Social Housing Magnets: the Impact of Social Housing on Immigrants' Location in France*

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Abstract

This paper investigates whether differences in social housing supply across cities influenced the initial location choice of immigrants who arrived in France between 1968 and 1999. Theoretically, social housing can attract immigrants in cities with a large supply of public housing but poor economic opportunities. On the other hand, its magnetic effect may decrease the incentives to live in 'ghettos'.

To identify a magnetic effect of social housing, the paper uses the massive increase of the supply of social housing units in France during the period which was unrelated with the distribution of immigrants across cities. The paper finds a large magnetic effect of differences in social housing supply on non-European immigrants both in estimates which control for location fixed effects over time and in models that allows the coefficients to vary across decades. The effect is stronger for immigrants with children, from Maghreb and Refugees and to a lesser extend from Africa and Asia. Moreover, these immigrants are much less responsive to differences in economic opportunities across cities than other immigrants. Results also indicate a decrease over time in the attraction of large cities and traditional immigrant cities while the magnetic effect of social housing increased.

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"*It is a scandal! We are living like rabbits. It is too small here: we are twelve and are living in only four rooms. I have applied for a 6 room apartment at 'la Bricarde'. It is far from the city center but we have a car. The problem is that my wife would lose her job at the doctor's.[...] It is not fair that we have to wait so much for social housing to become available.*"

an Algerian immigrant in Marseille in 1977, reported by Schor (1996, p.301).
La Bricarde is a housing project in Marseille. Translation by the author.

1 Introduction

France is characterized by an extremely large share of the population living in social rented housing.[1] In 1999, 16% of natives and 31% of immigrants lived in social housing units often located in suburban places that French call '*les banlieues*' and in which the largest housing projects can be found.[2] For some groups of immigrants, the percentage living in social housing is much higher: in 1999, about 50% of immigrants from Algeria and Morocco lived in social rented housing. Nowadays, unemployment in some housing projects is large and the social tensions are often extreme: cars are burned daily[3], schools and public facilities are vandalized. In November 2005, images of the civil unrest in several large housing projects were widely broadcasted around the world.

Housing projects are found in all cities but their supply varies widely across localities: the percentage of housing units in the social rented sector can change from 7% in Nice to 44% in Reims for example and is about 20% in 1999 on average.[4] During the time period I consider, the number of social housing units increased from 1.4 millions in 1968 to 3.4 millions in 1999. Most housing units were constructed between 1958 and 1978 after a huge construction plan was launched by the government. This period of construction was particularly intense: I estimate that the total social housing stock was multiplied by two between 1968 and 1982 (see also table 2 below). One interesting characteristic of the construction plan is that constructions

[1] In this paper, I call social rented housing or simply social housing what the French call the 'HLM' (*Habitation à Loyer Moderé*) which are a form of subsidized housing in France. In France, most social housing units are rented. This term therefore designates the equivalent of public housing in the US and council housing in the UK.

[2] For example, in Toulouse, about 30 000 inhabitants, which make up 10% of the population of the municipality, are living in the same housing projects in a *banlieue* called *le Mirail*.

[3] Nearly 43 000 cars were torched in France over the whole of 2007. See *France's New Year's Tradition: Car-Burning* (2009).

[4] Because of these disparities across cities, a recent law voted in 1999 makes it an obligation for every municipalities to have at least 20% of social housing. Municipalities with less than 20% of social rented housing among total dwellings have to pay penalties. The actual policy of the French government is therefore to provide incentives to some municipalities to *increase* the supply of social housing to reduce its dispersion across cities.

were approximately random across cities over the period, or at least unrelated or negatively related to the share of immigrants across cities or other observable city characteristics. Therefore, these exogenous changes in the supply of social housing within cities and across cities can be exploited to identify the effect of social housing on the incentives to locate in the city.

In this paper, I investigate whether the location choices of immigrants when they arrived in France was influenced by the differences in social housing supply across cities. Theoretically, I show that the large potential benefits that social housing provide may have a magnetic effect on the location choice of immigrants. Social housing rents are 40% lower on average than in the private sector and are even lower when the individual lives on welfare or is unemployed. If housing costs are positively related to wages, low productivity immigrants may be clustered in low productivity cities in which social housing is available but economic opportunities are scarce. Moreover, declining cities could be even more attractive to social housing applicants since native outflows may increase the probability of obtaining a flat in social housing. An easier access to social housing in some cities may therefore compensate the lack of economic opportunities, particularly for immigrants with a large family who are more likely to have specific housing needs.

However, even if it is out of the scope of this paper to evaluate extensively the welfare implications of the French social housing programs, the final impact of social housing may not be so negative. Social housing may also attract immigrants in cities with a lower concentration of similar immigrants. In these cities, they are more likely to live in housing projects with relatively mixed neighborhoods since immigrants concentration is lower in cities with the largest social housing stock. Moreover, social housing authorities try to avoid the formation of clusters of immigrants from the same origins in across housing projects and when possible, they disseminate immigrants with similar origins across projects. Therefore, without social housing, it is likely that much more immigrants would be otherwise clustered in 'ghettos' of similar immigrants that are common in North America (see Cutler, Glaeser and Vigdor, 2008) and were frequent in France during the 60s (see Schor, 1996). Recent literature has suggested that ghettos have on average a negative effect on individual outcomes (see Cutler and Glaeser, 1997) and more particularly that ghettos of immigrants potentially reduce assimilation (see Lazear,

1999).[5] Therefore, even if social housing attract immigrants in cities with poor economic opportunities, these negative effect may have been counterbalanced by a decrease in immigrants segregation and thus a higher level of immigrants assimilation.[6]

To identify the effect of social rented housing on immigrants' location decision, I use a large period of time from 1968 trough 1999. I first show that construction decisions were unrelated, or negatively related, to the distribution of immigrants across cities or other observable characteristics of the city. Several historical evidences are consistent with these results. Construction decisions depended mostly of a local political bargaining between national and local authorities and therefore the size and the timing of constructions can therefore be considered as essentially random across cities. As a result, I exploit these variations in the share of social housing within cities and across cities over the period to study whether there exist a magnetic effect of social housing on immigrants location choice.

I estimate both models that allow the coefficient to vary across the decades and models which control for time invariant city characteristics (see Jaeger, 2008). Whereas the first method captures any changes over time in the determinants of the location choice, the second method identifies the magnetic effect of social housing by exploiting the variations of social housing within cities over the period.

The empirical results strongly confirm the hypothesis of a magnetic effect of social housing on immigrants from Maghreb and refugees. Results are broadly similar in estimates which control for location fixed effects and in estimates which let the coefficients vary freely across years. The effect is the largest for immigrants with children from Maghreb and refugees and is relatively robust across alternative specifications and regressions which control for housing costs. Differences in labor market conditions (measured by unemployment rates) have much less or no effect on married immigrants with children. The estimates controlling for city fixed effects indicate that, for a non-European immigrant with children, an increase of one standard deviation of the social housing supply in the city increases on average the probability of choos-

[5] As in Cutler and Glaeser (1997), I use the term 'ghetto' in a nonpejorative way to refer to a segregated community.

[6] However, in several housing projects, there is a large concentration of immigrants from all origins with relatively few natives. It may therefore be argued that social housing has created 'multiethnic' ghettos of immigrants. See Maurin (2004) for a discussion of the recent trends of urban and social segregation in France.

ing a city with 'average' characteristics by between 20%-30%. I find no effect of differences of social housing supply on immigrants from Europe and on immigrants without children who are not particularly overrepresented in social housing with respect to natives.

Like past research, I find that the concentration of similar immigrants is one of the most important determinant of the location choice. I find that the share of immigrants from the same country of origin influences strongly the location choice, particularly for unskilled immigrants, whereas the absolute number of immigrants has no effect. The effect is approximately identical across groups of immigrants and relatively stable over time. Whereas the magnetic effect of social housing increases over time, the results also indicate a simultaneous decrease in the the probability to choose large cities or traditional immigrant cities.

To derive how the initial location pattern persists over time, I study how the location in 1999 differs across cohorts of immigrants which arrived during a different decade. If the initial location persists over time, the location in 1999 should reflect the changes in the determinants of the location across cohorts. The results confirm that hypothesis. In 1999, recent cohorts of immigrants are living in cities with relatively fewer immigrants and more social housing units than earlier cohorts. I find no effect of differences in social housing supply on immigrants from Maghreb who arrived before 1960 whereas I find a strong positive effect on immigrants who arrived later.

The literature investigating the location choice of immigrants includes Bartel (1989), Jaeger (2008) and (2001) and Bauer, Epstein and Gang (2005) for the US, Pischke and Velling (1997) for Germany and Desplanques and Tabard (1991) for France. All these papers report a significant effect of the size of similar immigrant communities in cities but the results concerning the effect of differences in economic opportunities are mixed. Recent studies on location choice have investigated the 'welfare magnet' hypothesis, namely whether differences in welfare availability across states in the US influence the location choice of immigrants. The available evidence is, once again, mixed: for the US see e.g. Borjas (1999) which finds a positive effect whereas Kaushal (2005) reports no impact. See also De Giorgi and Pellizzari (2006) which studies the impact of differences in welfare benefits across European states on immigrants location choice and reports a positive effect. Bertrand, Luttmer and Mullainathan (2000) examine

the role of social networks in welfare participation.

Relatively few research has been done on the impact of housing policies on immigrants. Recent research by Saiz (2003, 2007) investigate the impact of immigration on housing markets but to my knowledge, my paper is the first to explore the interactions between housing policies and immigrants' location choice. Recent literature on social housing focus on neighborhood effects in North America and includes Currie and Yelowitz (2000), Oreopoulos (2003) and Jacob (2004). Papers on the segregation of immigrants and on ghettos include Cutler, Glaeser and Vigdor (1999, 2008) and Cutler and Glaeser (1997).

The next section of the paper presents a simple theoretical model of location choice. The third section describes the data. Section IV develops the empirical model. The fifth section provides the basic facts of social housing in France. Section VI presents the empirical results. Section VII studies the differences in the location in 1999 across successive cohorts of immigrants. The last section concludes.

2 Theory

The model developed in this section builds on Borjas (1999) and Glaeser and Gyourko (2005). The basic idea of the model is simple: suppose there exist differences in welfare benefits across locations and that there exist fixed costs of mobility. Natives may find little benefits of moving to localities which offer the highest benefits since the differences in welfare benefits across regions may not compensate the fixed costs of moving. Immigrants, in contrast, have already paid the fixed costs of migration. Therefore, they can directly choose to live in localities which offer the highest level of welfare benefits.

Since France is a centralized state, there is no variation in the financial aid that an immigrant can receive across the country. On the other hand, as detailed below, French cities are characterized by large differences in the share of social housing units among total housing. Social housing offers considerable benefits since rents are much lower than in the private sector: existing estimates suggest that that rents were on average 40% lower than in the private sector during the 1990s (Le Blanc, Laferrère and Pigois, 1999) and about 30% lower during the 1970s (Durif

and Marchand, 1975). Moreover, social housing apartment often have four, five or more rooms available as they were constructed primarily for family housing and apartments of this size are relatively scarce in the private rented sector in France. Eligibility depends on the income per unit of consumption which must be below a threshold which varies across regions. Eligible families can apply in any city, regardless of their current location or nationality. Therefore, the attraction of social housing, particularly on immigrants, is large: Boeldieu and Thave (2000) reports that, in 1996, about 200 000 immigrant households are on a waiting list for social housing. Waiting times are relatively long and the average waiting time may be higher than two or three years. Individuals with children or more generally a large family are given priority and in practice individuals who are single without children have no access to social housing.

To develop these ideas formally, I present a simple and stylized framework. Suppose there are two locations denoted 1 and 2. Assume that the number of new immigrants is small with respect to the rest of the population so that immigration does not change wages and housing costs.[7] Differences in economic opportunities between the two cities are summarized by the relation between log earnings and skills:

$$w_{ij} = \mu_j + \eta_j v_i$$

where w_{ij} gives the workers i log earnings in location j ; the random variable v measures the deviations from the mean log earnings and has finite variance; η_j gives the rate of return to skills in the city and μ_j can be interpreted as the average log earnings in the city. Without loss of generality, cities are ranked such that city 1 provides higher returns to skills: $\eta_1 > \eta_2$. Total utility in location j is assumed to be a function of earnings, amenities A_{ij} and housing costs C_j which differ across cities:

$$U_{ij} = w_{ij} + A_{ij} - C_j \tag{1}$$

If we neglect the effect of amenities, the allocation of migrants will depends on a simple relation between wages and housing costs across cities. There exist a cutoff level of productivity $\bar{v}$

[7]Immigrants flows in the last 30 years were much lower in France than in the US (see table 1 below) so the assumption that new immigrants do not change wages and rents may be correct in the short run. The hypothesis that immigrants flows may help to equalize economic opportunities across cities or regions is studied in Borjas (2001).

which determines in which city an immigrant will live such that

$$\bar{v} = \frac{(C_1 - C_2) - (\mu_1 - \mu_2)}{\eta_1 - \eta_2} \tag{2}$$

This threshold $\bar{v}$ depends on differences in housing costs and differences in returns to skills across cities. Immigrants with skills below $\bar{v}$ choose city 2 and those with skills exceeding $\bar{v}$ city 1. Figure 1 provides a simple illustration of the sorting of immigrants across cities.

The previous model can be simply extended to derive the effect of a national welfare policy offering a similar financial assistance across cities. Let's now suppose that the government guarantees a minimum level of income $\tilde{w}$ exogenously determined. Assume that skills are such that $v_i > 0$ for all i and that the relation between minimum income and the wage structure is $\mu_1 > \tilde{w} > \mu_2$ which implies that only individuals in city 2 may live on welfare. The cutoff level of skills such that an immigrant receives welfare in city 2, denoted $\tilde{v}$, is therefore equal to $\tilde{v} = \frac{\tilde{w}-\mu_2}{\eta_2}$. If $\tilde{v} > \bar{v}$, the introduction of a welfare benefits increases the number of immigrants choosing to live in the city with low productivity to $\hat{v} = \frac{\tilde{w}-\mu_1+(C_1-C_2)}{\eta_1}$. Therefore, by guaranteeing a minimum income in city 2, welfare benefits increase even further the clustering of low skilled immigrants in city 2 and in that case, all immigrants choosing city 2 will be on welfare. In this case, one unintended consequence of a welfare program which guarantees unconditionally a minimum income across cities will be to increase even further the clustering of low-productivity immigrants in the low-wage city. Figure 1 illustrates how immigrants sort themselves across cities in that case.

During the period of time I study, national welfare policies implemented in the 1980s increased dramatically the financial aid that an immigrant can unconditionally receive if he is allowed to live in France. The previous model therefore predicts that immigrants who arrived after 1980 will be less sensitive to differences in economic conditions across cities. By reducing the cost of choosing in declining cities and therefore decreasing the relative benefits of locating in booming cities, such policies increase even further the clustering of immigrants in declining cities.

Finally, we endogenize the relation between wages, housing costs and social housing supply.

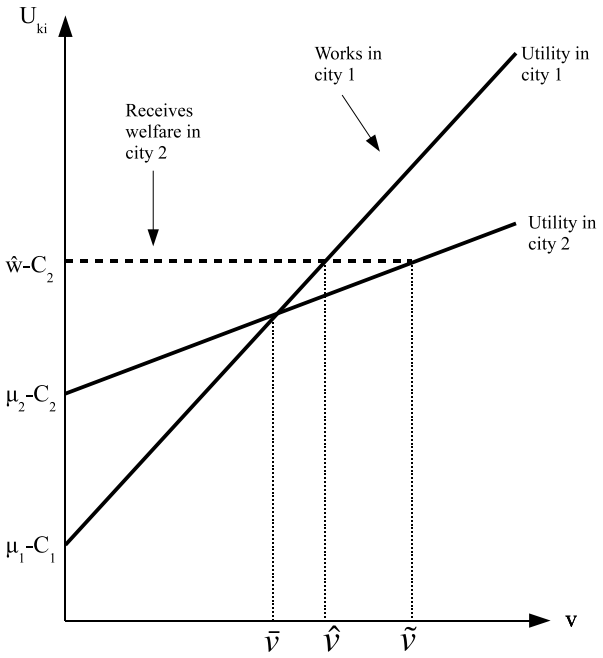

Figure 1: Sorting of immigrants across cities

Suppose all immigrants are eligible and apply to social housing. To capture the uncertainty of social housing attribution, we assume that the probability of obtaining housing in social housing in city j is p_j. Denote by R_j the rents in the private sector, the expected housing cost of an immigrant in city j is thus equal to:

$$C_j = (1 - p_j)R_j + p_j S$$

where S denotes the rents in social housing which are similar across cities and that we normalize to zero. In order to close the model, I follow Glaeser and Gyourko (2005), Rosen (1979) and Roback (1982) and assume that some individuals are mobile enough to eliminate utility differences across space in the long run. I assume only individuals living in private housing are mobile and that differences in social housing stock across cities have no effect on the mobility decision of the mobile individuals.[8] This implies that a no arbitrage relationship between

[8]Empirically, individuals in social housing are much less mobile than individuals in private housing (Boeldieu and Thave, 2000).

average wages and rents across the two cities must hold:

$$\mu_1 - R_1 = \mu_2 - R_2. \tag{3}$$

Given this assumption, the expression in 2 can be simplified to obtain a simple relation between the allocation of immigrants, wages levels and the probability of obtaining an apartment in social housing:

$$\bar{v} = \frac{p_2 R_2 - p_1 R_1}{\eta_1 - \eta_2} \tag{4}$$

The share of immigrants in city 2 depends therefore positively on the differences in probability of obtaining an apartment in social housing across cities. An increase of this probability increases the number of immigrants choosing the city. The product between this probability and rents indicates the expected benefits of choosing the city which increases with the rents: from (3), one can see that higher rents in one city are compensated by higher wages and therefore the relative benefits of living in social housing directly proportional to the rent level.

To examine the consequences of urban decline to the allocation of immigrants across cities, I assume that an exogenous shock decreases wages in city 2 such that μ_2 decline to μ_2^*. For the arbitrage condition given by (3) to hold, rents must decline to R_2^*. To capture the relation between population and housing costs in a simple way, I assume that rents depend on the ratio between the number of inhabitants N_j in the city and the total housing stock in the city H_j such that $R_j = \left(\frac{N_j}{H_j}\right)^{\eta}$ where η gives the elasticity of rents with respect to the inhabitants to housing ratio and is assumed positive. Assuming the housing stock is fixed in the short run, then the population must declines until (3) holds. To simplify, we assume that natives moving from city 1 do not affect wages and rents in city 2.[9] Therefore, the no arbitrage condition implies that the population and rents in city 2 decrease to $N_2^* = k^* N_2$ and $R_2^* = k^{\eta} R_2$ where $k^* = \left(\frac{\mu_2^* - (\mu_1 - R_1)}{R_2}\right)^{\frac{1}{\eta}}$ and $k^* < 1$. Similarly, to capture the relative scarcity of social housing across cities, I assume that the probability of obtaining a flat in the social rented sector is proportional to the number of social housing units per inhabitants that is $p_j = \left(\frac{SH_j}{N_j}\right)^{\gamma}$ where SH_j is the number of social housing units in the city and is fixed over time, and γ is the elasticity

[9] The extension to the more general case is straightforward and do not affect qualitatively the results.

of the probability with respect to the social housing units to population ratio. Since the social housing stock is also fixed over time, the population decline produced by the economic shock will increase the probability of obtaining a flat in social housing from p_2 to $p_2^* = k^{-\gamma} p_2$. Therefore, the city decline has an ambiguous effect on allocation of immigrants across cities given in (4): first, the city decline decreases wages and rents in the city, and therefore the benefits of choosing the city. However, the population outflow which follows increases the probability to live in social housing p_2 which increases the attraction of the city.

City decline will therefore increase the number of immigrants choosing the city if $p_2^* R_2^* > p_2 R_2$, which is equivalent to $k^{\eta-\gamma} > 1$. The effect of city decline therefore depends on the relative elasticity of rents and of the probability of obtaining a flat in social housing: if rents are less elastic than the probability of selection to a change in the population, that is $\eta < \gamma$, the increase in selection probability compensates the decrease in wages and more new immigrants choose city 2.

It can be argued that the previous model ignores several important consequences of social housing. More precisely, by increasing the utility of living in cities with few immigrants, social housing may also have dispersed immigrants across France and across neighborhood by decreasing the relative benefits of living in a segregated community. Social housing may have prevented the formation of 'ghettos' with a high concentration of similar immigrants. Theoretically, the effect of segregation may be ambiguous but existing studies on the US suggest that the total effect may be negative (see e.g. Cutler and Glaeser, 1997). Moreover, existing evidences suggest that segregation has a negative impact on the cultural assimilation of immigrants, more particularly on their language acquisition decision (see Lazear, 1999).

3 Immigration to France and the Census of Population Data

The empirical analysis draws data from the 1968, 1975, 1982, 1990 and 1999 Census of the population.[10] The sampling rate for the individual file is 20% for the 1975 Census and 25% for

[10]The public use 1999 census with geographical variables is available for researchers at a 5% sampling rate. However, in this extract, no variable distinguishes naturalized citizens (which must be counted as immigrants if there are born abroad) from born citizens. Therefore, if is impossible to define immigrants consistently with the 1999 public use Census. In this study, I use a 25% sample of the 1999 Census that I have been able to access while

the 1968, 1982, 1990 and 1999 census. Such high sampling rate enables me to study relatively small sub-population of immigrants separately.[11] Moreover, the attenuation bias from sampling errors which plagued earlier empirical work on immigration (see Aydemir and Borjas 2006) is less likely to be a problem in this study.

An immigrant is defined as a foreign-born who is noncitizen or naturalized French citizen.[12] Unlike US census data, there is no variable indicating the arrival year of foreign born individuals until the 1999 census. However, the census reports the location of each individual at the time of the previous census. I use this variable to identify newly arrived immigrants.[13] In this study, a 'new immigrant' is therefore an immigrant who declared to live abroad at the time of previous census. Table 1 reports estimate of the number of new immigrants over the period. The decline of the annual immigration rates after 1974 is followed by a much larger decline during the 1990s. Such decline partly reflects the policy shift of French immigration policies after 1974 which changed admission conditions during what was perceived as being a momentary period of economic downturn. Theoretically, only migration for family reunification was still allowed but in practice economic immigration never stopped and represented about half of total immigration in 1982.[14] The last rows of table 1 report the changes in composition the national origins of immigrants: the share of European based immigration decreased while African and Asian immigration increased. Over the period, immigrants were increasingly educated.[15]

The geographical unit used to study the location choice of immigrants should approximate the relevant local labor market from which the characteristics determine the location choice. For that purpose, the administrative definition of French local regions and counties (called respectively *régions* and *départements*) appears to be too wide or often composed of heterogenous local labor markets. On the other hand, considering each municipalities as a labor market is

I was visiting the French Statistical Institute (INSEE).

[11]Unlike similar studies for example, I use the share of immigrants in a particular city by country of origins instead of using the region of origin. Unreported estimates using the region of origin find that it reduces the magnitude of the coefficient.

[12]This definition is identical to the one adopted by the French Statistical Institute.

[13]Estimates of immigrants flows from the official statistic institute typically relies on administrative data from the National Immigration Office and are very similar with the one computed with the census in this study. See Tavan, Dugué, Caille and Bèque (2005, p.70) for figures based on these data.

[14]See Tavan et al. (2005, p.72), for a decomposition of immigrants across admissions categories based on administrative data

[15]For consistency, countries are grouped by continents following the classification used by the INSEE in the 1968 and 1975 censuses. In this classification, USSR (and then Russia) is attached to Asia.

too restrictive, especially in France where urban agglomerations typically aggregate dozens of different municipalities.[16] I approximate local labor markets using the 57 urban areas of more than 100 000 inhabitants in 1990 constructed by the INSEE for the 1990 census. By definition, urban areas are aggregation of municipalities between which there is no discontinuities across constructions.[17] Since buildings are constructed and destructed between censuses, new urban units are defined by the INSEE for each census.[18] Since 1945, a permanent municipality code is assigned by the INSEE to each municipalities. Each urban area is therefore matched with other censuses using the national municipality code which assigns a consistent over time permanent number to each municipalities.[19] Therefore, this study avoids the problem of changes in boundaries of metropolitan areas across censuses which plagued longitudinal studies using the US censuses. The list of the 29th urban areas with more than 200 000 inhabitants in 1990 is reported in table 3 with the name of the main municipality.[20]

Information on whether a dwelling is on the social rented sector is available from the censuses of dwellings. [21] To estimate the number of dwellings in the social sector per urban areas across years, I use the exhaustive dwelling file from the 1990 and 1999 Census which includes all dwellings and buildings existing in France in 1990 and 1999. I calculate for each urban area the total number of dwellings in the city in social housing in 1990. Since census prior to 1982 did not collect information on whether a dwelling belong to social housing or not, I estimate retrospectively the number of social housing per urban area using a variable indicating the construction year of each building. The number of dwellings in social housing in 1999 is calculated with the 1999 census of dwellings from the 1999 census. Since most construction plans started in 1958 and there were no destruction of social housing units during that period, it is safe to assume that such method approximates relatively correctly the total number of housing units

[16]For example, the urban area of Paris in 1990 is composed of 398 municipalities whereas the urban area of Toulouse is composed of 58 municipalities. The median number of municipalities for the 77 urban areas of more than 70000 inhabitants in 1990 is 16. The total number of municipalities in France is extremely large: 36 571 at the first of March 2008.

[17]Previous studies used either states (Jaeger, 2008; Kaushal 2005) or metropolitan areas (SMSAs) (Bartel, 1989; Bauer et al. 2005).

[18]I use the term city and urban area interchangeably throughout the paper to refer to the 1990 urban areas.

[19]Small adjustment have been made to correct minor code changes for a very small number of municipalities which have either merged or unmerged over the period. I used the database of national municipalities code available on the INSEE website which contains all changes of codes over time.

[20]Arbitrarily, the main municipality of the urban unit is defined as the most populated municipality of the area.

[21]Informations on social housing were not collected during the 1968 and the 1975 censuses.

and their evolution over time.

Throughout the article, I restrict the sample to men and women aged 16 to 60 and exclude students and individuals in the military.[22]

4 Econometric Model

The theoretical model generates several empirically testable predictions: first, conditional on other cities characteristics, cities with a large share of housing in the social sector are expected to attract immigrants eligible to social housing. Therefore, variations in the social housing's share across cities and within cities over time can be used to identify whether social housing has a magnetic effect on the location decision of immigrants. Second, individuals with a higher probability of being admitted in social housing, mostly families with children, should be more attracted by cities with a large supply of social housing. Third, since the probability of being admitted in social housing may be higher in declining city, individuals eligible to social housing may not respond to differences in economic conditions across cities and may even cluster in declining cities.

I now specify the simple econometric model that I use to study the determinants of the location choice of new immigrants. I use two approaches to estimate the determinants of the location choice of immigrants: I first estimate a separate model of location choice for each cohort of migrants which arrived in France between two censuses from 1966 to 1990. The location of new immigrants at the census date is matched with city characteristics calculated with the same census. The coefficients are allowed to vary across cohorts and can therefore capture any changes in the determinants of the location choice.

To identify the magnetic effect of social housing, I use the number of social housing units per inhabitants denoted $p_j = \frac{SH_j}{N_j}$. Since differences of rents across housing projects are negligible, the estimated parameter will provide a direct test of whether social housing supply has an impact on location choice. Since no information on wages is collected in the census, I the differences in unemployment rate across cities to estimate the effect of differences in economic condition across cities. The probabilistic version of the utility function described by equation

[22]However, the population count used to select urban areas included in the analysis includes all individuals.

(1) is given by:

$$U_{ij} = X_{ij}\beta + \delta_1(p_j \times C_i) + \delta_2\left(p_j \times (1 - C_i)\right) + \gamma_1(L_j \times C_i) + \gamma_2\left(L_j \times (1 - C_i)\right) + \epsilon_{ij} \quad (5)$$

where U_{ij} is the level of utility provided by location j to individual i, L_j is the unemployment rate in city j, C_i is a dummy variable indicating whether the individuals lives in couple with children. The unobserved component of utility ϵ_{ij} captures unobserved factors affecting utility. The resulting estimates of δ_1 and δ_2 provide information on the effect of social housing supply on the utility of respectively immigrants in couple with children and others whereas γ_1 and γ_2 indicate the effect of differences in unemployment rates across cities. Since, housing costs are likely to be higher for immigrants with children, and they are more likely to be eligible to social housing, the theory suggests that, if there exist a magnetic effect of social housing, we should find a greater impact of differences in social housing supply on immigrants with children. Moreover, for many social housing agencies, families with children have priority.

Several variables influencing the location choice may have been omitted from the previous regressions. If this is the case, the social housing supply may be correlated with unobservable or omitted characteristics of the city which will bias the estimated coefficients. The second method controls for time invariant unobserved location characteristics: regressions controlling for city fixed effect will absorb the effect of of unobservable or omitted constant over time city characteristics. I follow Jaeger (2008) and estimate the model by pooling all cohorts together in the sample and by adding a fixed effect for each city. I estimate the regression:

$$U_{ijt} = X_{ijt}\beta + \delta_1(p_{jt} \times C_{it}) + \delta_2\left(p_{jt} \times (1 - C_{it})\right) + \gamma_1(L_{jt} \times C_{it}) + \gamma_2\left(L_{jt} \times (1 - C_{it})\right) + \Gamma_j + \epsilon_{ijt} \quad (6)$$

The fixed effects Γ_j controls for constant over time unobservable characteristics of the city which may influence the location decision of immigrants. Identification in this case relies from within-location variation of the covariates over time. I use the changes in the number of social rented housing between 1968 and 1990 across cities to identify a potential magnetic effect of social housing on immigrant location choice. However, as reported below, immigrants appear to have been discriminated during the 60s to access to the first wave of social housing con-

struction. Therefore, I anticipate that differences in social housing supply may have no effect or a much lower effect on the location decision in 1968 which is confirmed by cross-section regressions. In regressions with fixed effects, I allow the effect of social housing in 1968 to be different than in other years.

A potential problem may be that the changes of social housing supply over time may reflect a political response to immigrants flows. If this is the case, a positive coefficient of the social housing supply may therefore simply reflect a the political response to immigrant flows. Below I provide several historical and empirical evidences on construction decisions across cities which may alleviate this concern. I find no relation between the initial immigrant stock and the changes in social housing supply per decades and other cities characteristics.[23] As emphasized below, since immigrants were already over-represented in social housing in 1990, we may suspect that changes in the number of social housing units per city between 1990 and 1999 may have been related to the number of immigrants in the city. Therefore, I only pool in the sample immigrants who arrived between 1966 and 1990. However, estimates which include observations from the 1999 census give qualitatively similar results.

To estimate (5) and (6), an assumption must be made on the density of the unobserved portion of utility $f(\epsilon_i)$. I follow the current approach used in the literature on immigrants' location choice and assume that ϵ_{ik} is independently, identically distributed extreme value.[24] Denote by Z_{ij} the vector of all predictors included in either (5) and (6), α the vector of parameters, the probability that individual i chooses location j is given by:

$$P_{ij} = Prob(U_{ij} > U_{ik} \forall k \neq k)$$

$$= Prob((Z_{ij} - Z_{ik})\alpha > \epsilon_{ik} - \epsilon_{ij}) \forall j \neq k$$

[23] One exception to the randomness of construction decisions across cities may be the construction decisions across municipalities within the Paris urban area. Municipalities with a communist mayor may have constructed more housing projects than municipalities of rich cities. However, in my empirical implementation, I consider Paris as a single urban area and do not estimate the location choice decision within the Paris agglomeration.

[24] The conditional logit model is used in Jaeger (2008), Bartel (1989), Kaushal (2005), Bauer et al. (2005).

McFadden (1974) has shown that the probability P_{ij} can be solved as a closed form expression:

$$P_{ij} = \frac{e^{Z_{ij}\alpha}}{\sum_k e^{Z_{ik}\alpha}} \tag{7}$$

One characteristic of the conditional logit model is that the relative odds between choosing two alternatives are independent from the availability or attributes of other alternatives, a property which is known as the Independence from Irrelevant Alternatives, or IIA. This hypothesis, common in the literature on immigrant's location choice simplifies considerably the analysis.[25] The choice set is composed of the 57 urban areas with a total population superior to 100 000 inhabitants in 1990. These urban areas are chosen by more than 85% of immigrants in 1968 and 1990 choose over the period.[26] Including additional alternatives would increase disproportionately the choice set by adding relatively rare and therefore relatively undesirable alternatives without adding much individual observations in the sample. I have checked the sensitivity of the estimations to the inclusion or exclusions of several groups of alternatives with several IIA tests (see Hausman and McFadden, 1984). I have estimated the model using a sample including all urban areas with more than 50000 inhabitants (which increases the choice set by 53 alternatives to 110 alternatives) and found that most of the time that the IIA hypothesis is not rejected. Moreover, results are qualitatively unaffected by such increase in the choice set, particularly the results relative to the impact of social housing on the location choice. I have also tested whether the estimates of the parameters were sensitive to the inclusion or exclusion of the Paris urban area in the choice set. Also in this case, the hypothesis is not rejected most of the time and the qualitative results of the regressions are not affected by the exclusion or inclusion of Paris from the sample. Similarly, regression adding for a Paris fixed effects on the estimates are qualitatively similar. All these results do not offer evidence against the use of a conditional logit even it is well known that these tests have a low power.

Variables included in the vector of X_{ij} controls for cities economic characteristics. I include

[25] An alternative would be to estimate a nested logit which partially relax the IIA assumption. Each nest would include for example locations in close distance from each other. This approach requires a computationally more complex estimation procedure and would require more identifying variance than what we can get from the data in a model of location choice since most predictors included in (5) vary only at the city level. Moreover, there is no straightforward way to decide how nests should be defined and results may depends on this choice (McFadden, 1982).

[26] If one excludes European immigrants, the percentage increases to 92% in 1968 and 90% in 1990.

in the regressions the percentage of the population who are university graduates[27], the log of the total population of the urban area which controls for the attraction that large cities may have. The population size is likely to be correlated with job opportunities and general economic dynamism. Similarly, differences in industrial structure across cities may also influence immigrant's choice since their distribution across sectors is different from natives. I compute the percentage of workers employed in manufacturing (as opposed to workers in service industry or in public administration) by using the information of industry's affiliation of employed workers in each urban areas. Other variables introduced aim to capture the effect of the size of the community from the same region/country of birth on the location decision. It has been argued that large communities of similar immigrants may offer a larger network to find jobs and a larger linguistic community. Large communities may also minimize the psychic costs of living in another country. I add two variables to evaluate the effect of the size of the community: for each urban areas, I compute the percentage of individuals in the city who are immigrants from the same country/region of birth and the percentage of the community living in the urban area. New immigrants are excluded from the calculation. The first variable indicates the community size proportional to the city population whereas the second variable indicates the absolute size of the community living in the city.

Because of limitations in the number of nationalities available in the data and concerns about sampling errors, previous studies often aggregated immigrants from the same region of birth to compute concentration indexes. However aggregating immigrants in a similar 'Asian' category is likely to downplay the effect of community size. It is indeed relatively unlikely that the size of the Chinese community for example may have an influence on the location decision of Turkish immigrants.[28] Unlike previous studies, and because of the large sample extracts available over the period, I distinguish between 54 different country of birth which are always reported across censuses. I assign other individuals (less than 5% of new immigrants on average) in 4 region of birth groups (Europe, Asia, Africa and Other). I also include in the regression the total proportion of immigrants from all origins among the city population. This variable con-

[27] See e.g. Glaeser and Saiz, 2004 which shows that educated cities became increasingly attractive over time.

[28] Unreported estimates show that this is indeed the case: the estimated effect of immigrants concentration is much more lower when the indexes of immigrants concentration are defined by region of birth instead of country of birth.

trols for the attraction that cities with many immigrants, in other words 'traditional immigrant cities', may have. Cities with many immigrants may be more attractive because there are more tolerant with immigrants for example.

Several additional unobserved specific country-of-origins characteristics may also determine the location choice, I estimate a separate model of location choice for four different groups of immigrants. I divide the immigrants in 4 countries/region of birth: I perform separate regressions for immigrants from Maghreb (which includes Algeria, Morocco, Tunisia), Africa, Asia and Europe.

Since I study a relatively long period of time, one concern may be the change in the relative share of immigrants from different admission categories over time.[29] France restricted in 1974 its admission policy for economic immigrants while facilitating family reunification migration. Immigrants admitted for family reunification may not possess the same skills than economic immigrants (see Chiswick, 1986) and their location decision may depend on the location of the members of the family already living in France and therefore be unrelated to cities characteristics. There is no information reported in the census on the admission category of new immigrants. However, family reunification immigrants are overwhelmingly female or child. According to the best available figures from Tavan et al. (2005, p.72) based on administrative data, 80% of immigrants admitted for family reunification are female and most of the others are children. To deal with that issue, I restrict the sample to include only male immigrants and exclude individuals reported as a child in a household.

Similarly, since economic factors are not the prime determinants of the migration decision of refugees, they should also be distinguished in the analysis. Theoretically, they may not possess the same unobserved qualities necessary to succeed economically in another country (see Chiswick, 1986) and therefore their location choice might depend on different characteristics than economic migrants. I follow the standard practice of US studies (see e.g. Borjas, 1999) to classify all immigrants who originate in the main refugee-sending countries as refugees. However, refugees who arrived in France during the 1960s and the 1990s came from countries

[29] Jaeger (2008) using administrative data from the US Immigration and Naturalization Service estimates a different model of location choice for each different immigrants categories. Typically, he reports few differences across categories.

from which economic migration was also large (e.g. Spain, Algeria, Portugal for the 1960s and Turkey, Algeria and China for the 1990s).[30] Therefore, I focus on the more easily identifiables waves of refugees who arrived in France between 1974 and 1990. Most refugees during that period came from a small set of countries and arrived during a very specific period of time. I aggregate this category immigrants from Cambodia, Sri-Lanka, Vietnam and Laos who arrived in France between 1975 and 1990.[31] Immigrants from Angola, Zaire, Sri-Lanka and Haiti arrived between 1982 and 1990 are similarly classified as refugees. I perform a separate analysis for each country/region and for refugees.

Table 7 reports the averages of the variables included in the regression. The table indicates an increase in the average percentage of immigrants across cities over the period which is simultaneous with a decrease in the dispersion of immigrants across the cities. The average graduate share was multiplied by 4 whereas the manufacturing share of employment decreased. The average unemployment rate also increased over the period from 2.1% to 15.3% in 1990 while the dispersion across cities also increased.

In each regression, I standardize all predictors of each individual choice set to have an average of zero and a standard deviation of one across the 57 urban areas included in the study. Concentration indexes which varies per country of origins are standardized within country: this is equivalent to assuming that it is the relative dispersion of these variables within groups which determines the choice and not the absolute value of the percentages.[32] For other variables, in cross-section estimates which are city specific and constant across individuals, this normalization only change the scale of the parameters.

In estimates in which I pool several cohorts of immigrants, this normalization implies that the choice depends on the relative dispersion of the variable across cities during the census year and that changes in the absolute value of the variable over time are not relevant. Since the average of several variables included in the analysis changes over time, not normalizing the predictors

[30] See Tavan et al. (2005, p.74) and Spire (1998).

[31] According to Spire (1998), more than 80% of immigrants from these countries were admitted as refugees. In 1997, 2/3 of refugees who arrived in France after 1974 came from Asian countries.

[32] The average percentage of city population for immigrants from Algeria is 1% whereas it is 0.01% for immigrants from Cameroon. Since the size of these two groups is different, normalizing is similar to assuming that a percentage of similar immigrants of 1% has a much larger effect on immigrants from Cameroon than on immigrants from Algeria.

would imply for example that an unemployment rate of 5% has the same effect on the location decision in 1968 where the weighted average unemployment rate across cities is 2.67% than in 1990 where it is 12%.

An additional interest of this normalization is that the coefficients have a simple and straightforward interpretation. Denote P and respectively the predicted probability of the average city if it was added to choice set and P_k the predicted probability of the average city in which the variable k is higher of one standard deviation. In the appendix, I show that the coefficient of a conditional logit in which the predictor have been standardized gives the log difference between these two probabilities, that is:

$$\log P_k - \log P = \gamma_k$$

where $\gamma_k = \beta_k \sigma_{x^k}$ and σ_{x^k} is the standard deviation of the variable k with respect to the initial alternatives included in the choice set.

New immigrants are by definition immigrants who arrived between two censuses. Therefore, they exact arrival date may vary between 1 year up to 8 years (for 1990) before the census date. This diversity can potentially be a problem if immigrants location often change during the first years of presence in France.[33] However, there is no variable indicating the arrival year of migrants in 1982 and in 1990. A variable indicating the arrival year for migrants who arrived in France since the last census is only partially available with the 1968 and the 1974 censuses.[34] To derive whether the length of time in France has an effect on the location choice, I estimated a location choice model separately by grouping new immigrants arrived between 1962 and 1968 and between 1969 and 1974 by three years groups. Most of the time, results were not qualitatively different across different arrival years. Moreover, admissions decisions in social rented housing typically takes time which implies that the magnetic effect of social rented housing on immigrants location decision may not be observed on the initial location but only after some years in France when an admission to social housing possibly in another city

[33] Jaeger (2008) and Kaushal (2005) using an exhaustive administrative dataset of legal immigrants from the US immigration services attempts to deal with this problem by restricting the sample to individuals who arrived the same year using data on the initial location characteristics. On the other hand, they only have information on the address where the green card was sent and it may be possible that the real address of immigrant is different. Bartel (1989), on the other hand, using the 1990/1982 sample of US Census which indicates the arrival year of immigrants but aggregates immigrants per cohorts of five years arrival years because of a small sample size.

[34] Values are missing for about 20% of the sample in 1968 and more than 30% in 1974.

has been granted.

In the estimations presented below, for immigrants matched with census data from 1968, I only include immigrants who arrived in 1966, in 1967 or during the first months of 1968 to eliminate non-French refugees from Algeria who arrived in France after the end of the Colonial war.[35]. For other censuses, the sample includes all new immigrants.

5 Social Housing in France

This section documents the evolution of the social housing supply across cities over time in France.[36] Social housing is managed by 820 different social housing agencies (*'organismes HLM'*). Social housing agencies are independent organizations responsible for one or several housing project in their geographical level, usually a municipality or a department. The board of these organization is typically composed of local politicians from different levels of the French local and national administration. Contrary to several countries where social housing has been privatized, in France all social housing has remained rented until today.

The political context of the public housing program was relatively particular. After the second world war, most dwellings lacked access to the basic comfort (among other things, access to running water in 1957 was still rare). This situation was partially the result of war destructions but also of a policy of rent control for new constructions which was voted in 1948 and has reduced drastically the economic benefits of housing investments. Therefore, during the 1950s, there was a strong political consensus for state intervention in housing market. However, the first plan was delayed by the colonial wars and the lack of political stability of the IVth Republic. In 1958, during a period of rapid economic growth, the government launched the construction at a massive scale of what were called ZUP (*Zones à Urbaniser en Priorité*). The ZUPs were blocks of rented properties composed of thousand flats in newly created suburbs. During the 60s, the plan was considered to be a success. Table 2 indicates that between 1968 and 1975 the total number of social housing in France increased by 60%. However, during the next decade, the first oil chock in 1974 stopped many projects because of a lack of funding

[35]By definition, French repatriates from Algeria are not considered to be immigrants since they are French citizens. See Hunt (1992) on the consequence of immigration on the French labor market of the French repatriates

[36]See Stébé (2007) for a concise presentation of social housing in France.

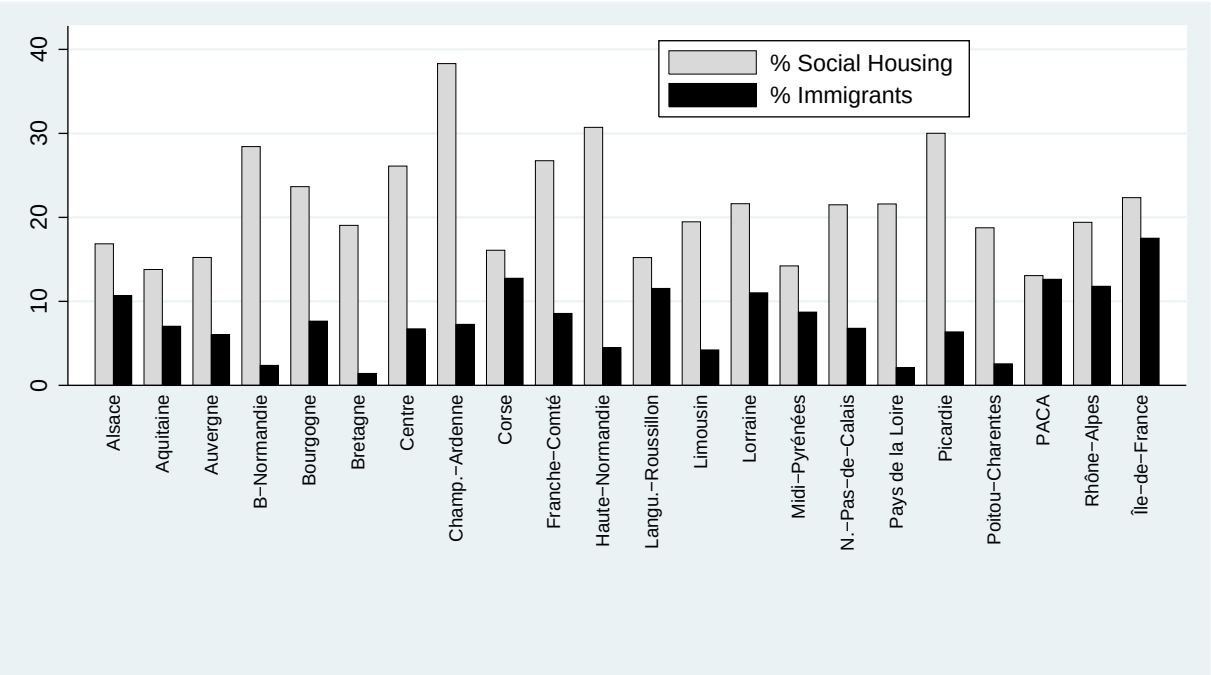

Figure 2: Social Housing Share over Total Housing and Immigrants Share per Region in 1990

associated with increasing complaints on the inhumanity of some massive housing projects. Mass construction plans (*grand ensembles*) were forbidden by the government after 1975 and the construction of social housing, through the form of smaller housing projects, continued at a slower pace as suggested by the figures in table 2.

There is a large dispersion of the number of constructions across regions and cities. Figure 2 reports the immigrant share of the population and the proportion of social housing across regions in 1990. The figure reveals no particular correlations between the two. Regions such as *Champagne-Ardenne* have a very large supply of social housing units and relatively few immigrants. Similarly, table 3 indicates the share of social housing over total housing and the immigrant share across the largest cities in 1990. These figures also reveal large variations across cities of the social housing supply: the share of social housing over total housing goes from 8% in Nice to 31% in Rouen. The figures also suggest no positive correlations between the social housing supply with the immigrant share: the correlation coefficient between the two is -0.29 for the cities in the table, -0.22 for the 57 cities with more than 100 000 inhabitants and -0.11 for all 110 cities with more than 50 000 inhabitants in 1990.

I now present several evidences that the changes in the social housing supply across cities over the period was unrelated with cities' initial immigrant stock or others observable char-

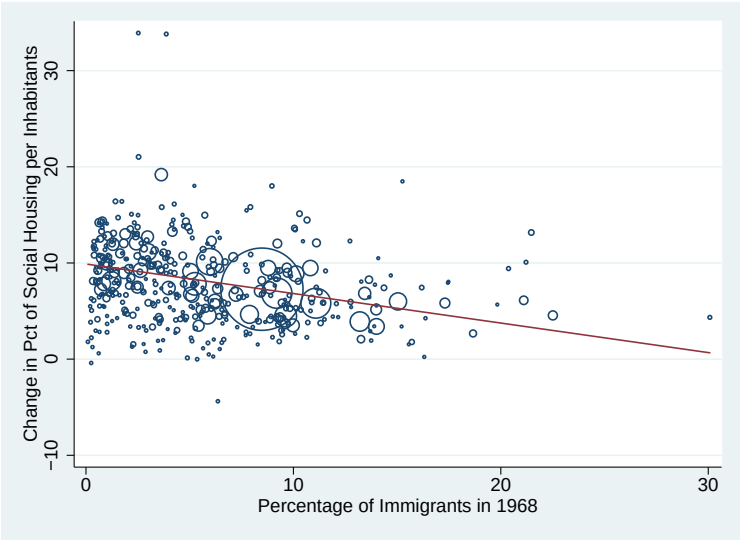

Figure 3: Change in Social Housing Supply 1968-1990 over Immigrant Share in 1968

acteristics of the city economy. Figure 3 represents the percentage changes in the proportion of social housing per inhabitants between 1968 and 1990 across cities over the initial level of immigrants in 1968 for the 433 urban areas with more than 10 000 inhabitants in 1990. Circles' size reflect differences in total population across cities. This figure suggests, if anything, a small negative correlation: regressions of the change in the number of social housing per head on the percentage of immigrants in 1968 including all 433 cities in the sample yield a coefficient (standard error) of -0.307 (0.033) when weighted by population size and -0.201 (0.043) when unweighted. Similar regressions including only the 57 largest urban areas with more than 100 000 inhabitants in 1990 yields a coefficient (standard error) of -0.38 (0.07) when weighted by population size and -0.35 (0.07) when unweighted. The change in the social housing size is also uncorrelated with the presence of Algerian immigrants which had the worst housing conditions during the 1960s (slums around Paris and other major cities were not rare during that period). The estimated coefficients are -0.63 (0.46) when weighted and -0.66 (0.58) when unweighted for the biggest 57 cities. Table 4 reports the results of several OLS regressions of the change in the percentage of social housing on the percentage of immigrants for different decades including additional controls for other city characteristics. The first column in the sample includes all 433 cities with more than 10 000 inhabitants in 1990 whereas other columns restrict the sample to the 57 cities with more than 100 000 inhabitants in 1990. Results reveal, if anything, a negative correlation between the change in social housing per inhabitants and

the share of immigrants in city population in 1968. The other columns confirm the absence of correlation between the decadal changes in the percentage of social housing per inhabitants with the initial percentage of immigrants in the city. Unreported regressions indicate that the results are similar if the percentage of immigrants from Maghreb or immigrants from other countries is used instead of the percentage of total immigrants. Other coefficients also indicate no significant relation between the change in the share of social housing and the unemployment rate or the manufacturing share, except perhaps a negative relation with the percentage of inhabitants who graduated from the university in 1968. The last four columns add the initial supply of social housing across cities to derive how the change in social housing supply was related with the initial stock of social housing and whether the central municipality of the city was governed by a left-wing mayor during the period. This last variable is simply the ratio between the number of years during the period in which the municipality was governed by a left wing mayor over the total number of years of the period.[37] On the whole, the evidence suggests a strongly significant and positive relation between the change in social housing per inhabitants and the initial stock of social housing per inhabitants. This implies that the social housing supply increased on average more rapidly in cities with a high initial stock of social housing which is reflected by the increase in the standard deviation of social housing supply until 1990 in Table 7. The effect of a left-wing municipality is not statistically significant over the period and the estimated coefficient is even slightly negative during the period 1982-1990. Moreover, the estimated effect of having a left wing mayor is economically negligible: the estimated coefficient indicates that having a left-wing mayor during 22 years increase the social housing stock per inhabitants by 1.23% whereas the average increase over the period is 8.3%. This result is not surprising since the construction plans were launched by the center right Gaullist government during the 1960s of and continued throughout the 1970s under the successive center right government of the decade. During that period, change in social housing supply reflected therefore local and regional preferences more than political differences.

Existing historical evidences also confirm the absence of links between the housing needs of immigrants and social housing constructions' decision (see Lequin, (2006)). Until the 70s im-

[37] Municipal elections took place in 1971, 1977, 1983, 1989 and 1995. Mayor without political affiliation (only in 3 cities) are given half the weight of the left.

migrants were discriminated in some regions: Schor (1996, p.214) reports that to be eligible during the 60s, several social housing agencies required immigrants to have been resident for 10 years and to have children. Sometimes access of immigrant was limited by quotas: in some regions no more than 6.5% of social housing were allowed to be occupied by immigrants. Because of the decentralized nature of social housing administration, and their connexions with local politicians and local interests, these discriminations may have varied across cities and regions. However, the discriminations partially disappeared during the 70s and were forbidden after the election of the socialist candidate François Mitterrand for president in 1981. As a result, during the 1960s, the housing conditions of many immigrants were very poor: many of them lived in slums around major French cities.[38] I now briefly document the relationship between social housing and immigrants.[39] Table 5 reports the proportion of immigrants and natives living in social housing in 1982, 1990 and 1999.[40] The percentage differs widely between natives and immigrants and across immigrants from different origins. In 1999, the percentage of immigrants living in social housing is the double of the one of natives. The share of immigrants in social rented housing is particularly large for immigrants from Africa and Asia: the figures indicate that half of the immigrants from Maghreb lives in social housing in 1999. The percentage of immigrants from these regions living in social housing increased by between 10 and 15 percentage points for immigrants from Maghreb between 1982 and 1999. Therefore, in 1999, there is a difference of 34 percentage points in the probability of living in social housing between natives and immigrants from Maghreb.

To estimate how much of the difference between the share of natives and immigrants in social housing can be accounted by differences in observable demographic characteristics, I estimate a linear probability model where the outcome variable is the probability of living in a social housing in 1990 in which country of origins fixed effects for immigrants are included. The sample includes male head of households between 16 and 60 years old in 1990 not enrolled in military nor in school. Predictors included in the regression control for education, age, whether

[38]Lequin (2006, p.410) reports that there were 113 slums in the Paris region in 1970. The biggest was 'La Folie' in Nanterre where 23 000 individuals lived, mostly immigrants from Algeria. See also Schor (1996, p.214).

[39]See also Boeldieu and Thave (2000).

[40]To my knowledge, there is no data available to estimate the percentage of immigrants in social housing during the 1960s of the 1970s. The *Enquête Logement* surveys on housing conditions of 1973 and 1978 did not collect information on nationality.

the individual is living in couple with children, and interactions between education and age and interactions between education and life in couple with children are also included. Column (1) of table 6 reports the estimates of country fixed effects on the probability of living in a social housing. The estimated probability differential is not significant for immigrants from Spain, Portugal or Liban and is even negative for immigrants from Italy and other countries of Europe. The table reports a large and positive coefficient for immigrants from Maghreb, Vietnam and to a lesser extend immigrants from Turkey. The regressions show that differences in demographic characteristics between natives and immigrants from Maghreb explain less than half of the gap in the probability to live in social housing: the probability to live in social housing increases by 17 percentage points for immigrants from Morocco and Algeria and by 13 percentage points for immigrants from Vietnam and Tunisia.

The previous results may potentially reflect that immigrants are clustered in cities with a large supply of social housing in which *both* natives and immigrants have a higher probability of living in social housing. To control for the effect of the location, column (2) reports the result of a similar regression in which fixed effects for each urban areas have been added. Controlling for city fixed effects reduces the probability of living in a social housing by about 10% for immigrants from Algeria, Morocco, Tunisia and Vietnam which indicates that part of the over-representation of immigrants in social housing is due to the presence of immigrants in cities in which the probability to live in social housing is higher for both immigrants and natives.

6 Results

Results of the estimations are reported in tables 8 to 11 per country/region of origins. In each table, the first columns report the results of models estimated separately for each census year. The last column reports estimates of a similar model of location choice which pools all cohorts of new immigrants arrived between 1966 and 1990 and which controls for location fixed effects. I first comment the effect of the traditional variables of location choice and then turns to the results of the relative impact of unemployment and social housing.

The first two rows indicate the effects of the concentration of similar immigrants. As in pre-

vious studies, I find a positive effect of similar immigrants' concentration in the probability of choosing a city over the period. As in Jaeger (2008), the share of similar immigrants to city population is always positive and significant but the share of similar immigrants living in the city is most of the time not significant or quantitatively negligible. This suggests that immigrants prefer cities in which similar immigrants make up a larger percentage of the population. The magnitude of the concentration variable is relatively similar across groups of immigrants. However, the estimated coefficient is slightly larger for immigrants from Maghreb than for other immigrants. Comparisons of the effect of the concentration of similar immigrants across periods reveals, if anything, a slight decrease over time of the coefficient for immigrants from Africa, Europe, and to a lesser extend, for immigrants from Asia. However, the coefficient remains remarkably similar across decades for Maghreb. Estimates with fixed effects confirm the attraction of the size of the community of similar immigrants. The results suggest that an increase in the share of immigrants living in the city seems to have a negative effect on immigrants from Maghreb, no effect on immigrants from Africa, and a positive effect on immigrants from Asia and from Europe.

As in previous studies, population size is one important determinant of the location choice: the estimates reveals that the log of the population size has a strong and positive effect, significant across regressions. This result confirms that immigrants are more likely to locate in large cities. The parameter is remarkably similar across groups of immigrants. In each group, the magnitude of the coefficient decreases over time suggesting that the probability of choosing relatively smaller cities increased slightly over the period. Estimates including fixed effects reveal that immigrants are more attracted by cities in which the population increases faster than in other cities which reflect the economic dynamism of the city.

The signs of the coefficient of the immigrant share of the population differs across years and groups. However, the effect is on the whole either positive or quantitatively insignificant and appears to be lower in recent periods, particularly for immigrants from Maghreb. In regressions including location fixed effects, the effect is either insignificant (for immigrants from Maghreb) or negative (for immigrants from Asia and Europe) which indicates a decline in the attraction of traditional immigrants cities over the period.

Cities with a large share of population in manufacturing do not appear to be particularly attractive to immigrants. The manufacturing share has a negative effect over the period for immigrants from Maghreb, Asia and Africa and for immigrants from Europe after 1970. However, in recent periods, the coefficient is much lower than in the previous decades. Estimates with fixed effects confirm the negative effect of the manufacturing share for all groups of immigrants.

The effect of the graduate share of the population varies across groups of immigrants and over time but is most often positive and significant. For immigrants from Europe, the effect is positive over the whole period. However, surprisingly, in regressions controlling for fixed effects, the effect is slightly negative or insignificant which indicate that educated cites are not particularly attractive to immigrants when one controls for fixed effects of cities. However, this result may reflect to the lack of variance of this variable over time. Inspection of the correlation coefficient of the graduate share across cities over time reveals that educated cities in 1990 were the same in 1968: the correlation coefficient between the graduate share in 1968 and the graduate share in 1990 is 0.93. It may be therefore relatively difficult to identify the effect of the graduate share while simultaneously controlling for city fixed effect.

I now discuss the effect of differences in unemployment rates and differences in social housing supply across cities. First, the evidence confirms that immigrants without children strongly prefer cities with a lower unemployment rate.[41] The unemployment rate has a significant negative effect for immigrants without children, which is particularly strong for immigrants from Asia, Refugees and Europe. One striking result is that the magnitude of the coefficient decreases over time for immigrants from Maghreb and immigrants from Africa. This is relatively surprising since the average and the dispersion of unemployment rates across cities were much larger after 1980s than during the 1960s or the 1970s as can be seen in table 7. Moreover, the unemployment rate of immigrants is particularly large in France is on average the double of the one of natives.[42] Possible explanations for this result include changes in cohort trends in unobserved quality or the effect of welfare policies implemented during the 1980s. Unobserved immi-

[41] This results has an important implication for the research on the impact of immigration on the labor market: as emphasized by Borjas, Freeman and Katz (1997), if migrants locate in cities with booming economies, methods using correlations between employment outcome and change in immigration to estimate the impact of immigration will be biased upward.

[42] In 1995 for example, the unemployment rate of men was 20% for immigrants while only 10.8% for natives.

grants 'quality' may have exogenously decreased over time and immigrants who arrived after 1980 may have been less sensitive to difference in economic opportunities. A second potential explanation would be that the welfare policies implemented after 1980, which guaranteed unconditional financial aid, may have decreased the incentives to live in more dynamic cities.[43] These two explanations are not exclusive: theoretically, it is possible that the implementation of these new welfare policies has provoked a negative selection of immigrants during that period if incentives to immigrate in France increased more for low-ability immigrants than others (see Borjas, 1987).

For all groups of immigrants, differences in unemployment rates across cities have always less or no effects on immigrants with children. For those immigrants, differences in unemployment rates are either insignificant, or have a little quantitative importance. Immigrants in couple from Asia or surprisingly Refugees seem to respond the most to differences in unemployment rates across cities.

Estimates controlling for fixed-effects broadly confirm the results of the cross-sections estimates: changes in unemployment rates across cities have a significantly higher negative effect on immigrants without children. In these regressions, the effect the unemployment rate on the location of European immigrants has now a similar magnitude than for other groups of immigrants. Differences in unemployment across cities have no effect on immigrants from Africa.

Turning now to the effects of social housing, both cross-section and fixed effects results confirm the hypothesis of a magnetic effect of social housing for all groups of immigrants, except on immigrants from Europe. As expected, immigrants with children, who are most likely to be eligible and to apply to social housing, respond strongly to differences in social housing across cities but not to differences in unemployment rates whereas immigrants without children respond to differences in unemployment across cities but not to social housing. The effect of social housing on immigrants from Asia reported in cross-section estimates appears to be of a lower magnitude. In the case of refugees, I find a relatively large effect of social housing on the location choice. In estimates including city fixed effect, I find a relatively similar effect of changes in social housing supply on immigrants from Africa, Asia and Maghreb. The esti-

[43] A representative example of these policies is the creation of the RMI (*Revenu Minimum d'Insertion*) in 1988 which guarantees a minimum level of income similar across cities.

mated parameters imply that an increase in one standard deviation of the social housing supply increase the probability of choosing the 'average' city by between 20% for immigrants from Asia and 30% for immigrants from Maghreb and Africa.

The effect of social housing in 1968 is not significant for all groups of immigrants which is not surprising since immigrants had practically no access to social housing before the 1970s. The magnitude of the coefficient increases until 1990 and is strongly positive and significant for immigrants with children whereas it is either insignificant or of little quantitative importance for individuals without children. The effect of social housing on European immigrants, is either not significant or positive until 1975 and then the effect is slightly negative for both groups of immigrants. This suggests that the share of social housing may be related with undesirable characteristics of the city which are imperfectly absorbed by the controls. In estimates with fixed effects, the coefficient of social housing becomes insignificant which confirm that interpretation.

On the whole, from both cross-section regressions and regressions controlling for fixed effects, I find relatively robust evidences that changes in the social housing supply increased the desirability of cities for all groups of immigrants except European immigrants.

To check the robustness of these results, I have estimated separate models by level of education and models including controls for private housing costs.

Throughout the 1980s, there has been an increase of the educational level of immigrants in France which can be observed in table 1. During this period, about one third of new immigrants were university graduates. Therefore, we have a sufficient number of individuals to estimate a different model of location choice for educated and non educated immigrants for each group of immigrants. Table 12 reports the estimates of a separate model of location choice for skilled and unskilled new immigrants in 1990. The 'skilled' level of education includes individuals who declares to be high school graduates or university graduates whereas the 'unskilled' level of education includes high-school dropout and people without diploma.[44] The impact of social housing on location choice does not differ quantitatively across skill groups. The estimates indicate a positive effect for individuals in couple with children but also a positive effect on

[44]In 1990, 28% (35%) of non-European (Europeans) new immigrants are university graduates, 13% (13%) high-school graduates, 11% (13%) report some high school and 48% (40%) report only primary education or less.

skilled individual in couple without children in some groups. I still find no impact of differences in social housing supply on the location choice of European immigrants. One striking difference is that the impact of the share of similar immigrants is much larger for unskilled immigrants than for skilled immigrants: for all groups, the coefficient for unskilled immigrants is approximately the double of the one of skilled immigrants. Similarly, whereas the effect of the immigrant share of the population is either insignificant or negative for skilled immigrants, the coefficient is strongly positive and significant for unskilled immigrants which indicate that unskilled immigrants prefer traditional immigrant cities. The effect of the graduate share of the population is also significant for skilled immigrants whereas it is non significant for unskilled immigrants. The effect of differences in unemployment rates across cities also appears to be much stronger for skilled than for unskilled immigrants. To summarize, unskilled immigrants appears to choose cities with a larger share of similar immigrants and traditional immigrant cities whereas skilled immigrants choose cities with less unemployment and more educated individuals.

Data on rents and housing price at the city level is not available during the whole period of time that I study. However, for the 1990s, it is possible to find data on differences in average housing costs across cities. I include in the regression controls for housing costs by using the average housing cost of the main municipality of the urban area using data from Clameur, a French private research institute on housing markets.[45] As an index of housing cost, I use the rent index computed by Clameur for the housing costs of the main municipality. If there exist a spatial arbitrage, one implication of the theoretical model is that differences in housing costs are compensated by higher wages and should not be significant in the regressions. Table 13 confirms this hypothesis for regressions in 1990. In most regressions I find that differences in housing cost are not significant or are economically negligible for most groups of immigrants. Moreover, controlling for differences in housing costs across cities does not affect the parameters of social housing on the regression.

[45]This data is publicly available on their website: `www.clameur.fr`

7 Cohort effects and Immigrants' Location in 1999

The previous section described the impact of city characteristics on the initial location choice of new immigrants. One natural question is how much the initial location choice persists over time. To answer that question I study how much the location in 1999 differs across cohorts of immigrants. The implication of the hypothesis of fixed cost of mobility is that, since the estimated impact of social housing varies across cohorts and the mobility of immigrant is restrained by these fixed costs, the location in 1999 will depend on the year of entry in France and thus differ across cohorts if the social housing program influenced differently each waves of immigrants. Therefore, a simple test of the persistence of the initial location choice is to derive how much the location in 1999 differs across cohorts and how much it is related to the characteristics of cities during the period of arrival.

Data is available to answer this question. For the first time in the 1999 census, information on the year of entry in France was collected for all persons born abroad.[46] Using the 1999 census, I estimate separate models of location choice for each cohort of immigrants which arrived in France before 1960 and during the three decades between 1960 and 1990. Dependant variables are similar to the one used in the previous section and are relative to the characteristics of the city in 1999.[47]

Since immigrants who were children when they arrived in France may have been admitted for family reunification, I only include in the sample individuals who were at least 16 years old when they arrived in France and had therefore between 26 and 60 years old in 1999. For immigrants who arrived before 1960, I also include individuals between 60 and 70 years old in 1999.[48]

Results reported in table 14 and 15 confirm that the distribution of immigrants across cities in 1999 differs across cohorts. As in the previous regressions, the effect of similar immigrants concentration is identical across cohorts. However, we observe a decline in the probability of location in a large city which confirms the evidences of the previous section that recent cohorts

[46] However, there are about 30% of missing values for this variable for immigrants.

[47] These regressions are mostly descriptive since the choice of the location observed in 1999 may have been made many years before.

[48] This implies individuals included in the sample were between 16-30 years old if they arrived in 1959, 16-29 years old if they arrived in 1958, etc. In 1999 they age is between 56 and 70 years old.

of immigrants have chosen smaller cities. Similarly, the immigrant share of the population, which is significant for the cohorts arrived before 1970 decreases over time which confirm the decline of the attraction of traditional immigrant cities over the period. Whereas immigrants who arrived during the 1960s located in cities which still have in 1999 a relatively large share of the population in manufacturing, the effect is negative on the most recent cohorts. Not surprisingly, the effect of differences in unemployment rate across cities is either insignificant (for immigrants with children) or slightly negative for immigrants without children: if there exist fixed cost of mobility and that cities' relative unemployment rates change over time, only the initial location choice of immigrants should depend on differences in unemployment rates across cities. The relationship between the location and the percentage of university graduates is negative for older cohorts and positive for more recent cohorts, which may reflect that the educational level of recent immigrants has increased. This result confirms the attraction of educated cities on recent immigrants (see Glaeser and Saiz, 2004).

I do not find any effect of the location of immigrants arrived before 1960 of the contemporary dispersion of social housing supply across cities. However, for all other cohorts, the location of immigrants in 1999 is positively correlated to differences in social housing per inhabitants across cities, even for immigrants who arrived during the 1960s. Results for European immigrants are reported in table 15. Results for European immigrants are broadly similar than for other immigrants except that the share of social housing per inhabitant is not significant which confirms that differences of social housing supply have no magnetic effects on immigrants from this origin.

8 Conclusion

This paper studied the determinant of the location choice of immigrants in France over the period 1968-1999. One hypothesis explored by the paper is whether differences in social housing supply across cities have influenced the location choice of immigrants over the period.

Using different specifications and a period of time of 30 years, the paper finds relatively robust evidences of a magnetic effect of social housing on non-European immigrants' location choice

in France over the period. The effect is the strongest for immigrants from Maghreb and to a lesser extend for immigrants from Africa and Asia. However, the paper finds no effects on immigrants from Europe and immigrants without children who are often not eligible to social housing. The influence of similar immigrants concentration seems relatively constant over the period whereas the attraction of large cities and traditional immigrant cities has decreased over the period. These results imply that new immigrants have increasingly chosen smaller cities with a small share of immigrants.

The implication of these results in terms of public policy are ambiguous. On the one hand, social housing attracts immigrants in cities with few economics opportunities in which they are more likely to be on welfare but in which they will also enjoy better housing conditions. Social housing, by dispersing immigrants across France, may also have decreased the natural tendency of immigrants to live in 'ghettos' in which they benefit from social network and social ties but are isolated from the rest of the population. Therefore, social housing may have facilitated immigrants' assimilation at the price of perhaps increasing the welfare dependency of immigrants.

Another striking fact is that the impact of social housing on immigrants differ widely between non-European and European immigrants. It is still unclear how much the overrepresentation of non-European immigrants in social housing is due to specific financial constraints, discrimination in the housing market or a low supply of cheap housing for families in the French housing market. Further work remains to be done to explore these issues.

Appendix

8.1 Interpretation of parameters of conditional logit with standardized variables

In this section, I show that the parameters of a conditional logit where the predictors have been standardized such that the variables of the choice set of each individual have an average of zero and a variance of one have a simple and intuitive interpretation. See Gelman (2008) for a discussion on the interest of scaling predictors of regressions model.

Suppose the true model is given by equation (5). Denote by $z_j^k = \frac{x_j^k - \bar{x}^k}{\sigma_{x^k}}$ the standardized variable of the predictor k of alternative j; $\bar{x}^k$ and σ_{x^k} respectively the average and the standard deviation of the predictor k over the initial choice set. Since only differences in utility matters (see e.g. Train, 2003, p. 23), the model described by (5) can be rewritten as:

$$ZU_{iJ} = z_{iJ}\gamma + \epsilon_{ij}$$

Straightforward algebra implies that this last model is similar to the model described by equation (5) and that the relation between β and the γ is simply given by $\beta_k = \frac{\gamma_k}{\sigma_{x^k}}$ for all predictor k.

If IIA holds, adding other alternatives to the choice set does not change the model defined by (5). Let me add two alternatives to this choice set. The first is the 'average' city for which the characteristics are equal to the average of the J preexisting alternatives. The second is identical to the 'average' alternative except that the characteristic l is equal to the mean plus one standard deviation of the alternatives included in the original choice set. Let me call this alternative the 'new' alternative. When the predictors have been standardized, the characteristics of the average city are a vector of zero whereas the vector of characteristics of the 'new' alternative z is given by $z^l = 1$ and $z^k = 0$ for $\forall k \neq l$. From equation (7), the probability P of the average alternative is equal to $P = \frac{1}{1+exp(\gamma_k)+\sum_j^J exp(z_j\gamma)}$ whereas the probability P_l for the 'new' alternative is $P_l = \frac{exp(\gamma_l)}{1+exp(\gamma_l)+\sum_j^J exp(z_j\gamma)}$. If it straightforward to derive that $\frac{P_l}{P} = exp(\gamma_l)$ or equivalently that :

$$\log P_l - \log P = \gamma_l \tag{8}$$

The previous expression indicates that the parameter γ_l is equal to the log difference between the probability of the 'average' city and the probability of the 'new' city when both cities are included in the choice set. Equation (8) implies that the parameter γ_l can directly be interpreted as the difference between the log of the probability of choosing the average alternative when variable k is superior of one standard deviation. Note that the relationship between β_l and γ_l is a function of the variance σ_{x^l} and therefore γ_l depends on the alternatives included in the initial choice set used to standardize the variables.

Now, we still assume that a city with average characteristics has been added to the choice set. To know how the probability of choosing the average alternative *changes* when the predictor l in increases by one standard deviation, then one must take into account the effect of the change on the probability choosing others alternatives. In that case, the relation between P_l and P becomes:

$$\log P_l - \log P = \gamma_l + \log \frac{1 + \sum_j^J exp(z_j\gamma)}{exp(\gamma_l) + \sum_j^J exp(z_j\gamma)} \tag{9}$$

When γ_l is positive, that is the characteristics has a positive effect on the probability of choosing the alternative, the probability P_l is superior to P. In this case, the second term is negative which implies that the log difference between P and P_l is inferior to γ_l. Similarly, when γ_l is negative, the second term is positive. I denote by P_j the probability of choosing the alternative j when the average alternative is in the choice set and by P_{lj} the probability of choosing the alternative j when instead it is the 'new' alternative which is in the choice set. Equation (9) can be rewritten:

$$\log P_l - \log P = \gamma_l - \log \frac{P_{lj}}{P_j}$$

Because of the IIA property, the ratio $\frac{P_{lj}}{P_j}$ actually does not depend on j. When an increase in the standard deviation does not change much the relative probability of other alternatives, the ratio $\frac{P_{lj}}{P_j}$ is close to one and therefore γ_l provides a relatively accurate approximation of the change in probability. Alternatively, the previous relation can be rewritten:

$$\log \frac{P_l}{P_{lj}} - \log \frac{P}{P_j} = \gamma_l$$

The last equation implies that γ_l can be interpreted as the change in the log of odd ratios between the average alternative and the alternative j. Because of the IIA property, this difference does not depend on j.

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TABLE 1

New Immigrants in France 1968-1990

Arrival Period	1962 – 1968	1968 – 1975	1975 - 1982	1982 - 1990	1990-1999
Total Number	915 384	1 053 335	707 196	663 506	689 257
Number per year	152 564	150 476	101 028	94 787	76 584
Share of new immigrants over total immigrant stock	28.27%	27.09	17.52	15.92	16.01
Proportion of Male	60.20%	59.39	50.63	49.86	46.83
Share of University Graduates	2.78%	5.88	11.54	26.07	33.15
Geographical origins of new immigrants					
Europe	64.87%	52.53%	27.29%	30.55%	42.46%
Asia	2.19	6.70	25.11	24.40	15.34
Africa	30.98	38.00	42.56	37.73	35.27
Other	1.90	2.77	5.04	7.33	6.93

Notes: New immigrants are immigrants who declared to have been abroad during the previous census.

Sources: Author's tabulations from 1968, 1975, 1982 and 1999 French Census.

TABLE 2

Estimated Changes in Social Housing 1968-1990

Year	Number of Social Rented Housing	Pct Change	Soc. Housing per Inhabitant	Std.
1945	275 293			
1968	1 395 489	400%	7.4%	2.9
1975	2 239 117	60	11.1	4.1
1982	2 724 571	22	13.6	4.8
1990	3 092 660	14	15.7	7.3
1999	3 454 054	12	17.1	5.0

Notes: Only primary residences in urban areas with more than 10 000 inhabitants in 1990 are included in the calculations. Soc. Housing per Inhabitants and Std. share columns reports respectively the average and standard deviation of the social housing supply per inhabitants across the 57 cities with more than 100 000 inhabitants in 1990.

Source: Author's tabulations from 1999 Census of dwellings and the Census of Population.

TABLE 3

Urban Area Characteristics

City	Total Population in 1990	Share Social Housing	Immigrants to Population 1990	Share of New Immigrants (82-90) in the city	Share of Natives in the city
Paris	9 316 656	22.1%	19.3%	51.8%	25.5%
Lyon	1 262 263	20.1	14.7	3.5	3.5
Aix-Marseille	1 230 071	15.8	11.6	2.5	3.4
Lille	959 516	24.6	9.8	1.7	2.6
Bordeaux	696 587	16.4	7.6	1.4	2.0
Toulouse	649 990	14.4	10.1	1.6	1.9
Nice	517 124	7.8	13.8	1.6	1.4
Nantes	495 307	19.8	3.8	0.6	1.5
Toulon	437 715	10.7	8.9	0.5	1.2
Grenoble	404 607	16.2	15.8	1.1	1.1
Strasbourg	387 635	19.8	14.4	1.6	1.1
Rouen	380 276	30.9	6.7	0.6	1.1
Valenciennes	338 539	18.5	6.5	0.3	0.9
Antibes	335 761	7.1	15.5	1.3	0.9
Nancy	329 476	21.4	7.7	0.6	0.9
Lens	323 097	19.0	4.2	0.1	0.9
Saint-Etienne	313 337	21.8	12.0	0.5	0.8
Tours	282 211	25.1	7.1	0.3	0.8
Bruay-La-Buissière	261 790	12.4	1.4	0.1	0.8
Clermont-Ferrand	254 349	16.1	11.7	0.4	0.7
Le Havre	253 539	32.8	5.9	0.2	0.7
Montpellier	248 320	12.8	12.0	0.9	0.6
Rennes	245 085	22.8	4.3	0.5	0.7
Orleans	242 969	19.7	11.0	0.6	0.7
Dijon	230 476	17.9	9.7	0.4	0.7
Mulhouse	223 598	15.1	15.3	0.7	0.6
Angers	208 321	29.9	3.8	0.2	0.6
Reims	206 427	43.8	8.0	0.3	0.6
Brest	201 469	17.0	2.4	0.1	0.6

Notes: Column (1) reports the total population including all individuals. Column (2) reports the proportion of social housing among all dwellings. Only primary residence and inhabited housing are included in the calculations. Population taken into account in the calculations of the other columns is restricted to men and women between 16 and 60 not in school and not in the military.

Sources: 1990 census. Author's calculation.

TABLE 4

Determinants of the Change in Social Housing per Inhabitants

Outcome Variable: Change in the percentage of social housing/population T/T-1 in the city										
Period	68-90	68-90	68-75	75-82	82-90	90-99	68-90	68-75	75-82	82-90
Percentage Immigrants	-0.161	-0.322	-0.116	-0.128	-0.071	-0.047	-0.241	-0.094	-0.085	-0.036
	(0.046)	(0.090)	(0.051)	(0.029)	(0.025)	(0.066)	(0.079)	(0.049)	(0.028)	(0.022)
Log Total Population	0.671	-0.080	-0.022	0.088	-0.127	0.418	-0.399	-0.178	0.128	-0.072
	(0.190)	(0.450)	(0.257)	(0.172)	(0.142)	(0.320)	(0.393)	(0.249)	(0.156)	(0.117)
Unemployment Rate	-0.364	-0.397	-0.364	-0.128	0.070	0.143	0.645	0.030	0.042	0.136
	(0.207)	(0.360)	(0.206)	(0.105)	(0.061)	(0.090)	(0.384)	(0.243)	(0.108)	(0.051)
Manufacturing Share	-0.026	0.011	-0.067	0.038	0.056	0.071	0.069	-0.040	0.056	0.061
	(0.020)	(0.054)	(0.031)	(0.024)	(0.019)	(0.050)	(0.050)	(0.031)	(0.023)	(0.016)
Percentage University Graduates	-0.524	-0.484	-0.263	-0.062	0.025	0.002	-0.230	-0.152	-0.043	0.043
	(0.148)	(0.299)	(0.171)	(0.068)	(0.051)	(0.080)	(0.263)	(0.167)	(0.064)	(0.042)
Social Housing Share in T-1							0.616	0.240	0.132	0.107
							(0.138)	(0.088)	(0.036)	(0.020)
Share Left in Municipality							1.273	0.333	0.330	-0.048
							(0.787)	(0.421)	(0.299)	(0.189)
N	433	57	57	57	57	57	57	57	57	57
R2	0.09	0.34	0.45	0.38	0.17	0.34	0.59	0.44	0.58	0.61
Av. Change	7.8	8.3	3.6	2.5	2.1	1.4	8.3	3.6	2.5	2.1
	(4.3)	(3.1)	(1.7)	(1.3)	(1.0)	(1.9)	(3.1)	(1.7)	(1.3)	(1.0)

Notes: Each column reports the results of an OLS regression where the dependant variable is the change in the number of social housing per inhabitants between two periods and the predictors are the initial cities characteristics. The first column includes in the sample all cities with more than 10 000 inhabitants in 1990 whereas other columns include in the sample cities with more than 100 000 inhabitants in 1990. Standard errors are in parenthesis. The last two rows reports the average and the standard deviation of the outcome variable in the sample.

Sources: 1968, 1975, 1982, 1990 and 1999 Census of Population and 1990 and 1999 Census of Dwellings.

TABLE 5

Percentage living in Social Housing

	1982	1990	1999
Natives	13.6%	14.0%	15.7%
Immigrants	22.9	25.8	30.6
New Immigrants	27.6	22.2	24.6
Percentage of Immigrants in Social Housing from			
Europe	16.0%	15.8%	16.3%
Pologne	9.6	13.1	19.6
Spain	17.2	16.8	17.0
Portugal	24.8	24.1	22.5
Italy	11.3	11.0	12.3
Africa	33.1	39.1	46.4
Algeria	34.8	42.5	49.7
Morocco	37.3	43.1	48.3
Tunisia	27.6	43.1	39.2
Asia	31.4	30.9	33.5
Turkey	39.8	31.3	48.9
Cambodge	35.6	35.5	35.1
Liban	14.3	11.2	18.3
Vietnam	30.8	32.7	30.4
Others	12.5	13.1	16.9

Notes: Calculations includes the whole population.
Sources: 1990 and 1982 Census. Author's tabulations.

TABLE 6
Effect of Country of Origin on the Probability
to Live in Social Housing in 1990

Outcome variable: Living in Social Housing		
Nationality Fixed Effects	(1)	(2)
Poland	0.072	0.060
	(0.008)	(0.021)
Spain	0.001	0.012
	(0.003)	(0.017)
Portugal	-0.001	-0.019
	(0.002)	(0.036)
Italy	-0.060	-0.047
	(0.002)	(0.010)
Other Europe	-0.023	-0.024
	(0.002)	(0.016)
Algeria	0.145	0.135
	(0.002)	(0.030)
Morocco	0.170	0.161
	(0.002)	(0.047)
Tunisia	0.122	0.108
	(0.004)	(0.075)
Other Africa	0.054	0.030
	(0.003)	(0.041)
Turkey	0.072	0.074
	(0.003)	(0.032)
Cambodia	0.084	0.059
	(0.007)	(0.067)
Lebanon	-0.004	-0.013
	(0.007)	(0.040)
Vietnam	0.127	0.109
	(0.007)	(0.039)
Other Asia	0.026	0.006
	(0.003)	(0.061)
Other	0.004	-0.007
	(0.005)	(0.020)
N	2 320 893	2 320 893
Urban Areas Fixed Effects	No	Yes

Note: The table reports estimates of a linear probability model on the probability of living in social housing. Robust heteroskedastic standard errors are reported in parenthesis. The population includes male, who are not reported as child in a household, living in one of the 433 urban area of more than 10 000 inhabitants. Each regression includes controls for education, age, life in couple with children and interactions between education and age and interactions between education and life in couple with children (coefficients not reported).

Sources: 1990 Census.

TABLE 7

Characteristics of Cities

	1968	1975	1982	1990	1999
Median of population	88 912	105 055	106 956	103 111	117 682
Immigrant Share of Population	6.6	7.3	8.3	7.9	8.0
	(4.7)	(4.8)	(4.7)	(4.0)	(3.7)
University Graduates Share	5.0	10.7	13.9	19.3	28.5
	(1.8)	(3.4)	(3.6)	(5.0)	(6.5)
Manufacturing Share	43.0	39.7	33.7	28.3	22.3
	(10.9)	(10.2)	(8.9)	(7.2)	(6.0)
Unemployment Rate	2.5	4.5	10.7	13.7	16.0
	(1.1)	(1.4)	(2.0)	(3.4)	(3.8)
Social Housing per inhabitants	7.4	11.1	13.6	15.7	17.1
	(2.9)	(4.1)	(4.8)	(5.3)	(5.0)

Notes: The table reports the average and standard deviations of the indicated city characteristics. Cities included in the sample are the 57 cities with more than 100 000 total inhabitants in 1990. The population only includes men and women aged 16-60 not enrolled in school or in the military. Standard deviations are in parenthesis.

Sources: 1968, 1975, 1982, 1990 and 1999 Census of Population and 1990 and 1999 Census of Dwellings.

TABLE 8

Determinants of Location Choice 1968-1990: New Immigrants from Maghreb

	(1)	(2)	(3)	(4)	(5)	(6)
Arrival Period	1966-1968	1969-1975	1975-1982	1983-1990	1991-1999	1966-1990
Similar immigrants	0.411	0.424	0.535	0.453	0.451	0.523
share of population	(35.71)	(45.26)	(34.84)	(23.57)	(27.27)	(45.95)
Share of similar	-0.051	-0.007	0.086	0.031	-0.055	-0.369
immigrants in city	(5.72)	(1.06)	(6.81)	(2.03)	(5.34)	(9.8)
Log(Population)	0.944	0.788	0.741	0.740	0.783	1.189
	(57.51)	(70.42)	(37.04)	(30.79)	(53.72)	(9.65)
Immigrants share	0.362	0.127	0.006	-0.046	0.049	0.026
of population	(20.66)	(9.37)	(0.24)	(1.35)	(2.08)	(1.56)
University Graduates	-0.124	-0.033	-0.190	0.181	0.140	-0.141
as pct. of population	(5.54)	(1.95)	(7.21)	(6.01)	(7.17)	(3.29)
Manufacturing	-0.156	0.015	-0.302	-0.165	-0.079	-0.387
share	(5.78)	(0.76)	(12.45)	(5.14)	(3.58)	(8.15)
Unemployment Rate	-0.072	-0.078	0.011	0.015	0.130	-0.137
x Couple with Children	(2.8)	(3.18)	(0.39)	(0.49)	(6.35)	(8.98)
Unemployment Rate	-0.211	-0.150	-0.028	-0.105	-0.047	-0.223
x Others	(13.6)	(11.82)	(1.35)	(3.66)	(1.95)	(18.37)
Social Housing per	-0.021	0.133	0.140	0.183	0.138	0.295
Inhabitants x Couple	(0.52)	(4.44)	(4.17)	(5.4)	(6.32)	(12.53)
Social Housing per	-0.019	-0.014	-0.160	0.084	0.096	0.064
Inhabitants x Others	(0.97)	(0.91)	(6.55)	(2.88)	(3.74)	(3.17)
Fixed Effects for Urban Area	No	No	No	No	No	Yes
Number of individuals in couple with children	3 475	3 359	2 526	2 306	5 215	16 881
Number of other individuals	13 674	21 029	6 673	3 895	4 015	49 286
Number of observations	977 493	1 390 116	524 343	353 457	526 110	3 771 519

Notes: Estimated via conditional logit. The dependant variable is the location in the Census year. Choice set is 57 cities with more than 100 000 inhabitants in in 1990 and the predictors are the characteristics of these cities during the census year. t-values are in parenthesis. The sample includes male new immigrants who arrived during the indicated period, aged 16-60 and excludes students and servicemen. Individuals reported as children of a household are excluded. Columns (1) to (5) reports estimates of the determinant of the location choice of new immigrants arrived during the indicated period respectively in 1968, 1975, 1982, 1990 and 1999 across 57 cities. Column (6) reports the estimates of the location choice of new immigrants in 1968, 1975, 1982 and 1990 and controls for location fixed effects. Similar immigrants are immigrants from the same country of birth or regions. All predictors have been standardized to have an average of zero and a standard deviation of one for each individual, except location fixed effects included in the regression reported in column (7). See text for details.

Sources: 1968, 1975, 1982, 1990 and 1999 Census of Population and 1990 and 1999 Census of Dwellings.

TABLE 9

Determinants of Location Choice: New Immigrants from Africa

	(1)	(2)	(3)	(4)	(5)	(6)
Arrival Period	1966-1968	1969-1975	1975-1982	1983-1990	1991-1999	1966-1990
Similar immigrants	0.483	0.331	0.348	0.329	0.372	0.347
share of population	(37.59)	(21.27)	(23.86)	(22.59)	(24.5)	(32.31)
Pct. of similar	-0.159	0.007	0.011	-0.066	0.117	0.004
immigrants in city	(7.53)	(0.33)	(0.5)	(3.13)	(4.86)	(0.08)
Log(Population)	1.113	0.981	0.878	0.782	0.673	1.976
	(28.93)	(24.37)	(24.04)	(23.42)	(31.19)	(6.73)
Immigrants share	-0.011	0.111	0.057	0.192	-0.087	-0.205
of population	(0.21)	(2.1)	(1.23)	(4.58)	(2.73)	(5.34)
University Graduates	0.177	-0.177	-0.050	0.174	0.388	-0.360
as pct. of population	(3.5)	(2.58)	(0.9)	(3.88)	(12.05)	(3.35)
Manufacturing	-0.062	-0.379	-0.328	-0.399	-0.147	-0.064
share	(0.86)	(4.47)	(5.49)	(7.17)	(3.61)	(0.52)
Unemployment Rate	0.009	-0.239	-0.048	-0.059	-0.071	0.047
x Couple with Children	(0.17)	(2.74)	(0.88)	(1.24)	(1.82)	(1.32)
Unemployment Rate	-0.059	-0.157	-0.054	-0.137	-0.018	-0.067
x Others	(1.56)	(3.33)	(1.26)	(3.27)	(0.55)	(2.23)
Social Housing per	-0.362	-0.068	0.145	0.201	0.026	0.291
Inhabitants x Couple	(4.62)	(0.6)	(2.11)	(3.97)	(0.61)	(5.13)
Social Housing per	0.208	0.217	0.258	0.074	0.098	0.269
Inhabitants x Others	(4.09)	(4.27)	(6.38)	(1.83)	(2.88)	(5.5)
Fixed Effects for Urban Area	No	No	No	No	No	Yes
Number of individuals in couple with children	466	563	991	1 327	2 010	3 347
Number of other individuals	2 257	3 469	3 728	2 814	3 314	12 268
Number of observations	155 211	229 824	268 983	236 037	303468	890 055

Notes and Sources: See table 8.

TABLE 10

Determinants of Location Choice: Immigrants from Asia and Refugees

	Asia					Refugees		
Arrival Period	1969-1975	1975-1982	1983-1990	1991-1999	1966-1990	1976-1982	1983-1990	1976-1990
Similar immigrants	0.401	0.390	0.249	0.345	0.233	0.400	0.394	0.373
share of population	(21.03)	(23.93)	(22.23)	(36.33)	(21.99)	(20.04)	(22.27)	(14.42)
Pct. of similar	0.167	0.031	-0.027	0.044	0.205	-0.215	-0.173	-0.377
immigrants in city	(7.9)	(1.25)	(1.51)	(1.76)	(7.18)	(11.97)	(8.21)	(1.34)
Log(Population)	0.513	0.769	0.788	0.589	2.440	0.911	0.886	2.224
	(15.44)	(20.08)	(27.31)	(30.75)	(8.27)	(32.24)	(25.94)	(2.23)
Immigrants share	-0.166	0.227	0.262	0.196	-0.353	0.183	0.122	0.144
of population	(4.25)	(4.64)	(7.3)	(7.07)	(8.52)	(4.66)	(2.8)	(0.97)
University Graduates	0.583	0.081	0.056	0.272	-0.208	0.040	0.198	0.176
as pct. of population	(12.97)	(1.56)	(1.38)	(9.43)	(2.05)	(0.91)	(4.03)	(0.74)
Manufacturing	0.762	-0.178	-0.256	-0.004	-0.593	-0.048	-0.031	-0.548
share	(16.19)	(3.43)	(6.32)	(0.16)	(5.87)	(0.96)	(0.6)	(1.53)
Unemployment Rate	-0.324	-0.138	-0.294	-0.142	-0.259	-0.402	-0.184	-0.188
x Couple with Children	(4.79)	(2.82)	(6.86)	(4.1)	(8.22)	(10.73)	(3.62)	(1.19)
Unemployment Rate	-0.643	-0.296	-0.318	-0.075	-0.472	-0.682	-0.399	-0.459
x Others	(13.89)	(6.14)	(8.2)	(2.16)	(16.27)	(16.13)	(7.76)	(2.89)
Social Housing per	0.201	0.042	0.053	0.031	0.212	0.312	0.355	0.891
Inhabitants x Couple	(3.11)	(0.71)	(1.19)	(0.93)	(3.79)	(7.69)	(7.98)	(1.84)
Social Housing per	0.224	0.092	0.090	-0.006	0.234	0.316	0.193	0.812
Inhabitants x Others	(5.98)	(1.71)	(2.49)	(0.18)	(4.61)	(7.18)	(4.34)	(1.68)
Fixed Effects for Cities	No	No	No	No	Yes	No	No	Yes
In couple with children	676	1499	2028	3 433	4 402	2296	1790	4 086
Other individuals	2222	2274	3064	3 095	7 985	2502	2829	5 331
Number of observations	165 186	215 061	290 244	372 096	706 059	273 486	263 283	536 769

Notes and Sources: See table 8

TABLE 11

Determinants of Location Choice: New Immigrants from Europe

	(1)	(2)	(3)	(4)	(5)	(6)
Arrival Period	1966-1968	1969-1975	1975-1982	1983-1990	1991-1999	1966-1990
Similar immigrants	0.409	0.418	0.343	0.337	0.374	0.303
share of population	(63.93)	(49.53)	(28.9)	(30.89)	(41.4)	(47.76)
Pct. of similar	0.014	0.027	0.071	0.038	0.006	0.189
immigrants in city	(1.91)	(3.18)	(5.14)	(2.78)	(0.39)	(12.61)
Log(Population)	0.810	0.722	0.735	0.757	0.688	0.915
	(67.63)	(53.37)	(34.15)	(34.64)	(50.85)	(6.88)
Immigrants share	0.135	0.054	0.228	0.204	0.228	-0.147
of population	(10.69)	(3.61)	(9.11)	(7.67)	(11.44)	(8.01)
University Graduates	0.265	0.350	-0.017	0.207	0.265	0.086
as pct. of population	(18.66)	(19.11)	(0.63)	(7.74)	(14.25)	(1.87)
Manufacturing	0.153	0.272	-0.349	-0.166	-0.025	-0.261
Share	(8.22)	(11.9)	(12.56)	(5.73)	(1.24)	(4.91)
Unemployment Rate	-0.065	-0.179	-0.036	0.053	0.037	-0.206
x Couple with Children	(4.25)	(9.28)	(1.33)	(1.84)	(1.56)	(13.98)
Unemployment Rate	0.007	-0.191	-0.097	-0.028	0.099	-0.250
x Others	(0.56)	(9.94)	(3.69)	(1.04)	(4.88)	(17.98)
Social Housing per	-0.002	0.160	-0.110	-0.154	-0.101	-0.066
Inhabitants x Couple	(0.11)	(8.23)	(3.43)	(4.69)	(4.14)	(2.92)
Social Housing per	0.367	0.276	-0.151	-0.183	-0.058	-0.045
Inhabitants x Others	(24.48)	(15.18)	(4.96)	(6.3)	(2.74)	(2.08)
Fixed Effects						
for Urban Area	No	No	No	No	No	Yes
Number of individuals						
in couple with children	5501	9925	3902	3877	6 228	23 205
Number of other	13579	10532	4753	5483	4 967	34 347
individuals						
Number of observations	1 087 560	1 166 049	493 335	533 520	638 115	3 280 464

Notes and Sources: See table 8.

Table 12

Location Choice of Skilled and Unskilled Immigrants in 1990

Immigrants Origin	Maghreb		Africa		Asia		Europe		Refugees	
Education Level	Skilled	Unskilled	Skilled	Unskilled	Skilled	Unskilled	Skilled	Unskilled	Skilled	Unskilled
Similar immigrants	0.186	0.561	0.210	0.411	0.125	0.366	0.280	0.433	0.215	0.499
Share of population	(5.1)	(24.38)	(9.26)	(20.08)	(7)	(23.13)	(16.98)	(28.74)	(7.13)	(22.45)
Pct of similar immigrants	-0.036	0.069	-0.128	0.008	-0.016	-0.063	0.056	0.003	-0.060	-0.241
In city	(1.43)	(3.48)	(4.44)	(0.24)	(0.58)	(2.54)	(2.82)	(0.16)	(1.71)	(9.09)
Log(Population)	0.827	0.703	0.852	0.729	0.810	0.868	0.763	0.787	0.882	0.883
	(20.53)	(22.96)	(18.69)	(14.22)	(18.57)	(21.28)	(23.75)	(26.12)	(15.6)	(20.59)
Immigrants share	-0.114	0.018	0.141	0.230	0.062	0.416	0.101	0.266	-0.033	0.244
of population	(2.14)	(0.4)	(2.49)	(3.64)	(1.19)	(8.12)	(2.62)	(7.17)	(0.49)	(4.21)
University Graduates	0.438	0.071	0.373	-0.037	0.203	-0.114	0.303	0.104	0.178	0.238
as percent of UA population	(8.49)	(1.85)	(6.23)	(0.52)	(3.54)	(1.89)	(8.01)	(2.72)	(2.2)	(3.81)
Manufacturing share	-0.166	-0.162	-0.383	-0.441	-0.448	-0.226	-0.068	-0.281	-0.155	-0.010
	(2.72)	(4.19)	(4.76)	(5.56)	(6.2)	(4.56)	(1.58)	(7.07)	(1.68)	(0.16)
Unemployment Rate x	-0.157	0.121	-0.177	0.016	-0.418	-0.203	-0.018	0.111	-0.406	-0.015
Couple with Children	(2.7)	(3.29)	(2.64)	(0.23)	(6.58)	(3.36)	(0.42)	(2.78)	(4.67)	(0.23)
Unemployment Rate x	-0.138	-0.077	-0.141	-0.143	-0.448	-0.209	-0.190	0.113	-0.520	-0.304
Others	(2.71)	(2.2)	(2.37)	(2.37)	(7.46)	(3.97)	(4.59)	(3.08)	(6.21)	(4.63)
Nb of Social Housing	0.190	0.204	0.283	0.106	0.016	0.077	-0.238	-0.103	0.255	0.424
per Inhabitants x Couple	(3.24)	(4.82)	(4.23)	(1.37)	(0.25)	(1.23)	(4.82)	(2.29)	(3.26)	(7.71)
Nb of Social Housing	0.337	-0.063	0.284	-0.131	0.118	0.067	-0.217	-0.175	0.139	0.239
per Inhabitants x Others	(7.71)	(1.62)	(5.1)	(2.21)	(2.06)	(1.37)	(5.05)	(4.35)	(1.92)	(4.2)
Number of individuals	3 940	2 261	2 699	3 380	1 836	2 305	1 841	2 778	4 538	4 822
Number of Observations	224 580	128 877	153 843	192 660	104 652	131 385	104 937	158 346	258 666	274 854

Table 13

Location Choice in 1999 including controls for Housing Costs

Arrival Period 90-99 / 51 cities	Maghreb	Africa	Asia	Europe
Nb of Social Housing	0.202	0.099	0.107	-0.063
per Inhabitants x Couple	(8.04)	(2.02)	(2.87)	(2.09)
Nb of Social Housing	0.147	0.175	0.044	-0.060
per Inhabitants x Others	(4.71)	(4.33)	(1.06)	(2.25)
Av. Rent x couple	-0.019	-0.002	-0.082	-0.009
	(0.64)	(0.04)	(1.83)	(0.28)
Av. Rent x others	-0.017	0.077	-0.119	-0.079
	(0.5)	(1.58)	(2.55)	(2.78)
Number of individuals in couple with children	2 697	713	1 233	2 044
Number of other individuals	1 771	1 046	1 005	2 718
Number of obervations	227 868	89 709	114 138	242 862

Notes to table 13: Location choice over 51 cities for which data on average housing costs was available. Paris is excluded.

Table 14

Determinants of the 1999 Location per Cohorts of Immigrant

Immigrants origins	Maghreb				Africa		Asia	
Arrival Period	Before 1960	1961-1970	1971-1980	1981-1990	1971-1980	1981-1990	1971-1980	1981-1990
Similar immigrants	0.498	0.480	0.520	0.452	0.429	0.434	0.407	0.335
Share of population	(28.13)	(40.22)	(50.63)	(30.72)	(33.51)	(38.7)	(43.75)	(40.97)
Pct of similar immigrants	0.011	-0.002	-0.024	-0.062	-0.112	0.007	-0.053	-0.014
In city	(1.27)	(0.26)	(3.3)	(6.05)	(3.09)	(0.34)	(1.65)	(0.57)
Log(Population)	0.902	0.828	0.800	0.831	0.800	0.716	0.745	0.699
	(52.55)	(74.15)	(75.47)	(59.93)	(36.76)	(45.57)	(45.91)	(45.49)
Immigrants share	0.204	0.194	0.033	-0.085	0.011	-0.057	0.145	0.234
of population	(7.92)	(11.22)	(2.1)	(3.95)	(0.39)	(2.39)	(6.43)	(10.58)
University Graduates	-0.133	-0.088	-0.044	0.172	0.119	0.316	0.180	0.215
as percent of UA population	(5.63)	(5.6)	(3.18)	(9.63)	(3.57)	(12.89)	(7.33)	(9.21)
Manufacturing share	0.126	0.086	-0.049	-0.118	-0.023	-0.095	0.079	0.007
	(5.56)	(5.82)	(3.2)	(5.4)	(0.64)	(3.2)	(3.55)	(0.3)
Unemployment Rate x	0.088	-0.029	-0.026	0.013	-0.035	-0.042	-0.183	-0.117
Couple with Children	(3.74)	(1.87)	(1.88)	(0.72)	(1.17)	(1.77)	(7.37)	(4.89)
Unemployment Rate x	0.054	-0.103	-0.090	-0.070	-0.011	-0.041	-0.198	-0.121
Others	(2.24)	(5.38)	(4.76)	(3.05)	(0.29)	(1.44)	(4.91)	(3.61)
Nb of Social Housing	0.027	0.163	0.103	0.104	0.042	0.115	0.100	0.068
per Inhabitants x Couple	(1.01)	(10.66)	(7.45)	(5.34)	(1.37)	(4.72)	(4.76)	(3.11)
Nb of Social Housing	-0.131	0.038	-0.036	0.140	0.016	0.167	0.048	0.124
per Inhabitants x Others	(4.63)	(1.79)	(1.67)	(5.67)	(0.37)	(0.52)	(1.22)	(3.7)
Number of individuals								
in couple with children	4187	11452	12818	7254	5018	6852	7724	8240
Number of other individuals	4073	6110	5073	4354	2421	4350	2168	3442
Number of observations	470 820	1 001 034	1 019 787	661 656	424 023	638 514	563 844	665 874

Notes of table 14: Estimated via conditional logit. The dependant variable is the location in 1999. The choice set is 57 cities with more than 100 000 inhabitants in 1990 and the predictors are the characteristics of these cities during the census year. t-values are in parenthesis. Separate regressions are estimated for different cohorts of immigrants. The sample includes male immigrants who arrived in France during the indicated period and had more than 16 years old when they arrived. The sample is restricted to individuals aged 26 to 60 in 1999 and until 70 if they arrived before 1960. The sample excludes students and servicemen and individuals reported as children of a household are excluded. Column (6) reports the estimates of the location choice of new immigrants in 1968, 1975, 1982 and 1990 and controls for location fixed effects. Similar immigrants are immigrants from the same country of birth or regions. All predictors have been standardized to have an average of zero and a standard deviation of one for each individual. See text for details.

Sources of table 15: 1999 Census of Population and 1999 Census of Dwellings.

Table 15

Determinants of the 1999 location per cohorts of immigrants: European Immigrants

Arrival Period	Before 1960	1961-1970	1971-1980	1981-1990
Similar immigrants	0.513	0.443	0.442	0.430
Share of population	(44.7)	(51.17)	(43.63)	(38.77)
Pct of similar immigrants	-0.094	-0.073	-0.038	-0.007
In city	(3.07)	(2.77)	(1.54)	(0.32)
Log(Population)	0.762	0.742	0.741	0.798
	(45.67)	(56.82)	(45.7)	(45.47)
Immigrants share	0.292	0.168	0.187	0.115
of population	(12.37)	(9.36)	(8.34)	(4.59)
University Graduates	0.021	0.039	0.066	0.168
as percent of UA population	(1.07)	(1.99)	(2.79)	(6.73)
Manufacturing share	0.148	0.035	0.037	-0.050
	(7.37)	(2.14)	(1.76)	(1.97)
Unemployment Rate x	0.033	-0.230	-0.095	0.036
Couple with Children	(1.06)	(10.47)	(3.89)	(1.41)
Unemployment Rate x	0.069	-0.243	-0.127	-0.012
Others	(3.31)	(9.76)	(3.84)	(0.35)
Nb of Social Housing	-0.159	0.087	-0.014	-0.086
per Inhabitants x Couple	(4.55)	(4.66)	(0.63)	(3.42)
Nb of Social Housing	-0.132	0.115	-0.040	-0.139
per Inhabitants x Others	(5.79)	(5.25)	(1.24)	(4.01)
Number of individuals				
in couple with children	1793	9214	6618	5865
Number of other individuals	5042	6225	2757	2585
Number of observations	389 595	880 023	534 375	481 650

Notes: see table 14.