

## **Madrid migratory fields. Migrants' selection and urban localization in the early twentieth century**

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### **Introduction**

Although mobilities has been extensively studied by historical demographers, migratory fields have rarely been studied in-depth. In this communication, we propose a discussion of the concept and its statistical estimation controlling for distance to Madrid and population size in the municipalities of origin of the migrants. The aim is first to identify areas that were specifically attracted by the Spanish capital but also those which were significantly under-attracted. Second, to go beyond their identification and discuss the explanations, we will see how evolved the revealed pattern before, during and after the 1917-21 economic depression. Our third objective is to verify if the populations with a preferential link to Madrid have grouped together in specific neighborhoods within the city.

### **Migratory fields**

Analyzing a migratory field is more than a mere description of the migrants' places of birth. The concept theoretical foundations were elaborated by the Englishman Ravenstein in his famous 1885 and 1899 articles on "The laws of migration", and later considerably developed by the Swedish Hagerstrand (1957). The basic idea stresses the effect of distance. The further away you are from your destination, the fewer migrants there are. This relationships between the intensity of migrations to a point and distance to this point is moreover logarithmic, with an exponential decline from the nearest to the farthest areas. This relationship, however, does hold only if the absolute numbers of migrants from a given place are weighted by the population size of their locality of origin.

If a regression line provides a good summary of the association between distance to Madrid (in km) and rates of outmigration (to Madrid), the correlation is of course not perfect. Significant deviations above the regression line imply a preferential link with Madrid that could result from an easy communication (through the Spanish railway network in the early 20<sup>th</sup> century context) and/or from the existence of migratory networks. The opposite is also true for the areas which are significantly below the regression line, that can be isolated and/or populated by workers without the skills required on the urban labor market.

### **Migratory fields and the trial of an economic depression**

A good approach to specify the strength of the ties between Madrid and the components of its migratory field is to observe its evolution when an economic depression occurs. Since the

main motivation of migration was economic, such episode is a trial (Oris, 1997). We expect people from the areas with preferential ties to Madrid to be more rapidly and better informed by their fellows living in the Spanish capital, with as a result a stronger fading of their flows to Madrid than the other migrants. And we also hypothesize that after the depression, the preferential association is rapidly restored.

Madrid faced a hard period of five years of economic difficulties (inflation of the retail prices, unemployment) between 1917-21. We will compare the migratory field during those years with the one observed in 1913-16 and 1922-26.

### **Migrants in Madrid**

Migration was the main motor of the transformation of a modest town that counted 279,370 inhabitants in 1860 into the dominant metropolis of a centralized state, a metropolis that approached one million inhabitants in 1930 (Ramiro-Fariñas et al. 2021). The capital of Spain alone attracted 21 to 23 percent of all permanent Spanish internal migrants (Silvestre 2005). Most of the newcomers were unskilled workers coming from the large surrounding Castilian Plateau, but also from the North of Spain. Miguel de Salanova (2023) observes that "changes in land ownership due to the seizure and sale of church properties, the collapse of local self-reliance and food shortages prompted many to try to escape the scarce job opportunities that rural Spain offered." The migratory flows to Madrid also included a growing proportion of members from middle-class and elites. Civil servants recruited all across the country came to work in the ministries and institutions of high education, as well as liberal professions and a mass of shopkeepers and employees who developed the service sector and made from Madrid the main commercial hub of Spain (Ramiro-Fariñas et al. 2021).

The settlement of those newcomers in Madrid highly depended of their socio-economic status. The modernization of the city-center and major public health investment deepened the gap between affluent neighborhoods and the "barrios negros" or "barrios bajos" located in south and north outskirts. The latter acted as refuges for those who escaped the center and its excessive rental prices, as well as for the poor immigrants (Mazzoni et al., 2022; Oris et al., 2023). However, in preliminary analysis on a limited subsample of the Madrilenian population, using the province of birth of the migrants and working at the level of the barrios (neighborhoods), we found no spatial concentration of people from a given origin. For EPCm we will be able to be much more precise.

### **Data and data elaboration**

We made several preliminary analyses on the *padron* (census) of the population in one of the ten districts of Madrid, the district Hospital. But in this communication, we mainly use a large database of above 237'000 birth certificates, which covers all the births at home in the city for the period 1913-1926. Madrid's civil registers are a rich source of information including detailed individual-level information, the most relevant for us being about the place of birth (the province being mentioned) of each parent. We also know their address (street and house number) within the capital. We exclude those born at the city's hospital "*la Inclusa*" (*foundling*

*hospital*), a place where many women (from Madrid but most of them from abroad) went to give birth and often abandoned their newborns shortly after delivery (Revuelta-Eugercios, 2013).<sup>1</sup> This exclusion allows to not erroneously overlap the *de facto* and *de jure* populations (Revuelta-Eugercios and Ramiro Fariñas, 2016). Working on parents of newborn is not ideal for a study of migrants' origin. However, other analyses have shown that fertility was largely uniform in Madrid at that time, with only modest differences between the city natives and the migrants grouped by regions of origin. We consequently believe that our figures in this communication cannot be significantly biased.

The tedious work of locating and coding each municipality of birth of the parents is almost complete. INE, the Spanish Statistical Institute, provided a database with the population of each municipality at each census as well as the spatial coordinates X and Y. Using those data, the number of migrants from each place will be weighted by its population and the distance to Madrid calculated using the Pythagorean formula. At a later stage we will add the travel time to Madrid, but it could be too late for EPC 2024. For the location in Madrid, we are now able to cover all the city territory.

### **Preliminary outcomes and maps**

In the following map we show the migration pattern of the city of Madrid by province of birth of parents for the periods before (1913-1916), during (1917-1921) and after the economic depression (1922-1926). On the one hand, the Capital's attractive power over the surrounding provinces appears evident. On the other, it is apparent how the distant provinces, especially those in the Northeast, were less so as they were more attracted to Spain's other pole of attraction, the city of Barcelona. At this point in the analyses, the evolution of migrants' origins does not appear particularly different across time, but as stated previously a more precise approach is needed to move from a description of the areas of origin to a study of the migratory fields. Moreover, the analysis of the distribution within the city as well as multivariate analysis could highlight strong patterns of settlement in Madrid. Particular attention will be paid to those areas of the city that were considered poor and have served as a refuge for the lower classes during the modernization process of the capital

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<sup>1</sup> For our analysis, we exclude about 16,000 births that did not occur at home

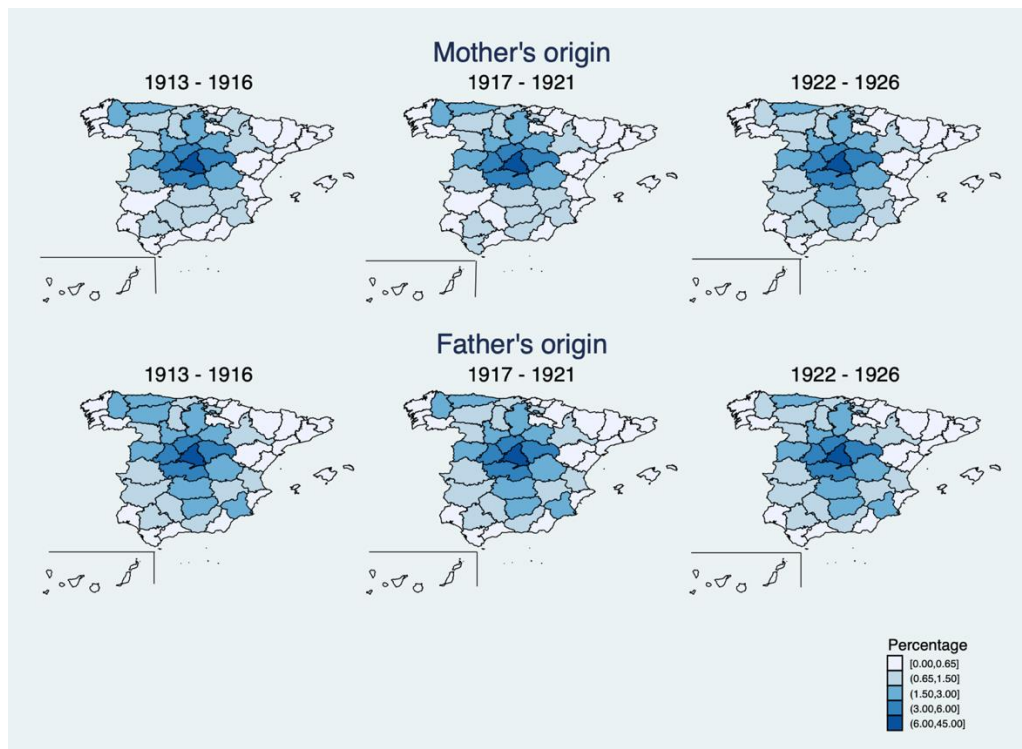


Figure 1: Origin of parents for the periods before (1913-1916), during (1917-1921) and after the economic depression

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