foreigner compared to the Spanish national average (4.28% of foreigners against 9.82% nationwide), it must be said that the difference is lower in terms of population born abroad, 11.06% in A Coruña comparted to 13.27% nationwide. This fact is explained by the greater demographic weight of Latin-Americans immigrants in Galicia, whose rates of nationalization are higher due to the antiquity of these flows.

Immigrants from Latin America were the first to settle in A Coruña in the nineties. Countries such as Argentina, Colombia or Brazil have a broad representation. It is important to highlight the numerical difference in terms of the variable born abroad and of foreign nationality. The latter allows us to speak of a stagnation in the number of residents from the Americas during the first years of the economic crisis, followed by an approximate fall of 29% between 2013 and 2017, to stand at 4,879. This trend does not coincide with the trends of those born in this continent, which maintain a continuous growth until 2017, which suggests that many of the foreigners obtain Spanish nationality in recent years.

Special mention deserves the population from Africa, its quantitative importance is growing gradually since 2005, becoming one of the main groups of the city from 2013, when it reaches its maximum number with 1,766 and 2,081 inhabitants of foreign nationality and born in Africa, respectively. Here both variables point to a slight decrease in the number of residents from Africa, which in some way reflects the greater difficulties in the process of nationalization compared to the flows from the American continent.

2. LOCALIZATION OF FOREIGN POPULATION

As indicated in the methodological section, A Coruña is divided into 10 districts and 32 census sections. Figures three and four show, on a census section scale, the evolution of the geographical distribution of foreign population and population born abroad. Its location starts in the neighbourhood of *Agra do Orzán* (District 6) where the population from rural areas of Galicia had traditionally settled between the 60s and the 70s (Mantiñán, 2005), gradually extending to adjacent neighbourhoods such as *Os Mallos* (District 4). Both districts alone account for 50% of all residents of foreign origin. It is the most densely populated areas of the city, with 26,492 and 33,904 inhabitants, respectively. Moreover, these

areas of the city are characterized by a growth without planning, narrow streets and with significant shortages of public space (Eidus Coruña, 2017). The antiquity and obsolescence of the urban settlements - especially social housing as *Os Mariñeiros*, in *Agra do Orzán* - as well as its limited accessibility - have encouraged the departure of middle class families and their replacement with a low economic resources population.

Sources consulted allow talking about the configuration of spaces of relational reference and services for the foreign community in these districts, mainly in the Agra do Orzán neighbourhood. Here the foreign population comes to represent up to 22% of the total, the majority coming from Latin American countries (51%) and Africa, especially Senegal, which represents 20% of the total foreigners in this neighbourhood. In this context, a feedback process is generated through the progressive concentration of services aimed at foreigners, such as support associations or consumer activities (Faye, 2015), without exempting the existence of racial conflicts between these and the Spanish population. Indeed, the diagnosis made by the NGO *Acción Social* (2015) in this area indicates that there is a general lack of interest in the culture of immigrants and that this disinterest could lead to discrimination and rejection, mainly among the elder population. In this line, the NGO *Ecos do Sur* (2013) also speaks of a greater social rejection by returning Spanish emigrants, because they do not identify with the immigration process of foreign residents.

In recent years, there is a greater presence of foreign population in two new areas of the city. On the one hand, *Los Cantones*, *La Marina* and *Orzán* (district 1) As well as *Agra do Orzán* and *Os Mallos*, this area is characterized by the age of the housing stock. Likewise, it is in this area that the nightlife of the city is concentrated, especially in the *Orzán*, which would have deteriorated its residential value, despite presenting greater accessibility and intra-urban centrality (Colegio de Arquitectos de Galicia, 2011). On the other hand, *Palavea*, *La Madosa* and *As Xubias* (district 8) located in the southeast corner of the city, in the municipal limits with *Culleredo* and where there are many - especially in *Palavea* - low-rise constructions created mostly in the years 50 by the Franco regime as social housing.

As for the areas with less presence of foreigners, stand out, on the one hand, neighbourhoods such as A Zapateira (District 9), located in the southern periphery of the municipality. It is an area with numerous urbanizations and single-family chalets; it has a multitude of private schools, the University Campus of A Zapateira, the

Sporting Club Casino and a golf course (Op. Cit.). Its accessibility has been improved after the construction of the Third Round, which connects it to the center of the city in a few minutes. On the other hand, the area located on the northernmost peninsula of land of the city (district 2), especially neighbourhoods such as *Adormideras*, created in the early eighties and near the iconic Roman Hercules Tower, which in turn is surrounded of a big green area of almost 100,000 m². It is also the area where the most important museums of the city are concentrated, such as the Domus and the Aquarium. Similarly, the construction of a stretch of a promenade in this area in the 90s opened a new façade to the sea, favouring the urban regeneration of neighbourhoods with a relatively old housing stock as *Orillamar*, *Matadero* and *Montealto*. The latest one is commonly known by its working class tradition and today combines both news zones with older constructions.

3. RESIDENTIAL SEGREGATION BY NATIONALITY

In 2017, foreign population and those born abroad exhibits an Index of Dissimilarity (ID) of 0.25 y 0.18, respectively, having remained steady since 2005 (Figure IV and V). These figures are lower than in most of the biggest Spanish cities, where ID is situated above 0.25.

European Union and American residents exhibit a 0.26 ID, approximately, compared to those coming from Africa, Asia and non EU Europe, with 0.40 ID or above when looking at the foreign nationality variable. Furthermore, Africans not only show the highest ID (In 2017, 0.55 in relation to foreign nationality and 0.44 in relation to those born abroad variable) but also that number remain invariable over time, suggesting a structural residential segregation.

In some cases, as pointed by Algaba (2003), high ID does not necessary mean a structural segregation but it is just the result of incipient and small size migratory flows. Therefore, Figure 5 shows both ID and the size of each national group with the purpose of visualize the effects derived from the emerging character of certain migratory flows. Data shows different patterns of segregation across nationalities. On the one hand, such countries as France, Romania, Dominican Republic, United Kingdom, Cuba, Venezuela, Argentina, Uruguay, Portugal, Peru, Colombia, Brazil and Italy. They are essentially labour migratory flows that shows a greater satisfactory integration due to either the linguistic proximity or older migratory tradition. On the other hand, a group of nationalities, which high ID is not related to a structural segregation but just to the emergent and smaller size of each contingent. They are Pakistan, Nigeria, Bulgaria, Ukraine and Poland, with 0.70 ID or above. Then, Senegal, which both segregation index and size allows talking about the existence of structural segregation. The size of this contingent is relatively high and, at the same, it shows one of the highest ID, approximately 0.70. Finally, Morocco, Bolivia and China exhibits an intermediary situation with a relatively high size and ID values between 0.58 and 0.60.

Figures 6 and 7 show Senegal residential patterns and how they are overrepresented in Agra do Orzan (district 6) and Os Mallos (District 4) neighbourhoods, which counts with the city's most precarious housing stock. Its distribution, in addition, would not have experienced large variations since 2008, the first year in which specific data for this nationality is available. It is only possible to speak of a timid diffusion toward nearby census sections in the area of Os Castros, Monelos and Matogrande (District 7), while continuing to be more prominent in district 4 and 6.

CONCLUSIONS

This research aimed at quantifying the degree of segregation of foreign population in a little studied geographical context such as the Spain Northwest middle size cities. Specifically, this study analysed location and residential distribution of foreign population and residents born abroad during the last twelve years in the city of A Coruña, in the Autonomous Community of Galicia. Results confirm the model purposed by Malheiro (2002) for the southern European cities, i.e. low segregation indexes accompanied by a strong housing precariousness. Foreign population is overrepresented in old working class neighbourhoods and those with notable deficits in the habitability conditions and public spaces availability such as Agra do Orzán or Los Mallos. Results confirm the tendency observed in many Spanish cities in the 60s and 70s, when the same neighbourhoods received population coming from rural areas. In effect, these zones once again develop a function of reception of new migratory flows, so that the socioeconomic hierarchy of the neighbourhoods of Coruña would explain the insertion patterns above the nationality.

The foreign population comes to represent up to 22% of the total population in certain areas of the Agra do Orzán neighbourhood with a greater quantitative importance of Latin Americans and Africans, mainly from Senegal. The latter ones maintain a high dissimilarity in-

dex over time and is underrepresented in numerous areas of the city. Despite the relatively low segregation index compared to other Spanish and European cities, Agra do Orzán would resemble the concept of ethnic neighbourhood described by Murdie and Borgegard (1998) and developed by de Frutos and García (2016) in the Spanish context.

Finally, the results of this study suggests that, despite Agra do Orzán might be playing a function of "first entry port" and thus contribute to immigrants integration in the first years after arrival, further monitoring should be assumed by public institutions in the following years. Moreover, the observed low segregation index of some nationalities is not a reason to rule out intense conflicts and situations of strong discrimination. This is the case of residents of Brazilian or Colombian nationality, who despite registering one of the lowest indexes, their number has increased notably in the period analysed.