



Social housing and location choices of immigrants in France

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Abstract

Purpose – The purpose of this study is to examine the empirical links between social housing policy and location choices of immigrants in France.

Design/methodology/approach – The study characterizes the main individual and contextual determinants of the probability of immigrants to live in a HLM (*habitations à loyer modéré*), which is the main public housing policy in France. The authors use individual information coming from large (one-fourth) extracts of the French population censuses conducted by INSEE (Paris) in 1982, 1990, and 1999.

Findings – In general, migrants live more frequently in social housing than French natives, other observables being equal. In particular, this frequency is higher for migrants from Turkey, Morocco, Southeast Asia, Algeria, Tunisia and Sub-Saharan Africa (in decreasing order). Moreover, migrants of all origins live less often in a HLM when the city has plenty of social housing and when the fraction of natives is high.

Research limitations/implications – The dataset can only measure statistical association between location choices of immigrants and the supply of social housing units at the local level, in the absence of panel data and instrumental variables. Interpretation in terms of causality is thus not permitted.

Originality/value – The dataset used is especially valuable for studying location choices of immigrants, since it allows significant samples of immigrants, according to their country of origin, these groups being generally too small in (French) surveys.

Keywords Social housing, Immigration, Social magnets, France

Paper type Research paper

1. Introduction

There is now a substantial economic literature on the location choices of immigrants in the USA. For instance, in a pioneering study, Bartel (1989) showed that post-1964 US immigrants were more geographically concentrated than natives of the same age and ethnicity, and resided in cities with a large ethnic population. In a much-quoted paper, Borjas (1999) found that, in the USA, immigrants receiving welfare were more heavily clustered in high-benefit states than those who do not receive welfare, or than natives. This finding was then disputed by Kaushal (2005) who finds that safety-net programs have little effect on the location choices of newly arrived low-skilled unmarried immigrant women. However, to the best of our knowledge, no econometric study has



focussed on the access of immigrants to social housing, a type of programs widely accessible in Europe[1].

Our study examines the empirical links between social housing policy and location choices of immigrants in France. In France, the main public housing policy instrument is the HLM (*habitations à loyer modéré*) program. Any family is eligible for residing in a HLM dwelling provided that the head of the family is allowed to live in France and that income per unit of consumption lies below a threshold, which depends on the region of residence and is updated each year. Eligible families may apply for a HLM in any city (*commune*) where such public programs exist, regardless of their current place of residence or nationality. Today, more than 12 millions of persons live in a HLM.

Despite intense migration waves during the launching of the first program of HLM construction, the massive presence of immigrants in such dwellings is a rather recent phenomenon (Barou, 2002, 2006). Up to the 1960s, immigrants lived overwhelmingly in shanty towns, in hovels, or in privately owned cheap hotels. In year 1971, the government decided to demolish such low-quality housing and immigrants were gradually relocated, mostly to HLM. From the 1990s, immigrants, and also more generally low-income native families, began to live more and more frequently in HLM dwellings (Barou, 2005). At the same moment, residential mobility out of HLM drastically decreased.

In this paper, we characterize the main individual and contextual determinants of the probability to live in a HLM for immigrants residing in France. We use individual information coming from large extracts of the French population censuses conducted by INSEE (*Institut National de la Statistique et des Etudes Economiques*, Paris) in 1982, 1990, and 1999. The census is especially relevant for our study since it allows us to deal with significant samples of immigrants, according to their origin country, these groups being generally too small in French surveys. It contains relevant information about the observable individual characteristics of immigrants (country of birth, age, marital situation, occupation, human capital, etc.). We add to this information some contextual variables that are extracted from the exhaustive censuses. For instance, we precisely know the size of the migrant's community and the number of foreigners in his/her city (*commune*) of residence, as well as the number of persons living in HLM housing within the city at each census date. Our first objective is thus to estimate the effects of these individual and contextual covariates on the probability to live at a given date (namely, at the date of the census) in a HLM for natives and for the different groups of immigrants (according to their country of origin, the size of their family, their education, their age, etc.), and the evolution of this probability through time. The identification of the model is permitted by the fact that the proportion of persons living in HLMs varies across cities (*communes*) and over time.

2. Data

France does not officially recognize an ethnic status within its population, so ethnicity must be inferred by foreign-birth status. Consequently, the migrants consist of those living in France who did not have French nationality at birth (but might have obtained it after). Migrants in France can be identified through different data sources. The main source is the general population census, which was last carried out for the whole population in 1999. To limit the difficulties associated with the analysis of very large samples (since, by definition, population censuses are exhaustive), we have limited our statistical analysis to one-fourth random subsamples of three censuses, namely those conducted in years 1982, 1990, and 1999.

These subsamples provide precise information on individual socioeconomic characteristics, such as age, sex, education, matrimonial status, occupational category, employment status, country of birth, and current nationality (i.e. at the date of the survey)[2]. They also contain information on the type of housing in which the survey respondents live, and in particular whether they live in a social housing unit at the census date. Moreover, using data from the exhaustive censuses, we also measure local contextual covariates, such as the total number of inhabitants in the city (*commune*), the proportion of inhabitants living in social housing units, and the proportion of migrants from the various origins.

Table I reports the proportion of persons residing in France at each census date (1982, 1990, 1999), according to their country (or region) of origin. These proportions are computed for people living in France and older than 18. The population living in France is composed of approximately 90 percent of natives (defined as persons born French on the French territory). This proportion is stable over the period 1982-1999.

	1982	1990	1999
French natives	0.9027	0.9001	0.8947
Immigrants	0.0894	0.0881	0.0884
Migrants having gained French nationality	0.0284	0.0292	0.0324
Immigrants from Spain	0.0127	0.0111	0.0090
Migrants from Spain having gained French nationality	0.0064	0.0068	0.0059
Immigrants from Portugal	0.0137	0.0144	0.0144
Migrants from Portugal having gained French nationality	0.0015	0.0032	0.0047
Immigrants from Italy	0.0167	0.0147	0.0119
Migrants from Italy having gained French nationality	0.0099	0.0097	0.0080
Immigrants from Algeria	0.0127	0.0120	0.0126
Migrants from Algeria having gained French nationality	0.0016	0.0022	0.0040
Immigrants from Morocco	0.0071	0.0088	0.0117
Migrants from Morocco having gained French nationality	0.0007	0.0013	0.0039
Immigrants from Tunisia	0.0040	0.0040	0.0043
Migrants from Tunisia having gained French nationality	0.0011	0.0012	0.0019
Immigrants from Turkey	0.0018	0.0028	0.0037
Migrants from Turkey having gained French nationality	0.0003	0.0003	0.0008
Immigrants from Western Europe	0.0081	0.0083	0.0093
Migrants from Western Europe having gained French nationality	0.0042	0.0038	0.0036
Immigrants from Eastern Europe	0.0089	0.0078	0.0075
Migrants from Eastern Europe having gained French nationality	0.0057	0.0055	0.0052
Immigrants from Sub-Saharan Africa	0.0034	0.0052	0.0076
Migrants from Sub-Saharan Africa having gained French nationality	0.0006	0.0012	0.0029
Immigrants from Southeast Asia	0.0023	0.0031	0.0035
Migrants from Southeast Asia having gained French nationality	0.0007	0.0014	0.0025
Immigrants from Northern America	0.0006	0.0007	0.0008
Migrants from Northern America having gained French nationality	0.0001	0.0001	0.0002
Immigrants from Southern America	0.0007	0.0010	0.0014
Migrants from Southern America having gained French nationality	0.0002	0.0003	0.0007
Immigrants from other countries	0.0039	0.0061	0.0080
Migrants from other countries having gained French nationality	0.0010	0.0014	0.0026

Table I.
Proportions of immigrants
in France, by country of
origin and census year

Note: Individuals aged 18 or more
Source: French population censuses, INSEE, Paris, 1982, 1990, and 1999

Foreign-born individuals and those who are born foreigners on the French territory form the remaining 10 percent[3].

For each country (or region) of origin, Table I reports the total proportion of immigrants living in France at the date of the census, but also the proportion of those who were granted French citizenship[4]. Statistics calculated using the one-fourth extracts of the censuses are in line with those using the exhaustive population (Fougère, 2011). Migrants from Southern Europe (Portugal, Spain, and Italy) form the largest group, corresponding to 4 percent of the total population in 1982, and to 3.6 percent in 1999. Migrants from Northern Africa (Algeria, Morocco, and Tunisia) come next, representing 2.5 percent of the French population in 1982, and 2.9 percent in 1999. The proportion of migrants having gained French citizenship is higher within the group of migrants from Southern Europe (51 percent in 1999) than within the group of migrants coming from Northern Africa (34 percent in 1999).

In the subsequent statistical analysis, we will distinguish the country of origin for the immigrants coming from these six countries (Portugal, Spain, Italy, Algeria, Morocco, and Tunisia) since they correspond to the largest migrant groups living in France. With the other (smaller) groups of immigrants, we use aggregations by groups of origin: immigrants from Southeast Asia (Cambodia, Laos, and Vietnam); Sub-Saharan Africans, Eastern Europeans, Western Europeans (excluding Spain, Italy, and Portugal), and Northern and Southern Americans.

3. Who lives in a social housing unit?

In France, social housing can be built and/or managed by either public or private agencies. It includes a wide range of habitations: collective buildings, individual apartments in a block of individually owned flats, private housing estate, etc. Moreover, social housing can be rented (which is the case for the majority of households living in social housing units) or owned. However, census information concerning social housing does not capture this variety of situations. In the 1982 French census, information about social housing measures the nature of the building the household lives in, whereas, in the 1990 and 1999 censuses, the information measures the nature of the individual apartment occupied by the interviewee or of the building where he/she lives in. In order to be able to compare the three censuses, we thus define the dependent variable as being an housing unit within a HLM building. For some censuses, we know whether the social housing unit is rented or owned, but here again, we do not distinguish between these two occupancy statuses for comparability concerns.

Usually, the only pre-requisite to apply to social housing is to have an income below a given threshold (defined by the municipality). However, this does not mean that everyone who is eligible has access to social housing. Indeed, in order to increase social diversity in social housing and to avoid spatial concentration of the most disadvantaged populations, the thresholds are far from being low. Theoretically, 60 to 70 percent of the French population is indeed eligible to living in a social housing unit according to this income threshold. This fraction is clearly above the 20 percent legal target of social housing units within each municipality; the effective fraction of such units being often below this legal target. In a context of increasing real estate's prices and growing housing difficulties for middle- and low-income families, the social housing market has become sharply rationed. In Paris, for example, there are 100,000 applications each year (among which 40,000 are new), but only 8,000 housing units are newly allocated (Dietrich-Ragon, 2010). Applications are ranked according to

emergency criteria, among which severe health conditions and difficult family situations are foremost.

Once obtained, a social housing unit is very seldom vacated, which amplifies the rationing of the market. Eviction is a very complex, long, and costly procedure that is almost never initiated by social housing agencies. This leads to situations of lasting – not to say endless – occupation, and sometimes quasi-inheritance, of social housing units within some privileged (or newly privileged) populations. In 2009, a new law has abolished the right of HLM occupants to stay in their habitation as soon as their income is more than twice the threshold.

Most of French municipalities are of small size. According to census data, the average size of a French municipality is 1,491 inhabitants, the median being only 352 inhabitants. This implies for instance that, in the 1982 census, only one municipality out of four (8,689 out of 36,420) had more than one inhabitant living in a social housing unit. Among these 8,689 municipalities, the proportion of inhabitants living in social housing units is quite heterogeneous, quartiles of the distribution of proportions being equal to 2.9, 6.6, and 13.4 percent. The municipality size and the proportion of social housing units are positively correlated. For instance, in 1982, the median size of municipalities with no social housing units was equal to 256 inhabitants, whereas it was equal to 4,228 for municipalities where the proportion of persons living in social housing units was > 13.4 percent. This was also true in 1999.

Another issue is the variation in the distribution of social housing units across municipalities over the period. Were social-housing-friendly municipalities the same in 1982 and 1999? To answer this question, we rank municipalities according to their proportion of social housing units. We then consider five groups: the first group includes municipalities with no social housing units, the four remaining groups corresponding to the quartiles of the distribution of the proportion of persons living in social housing units (given that this proportion is strictly positive). We then compute the transition matrix across these five categories between 1982 and 1999. While municipalities in the extreme groups (namely, with either many or no social housing units), are mostly the same in 1982 and 1999, there is more variation for intermediate categories. For instance, only 26 percent of municipalities who were in the second quartile in 1982 were still in this quartile in 1999. More precisely, if we restrict the analysis to the 7,624 municipalities with more than 1,000 inhabitants in 1982, the proportion of persons living in social housing units drastically increased over the period: 83 percent of municipalities with no social housing units in 1982 built some in the period; 21 percent even reached the second quartile in 1999. By contrast, for the 22,332 municipalities with < 500 inhabitants in 1982, the change is in the opposite direction: 88 percent of those with no social housing units in 1982 had still no social housing units in 1999.

Finally, how are changes in population correlated with the supply of social housing units? We calculate the average variation in the total and immigrant populations within each municipality between 1982 and 1999, according to the five previously defined categories. Overall, the total population increased in all categories, but less in the first one with no social housing units (63 on average vs 336 in the fourth quartile). The increase in the number of immigrants is even stronger when there were initially more social housing units in the municipality (two on average in municipalities with no social housing units vs 156 in the upper quartile). Restricting the analysis to municipalities with < 500 inhabitants, we find that these results vanish: the increase in the total population and in the number of immigrants is more or less the same in the

five categories. Conversely, for the municipalities with initially more than 1,000 inhabitants, the correlation between the variation in the number of immigrants and the initial proportion of persons living in social housing units is maximal. A high initial presence of social housing is correlated with a larger presence of immigrants and especially immigrants from North Africa[5].

Table II presents the proportions of people living in a social housing unit, according to their country (or region) of origin and their French citizenship status. Immigrants from Algeria, Morocco, Turkey, Tunisia, Sub-Saharan Africa, and Southeast Asia are, by far, the groups that most likely live in a social housing. Whereas almost 16 percent of French natives live in a social housing unit in 1999, this proportion exceeds 50 percent for Algerian, Moroccan, and Turkish immigrants who do not have French citizenship. It is comprised between 40 and 50 percent for Tunisians and Sub-Saharan Africans. Western Europeans (excluding migrants from Spain, Italy, and Portugal) and Northern Americans live very infrequently in social housing. Having gained French citizenship does not seem to increase the probability to live in a social housing, except

	1982	1990	1999
<i>French natives</i>	0.1371	0.1315	0.1414
Migrants having gained French nationality			
Spain	0.1801	0.1577	0.1462
Portugal	0.2080	0.2066	0.1995
Italy	0.1224	0.1156	0.1143
Algeria	0.3753	0.3939	0.4406
Morocco	0.2553	0.3174	0.4835
Tunisia	0.2745	0.2807	0.3990
Turkey	0.1209	0.1908	0.4022
Western Europe	0.1205	0.1026	0.1074
Eastern Europe	0.1340	0.1246	0.1738
Sub-Saharan Africa	0.3025	0.3241	0.4461
Southeast Asia	0.2857	0.2904	0.3168
Northern America	0.1030	0.0784	0.0750
Southern America	0.1392	0.1896	0.2637
Other countries	0.1764	0.1713	0.2112
Migrants without the French nationality			
Spain	0.2031	0.2067	0.2013
Portugal	0.2496	0.2600	0.2306
Italy	0.1502	0.1406	0.1412
Algeria	0.3337	0.4385	0.5006
Morocco	0.3601	0.4601	0.5113
Tunisia	0.2794	0.3506	0.4325
Turkey	0.4129	0.4664	0.5037
Western Europe	0.0737	0.0574	0.0510
Eastern Europe	0.1576	0.1965	0.2407
Sub-Saharan Africa	0.2369	0.2949	0.3983
Southeast Asia	0.4120	0.4439	0.4611
Northern America	0.0470	0.0369	0.0485
Southern America	0.1919	0.2110	0.2545
Other countries	0.1375	0.1381	0.1633

Note: Individuals aged 18 or more

Source: French population censuses, INSEE, Paris, 1982, 1990, and 1999

Table II.
Proportion of people
living in a social
housing unit, by country
of origin and nationality

for migrants coming from Sub-Saharan countries. For instance, the proportions of migrants living in social housing in 1982 were in general lower among those having gained French citizenship than among those who did not have French citizenship. However, these proportions were close in 1999.

Figure 1 presents the local proportions of persons living in social housing units. They are computed by using an optimal bi-dimensional kernel applied to count data at the city (*commune*) level. Social housing is mostly located in the Northern part of France and in the biggest cities. The proportions are almost the same in 1982 and 1999. The few cities in which the proportion increased had little social housing in 1982.

4. The geographical location of immigrants over time

Interestingly, the geographical location of immigrants in France has been quite stable over time, as shown on Figure 2. In its upper panel, this figure reports the proportions of immigrants calculated at the local (city) level in years 1982 and 1999. The middle and lower panels present proportions of immigrants from North Africa (Algeria, Morocco, and Tunisia) and from Southern Europe (Spain, Italy, and Portugal), respectively. These proportions are computed using the same method as in Figure 1. The immigrant population in France is rather concentrated in the Eastern part of the country. Immigrants are concentrated around Paris (in the region called Ile-de-France) and in the Southeast of France. This pattern varies across immigrant groups. While North Africans are geographically distributed like the whole immigrant population, Italians, Portuguese, and Spanish are concentrated in three regions: the Southern-western part of France, the Alps, and the Paris region.

Figure 3 presents odds ratios for the conditional probability to live in a social housing unit, given that the individual is an immigrant, an immigrant from Maghreb, or an immigrant from Southern Europe, respectively, in years 1982 and 1999. Thus $Pr[HLM|Imm]$ denotes the probability for an immigrant residing in a given city (*commune*) to live in a social housing unit, and $Pr[HLM|Nat]$ denotes the corresponding probability for a French native. Then the odds ratio is defined as:

$$OR(Imm) = \frac{Pr[HLM|Imm]}{Pr[HLM|Nat]}$$

The values of this ratio OR indicate to what extent immigrants (or a given subgroup of immigrants) are more or less likely to live in social housing than natives. For instance,

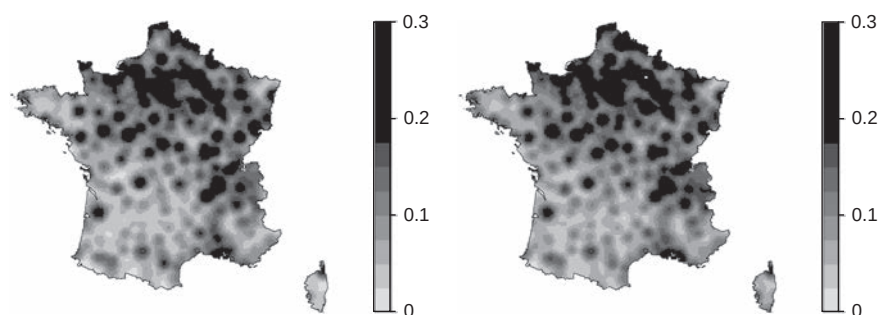
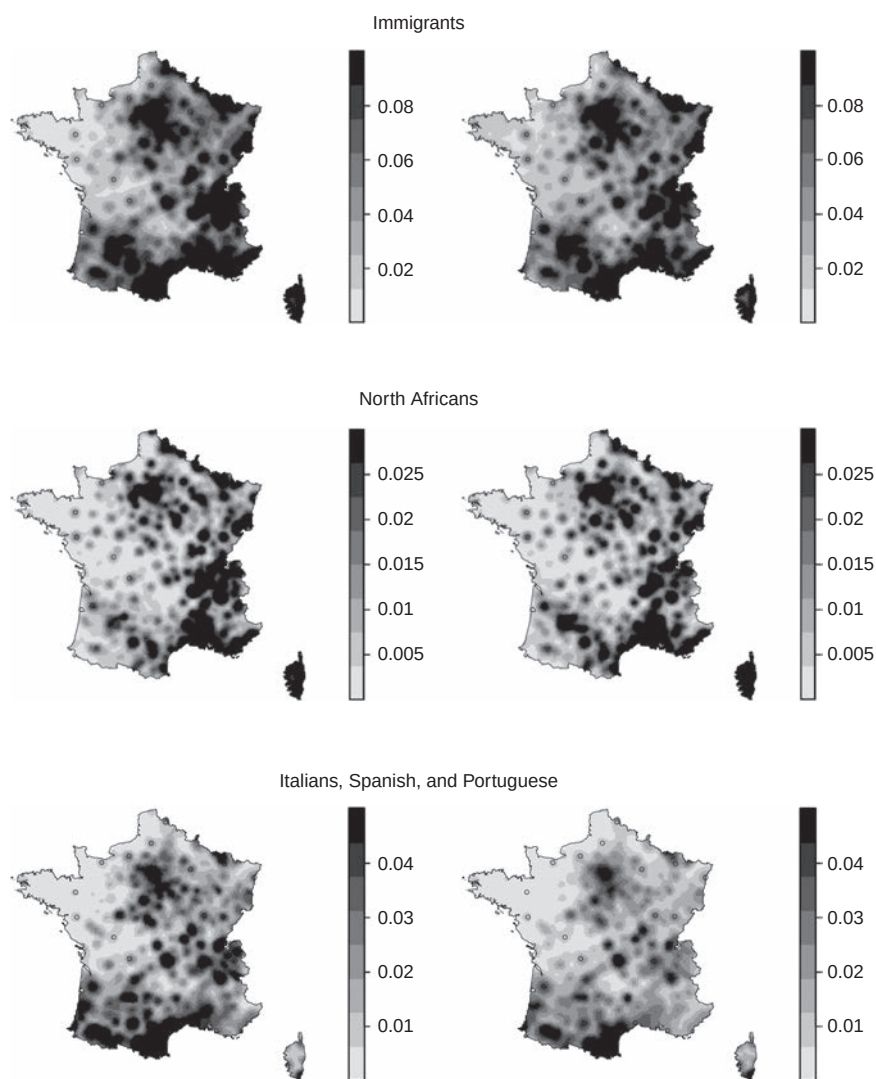


Figure 1.
Local proportions of
individuals living in a
social housing unit, in
1982 (left panel) and
1999 (right panel)

Source: 1982 and 1999 French population censuses (INSEE, Paris), one-fourth extract



Source: 1982 and 1999 French population censuses (INSEE, Paris), one-fourth extract

Figure 2.
Local proportions of
immigrants, immigrants
from North Africa, and
immigrants from Southern
Europe, in 1982
(left column) and 1999
(right column)

if the odds ratio is greater than one, it means that immigrants are more likely than natives to live in a HLM in that city. Figure 3 provides the local values of the odds ratios $OR(Imm)$, $OR(Maghrebian Imm)$, and $OR(SE Imm)$.

Comparing Figures 1-3 provides a first set of facts about inequality in immigrants' access to social housing over French territory. While immigrants are very concentrated around Paris, it is striking to notice that the odds ratio of the probability to live in a HLM for an immigrant is less than one in this region. This probability is surprisingly higher in more rural areas, which do not include the biggest cities and are less densely populated, such as Brittany and the center of France (where immigrants are very rare;

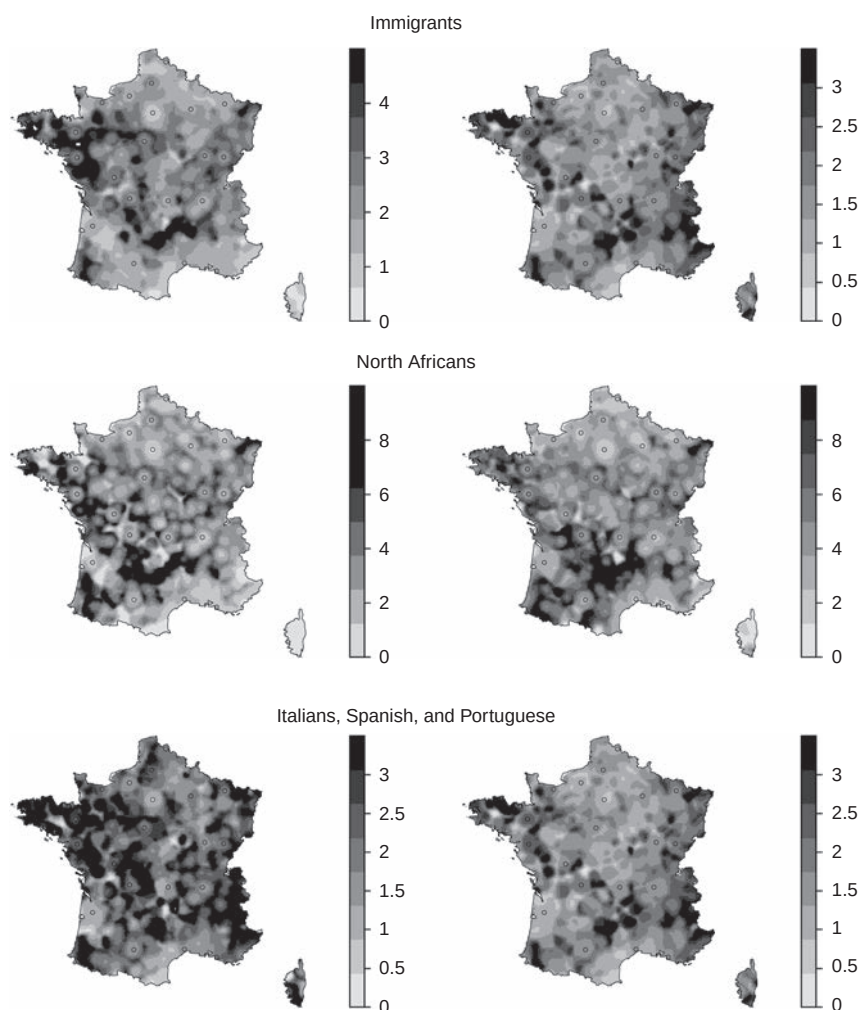


Figure 3. Odds ratios for the probability to live in a social housing unit, conditional on being an immigrant, an immigrant from North Africa, or an immigrant from Southern Europe, in 1982 (left column) and 1999 (right column)

Source: 1982 and 1999 French population censuses (INSEE, Paris), one-fourth extract

see Figure 2). The results do not change much from 1982 to 1999, except for Southern Europeans. In 1982, their probability of living in a social housing dwelling is very high almost everywhere in France. In 1999, however, this probability has decreased in most of the areas, but it remains high in Brittany and the Southeast of France. This suggests that social housing might have worked as a transitional accommodation facility for these populations (as it is also often the case for natives), as set forth by Edou (1998) and Barou (2002). When they became more assimilated into French society, Italians, Spanish, and Portuguese left social housing, most probably for private housing or home ownership. This does not seem to be the case for North Africans; their patterns of residence in social housing buildings are very similar in 1982 and 1999, which suggests that they remain in this type of housing much longer than Southern European migrants. More surprisingly, the areas where their probability to live in a

social housing building is larger are located in regions where their presence is rather low.

Of course, the previous analysis is purely descriptive. The following section is devoted to a regression analysis that helps understanding the extent to which observable personal and city characteristics may explain these descriptive patterns.

5. Regression analysis

Table III reports parameter estimates of a linear probability model in which the explained variable is the proportion of persons living in a social housing unit within a given cell[6]. In fact, most cells comprise only a very limited number of observations. Hence, the data are virtually individual. In particular, the city is identified and its interaction with person-level characteristics allows us to have a very large number of observations per city and per year. Hence, Table III includes city fixed effects. Results reported in this table show that in general, migrants live more frequently in social housing buildings than French natives, other observables being equal. In particular, this probability is higher for migrants from Turkey, Morocco, Southeast Asia, Algeria, Tunisia, and Sub-Saharan Africa (in descending order). It is generally lower for migrants who have gained French citizenship (except for migrants from Sub-Saharan Africa). Women are more likely to live in a social housing dwelling than men. It is also the case for singles and lone mothers. Socio-professional category and educational attainment also have a highly significant effect on this probability. It is higher for blue-collar and white-collar workers, unemployed workers, but also for public firm workers and civil servants. This probability is a decreasing function of age, but it has increased through time, because of the increase in the public housing stock over the period.

	Parameter estimate	SE
<i>Intercept</i>	0.3453	0.0006
Gender (ref.: female)		
Male	−0.0173	0.0001
Marital status (ref.: single)		
Married	−0.0136	0.0002
<i>Nationality and country of origin (ref.: French native)</i>		
Migrants having gained French nationality		
Spain	0.0240	0.0008
Portugal	0.0249	0.0012
Italy	−0.0098	0.0007
Algeria	0.2448	0.0013
Morocco	0.2572	0.0015
Tunisia	0.1963	0.0018
Turkey	0.0803	0.0036
Western Europe	0.0020	0.0011
Eastern Europe	0.0295	0.0009
Sub-Saharan Africa	0.2358	0.0017
Southeast Asia	0.1562	0.0017
Northern America	−0.0249	0.0052
	(continued)	

Table III.
Proportion of people
living in a social
housing unit, by
country of origin
and nationality

	Parameter estimate	SE
Southern America	0.0921	0.0034
Other countries	0.0677	0.0019
Migrants without the French nationality		
Spain	0.0581	0.0010
Portugal	0.0573	0.0006
Italy	0.0127	0.0009
Algeria	0.2459	0.0007
Morocco	0.2624	0.0008
Tunisia	0.1703	0.0013
Turkey	0.2717	0.0020
Western Europe	-0.0494	0.0010
Eastern Europe	0.0539	0.0013
Sub-Saharan Africa	0.1436	0.0011
Southeast Asia	0.2537	0.0018
Northern America	-0.0571	0.0028
Southern America	0.0688	0.0025
Other countries	0.0006	0.0015
Occupation (ref.: blue-collar worker)		
Farmer	-0.1374	0.0008
Craftsman, shopkeeper, corporate manager	-0.0990	0.0007
Executive	-0.0875	0.0004
Intermediate profession	-0.0570	0.0003
White-collar worker	-0.0094	0.0003
Unemployed who never worked before	0.0090	0.0008
Out-of the labor force	-0.0594	0.0002
Employment status (ref.: private-sector worker)		
Self-employed	-0.0275	0.0007
Employer	-0.0346	0.0007
Home help	-0.0562	0.0009
Public-enterprise worker	0.0230	0.0004
Civil servant	0.0274	0.0002
Apprentice	-0.0410	0.0011
Clergy person	-0.0421	0.0021
Unemployed worker	0.0565	0.0003
Diploma (ref.: no diploma)		
Junior high-school drop-out (7th grade)	-0.0150	0.0002
Junior high-school graduate (9th grade)	-0.0398	0.0003
Vocational high-school (11th grade)	-0.0297	0.0002
High-school graduate (12th grade)	-0.0675	0.0003
College graduate	-0.0817	0.0003
University graduate	-0.0907	0.0004
Age	-0.0031	0.0000
Age squared	0.0000	0.0000
Census year (ref.: 1999)		
1990	-0.0211	0.0002
1982	-0.0233	0.0002
R^2	0.0575	
Number of cells	27,312,188	

Notes: Population living in France aged 18 or more. OLS estimates (units: cells)

Source: French Population Censuses, INSEE, Paris, 1982, 1990, and 1999

Table III.

In a further analysis (results are reported in a companion working paper, see Fougère *et al.*, 2011), we have also incorporated second-order interaction terms between the geographical origin of migrants (Northern Africa, Southern Europe, other countries) and some contextual local covariates, such as the logarithm of the city population, the proportion of persons living in public housing dwellings in this city, and the proportions of migrants from Northern Africa, Southern Europe, or other countries (excluding Spain, Italy, Portugal, Algeria, Morocco, and Tunisia) in the same city and third-order interactions between the individual origin of the migrants, the fraction of people living in a HLM in the city, and the fraction of migrants of each origin in the city.

The main second-order effects are the following: all migrants are less likely to live in a HLM than natives in large cities, when the fraction of inhabitants living in a HLM is large in the city, migrants are less likely than natives to live in a HLM unit, and migrants are in general more likely to live in a HLM when the fraction of natives is large in the city. The third-order interactions show that, in cities with many HLMs and many migrants (irrespective of the origin), migrants are less likely to live in a social housing unit. Put differently, migrants of all origins live less often in a HLM when the city has plenty of social housing units and when the fraction of natives is high. Can we talk of discrimination? There is no causal evidence, just some indicative elements.

6. Conclusions

In this study, we have examined the empirical links between social housing policy and location choices of immigrants in France. More specifically, we have tried to characterize the main individual and contextual determinants of the probability for immigrants to live in a HLM, which is the main public housing policy in France. For that purpose, we use individual information coming from large (one-fourth) extracts of the French population censuses conducted by INSEE in 1982, 1990, and 1999.

Our estimates show that, in general, migrants live more frequently in social housing than French natives, other observables being equal. In particular, this probability is higher for migrants from Turkey, Morocco, Southeast Asia, Algeria, Tunisia, and Sub-Saharan Africa (in descending order). It is generally lower for migrants who have gained French citizenship (except for migrants from Sub-Saharan Africa). We find also that migrants are less likely to live in a HLM than natives in large cities, and especially when the fraction of inhabitants living in a HLM is large in the city.

The ongoing economic crisis should create greater difficulties in the access of immigrants to social housing. Several official reports have underlined that, nowadays in France, 3.5 millions of persons are living in poor housing conditions and that 1.5 million of persons are waiting to have access to an HLM unit[7]. This excess demand may correspond to 900,000 units. This explains why housing prices have increased by 150 percent on average between 1995 and 2008, while the average income of households has only increased by 60 percent during the same period. Meanwhile, rents rose twice as fast as inflation. Nowadays, expenses related to housing correspond to 33 percent of the household average disposable income. No doubt that the immigrant population will bear the brunt of this shortage in the next few years. Policy recommendations include a substantial and fast increase in the supply of public housing, but also the introduction of a more equitable procedure of allocation of applicants to HLM units (by using, for instance, anonymous applications).

In a further study, we will concentrate on the movements between public and private housing both for natives and for immigrants. This study, which will use

individual longitudinal data, should improve our understanding of the impact of the French public housing policy on location choices of immigrants.

Notes

1. De Giorgi and Pellizzari (2009) have explored the issue of welfare migration across the countries of the pre-enlargement European Union and find a significant but small effect of the generosity of welfare on migration decisions.
2. According to Fougère and Safi (2009), over the last ten years, 125,000 persons gained French nationality each year on average. In France, foreign-born residents can become French either by decree, namely by decision of the public authorities at the request of a foreigner and whether some conditions are fulfilled, or by declaration, after a marriage with a spouse of French nationality.
3. In France, immigrants' children become French when they turn 18, provided that they were born in France.
4. In our analysis, the term "immigrant" refers to the foreign born population. The acquisition of the French citizenship and its consequences on the employment status of immigrants residing in France has been studied by Fougère and Safi (2009).
5. As pointed out by a referee, this may suggest an internal mobility of immigrants toward regions where immigrants can get easily social housing.
6. The cells are obtained by crossing all the possible values of the covariates considered in the model. The standard errors of the estimates take into account the fact that statistical units are cells, and not individuals, by using the heteroskedastic covariance matrix adapted to clusters.
7. See, for instance, the newspaper *Le Monde* dated Wednesday, May 5, 2010, page 16.

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