Homeownership of immigrants in France: Selection effects related to international migration flows[a]

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Abstract

We investigate the difference in homeownership rates between natives and first-generation immigrants in France, and how this difference evolves over the 1975-1999 period, by using a large longitudinal dataset. We find that the homeownership gap is large and has remained steady. Entries into the territory have a large negative effect on the evolution of homeownership rates for immigrants. Although entrants have on average better education than people staying in the territory for the entire period (i.e. stayers), they are younger and thus at an earlier stage in the wealth accumulation process. They are also located in large cities, where the homeownership rate is lower, and the returns to their characteristics are lower than those for stayers. Leavers have a positive effect on the evolution of homeownership rates for immigrants because they have a low access to homeownership and they exit the country. But this effect is only one-fifth that of entrants. For stayers, we show that returns to characteristics change in favor of immigrants, which is consistent with assimilation theories. However, among stayers who access homeownership, immigrants end up in owned dwellings that are of lesser quality than natives.

Key words: homeownership, immigrants, longitudinal data, selection effects
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1 Introduction

Low access to homeownership for immigrants and their descendants has long been considered to be a major public concern in the United States and Europe, as homeownership is traditionally considered to be a marker of assimilation and a major contributor to well-being and wealth.[1] Disparities in homeownership between natives and immigrants, as well as their evolution, have been studied mostly by using (repeated) cross-section data such as censuses (Borjas, 2002; Painter and Yu, 2008, 2010; Chakrabarty *et al.*, 2017), with an emphasis on cohort methods (Myers and Lee, 1998; Sinning, 2010).

Immigrant homeownership can be considered in a wider perspective involving international migrations. Indeed, the evolution of homeownership rates does not only reflect changes in access to homeownership. It also involves selection effects related to entries and exits from the territory by individuals with specific citizenship status, financial resources, family structure and preferences. The literature shows that there would be self-selection on economic success affecting the evolution of immigrant occupations and income (Lubotsky, 2007; Abramitzky *et al.*, 2014; Dustmann and Görlach, 2016), but the influence of international migrations on immigrant homeownership rates has not been studied so far.

In this article, we use a large longitudinal dataset constructed from five consecutive French censuses and registers of births, marriages and deaths to follow individuals over twenty-five years (1975-1999) and study the evolution of the difference in homeownership rates between natives and first-generation immigrants. We identify the contributions of international migration flows and provide a specific analysis for immigrants staying on the territory for a long period of time. For stayers accessing homeownership, we also compare the housing quality between native- and immigrant-owned dwellings.

Access to homeownership has been studied using longitudinal data that track individuals (Charles and Hurst, 2002; Dawkins, 2005), but the focus is usually on individual decisions rather than on the aggregate homeownership rate, and sample sizes are rather small compared to census extractions. An exception is Zorlu *et al.* (2014) who analyzed transitions into homeownership for ethnic groups in the Netherlands while individuals remain on the territory by using a large longitudinal administrative dataset; but their matters of interest were neither first-generation immigrants nor selection processes related to mobility in and out of the country.

We propose an empirical approach that decomposes the evolution of the homeownership rate over the 1975-1999 period for immigrants into the contributions of stayers, entrants and leavers.[2] These contributions not only involve the homeownership rates of these three subgroups, but also their weights in the sample at the initial and final dates. We then rely on standard decompositions for non-linear models proposed by Fairlie (1999, 2005), as these will allow us to study the role of individual observed character-

[1] This popular view has been questioned recently since millions of households in the US, especially immigrants, lost their home during the Great Recession because they could not repay their mortgage. In Europe, some countries such as Spain experienced a similar wave of defaults, but it was not the case of France which is the focus of the current paper. Note also that the economic literature on the costs and benefits of homeownership is rather nuanced and does not reach any clear-cut conclusion on the attractiveness of homeownership.

[2] Stayers are broadly defined as individuals present in both 1975 and 1999, entrants are those present in 1999 but not in 1975, and leavers are those present in 1975 but not in 1999. More detailed definitions are provided in Section 3.

istics and their returns in explaining differences in homeownership rates between immigrant stayers and leavers in 1975, as well as between immigrant stayers and entrants in 1999. These decompositions involve estimating logit models of homeownership for each subgroup of immigrants. We then use the same kind of decomposition to analyze the difference in homeownership rates between native and immigrant stayers and how this difference evolves over time. Finally, we compare the quality between native and immigrant newly-owned dwellings for stayers accessing homeownership.

We find that the homeownership gap between natives and immigrants is large and has remained steady over the 1975-1999 period. This absence of sizable changes hides some composition effects related to the inflows and outflows of immigrants. Entrants have a better education than stayers who had often migrated as unskilled labor after the Second World War. Nevertheless, they are also younger, at an earlier stage in the wealth accumulation process and they locate themselves in large cities where dwellings are more expensive for studies or job opportunities. The returns to characteristics such as college education are also lower than those of stayers. Overall, they thus end up with a lower homeownership rate which negatively affects the evolution of immigrant aggregate homeownership.

Leavers have characteristics detrimental to homeownership such as low education and low-skill occupation which makes harder to accumulate wealth. Moreover, their returns to characteristics are also lower than those of stayers possibly because they do not succeed in the host country, make remittances or keep their savings to purchase a dwelling in their home country. Overall, they have a lower homeownership rate than stayers and their departure positively affects the evolution of immigrant aggregate homeownership. Note though that this effect is only one fifth that of entrants.

Interestingly, returns to characteristics for native and immigrant stayers have evolved in favor of immigrants, which is consistent with steps towards assimilation. The evolution is very favorable for Southern European immigrants, suggesting fast assimilation, whereas it is even detrimental for North African immigrants. Turning to housing conditions of new owners, immigrants are worse off than natives. In particular, North African immigrants have fewer rooms per person than natives and end up being located in municipalities where the unemployment rate is much higher. Southern European immigrants occupy an intermediate position between these two groups.

The rest of the paper is as follows. In Section 2, we discuss the mechanisms that affect immigrant access to homeownership. We present our dataset in Section 3 and descriptive statistics in Section 4. Our empirical approach is detailed in Section 5 and results are presented in Section 6. Finally, Section 7 concludes the paper.

2 Homeownership gap between natives and immigrants

We now discuss the specific economic mechanisms underlying immigrants' access to homeownership that can generate the homeownership gap between natives and immigrants. To shape our argumentation, we distinguish between the process to purchase a home in the host country, mechanisms related to intentions

to emigrate and selection effects due to actual out-migrations. We then give more information on the French context.

2.1 Determinants of the homeownership gap in the host country

Homeownership has been encouraged in many countries, including France, since the Second World War. It is often considered as a sign of economic success and a worthwhile investment option to accumulate wealth. Moreover, homeownership in some neighborhoods can provide access to green amenities, good schools, safety and peer effects with educated households (Dietz and Haurin, 2003).

The literature investigating homeownership gaps mostly concerns ethnic/racial and immigrant groups in the US. The gap in homeownership rates between native and immigrant households in 2000 is around 20 percentage points (Borjas, 2002). Staying in the territory for generations does not necessarily mean catching up. For instance, Blacks have been present in the US territory for several centuries and their homeownership rate increased significantly over the 1940-1980 period through purchases of affordable dwellings in city centers (Collins and Margo, 2011; Boustan and Margo, 2013), but it remains much lower than that of Whites (Gabriel and Rosenthal, 2005).

Other groups have also been investigated, such as Asians (Painter *et al.*, 2001, 2003; Coulson and Dalton, 2010) and Hispanics (Krivo, 1995; Krivo and Kaufman, 2004; Flippen, 2010), and evidence shows that there are significant disparities across groups defined by both country of origin and generation since arrival in the host country (Rosenbaum and Friedman, 2004). Nowadays, among immigrants, the homeownership rate is much larger and quantitatively similar for Whites and Asians (Chakrabarty *et al.*, 2017). Importantly, accessing homeownership does not mean catching up in the housing market, since there is some overcrowding in owned homes for some groups, and housing quality is sometimes lower than that of natives (Myers and Lee, 1996; Friedman and Rosenbaum, 2004).

A natural candidate for explaining the lower homeownership rate of many immigrant groups compared to natives is their lower level of endowments. This disadvantage can take the form of lower education, which can prevent immigrants from getting well-paid jobs and thus from accumulating the wealth needed to purchase a home. Even if some immigrants are highly educated and have obtained a good degree in their home country, their credentials may not be fully recognized in the host country, and this may lower their access to high-skilled positions. Moreover, immigrants may suffer from discrimination in the labor market, which reduces their access to jobs (Altonji and Blank, 1999; Bertrand and Mullainathan, 2004). The ability to speak the language of the host country is also important, and it has been shown that immigrants with more language skills have a higher propensity to become homeowners (Alba and Logan, 1992; Painter and Yu, 2008, 2010). Immigrants in some ethnic groups are also less likely than natives to benefit from relatives transferring wealth for them to purchase a home. Charles and Hurst (2002) show that black buyers purchasing a home have much less help from their family than White buyers. In fact, Hilber and Liu (2008) show that differences in wealth between Whites and Blacks are a major driver of the difference in their access to homeownership.

Less access to housing and credit markets for racial/ethnic groups is also cited as a significant contributor to their having less access to homeownership. Some underlying mechanisms are likely to affect first-generation immigrants. In particular, some incoming immigrants may lack information on the two markets (Krivo, 1995). It has also been shown that some groups, such as Blacks, face discrimination in the housing market which affects not only the screening of housing units, as some real estate agents recommend fewer units to them than to Whites (Yinger, 1986), but also the type of mortgage and insurance made available to them (Yinger, 1996; Ross and Tootell, 2004; Chan *et al.*, 2015) as well as their mortgage costs (Bayer *et al.*, 2017). Interestingly, Charles and Hurst (2002) show that the difference in application rates to a mortgage between Whites and Blacks is a significant driver of the racial homeownership gap, and they conjecture that Blacks apply less often because they anticipate rejection. Moreover, when there are adverse economic shocks, minorities at high risk of foreclosure would be less likely to purchase a dwelling and those who accessed homeownership would be more likely to default on their mortgage and be forced to move out (Bayer *et al.*, 2016).

Immigrants' choice of location matters, since the proportion of owned dwellings and housing prices vary across cities. In the US, immigrants are clustered in cities where even natives have a low homeownership rate (Borjas, 2002). Those who locate themselves in immigrant gateways would do better than those arriving in mid-size cities (Painter *et al.*, 2003; Painter and Yu, 2010). Ethnic enclaves could favor homeownership by helping immigrants avoid discrimination, by supporting an ethnic secondary housing market, by proposing specific amenities and services to immigrants in segregated neighborhoods, and by providing information about housing and real estate. The local presence of same-origin immigrants is associated with a higher homeownership rate for immigrants (Borjas, 2002), and that of co-ethnics positively affects ethnic groups (Flippen, 2010; Finnigan, 2015).

Time spent in the host country also influences access to homeownership for immigrants (Myers and Lee, 1998; Borjas, 2002). Immigrants who arrive in the host country during their youth can get a local diploma, which is often more highly valued than a foreign diploma. The host language is learned over time and information is gathered on the society, particularly on the labor, housing and credit markets. Time spent in the host country facilitates wealth accumulation and marriage with natives, who can contribute to the down payment when purchasing a dwelling. It also allows for location and housing tenure adjustments after arrival in a gateway city. Finally, it can increase one's commitment to the host country, which has been shown to positively affect the propensity to be a homeowner in Germany (Constant *et al.*, 2009).

2.2 Migration flows and homeownership

The homeownership gap between natives and immigrants can also be analyzed as part of the international migration process. Indeed, migrations to a host country occur at individual-specific moments over the life-cycle, may not be permanent and some individuals may intend to go back to their home country or even to emigrate to a third country.[3] When settled in the destination country, out-migration intentions

[3]For instance, immigration can occur for the young as students, for temporary workers trying to earn money for a while before getting back to their home, entire families wishing to live abroad, or retirees who want to benefit from a pleasant life

drive social and economic decisions (Dustmann and Görlach, 2016), and can greatly influence savings behaviour and home purchase.

More specifically, households who plan to remigrate rather quickly, such as temporary workers, may not want to save for a home purchase in the host country. For immigrants in France who have return plans, the propensity to remit either for personal savings or to family members in the origin country is larger (Wolff, 2015, 2018). In fact, the goal for sending savings to the home country can be the purchase of a dwelling located there. Indeed, immigrants intending to leave are more (resp. less) likely to invest and own a dwelling in their home (resp. host) country (Chabé-Ferret *et al.*, 2018).

Actual remigration may not coincide with initial return anticipations since these anticipations are regularly updated based on experience or unanticipated family and economic shocks. For instance, fewer immigrants in the US in the early 20^{th} century planned to return home than actually did because life there was more difficult than expected (Ward, 2017). Revised anticipations will affect the plans for home purchase and actual out-migrations can lead to self-selection of individuals on characteristics related to financial capacities.

The selection of individuals has been studied recently at the age of mass migration (1850-1920) for the US. Overall, out-migrants would be less well-off than stayers. For instance, among Norwegians, return migrants held slightly lower-paid occupations than stayers both before and after moving to the US (Abramitzky *et al.*, 2019).[4] Finally, some out-migrants were migration repeaters as skilled as the migrant stock in the US, but more skilled than return migrants, maybe because repeated trips were often consumption goods (Ward, 2016).

Bad results on the labour market can foster out-migration. In Netherlands, international students leave faster when they become unemployed (Bijwaard and Wang, 2016) and unemployment spells increase return propensity for all immigrants while reemployment spells typically delay returns (Bijwaard *et al.*, 2014). More generally, emigration can occur if labour market outcomes do not conform to expectations, and can thus concern not only low-educated workers but also high-educated ones. In Sweden, emigrants are positively selected in terms of upper education and well-educated migrants often move to a third country (Nekby, 2006).

The impact of international migration flows on aggregate differences between native and immigrants has been investigated for labour outcomes, but not for housing outcomes such as homeownership. The focus has been mostly on selection effects due to in- and out-migrations on occupation and income (Dustmann and Görlach, 2015). At the age of mass migration in the US, initial gap in occupations between natives and immigrants after immigrants' arrival would have remained steady over time when taking into account negative selection (Abramitzky *et al.*, 2014), whereas a repeated cross-section approach would conclude to convergence. After the fifties, the earnings gap between natives and immigrants after immigrants' arrival in the US would have closed two times more slowly when taking into account

in a nice location.

[4]Interestingly, higher quota restrictions reduced emigration rates, mostly for unskilled laborers and farmers, as they limited competition of immigrants in the labour market (Greenwood and Wood, 2015).

emigration of low-wage immigrants (Lubotsky, 2007). For Germany, emigrants are negatively selected with respect to occupation and stable full-time employment (but not human capital or gender), and emigration would not distort cross-sectional estimates of earnings assimilation in a relevant way (Constant and Massey, 2003).

We rather study selection effects on the homeownership gap between natives and immigrants. There is of course a connection with the literature on labour outcomes since selection based on economic success also means selection on financial capacities which can affect access to homeownership.

2.3 The French context

After Second World War, unskilled labour immigration was encouraged in France for reconstruction (see appendix A for more details). Workers were attracted by good job opportunities in the building sector and manufacturing industries although their future in the host country was uncertain. It was not homeownership but rather finding a proper dwelling which was the main concern of most incoming immigrants.

As housing conditions were rather poor, the government encouraged the construction of large neighborhoods with concrete buildings (*Grands Ensembles*). A large share of them consisted in social dwellings below the market rent for poor and medium-income households. These dwellings attracted immigrants who were often eligible (Verdugo, 2016), but they were a source of social segregation, especially in large cities. Existing buildings deteriorated because they were not maintained, and many immigrants ended up living there in rather poor conditions. In fact, the concentration of immigrants of the same origin was associated with lower mobility (Rathelot and Safi, 2014). Staying in a social dwelling can be necessary because of limited resources but it can also be a residential strategy to save money for accessing homeownership in France (Goffette-Nagot and Sidibé, 2016) or in the home country after a return migration.

After the Second World War, homeownership was promoted as a sign of social success and subsidies were gradually introduced for first-time buyers in the form of subsidized loans (Gobillon and Le Blanc, 2008). These loans were most useful to households at the margin of purchasing a new dwelling. They were thus of limited use to low-skilled immigrants lacking financial resources but they were overall very attractive for natives, and homeownership rate increased significantly from 45% in 1970 to 54% in 1988. After that date, homeownership has remained nearly constant and it reached 56% in 2006.

Previous evidence on the homeownership of immigrants in France is cross-section and shows that there are stark differences across immigrant groups, depending on their country of origin: the Algerians and Moroccans have a much lower homeownership rate than the Portuguese and Spaniards (Simon, 1995). The low access to homeownership of North African immigrants is not surprising, considering that they are on average low-skilled and thus less able to accumulate wealth to purchase a home. They may also suffer from discrimination on the housing market, although it is debated whether discrimination in France is based mostly on taste or the place of residence (Bonnet *et al.*, 2016; Combes *et al.*, 2018).

3 Data

Our main dataset is the Permanent Demographic Sample (*Echantillon Démographique Permanent* in French) which is built from exhaustive French censuses and registers of births, marriages and deaths collected by the French Institute of Statistics, INSEE (Couet, 2007).[5] It tracks individuals born in the first four days of October through the five censuses 1968, 1975, 1982, 1990 and 1999, and thus provides a unique opportunity to analyze the effects of in- and out-migrations.[6] The only ways to enter the dataset is birth or immigration, and the only ways to leave it is death or emigration. As individuals born on October, 2 and 3 do not have death properly recorded and exhibit higher attrition between 1990 and 1999, they are not considered in the analysis.

The sample size is very important, as around 450,000 individuals are tracked and it is thus possible to study subgroups of immigrants defined by country of origin. We focus on the choice between owning and renting, and no further distinction is made for renters between the private and public sectors due to data limitations before 1990. For the 1968 census, the housing tenure is not available and we thus limit our analysis of homeownership to the period from 1975 onwards. Nevertheless, this early census will be used to determine whether individuals present in the 1975 census were already present in the 1968 census.

For the 1975, 1982, 1990 and 1999 censuses, the data contain information on individual, household and dwelling characteristics. The sex, age, diploma and socio-professional category are given, as well as the employment status. We know about the couple status (single, divorced, widowed, married or with a partner) and the number of children. It is also possible to tell whether married individuals live or not with their husband or wife, and to distinguish between single and multi-family households. The immigrant status of individuals is determined using information on the country of birth and citizenship at birth.[7] For immigrants, we determine the intercensal period in which they immigrated to France (except when they immigrated before 1968). Thanks to the information on the partner, it is possible to determine whether individuals are involved with an immigrant or a native.

Moreover, we have information on the dwelling for ordinary households, which includes its number of rooms, whether it is a flat or a detached house, and whether it is owned or rented.[8] Since our data are extracted from censuses, we do not have information on income and wealth. US evidence suggests that it is the permanent income rather than the current one that influences access to homeownership (Coulson,

[5]Until recently, the access to the Permanent Demographic Sample was very restricted, which can explain the scarcity of publications that are based on it. However, this dataset is a cornerstone of the French statistical system and it has been widely used at the French Institute of Statistics in various studies (mostly in French), as shown by the list provided by Jugnot (2014).

[6]The 1999 census is the last exhaustive census in France. From 2004 onwards, it is replaced by a continuous census such that, every year, all individuals in one fifth of municipalities with fewer than 10,000 inhabitants and 8% of individuals in municipalities with 10,000 inhabitants and more are interviewed. Consequently, only 70% of the whole population is covered at the end of a five-year period and only 40% of the population living in large municipalities (where immigrants are mainly located). The related information in our data is thus hardly tractable.

[7]Immigrants consist of all the individuals born in a country other than France and whose citizenship at birth is not French. By contrast, natives are defined as all individuals born in mainland France. Other individuals are excluded from our sample.

[8]Households are classified as "ordinary" if they live in a dwelling, regardless of whether it belongs to them, friends or relatives. Households are non-ordinary if they live in mobile homes, boats or collective dwellings (which include workers' hostels, retirement homes, university halls of residence and remand establishments) or if they are homeless.

1999). We will proxy for wealth and permanent income with detailed variables for age, diploma, occupation and family. We will thus estimate a reduced form of the probability of homeownership.

The data also provide us with the municipality code and we use it to match the Permanent Demographic sample with census data at both the municipality and urban area levels.[9] Local variables include the local population, unemployment rate, homeownership rate, and the proportion of immigrants by country of origin. In our main specifications, the urban area size is broken down into six categories in order to take into account non-linear effects on homeownership. These categories are: rural area or belonging to several urban areas (labeled "Outside"), less than 50,000 inhabitants, between 50,000 and 200,000, between 200,000 and 500,000, between 500,000 and 10,000,000, and Paris.

We want to study the evolution of homeownership for a given population knowing that deaths are recorded only for individuals born from 1891 onwards (who are less than 85 in 1975). We thus consider only individuals aged 18-84 and focus on homeownership by the household head or a spouse as opposed to rental in the public or private sector, or any other kind of stay.[10]

There are shortcomings to the sample. For the 1975 census, the information on household and dwelling is not available for 11.1% of observations, as not all the completed census forms were processed in some municipalities. These observations are excluded from the analysis.[11] For the 1982 census, information on household and dwelling is available for a random sample of one fourth of the individuals only.[12] For financial reasons, the information was not processed for the other observations.

In the whole study, we are particularly interested in the homeownership rates of individuals staying in mainland France, as well as those entering and leaving the territory. We consider that stayers are individuals in the sample in both 1975 and 1999.[13] There are also individuals in the sample in 1999 but not in 1975. We distinguish among them between those moving into the territory between the two dates, that we label "entrants", and others (ie. individuals below 18 in 1975 or born afterwards, and those not considered in 1975 because of data matters). Finally, there are individuals in the sample in 1975 but not in 1999. We distinguish among them between individuals leaving the territory, that we label "leavers", and others (ie. individuals dying in France before 1999 or above 84 in 1999, and those not considered at that date because of data matters).

Importantly, note that the age range of stayers and leavers is not the same as that of entrants. Indeed, stayers need to be aged no more than 84 in 1999 to be in the sample. This yields that they are aged at

[9] Urban Areas were conceived by the French Institute of Statistics, and they consist of: (1) groups of bordering municipalities that have no pockets of clear land and which encompass an urban center (urban unit) that provides at least 10,000 jobs; and (2) rural districts or urban units (urban periphery), among which at least 40% of the employed residents work in the center or in the municipalities attracted by this center.

[10] Other kind of stays include living at a parent's place, a friend's home, or in a place that is non-ordinary (see footnote 8 for a definition).

[11] We compared the characteristics of excluded individuals with those of individuals remaining in our sample. They are very similar except for location since excluded individuals are more often located in urban areas with more than 500,000 inhabitants, especially Paris. This is consistent with a partial processing of census forms mostly in large urban areas.

[12] We compared the characteristics of individuals in this particular sample and the whole sample. They are virtually the same.

[13] According to our data restrictions, individuals are in our sample at a given date if they are in the census with available information on location, household and dwelling, and they are aged 18-84 and located in mainland France.

most 60 in 1975. Moreover, they need to be aged at least 18 in 1975 to be in the sample. Hence, they are aged at least 43 in 1999. Overall, they are thus in the age bracket 18-60 in 1975 and 43-84 in 1999. It is also true for leavers since they are in the sample in 1975 and should be in 1999 according to the age criterium, except that they are not in mainland France anymore. By contrast, entrants can be in the whole age bracket 18-84 in 1999.

4 Descriptive statistics

We now provide figures on the sample composition and homeownership rates of natives and immigrants. The proportions of immigrants by country of origin are reported in Table A.1 for the years 1975 and 1999, when they were above 1%. Together with historical considerations detailed in Appendix A, they motivate our choice of studying not only immigrants as a whole, but also two specific subgroups: North African immigrants (from Algeria, Morocco and Tunisia) and Southern European immigrants (from Italy, Portugal and Spain). These comprise immigrants from six of the seven most important countries of origin in 1999. From now on, we will label these groups as North Africans and Southern Europeans for simplicity.

As shown by Table A.2, the proportion of immigrants only increases very slightly from 9.4% to 9.9% over the 1975-1999 period.[14] This general trend masks some heterogeneity by origin. Whereas the proportion of Southern Europeans has decreased constantly, the proportion of North Africans has increased, mostly because of specific waves of immigrants coming from Morocco and Tunisia.

4.1 The evolution of the homeownership gap

Figure 1.a shows that the homeownership rates of natives and immigrants have increased over the period under study, from 40.8% in 1975 to 50.5% in 1999 for natives and 25.7% to 36.4% for immigrants. A major driver of this increase was the introduction of subsidized loans after the Second World War to encourage access to homeownership. Nevertheless, the difference in homeownership rates between the two groups has only slightly decreased by 1.0 points over the period. Interestingly, there is some heterogeneity in the homeownership rate across immigrant groups, both in level and in trend. The homeownership rate is particularly low for North Africans at every census date (starting at only 8.4% in 1975), and the gap with natives has only slightly decreased over the period, from 32.4 points to 31.2 points. By contrast, the homeownership rate is much higher for Southern Europeans at every census (starting at 28.8% in 1975), and the gap with natives has vanished over time. In 1999, the homeownership rate of Southern Europeans is even 3.3 points above that of natives.

Of course, these stylized facts mask important composition effects. In particular, there are ingoing and outgoing flows of migrants that yield changes in the immigrant population on the territory, and time spent in France is important for the wealth accumulation process needed to access homeownership. As we

[14] Note that the number of observations increases significantly between 1975 and 1990. This occurs because the French population increased greatly after the Second World War and up until the eighties, and because 11.1% of observations could not be used for 1975 due to missing data issues.

have longitudinal data, it is possible to investigate more precisely the selection effects related to entries and exits by comparing the homeownership rates of stayers and leavers in 1975, and those of stayers and entrants in 1999 (see definitions in Section 3).

Figure 1.b shows that immigrant entrants and leavers have much lower homeownership rates than stayers. Interestingly, the homeownership rate of entrants is smaller than that of leavers, but Table A.4 shows that their proportion in the sample is much larger. The ranking of homeownership rate for stayers, entrants and leavers is similar for Southern Europeans and North Africans (see Figure A.1.a and A.1.b), except that, for Southern Europeans, the proportion of entrants is smaller and closer to that of leavers.

We then assess whether immigrant stayers catch up with native stayers with respect to homeownership rates. As shown by Figure 1.c, the pattern is rather different from the one obtained for the whole sample. The initial gap in homeownership rates between natives and immigrants in 1975 is smaller, at 10.0 points instead of 15.1 points, but it increases over time to reach 14.2 points in 1990 before decreasing slightly to 13.7 points in 1999. The gap between natives and North Africans is also initially lower at 25.9 points, but it grows significantly larger and reaches 40.3 points in 1990 before decreasing slightly to 37.1 points in 1999. Finally, Southern Europeans have a homeownership rate that is a bit lower than that of natives, and they never catch up with them throughout the entire period.

For immigrant stayers, there are also cohort effects related to the period of entry. Figure 1.d shows that immigrants who entered the territory before 1968 have a homeownership rate in 1975 which is close to that of natives, at around 35%, whereas that of immigrants entering during the 1968-1975 period is much lower at around 6%. It can be checked that part of this difference comes from a life-cycle effect with early immigrants being much older than late ones. Even if the homeownership rate of late immigrants increases much faster than that of earlier ones, there is no catching-up before the end of the period.

[Insert Figure 1]

4.2 Differences in characteristics between natives and immigrants

Migration flows influence the characteristics of immigrants present on the French territory and thus the difference in homeownership rates between natives and immigrants. Changes in the composition of immigrants can be detailed by comparing the characteristics of immigrant stayers and leavers in 1975, as well as those of immigrant stayers and entrants in 1999 which are reported in Table 1.[15]

The profile of leavers is consistent with a return to the home country of low-skilled workers arrived after Second World War as temporary labour. Indeed, whereas the age distribution of immigrant stayers and leavers is rather similar, leavers are more often North Africans and less often Southern Europeans, less educated, more often males, more often blue collars, more often single or married with absent partner,

[15] Online Appendix B provides additional descriptive statistics for different intercensal periods, different groups depending on reasons for getting out and into the sample, and males.

and they have fewer children living in the household. Finally, they are more often located in Paris urban area.

We then compare the characteristics of immigrant stayers and entrants. Overall, the profile of entrants is consistent with young educated immigrants getting into the country for studies or job opportunities at the beginning of the life cycle. Indeed, immigrant entrants have some college education much more often than immigrant stayers and a much larger proportion of them are located in the Paris urban area. They are on average younger, which is not surprising as immigration is more likely to occur at younger ages and stayers were already 18 or more in 1975. Finally, they are more often North Africans and far less often Southern Europeans.

We finally compare the characteristics of native and immigrant stayers in 1975, as well as their evolution over the 1975-1999 period. Importantly, immigrants do not have education and occupations allowing the same weath accumulation as natives. They have lower-level diplomas and, although education increases over time as some young individuals graduate or older ones obtain a degree in order to acquire skills, education also increases for natives and the difference in qualifications remains similar over the period. The proportion of blue collars is larger among immigrants but many employed workers retire over the 1975-1999 period such that there is a decrease in the difference with natives.

Turning to the family situation, it can be noted that married immigrants live less often with their partners than natives and, not surprisingly, immigrants are much more likely to have a partner who is an immigrant. They also have more often four children or more, although this trend tends to lessen over time with the departure of children from family nest. Finally, immigrant stayers live more often in large urban areas more than 500,000 inhabitants and the difference with native stayers remains constant over time. In fact, immigrants are located in places characterized by a slightly lower homeownership rate, and the municipalities where they reside are marked by higher unemployment rates, especially in 1999, when the national level of unemployment was high.

[Insert Table 1]

5 Empirical strategy

5.1 Assessing the impact of international migration flows on homeownership

We want to quantify the influences of entrants and leavers on the evolution of the homeownership rate for immigrants. For that purpose, we propose a decomposition of this evolution between the two dates $t = 1975$ and $t + 1 = 1999$ that distinguishes between stayers, individuals getting out and those getting into the sample. As previously, we consider separately entries in the country and other types of entries in the sample, and separately exits from the country and other types of exits from the sample. We denote by H_{it} a dummy equal to one if individual i is a homeowner at date t, and zero otherwise; $i \in t$ indicates the fact that individual i is in the sample at date t; and O_{it} is the reason for the absence of individuals

not in the sample at period $t+1$ with value o for exit from the country and no otherwise. Other reasons include death, reaching the upper bound of the age bracket for being in the sample (ie. 84 years old) and censorship for location or data reason (see Appendix B). The probability of being a homeowner can be decomposed such that:

$$\begin{aligned} P\left(H_{it}=1\,|i\in t\right) &= \omega_t^s P\left(H_{it}=1\,|i\in t, i\in t+1\right) \\ &+ \omega_t^o P\left(H_{it}=1\,|i\in t, i\notin t+1, O_{it}=o\right) \\ &+ \omega_t^{no} P\left(H_{it}=1\,|i\in t, i\notin t+1, O_{it}=no\right) \end{aligned} \tag{1}$$

where $\omega_t^s = P\left(i\in t+1\,|i\in t\right)$ is the probability of remaining in the sample between the two dates after being in the sample at the initial date, and $\omega_t^k = P\left(i\notin t+1, O_{it}=k\,|i\in t\right)$ is the probability of experiencing an exit $k\in\{o,no\}$. According to this formula, the probability of being a homeowner can be rewritten as a weighted average of the probabilities of being a homeowner for stayers, leavers and individuals getting out of the sample for another reason. In the same way, denote by E_{it+1} the reason for the appearance of an individual in the sample at period $t+1$ with value e for entry in the country and ne otherwise. Other reasons include reaching age of being in the sample and censorship for location or data reason (see Appendix B). The probability of being a homeowner at the final date verifies:

$$\begin{aligned} P\left(H_{it+1}=1\,|i\in t+1\right) &= \omega_{t+1}^s P\left(H_{it+1}=1\,|i\in t, i\in t+1\right) \\ &+ \omega_{t+1}^e P\left(H_{it+1}=1\,|i\notin t, i\in t+1, E_{it+1}=e\right) \\ &+ \omega_{t+1}^{ne} P\left(H_{it+1}=1\,|i\notin t, i\in t+1, E_{it+1}=ne\right) \end{aligned} \tag{2}$$

where $\omega_{t+1}^s = P\left(i\in t\,|i\in t+1\right)$ is the probability of individuals being present at the initial date of the period if they are present at its final date, and $\omega_{t+1}^k = P\left(i\notin t, E_{it+1}=k\,|i\in t+1\right)$ is the probability of experiencing an entry $k\in\{e,ne\}$. The probability of being a homeowner can thus be rewritten as a weighted average of the probabilities of being a homeowner for stayers, entrants and individuals getting into the sample for another reason. It is then easy to show that the evolution of the homeownership rate verifies the following decomposition into four terms:

$$\begin{aligned} & P\left(H_{it+1}=1\,|i\in t+1\right) - P\left(H_{it}=1\,|i\in t\right) \\ = \;& P\left(H_{it+1}=1\,|i\in t, i\in t+1\right) - P\left(H_{it}=1\,|i\in t, i\in t+1\right) \\ + \;& \omega_{t+1}^e\left[P\left(H_{it+1}=1\,|i\notin t, i\in t+1\,, E_{it+1}=e\right) - P\left(H_{it+1}=1\,|i\in t, i\in t+1\right)\right] \\ + \;& \omega_t^o\left[P\left(H_{it}=1\,|i\in t, i\in t+1\right) - P\left(H_{it}=1\,|i\in t, i\notin t+1\,, O_{it}=o\right)\right] \\ + \;& R_{it} \end{aligned} \tag{3}$$

where on the right-hand side, the first term is the evolution of the homeownership rate for stayers, the next two terms capture the influence of individuals entering and leaving the country, and the fourth

term corresponds to residual effects related to individuals getting out and into the sample for other reasons.[16] The second term increases in absolute terms with the proportion of individuals entering the country (ω^e_{t+1}) and corrects the homeownership rate for their presence at the final date with the difference in homeownership rates between stayers and entrants. It is negative when the homeownership rate of stayers is higher than that of entrants. The third term increases in absolute terms with the proportion of individuals leaving the country (ω^o_t) and corrects the homeownership rate for their presence at the initial date with the difference in homeownership rates between stayers and leavers. It is positive when the homeownership rate of stayers is higher than that of leavers. Note that the fourth term aggregates a term similar to the second one due to individuals getting out of the sample other than leavers and a term similar to the third one due to individuals getting into the sample other than entrants; but it is not detailed here as it is not of interest for our analysis. Standard errors and significance levels are computed by bootstrap using 1000 replications.[17]

5.2 Quantifying the influence of individual characteristics

We then assess to what extent the difference in homeownership rates between immigrant stayers and immigrant entrants/leavers relates to differences in characteristics and their returns. For that purpose, we resort to the decompositions for non-linear models proposed by Fairlie (1999, 2005). For a given individual i, we denote by X_{it} the set of characteristics at date t, and by β_{gt} the returns to these characteristics which are allowed to vary with the group g, with $g = m$ for immigrant stayers, $g = l$ for immigrant leavers and $g = e$ for immigrant entrants. Considering first only stayers and leavers, we estimate a logit model for being a homeowner at date t for each group, such that the probability for an individual in group g of being a homeowner given his or her observed characteristics is $F(X_{it}\beta_{gt})$, where $F(\cdot)$ is the cumulative of the logistic distribution. We introduce the function $R(g, \beta, t)$, which corresponds to the homeownership rate of group g at time t if the returns to characteristics are β:

$$R(g, \beta, t) = \frac{1}{N_{gt}} \sum\nolimits_{i \in (g,t)} F(X_{it}\beta) \tag{4}$$

with N_{gt} being the number of individuals in group g at date t. In particular, $R(g, \beta_{gt}, t)$ is a predictor of the observed homeownership rate. We can decompose the gap in homeownership rates between immigrant stayers and leavers at date t in the following way:

$$R(m, \beta_{mt}, t) - R(l, \beta_{lt}, t) = [R(m, \beta_{mt}, t) - R(l, \beta_{mt}, t)] + [R(l, \beta_{mt}, t) - R(l, \beta_{lt}, t)] \tag{5}$$

where the first right-hand-side term captures the influence of the differences in characteristics between immigrant stayers and leavers (with returns fixed to those of stayers), and the second right-hand-side term

[16] The fourth right-hand side term verifies: $R_{it} = \omega^{ne}_{t+1} [P(H_{it+1} = 1 \,|\notin t, i \in t+1\,, E_{it+1} = ne) - P(H_{it+1} = 1 \,|i \in t, i \in t+1)] + \omega^{no}_t [P(H_{it} = 1 \,|i \in t, i \in t+1) - P(H_{it} = 1 \,|i \in t, i \notin t+1\,, O_{it} = no)]$.

[17] The use of boostrap makes it possible to avoid restrictive assumptions on the homeownership and attrition processes, and intricate computations to get tractable analytical formulas.

captures the influence of the differences in the returns (with characteristics fixed to those of leavers). Put differently, the first contribution quantifies how much difference there would be in the homeownership rate gap if immigrant leavers had the same returns to characteristics as immigrant stayers; and the second contribution states how much difference there would be in the homeownership rate gap if immigrant stayers had the same characteristics as immigrant leavers. Computation of the different terms involves estimating parameters β_{gt} by maximum likelihood and then plugging the estimators into the formula for the homeownership rate given by equation (4). Standard errors and significance levels are computed by bootstrap using 100 replications.[18] We can decompose in the same way the gap in homeownership rates between immigrant stayers and entrants at date $t+1$, $R(m, \beta_{mt+1}, t+1) - R(e, \beta_{et+1}, t+1)$. We also propose in Appendix C two approaches to quantify the influence of compositions effects and returns for subgroups of variables.

Finally, we decompose the gap in homeownership rates between native and immigrant stayers as well as its evolution. First, note that the decomposition in level can be conducted at each date in the same way as for immigrant stayers and leavers/entrants. We denote by $g = n$ the group of native stayers and by $\Delta R(g, \beta, t) = R(g, \beta, t+1) - R(g, \beta, t)$ the evolution of the homeownership rate between the two dates t and $t+1$. We can decompose the difference in the evolution of homeownership rates between native and immigrant stayers by differencing equation (5) applied to the groups n and m, and rearranging the terms:[19]

$$\Delta R(n, \beta_{nt}, t) - \Delta R(m, \beta_{mt}, t) = [\Delta R(n, \beta_{nt}, t) - \Delta R(m, \beta_{nt}, t)] + [\Delta R(m, \beta_{nt}, t) - \Delta R(m, \beta_{mt}, t)] \quad (6)$$

The difference in the evolution can be written as the sum of two terms corresponding, respectively, to changes resulting from differences in the evolution of the characteristics between native and immigrant stayers (with returns fixed to those of natives), and to changes related to differences in the evolution of the returns to these characteristics (with characteristics fixed to those of immigrant stayers).

6 Results

6.1 The role of entrants and leavers in immigrant homeownership rates

We report the results of decomposition (3) in Table 2, which gives the contributions of stayers, leavers and entrants to the evolution of immigrant homeownership rate over the 1975-1999 period. Results are contrasted with those obtained for natives. Note that contributions of other reasons for individuals getting out and into the sample are all aggregated into a "Residual" category and they are not detailed here since they do not affect our conclusions, but rather in Online Appendix A.

The population of immigrants is characterized by both the departure and arrival of individuals with a

[18] We do not use more replications because the procedure is cumbersome: At each iteration, we need to re-estimate logit models before computing the terms in the decomposition.

[19] Since the difference in the evolution of homeownership rates is equal to the evolution of the difference in homeownership rates, we will refer to the two indistinctly in the interpretations of the decomposition.

low homeownership rate such that the effects of migration flows on the evolution of homeownership rate is qualitatively ambiguous. Indeed, the contribution of leavers is positive because their homeownership rate in 1975 is lower than that of stayers:[20] Adding leavers to the sample makes the homeownership rate lower at the initial date, and thus its evolution is greater. By contrast, the contribution of entrants is negative because their homeownership rate is lower than that of stayers in 1999:[21] Adding entrants to the sample makes the homeownership rate lower at the final date, and thus its evolution is smaller. "Residual" categories also have a negative contribution, but it is much smaller than that of entrants. Overall, the negative effect of entrants is by far the most important, and the evolution of homeownership rates for the whole sample of immigrants is lower than that of immigrant stayers.

Selection mechanisms due to entries and exits are similar for natives except that their contributions are much smaller than for immigrants. This is because native migrant outflows and inflows are small. In fact, the contribution of the "Residual" category is negative and very large. It is due to a large number of young natives (some not even born in 1975) getting into the sample by reaching age 18 during the 1975-1999 period who are far less often homeowners than stayers. It is by far the most important contribution and it makes the evolution of the homeownership rate for the whole sample of natives much lower than that of native stayers.

Decompositions are also made for specific immigrant groups. For Southern Europeans, the contribution of entrants is much smaller than that for the whole sample of immigrants. This is due to the proportion of entrants in the sample at the final date and the difference in homeownership rates between stayers and entrants being lower. As a result, the evolution of the homeownership rate for the entire Southern European population is closer to that of stayers. For North Africans, the contribution of entrants is rather large. This does not come much from the difference in homeownership rates between stayers and entrants (which is slightly lower than the one for Southern Europeans), but rather from the large proportion of entrants at the final date. Consequently, the evolution of the homeownership rate for the entire North African population is lower than that of stayers. Overall, differences between the two immigrant groups reflect differences in the timing and composition of immigration waves.

[Insert Table 2]

6.2 The influence of characteristics on the gap between stayers and leavers/entrants

We next investigate to what extent the returns to characteristics differ between immigrant stayers and leavers in 1975.[22] Table 3, columns 3 and 4 gives the estimated coefficients of the logit models of home-

[20]The contribution of leavers is +3.8 points. It is computed as the product of their proportion in the 1975 sample, 29.9/100=0.299, and the gap in homeownership rate between stayers and them, +12.7 points. The gap itself can be computed from Table 1, columns (3) and (7) as 100*(25.8-13.1)=12.7.

[21]The contribution of entrants is -19.8 points. It is computed as the product of their proportion in the 1999 sample, 63.9/100=0.639, and the gap in homeownership rate between them and stayers, -31.0 points. The gap itself can be computed from Table 1, columns (5) and (9) as 100*(26.5-57.5)=-31.0.

[22]As there could be some specificities depending on gender, we also ran all the logit regressions and conducted the decomposition exercises on the subsample of males. Results are discussed in Online Appendix C. Returns to characteristics

ownership for these two subgroups. Overall, results suggest that leavers have difficulties saving money over the life-cycle to become homeowners, possibly because they occupy lower-quality jobs, or they prefer to keep their money to invest in their home country. Indeed, the gap in homeownership between young and middle-aged immigrants is smaller for leavers than for stayers. Moreover, employment does not increase the propensity to be a homeowner for leavers, whereas it does for stayers. Finally, being retired is not associated to homeownership for leavers as much as it is for stayers, possibly because of return migration plans.

[Insert Table 3]

We now turn to the decomposition of the homeownership gap between immigrant stayers and leavers in 1975 as given by (5).[23] The difference in homeownership rates is positive at 12.7 points, as reported in Table 4, and as much as 7.9 points of this gap is explained by differences in characteristics at the disadvantage of leavers. This is consistent with leavers having unfavourable family structure and lower professional categories that can limit wealth accumulation (Table A.5). Moreover, the actual difference in homeownership rates is larger than the one predicted from characteristics, because leavers have lower returns to characteristics than stayers. Characteristics which differences in returns contribute most to the homeownership gap are employment status and professional categories. Differences in returns matter in particular for Southern Europeans and early immigrants who arrived before 1968 mostly as cheap labor for the country reconstruction.

There are also differences in returns to characteristics between immigrant stayers and entrants in 1999, as shown by the results of logit models of homeownership reported in Table 3, columns 6 and 7. In particular, entrants are characterized by lower returns to education and socio-professional categories such as intermediate positions and executives. A possible explanation is that stayers with specific characteristics have had time to accumulate wealth in the host country, which makes them more able to access homeownership than entrants who may not have been able to accumulate wealth to the same extent in their home country. Patterns remain when focusing more specifically on Southern Europeans or North Africans. There are also larger differences in returns across urban area size brackets for stayers than for entrants, and this is also true when focusing on Southern Europeans.[24]

The gap in homeownership rates between immigrant stayers and entrants in 1999 is large at 31.0 points, as reported in Table 4.[25] The decomposition shows that explanatory variables explain around

could also differ according to the position in the life-cycle. We thus also conducted our whole analysis when restricting the sample to individuals aged 42-60. Results are discussed in Online Appendix D.

[23] We also give results for decompositions of the homeownership gaps between native stayers and leavers in 1975, and between native stayers and entrants in 1999. They are not commented here to save space. Estimates of logit models needed to conduct those decompositions are reported in Online Appendix E.

[24] Another important difference between stayers and entrants is related to age since the propensity to become homeowner increases with age after 50 for entrants more than for stayers. It is possible to check that this is due to a composition effect with the proportion of Southern Europeans among entrants increasing after age 50 whereas it is stable for stayers.

[25] These is a complication here because entrants have age bracket dummies for ages below 40 but not stayers. Returns to these brackets are not identified for stayers and it is thus not possible to compute the effects of age bracket dummies for entrants using the returns of stayers whereas they are needed in the decomposition. To bypass this problem, we make the identifying restriction that the returns to these dummies are the same for stayers and entrants.

two-third of this gap, which suggests an important role of the differences in characteristics between the two groups. The largest contribution is that of age as shown by Table A.5. This is not surprising since stayers are on average much older and have had more time to accumulate wealth. There are also non-negligible contributions of family status and family structure, because entrants are more often single and in a mutli-family household, and less often the family head or his partner. Finally, differences in returns to characteristics also have a large positive contribution, but this contribution mostly comes from a difference in the constant between stayers and entrants, with the reference individual in the logit model (ie. the individual in the reference category for every characteristics) having a far lower homeownership rate for entrants than for stayers.

[Insert Table 4]

6.3 The contribution of characteristics to the homeownership gap for stayers

We then study differences in returns to characteristics between native and immigrant stayers separately for 1975 and 1999. For that purpose, we estimate logit models of homeownership by subgroup and estimated coefficients are reported in Table 3, columns 2 and 3 for 1975 and columns 5 and 6 for 1999.[26] In our comments, we focus on the most saliant features of the results.

For 1975, we find that being employed and in the self-employed socio-professional category (rather than in the blue collar one) matters more for immigrants, and this could occur because they may need to rely more on their own resources than natives, due to less wealth being transmitted from their parents. It is also interesting to note that being married with an absent partner has a large negative effect, especially for immigrants. This may result from the anticipation of a return migration or from the household head having an unstable economic situation which prevents him or her from both bringing his or her partner in the host country and accessing homeownership. Having a partner who is an immigrant also decreases the propensity to be a homeowner, especially for immigrants, which may indicate a lack of resources for purchasing a dwelling when the partner is an immigrant. Interestingly, having a large number of children (four or above) increases the propensity of natives to be homeowner, but it decreases that of immigrants. This is likely to occur because immigrants often have less wealth and cannot afford a dwelling large enough for a large family. Finally, individuals have a higher propensity to be a homeowner if they live outside

[26] In the implementation, we faced the issue that individuals are never homeowners by definition if they are over 18 and different from household heads and their partners. It is not possible to include a dummy for their category in a logit model, as homeownership for them is perfectly determined. At the same time, residing with a household head and possibly his or her partner can be partially determined by the homeownership decision, and this constitutes a consequence rather than a cause of that decision. As logit models are used for decompositions, we need to introduce the same explanatory variables for native and immigrant stayers, and since the period of arrival in the country is specific mostly to immigrants, it cannot be considered. In alternative specifications of the logit model for immigrant stayers, we introduced a dummy for entering the country over the 1968-1975 period (rather than before 1968), and we found the expected result that this dummy has a negative effect on homeownership. For 1975, its estimated coefficient and standard error are 0.306*** (0.037); and for 1999, they are 0.582*** (0.045). The progress over time for late immigrants can be explained by an improvement in their professional situation in the labor market. When introducing the dummy for entering the country over the 1968-1975 period, the estimated coefficients of all the other variables remain virtually unchanged.

of urban areas, especially immigrants, and this is consistent with the structure of local housing markets. Using alternative specifications detailed in Appendix D, we find that the homeownership rate of the urban area has a larger effect on the propensity to be a homeowner for natives than for immigrants (although the difference is not significant at the 5% level). This suggests that immigrant stayers may benefit less than native stayers from being located in an urban area with a higher proportion of owned dwellings.

Turning to results for 1999, the profile of age coefficients is bell shaped for natives consistent with equity release at older ages, but there is nearly no age profile for immigrants, possibly because of slower wealth accumulation or plans for return to the home country. Returns to higher education are larger than in 1975 but differences across diplomas are lower for immigrants, possibly because diplomas obtained abroad are not well valued in France or immigrants have a lower access to jobs requiring qualifications. The effects of socio-professional categories are also larger, especially for immigrants for whom having a good occupation may be more important to accumulate wealth and access homeownership. Interestingly, a large number of children in the dwelling now has no effect for natives but a negative effect for immigrants which is larger than in 1975. This may result from a selection effect such that parents still having children at home at older ages lack resources to access homeownership. It could also be that immigrant families with children are often located in social housing for an attractive rent and do not have enough incentives to purchase a dwelling in the private sector.

We now decompose the difference in level and evolution of homeownership rates between native and immigrant stayers according to (5) and (6). Table 5 shows that this difference increased between 1975 and 1999 from 10.0 points to 13.7 points. The contribution of the gaps in characteristics between the two groups also increased in value from 2.1 to 7.1 points and in percentage from 21.0 to 51.8%. This increase is related to changes in both the characteristics and their returns for natives (as these returns are those used as the references for evaluating the effects of characteristics). A likely interpretation is that there are variations in the speed of wealth accumulation, depending on characteristics which create differences in access to homeownership across individuals over time. Immigrants have characteristics leading to less wealth, and this would explain why the gap with natives in homeownership rates is larger at the end of the period.[27] Interestingly, the decomposition of the difference in the evolution of homeownership rates between natives and immigrants shows that explanatory variables predict a larger increase in this difference than observed. In fact, this larger increase is compensated by changes in the returns to characteristics, which are overall slightly in favor of immigrants, possibly as a consequence of an assimilation process. There is a combination of reasons regarding immigrants that can explain why returns evolved in their favor such as an evolution of cultural attitudes with respect to homeownership towards those of natives, an increase in the knowledge of the housing market, a decrease of discrimination practices because immigrants' behaviour and language get closer to those of natives, an increase of expected duration in property because immigrants accumulate local social capital, the departure from ethnic enclaves when starting a

[27] Note in particular that a large gap between natives and immigrants remains for the proportion of individuals with no diploma in 1999 (see Table 1), and disparities in the returns to diplomas have increased a lot over time (see Table 3).

family and moving to the suburbs where the homeownership rate is often higher, and the accumulation of shadow-economy induced wealth (which is not taken into account by explanatory variables).

We also compute decompositions stratified by the arrival periods of immigrants. Results are very different for early immigrants who arrived in France before 1967 and for those who arrived later during the 1968-1975 period. The difference in homeownership rates between early immigrants and natives has increased from 2.6 to 9.4 points. This change comes from an increase in the contribution of differences in characteristics. Additional descriptive statistics show that early immigrants are initially older in 1975 and many of them retired before 1999, which places them on the decreasing slope of the bell-shaped life-cycle curve for homeownership. For late immigrants, the difference in homeownership rates with natives is initially much larger at 29.5 points, but it decreases slightly to 24.9 points over the 1975-1999 period. This decrease can be explained by changes in characteristics that are this time in favor of immigrants. Additional descriptive statistics show that late immigrants are initially younger, and they tend to improve their professional situation and get married over the period, which can help them accumulate wealth to purchase a home.

Decompositions are also conducted to compare native stayers with subgroups of immigrant stayers as defined by their country of origin. Interestingly, for Southern Europeans, the difference in homeownership rates with natives is rather small at 7.3 points in 1975, and it slightly increased over the period by 0.5 points, whereas changes in explanatory variables would predict a much larger increase of 4.7 points. Changes in the returns to characteristics act as a counterbalancing force that is consistent with a trend towards assimilation. The difference in homeownership rates between North Africans and natives is very large at 25.9 points in 1975, and it increases a lot over the period, by 11.3 points; whereas changes in explanatory variables would predict a very slight increase of 1.3 points. As a consequence, a great part of the evolution in the gap in homeownership rates is explained by differences with natives in the evolution of returns to characteristics. This result suggests North Africans experience some important difficulties in accumulating wealth.

[Insert Table 5]

Importantly, wage information is missing from EDP and we have not been able to consider wages in our analysis so far. However, it is possible to match a restricted subsample with *Déclarations Annuelles des Données Sociales* (DADS) which are wage data collected for tax purposes from 1968 onwards. We then construct alternative wage variables from the information available eight years before each census and assess the robustness of our results when wage variables are added to the logit specifications. Online Appendix F details our approach and shows that our conclusion are not affected.

6.4 Characterization of dwellings by housing status transition of renters

Renters do not purchase dwellings with the same physical and locational attributes when accessing homeownership, because they differ in their ability to accumulate wealth and to access the housing market

according to their individual characteristics, such as whether or not they are immigrants. Table 6 provides descriptive statistics on dwellings and municipality characteristics in 1975 and 1999 for native and immigrant stayers who are renters in 1975 and homeowners in 1999. We focus on individuals in ordinary households at the two dates for whom we have information on dwellings.

Living conditions in dwellings are characterized by the number of rooms per person and whether the dwelling is a detached house. The number of rooms per person in 1975 is larger for natives (1.13) than for immigrants (0.94). The difference slightly increases when individuals become homeowners from 0.19 to 0.25, but the average number of rooms is larger for both groups in 1999. This increase can result from a move to larger dwellings, but also from a decrease in family size, specifically because of children leaving their parents' homes. Interestingly, North Africans have a number of rooms per person that is similar to that of Southern Europeans in 1975, but it increases over time to a far lesser extent. Not surprisingly, early immigrants who arrived before 1968 have a number of rooms per person larger than later immigrants in both 1975 and 1999. This occurs because they are older and their children are more likely to have moved out.

The pattern is somewhat different for living in a detached house. Indeed, natives live more often in detached houses in 1975 than the whole population of immigrants, whether they are North Africans, Southern Europeans, early or late immigrants. However, the increase in the proportion of individuals in detached houses over the 1975-1999 period is larger for every group of immigrants than for natives. Still, natives end up with the largest proportion of individuals in detached houses in 1999, at 87.1%, while the corresponding proportion is slightly lower for Southern Europeans at 83.5% and much lower for North Africans at 71.3%.

Considering local characteristics, we use the unemployment rate in the municipality of residence as an indicator of the quality of the residential environment. This rate is low for all subgroups of population in 1975 due to a low unemployment rate at the national level. Nevertheless, it is slightly higher for North Africans (3.5%) than for natives and Southern Europeans (2.6%). The gaps between groups widen between 1975 and 1999, although all individuals are homeowners in 1999. This can be explained both by the patterns of mobility when accessing homeownership and a large increase in unemployment at the national level, which widens differences in unemployment rates between municipalities. The average unemployment rate in the municipality of residence ends up being very high for North Africans, at 13.6%, compared to only 9.9% for natives and 11.1% for Southern Europeans. Interestingly, it is slightly higher for immigrants who arrived before 1968 than for those who arrived over the 1968-1975 period. This can be explained either by the purchase of dwellings at an earlier date in places that may have deteriorated or by a greater willingness to purchase a home even if it is located in a less attractive area.

We also study changes in the proportion of immigrants in the municipality of residence over the 1975-1999 period to assess whether native and immigrant renters accessing homeownership have moved away from locations where immigrants are concentrated, which are on average poorer. In 1975, immigrant renters live in municipalities where the proportion of immigrants (12.5%) is much higher than that of

native renters (7.5%). While this proportion is the same for Southern European renters, it is higher for North African renters (13.4%). Interestingly, the proportion of immigrants in the municipality of residence decreases over the 1975-1999 period for natives, for the entire population of immigrants and for Southern Europeans, but it increases for North Africans. Together with the results from the municipal unemployment rate, this suggests that North Africans accessing homeownership may end up in less wealthy municipalities where more immigrants are concentrated.

[Insert Table 6]

7 Conclusion

Using a large longitudinal dataset covering a period of twenty-five years, we studied the evolution of the difference in homeownership rates between natives and immigrants. We assessed to what extent this gap was influenced by migration flows into and out of the French territory. Interestingly, even if the homeownership gap remained steady over time, there were important counterbalancing selection effects.

In particular, entrants consisted in rather educated individuals at the early stage of the wealth accumulation process, who located in large cities for studies or job opportunities. They had not yet been able to rip off the benefits of education or a good job position and, overall, their homeownership rate was lower than that of immigrants who had remained in the country over the entire period. Entries thus had a negative effect on the immigrant homeownership rate.

Leavers had characteristics that made it hard to accumulate wealth such as low education and low-skill occupations. Their returns to characteristics were lower than those of stayers, maybe because they could not succeed in the host country, they made remittances or they kept their savings to purchase a dwelling in their home country. Overall, their homeownership rate was lower than that of immigrant stayers, and thus exits had a positive effect on the immigrant homeownership rate.

We also investigated the evolution of the difference in homeownership rates between native and immigrant stayers. We find that this difference widened over time, but to a lower extent than the prediction from changes in the characteristics of the individuals in the two groups. In fact, the returns to characteristics evolved in favor of immigrants, which is consistent with an assimilation process. Nevertheless, among individuals accessing homeownership, housing conditions in newly owned dwellings were not as good for immigrants as for natives. They ended up less often in a detached house, benefited from fewer rooms per person, and occupied dwellings in municipalities where the unemployment rate was higher.

In further work, it could be of interest to investigate the mechanisms behind the lower returns to characteristics for leavers, in particular whether leavers anticipated a return to their home country and kept their savings to invest there, or whether they are those would could not succeed in the host country. Additional data are needed for that purpose. An analysis of housing transitions could also help identify

mechanisms related to immigrant access to homeownership. In particular, it would make it possible to determine how local conditions in the municipality of residence affect access to homeownership.

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Figure 1 – Homeownership rates of natives and immigrants

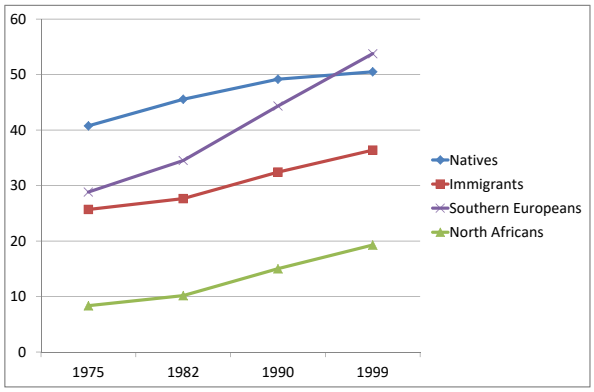

Fig. 1.a: All natives and immigrants

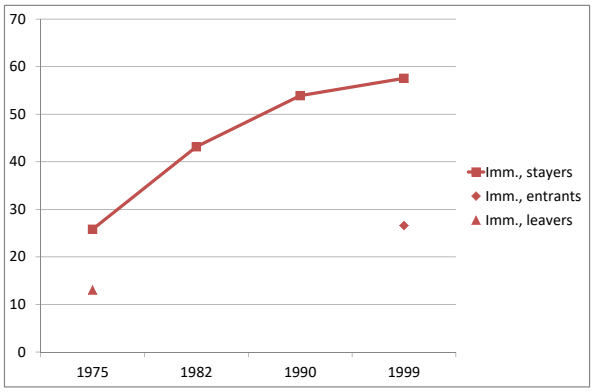

Fig. 1.b: Immigrant stayers, entrants and leavers

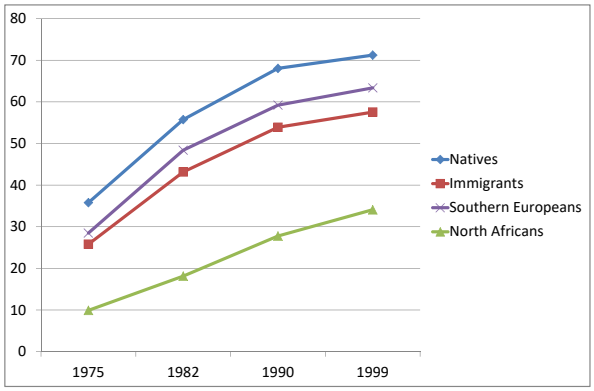

Fig. 1.c: Native and immigrant stayers

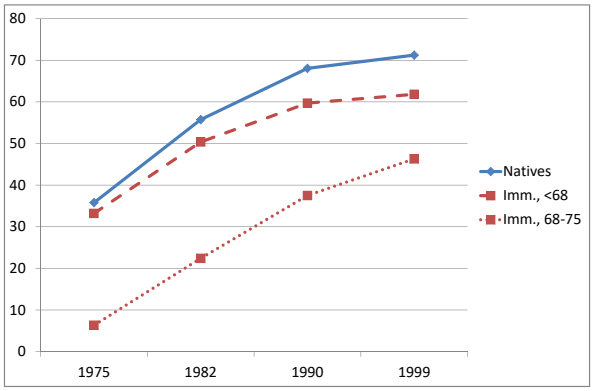

Fig. 1.d: Natives and cohorts of immigrant stayers

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). "Imm." refers to immigrants. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were aged 18-84 that year and they did not die in France over the 1975-1999 period. Fig. 1.a is constructed from the figures in Table A.2, Fig. 1.b from those in Tables A.3 and A.4, and Fig. 1.c and Fig. 1.d from those in Table A.3.

Table 1 – Average characteristics of native and immigrant stayers, leavers and entrants (1975 and 1999)

Proportion (%)	Stayers				Leavers		Entrants	
	1975		1999		1975		1999	
	Nat.	Imm.	Nat.	Imm.	Nat.	Imm.	Nat.	Imm.
Homeowner	35.8	25.8	71.2	57.5	24.9	13.1	52.0	26.5
Proportion of immigrants								
North Africans		19.2		18.7		27.2		28.9
Southern Europeans		61.5		60.0		50.7		18.4
Age								
18-25	26.5	17.8	0	0	36.1	17.3	2.4	15.7
26-30	15.5	15.6	0	0	16.5	18.4	11.8	12.8
31-35	10.9	15.0	0	0	11.0	15.0	10.1	14.4
36-40	11.3	13.0	0	0	8.3	13.6	9.4	13.8
41-45	12.0	11.5	13.4	8.1	8.0	12.0	10.9	12.5
46-50	10.6	10.6	16.1	12.5	7.5	9.8	13.6	9.8
51-55	9.1	10.3	14.8	16.0	7.5	8.2	12.2	6.7
56-60	4.0	6.1	10.8	14.3	4.9	5.8	7.6	4.6
61-65	0	0	11.6	12.6	0	0	5.8	3.2
66-70	0	0	11.8	11.6	0	0	5.2	2.4
71-75	0	0	10.3	10.9	0	0	5.2	1.8
76-80	0	0	8.5	10.0	0	0	4.4	1.5
81-84	0	0	2.7	4.0	0	0	1.5	0.6
Education level								
No diploma	35.5	66.8	19.8	48.7	39.6	78.1	18.6	34.4
Junior high school	28.1	16.0	36.0	25.6	22.5	8.8	23.8	16.6
Short professional track	22.0	9.9	23.4	14.3	19.4	4.5	25.0	15.7
High school graduate	6.9	2.8	9.3	4.4	9.2	3.3	11.9	12.8
Some college	7.4	4.5	11.4	7.0	9.3	5.3	20.7	20.6
Female	53.5	47.5	53.5	47.5	48.1	37.1	50.7	50.5
Employed	68.8	63.4	41.9	35.1	64.9	67.2	56.5	49.4
Professional category								
Self-employed and farmers	11.0	5.0	6.1	4.2	9.5	2.8	6.2	5.4
Executive	4.6	2.1	6.1	3.3	5.2	2.0	9.5	6.3
Intermediate	11.7	5.2	10.4	4.7	10.9	3.3	14.4	7.8
Employee	18.7	10.0	12.6	10.1	19.1	8.1	18.7	17.6
Blue collar	25.2	43.9	10.5	19.4	24.6	53.7	16.4	25.6
Retired	1.5	1.7	41.2	37.6	1.6	1.9	20.4	7.0
Out of labor force (other)	27.3	32.1	13.2	20.7	29.2	28.2	14.3	30.3
Out of labor force (other)*female	22.9	29.1	11.5	17.7	21.0	22.2	10.7	22.9
Family status								
Single	26.8	17.8	10.1	5.3	39.0	23.7	28.6	29.3
Married	69.5	78.6	69.7	76.0	55.7	73.3	56.0	62.6
Divorced/widowed	3.6	3.6	20.2	18.7	5.3	3.0	15.5	8.1
Family structure								
Multi-family household	22.8	13.6	8.0	10.5	30.4	11.0	12.4	23.0
Family head or partner (if any)	72.1	78.1	77.7	80.9	58.8	59.6	71.9	70.5
Married with absent partner	1.6	5.4	1.8	3.6	2.5	17.7	2.2	5.3
Not married with present partner	1.9	2.7	5.2	3.8	3.0	2.5	13.0	8.1
Immigrant partner	3.3	47.0	3.5	46.2	4.6	46.2	5.9	42.9
1 child	20.5	18.0	16.2	17.0	17.5	14.1	16.6	14.7
2 children	18.8	19.0	10.8	12.5	13.3	13.0	15.3	17.3
3 children	10.0	11.4	6.8	8.5	7.1	8.1	9.0	12.4
>3 children	7.0	14.8	2.3	6.0	5.5	9.7	3.6	9.7
Urban Area size bracket								
Outside	26.7	15.6	29.5	16.3	20.0	12.5	21.1	10.1
<50,000	10.0	8.8	10.3	9.0	8.8	7.5	9.0	6.8
50,000-200,000	16.9	14.3	17.1	14.3	15.6	12.7	14.6	10.2
200,000-500,000	16.0	15.2	15.5	15.2	15.6	15.5	12.8	11.4
500,000-10,000,000	15.6	21.7	15.5	22.0	20.2	19.4	23.1	19.3
Paris	14.9	24.5	12.0	23.2	19.7	32.4	19.4	42.3
Urban Area variables								
Homeownership rate	35.1	33.3	46.4	44.4	34.6	33.2	45.4	43.0
Average population (millions)	1.71	2.39	1.88	2.92	2.06	2.97	2.65	4.69
Proportion of immigrants	8.7	11.6	9.1	12.2	9.6	11.7	10.5	13.6
Proportion of North Africans	2.2	3.0	2.8	3.7	2.5	3.1	3.3	4.1
Proportion of Southern Europeans	4.0	5.5	2.7	3.7	4.4	5.4	3.0	3.7
Municipality variables								
Homeownership rate	38.8	33.5	51.5	45.0	36.5	32.0	47.5	38.9
Proportion of immigrants	7.3	12.7	7.1	12.8	8.6	13.2	9.3	15.8
Proportion of North Africans	1.7	3.2	2.0	3.9	2.1	3.6	2.8	5.0
Proportion of Southern Europeans	3.6	6.4	2.4	4.3	4.0	6.2	2.8	3.9
Unemployment rate (males)	2.5	2.9	10.5	12.3	2.8	3.0	11.6	13.1
Dwelling characteristics								
Ordinary household (OH)	98.3	96.1	98.6	98.2	96.5	86.6	97.9	96.2
Detached house (among OH)	59.5	38.8	75.7	57.9	49.6	28.6	59.8	31.2
Number of rooms (among OH)	4.0	3.6	4.4	4.2	3.8	3.0	4.1	3.7
N	89,548	5,396	89,548	5,396	3,821	4,463	13,174	14,181

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 located in mainland France. Dwelling characteristics are available in the data for ordinary households (OH) only. The number of rooms is censored at 9 in the data. When it is declared to be higher than 8, we fix it to 9. Matched data from censuses (1/5 sample in 1975 and 1/4 sample in 1999 aggregated at the municipality level) provide information on municipality variables. "Outside" corresponds to municipalities in rural areas or belonging to several urban areas. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were aged 18-84 that year and they did not die in France over the 1975-1999 period.

Table 2 – Decomposition of the evolution of homeownership rate between 1975 and 1999 (in points)

	Evolution (pts)	Contribution to evolution (pts)				Decomposition of contribution			
						Proportion (%)		Gap with stayers	
		Stayers	Leavers	Entrants	Residual	Leavers	Entrants	Leavers	Entrants
Immigrants									
All	10.7***	31.8***	3.8***	-19.8***	-5.1***	29.9***	63.9***	12.7***	-31.0***
	(0.5)	(0.9)	(0.2)	(0.5)	(0.3)	(0.4)	(0.3)	(0.8)	(0.8)
North Africans	10.9***	24.2***	2.8***	-14.3***	-1.8***	43.0***	70.2***	6.5***	-20.3***
	(0.7)	(1.7)	(0.5)	(1.1)	(0.5)	(0.9)	(0.6)	(1.1)	(1.6)
Southern Europeans	24.9***	34.9***	3.1***	-7.6***	-5.4***	27.6***	36.2***	11.3***	-21.1***
	(0.7)	(1.1)	(0.3)	(0.5)	(0.5)	(0.5)	(0.6)	(1.1)	(1.3)
Arrived before 1968	22.3***	28.6***	1.4***	/	-2.8***	14.9***	/	9.4***	/
	(0.8)	(1.0)	(0.2)		(0.5)	(0.4)		(1.4)	
Arrived in 1968-1975	16.8***	40.0***	-1.0**	/	-3.3***	55.1***	/	-1.8**	/
	(0.5)	(1.5)	(0.4)		(0.3)	(0.7)		(0.8)	
Natives									
All	9.7***	35.4***	0.3***	-1.3***	-24.7***	2.6***	6.5***	10.9***	-19.2***
	(0.2)	(0.2)	(0.02)	(0.03)	(0.1)	(0.04)	(0.1)	(0.7)	(0.5)

*Note: Computed from the Permanent Demographic Sample on the population of individuals located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his partner (if any), but not the property of the other members of the household (if any). Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were aged 18-84 that year and they did not die in France over the 1975-1999 period. Columns 3-6 give the results of decomposition (3). In particular, "Residual" in column 6 refers to individuals other than leavers getting out of the sample ("Dead/too old" and "Not selected") and individuals other than entrants getting in the sample ("Too young" and "Not selected"). Column 7 (resp. 8) gives the proportion of leavers (resp. entrants) in the sample at the initial (resp. final) date. "Gap with stayers" corresponds to the differences in homeownership rates between stayers and leavers (column 9), or between entrants and stayers (column 10). Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.*

Table 3 – Logit model of homeownership for native and immigrant stayers, immigrant leavers and entrants in 1975 and 1999

	1975			1999		
	Natives	Immigrants		Natives	Immigrants	
	Stayers	Stayers	Leavers	Stayers	Stayers	Entrants
Age						
18-25	0.071***	0.099***	0.168***			0.105***
	(0.003)	(0.021)	(0.046)			(0.018)
26-30	0.228***	0.160***	0.307***			0.276***
	(0.007)	(0.024)	(0.058)			(0.027)
31-35	0.476***	0.332***	0.304***			0.401***
	(0.015)	(0.043)	(0.059)			(0.034)
36-40	0.703***	0.630***	0.418***			0.659***
	(0.022)	(0.079)	(0.079)			(0.053)
41-45	0.860***	0.778**	0.676**	0.791***	0.763*	0.854*
	(0.026)	(0.099)	(0.120)	(0.023)	(0.107)	(0.068)
46-50	ref	ref	ref	ref	ref	ref
51-55	1.165***	1.143	1.151	1.276***	0.911	1.209**
	(0.039)	(0.151)	(0.211)	(0.038)	(0.105)	(0.114)
56-60	1.369***	1.166	1.082	1.675***	0.877	1.348***
	(0.061)	(0.186)	(0.240)	(0.061)	(0.109)	(0.145)
61-65				1.787***	0.919	1.420**
				(0.078)	(0.133)	(0.195)
66-70				1.823***	1.042	1.738***
				(0.083)	(0.168)	(0.279)
71-75				1.722***	1.177	1.591***
				(0.080)	(0.195)	(0.275)
76-80				1.491***	1.299	2.429***
				(0.071)	(0.220)	(0.472)
81-84				1.164**	1.047	1.898**
				(0.070)	(0.217)	(0.508)
Educational level						
No diploma	ref	ref	ref	ref	ref	ref
Junior high school	1.165***	1.253**	1.373*	1.532***	1.491***	1.342***
	(0.024)	(0.128)	(0.223)	(0.034)	(0.111)	(0.087)
Short professional track	1.326***	1.577***	1.305	1.786***	1.897***	1.562***
	(0.032)	(0.202)	(0.298)	(0.046)	(0.188)	(0.109)
High school graduate	1.214***	1.155	1.776*	2.234***	1.673***	1.533***
	(0.050)	(0.307)	(0.540)	(0.078)	(0.261)	(0.119)
Some college	1.190***	1.402	1.251	2.260***	1.730***	1.525***
	(0.049)	(0.292)	(0.313)	(0.081)	(0.259)	(0.108)
Female	1.143***	1.192	1.196	1.104***	1.308***	1.515***
	(0.026)	(0.142)	(0.198)	(0.022)	(0.103)	(0.087)
Employed	1.368***	1.928**	0.887	2.085***	1.659***	1.989***
	(0.081)	(0.508)	(0.225)	(0.085)	(0.218)	(0.1485)
Professional category						
Self-employed and farmers	1.612***	2.806***	4.292***	1.486***	2.642***	1.698***
	(0.049)	(0.443)	(1.090)	(0.066)	(0.489)	(0.161)
Executive	1.325***	1.312	1.001	1.460***	2.526***	1.649***
	(0.061)	(0.352)	(0.339)	(0.071)	(0.587)	(0.167)
Intermediate	1.160***	1.317	1.720**	1.383***	1.668***	1.518***
	(0.037)	(0.223)	(0.425)	(0.052)	(0.274)	(0.139)
Employee	1.019	1.186	0.984	0.963	1.136	0.929
	(0.030)	(0.180)	(0.215)	(0.033)	(0.142)	(0.070)
Blue collar	ref	ref	ref	ref	ref	ref
Retired	1.700***	2.261**	1.467	2.444***	1.858***	2.441***
	(0.143)	(0.790)	(0.577)	(0.132)	(0.310)	(0.332)
Out of labor force (other)	0.995	1.437	0.729	1.169**	1.149	1.010
	(0.114)	(0.631)	(0.282)	(0.084)	(0.254)	(0.149)
Out of labor force (other) * female	1.581***	1.691	1.295	1.657***	1.308	1.298*
	(0.164)	(0.695)	(0.511)	(0.106)	(0.273)	(0.188)
Urban area size						
Outside	1.518***	1.342**	1.190	2.269***	2.140***	2.358***
	(0.043)	(0.156)	(0.194)	(0.065)	(0.219)	(0.172)
< 50,000	1.088**	1.103	1.053	1.568***	1.527***	1.266***
	(0.038)	(0.155)	(0.212)	(0.054)	(0.181)	(0.115)
50,000 - 200,000	1.170***	1.062	0.998	1.605***	1.397***	1.062
	(0.035)	(0.130)	(0.167)	(0.049)	(0.143)	(0.080)
200,000 - 500,000	1.084***	1.083	0.793	1.433***	1.434***	1.195**
	(0.033)	(0.129)	(0.134)	(0.044)	(0.144)	(0.088)
500,000 - 10,000,000	1.057*	1.060	0.835	1.290***	1.172*	1.005
	(0.033)	(0.118)	(0.128)	(0.039)	(0.106)	(0.062)
Paris	ref	ref	ref	ref	ref	ref
[...]	[...]	[...]	[...]	[...]	[...]	[...]

Table 3 – Logit model of homeownership for native and immigrant stayers, immigrant leavers and entrants in 1975 and 1999 (continued)

	1975			1999		
	Natives	Immigrants		Natives	Immigrants	
	Stayers	Stayers	Leavers	Stayers	Stayers	Entrants
[...]	[...]	[...]	[...]	[...]	[...]	[...]
Family status						
Single	ref	ref	ref	ref	ref	ref
Married	2.779***	3.800***	4.584***	4.366***	3.881***	4.392***
	(0.197)	(1.42)	(2.511)	(0.235)	(0.893)	(0.603)
Divorced/widowed	1.248***	2.004**	1.851	1.349***	1.597***	1.449***
	(0.073)	(0.604)	(0.780)	(0.039)	(0.257)	(0.155)
Family structure						
Multi-family household	0.260***	0.552***	0.547**	0.403***	0.539***	0.800***
	(0.011)	(0.104)	(0.148)	(0.011)	(0.054)	(0.060)
Family head or his partner (if any)	1.458***	2.079**	2.802*	1.424***	2.041***	2.339***
	(0.103)	(0.724)	(1.567)	(0.075)	(0.379)	(0.314)
Married with absent partner	0.315***	0.109***	0.099***	0.243***	0.223***	0.312***
	(0.029)	(0.053)	(0.064)	(0.016)	(0.054)	(0.048)
Not married with present partner	1.162*	1.015	1.261	1.446***	1.578*	1.801***
	(0.100)	(0.390)	(0.665)	(0.085)	(0.378)	(0.252)
Immigrant partner	0.697***	0.596***	0.360***	0.737***	0.568***	0.575***
	(0.029)	(0.050)	(0.048)	(0.033)	(0.046)	(0.034)
1 child	1.135***	1.025	1.396**	1.078***	0.994	0.996
	(0.030)	(0.122)	(0.219)	(0.030)	(0.093)	(0.072)
2 children	1.265***	1.200	1.888***	1.222***	0.943	1.206***
	(0.035)	(0.146)	(0.301)	(0.041)	(0.103)	(0.086)
3 children	1.289***	0.816	1.280	1.099**	0.773**	1.049
	(0.042)	(0.112)	(0.254)	(0.048)	(0.101)	(0.085)
$\geq$ 4 children	1.204***	0.729**	1.179	0.946	0.396***	0.711***
	(0.044)	(0.099)	(0.224)	(0.057)	(0.059)	(0.065)
Constant	0.174***	0.054***	0.057***	0.095***	0.115***	0.037***
	(0.014)	(0.020)	(0.023)	(0.006)	(0.026)	(0.005)
N	89,548	5,396	4,463	89,548	5,396	14,181

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 located in mainland France. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were aged 18-84 that year and they did not die in France over the 1975-1999 period. Odds ratio are reported as well as their standard errors in parentheses ($p < 0.1$, ** $p < 0.05$, *** $p < 0.01$). N: number of observations. The interaction Out of labor force (other) $*$ female allows for a different effect of being out of labor force (other) for males and females but the related coefficient does not have any straightforward interpretation in terms of marginal effect (Ai and Norton, 2003). "Outside" corresponds to isolated municipalities and municipalities under the influence of multiple urban areas.*

Table 4 – Decomposition of the difference in homeownership rates between stayers and leavers in 1975 / entrants in 1999

Difference in homeownership rates (points in favor of stayers)	Raw difference	Reference: stayers Contribution of	
		Characteristics	Returns
Leavers, 1975			
Natives	10.9***	8.0***	2.9***
	(0.6)	(0.4)	(0.5)
Immigrants	12.7***	7.9***	4.9***
	(0.8)	(0.5)	(0.7)
North Africans	6.5***	4.5***	2.1*
	(1.2)	(1.2)	(1.3)
Southern Europeans	11.3***	5.0***	6.3***
	(1.1)	(0.8)	(1.2)
Arrived before 1968	9.4***	4.8***	4.6***
	(1.3)	(0.7)	(1.2)
Arrived in 1968-1975	-1.8**	-1.1	-0.7
	(0.8)	(1.0)	(1.2)
Entrants, 1999			
Natives	19.2***	16.6***	2.7***
	(0.5)	(0.4)	(0.5)
Immigrants	31.0***	20.0***	11.0***
	(0.7)	(1.2)	(1.3)
North Africans	20.3***	12.0***	8.4***
	(1.4)	(2.2)	(2.2)
Southern Europeans	21.1***	12.2***	8.9***
	(1.2)	(1.8)	(2.0)

*Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 located in mainland France. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were aged 18-84 that year and they did not die in France over the 1975-1999 period. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). Contributions of characteristics and their returns are consistent with decomposition (5). Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.*

Table 5 – Decomposition of the difference in homeownership rates between native and immigrant stayers and its evolution over the 1975-1999 period

Difference in homeownership rates (points in favor of natives)	Raw difference	Reference: natives Contribution of	
		Characteristics	Returns
All			
1975	10.0***	2.1***	7.9***
	(0.6)	(0.5)	(0.6)
1999	13.7***	7.1***	6.6***
	(0.7)	(0.5)	(0.7)
1975-1999 difference	3.7***	5.0***	-1.3
	(1.0)	(0.7)	(1.1)
North Africans			
1975	25.9***	11.0***	14.8***
	(0.9)	(0.8)	(1.0)
1999	37.1***	12.3***	24.9***
	(1.5)	(0.9)	(1.6)
1975-1999 difference	11.3***	1.3	10.0***
	(1.8)	(1.2)	(1.9)
Southern Europeans			
1975	7.3***	1.2**	6.1***
	(0.8)	(0.6)	(0.8)
1999	7.9***	5.8***	2.0**
	(1.0)	(0.5)	(1.0)
1975-1999 difference	0.5	4.7***	-4.1***
	(1.2)	(0.8)	(1.3)
Arrival before 1968			
1975	2.6***	-3.1***	5.7***
	(0.7)	(0.5)	(0.7)
1999	9.4***	5.5***	3.9***
	(0.9)	(0.5)	(0.9)
1975-1999 difference	6.8***	8.6***	-1.8
	(1.1)	(0.7)	(1.2)
Arrived in 1968-1975			
1975	29.5***	15.7***	13.8***
	(0.7)	(0.7)	(0.8)
1999	24.9***	11.2***	13.7***
	(1.3)	(0.7)	(1.1)
1975-1999 difference	-4.5***	-4.5***	-0.1
	(1.6)	(1.0)	(1.5)

*Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 located in mainland France. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Contributions of characteristics and their returns are consistent with decompositions (5) and (6). Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.*

Table 6 – Characterization of dwellings for renters in 1975 who become homeowners in 1999, sample restricted to individuals in ordinary households

	Year	Natives	Immigrants				
			All	NA	SE	<68	68-75
Dwelling characteristics							
Number of rooms / pers.	1975	1.13	0.94	0.90	0.91	0.97	0.88
($\leq$5 pers. in 75)	1999	1.96	1.71	1.49	1.67	1.80	1.51
	diff	*0.83*	*0.77*	*0.59*	*0.76*	*0.83*	*0.62*
Detached house	1975	50.17	30.28	17.32	33.50	32.71	24.91
	1999	87.05	80.09	71.26	83.50	79.76	80.80
	diff	*36.88*	*49.81*	*53.94*	*50.00*	*47.06*	*55.88*
Municipality characteristics							
Unemployment rate (males)	1975	2.58	2.83	3.51	2.62	2.88	2.74
	1999	9.87	11.43	13.57	11.07	11.66	10.93
	diff	*7.29*	*8.6*	*10.07*	*8.46*	*8.79*	*8.19*
Proportion of	1975	7.47	12.48	13.43	12.51	12.78	11.81
immigrants	1999	6.54	11.87	14.00	11.35	11.66	12.33
	diff	*-0.93*	*-0.61*	*0.57*	*-1.15*	*-1.12*	*0.52*
Proportion of	1975	1.77	3.04	4.35	2.78	3.12	2.88
North Africans	1999	1.68	3.30	5.00	2.94	3.28	3.34
	diff	*-0.09*	*0.26*	*0.66*	*0.15*	*0.16*	*0.47*
Proportion of	1975	3.67	6.45	5.38	7.15	6.70	5.90
Southern Europeans	1999	2.33	4.39	3.69	4.83	4.40	4.38
	diff	*-1.34*	*-2.06*	*-1.69*	*-2.32*	*-2.30*	*-1.52*

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 in in an ordinary dwelling located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). When computing the number of rooms per person, the sample is restricted to individuals in households containing 5 persons or less in 1975 because the number of persons is censored at 6 in the data. When the number of individuals in the household in 1999 is declared to be higher than 5, we fix it to 6. The number of rooms is censored at 9 in the data. When it is declared to be higher than 8 in 1975 or 1999, we fix it to 9. Matched data from censuses (1/5 sample in 1975 and 1/4 sample in 1999 aggregated at the municipality level) provide information on municipality variables.

A A brief history of immigration in France

In this appendix, we propose contextual information on immigration in France after Second World War.

After the war, immigration was considered to be a top priority for demographic and labor issues.[28] Adults were lacking, due to both a reduction in births over earlier decades and war casualties, and workers were needed to rebuild the country. However, immigration remained low for ten years because of heavy regulations and slow economic growth. Newcomers consisted mostly of Italians, who had already been migrating to France for decades to take low-skilled jobs in the agricultural and industrial sectors. Because of poverty and local hiring by French firms, many Algerians emigrated to France. This was facilitated by the colonial status of Algeria, whose citizens were granted free mobility between the two territories. With the increase in economic growth in the late fifties, immigration from Italy intensified and firms soon began to seek labor in other countries, such as Portugal and Spain in Southern Europe, and Morocco and Tunisia in North Africa. Migrations from Algeria continued especially after the end of the Algerian War in 1962, since it was facilitated by mobility agreements. Immigrant labor worked mostly in industries such as mines, metalworking and chemicals. Some skilled workers were employed in the automobile industry. A large proportion of immigrants also worked in the building sector, especially the Portuguese and Algerians.

After 1973, unemployment rose sharply and many immigrants were laid off, particularly in the automobile and metalworking sectors, which were hit hard by the crisis. Some measures were taken to expel immigrants, and the French government tightened immigration regulations. In spite of the new measures, immigrants kept entering the country, especially families joining male workers. The new waves of immigrants included people from Turkey, Subsaharan Africa and Asia.

B Data appendix

In this appendix, we give more details on our sample and the different categories of individuals (stayers, entrants and leavers).

B.1 Sample selection and data limits

We have information on individuals born October, 1-4. Those born October, 2 or 3 are excluded because they experience a higher attrition between 1990 and 1999 and deaths have not been systematically recorded for them, which makes it impossible to distinguish between death and out-migration in case of an exit from the data.

We only keep individuals born in mainland France, or in a foreign country with a foreign nationality at birth. Hence people born abroad with French citizenship at birth are excluded. As census information on Corsica is not completely reliable, we consider observations only when individuals are located in mainland France. Observations for which location is missing or in Corsica (1.2% in 1975 and 0.6% in 1999), or in French overseas territories, are deleted.

We restrict the sample to observations such that individuals are aged 18-84. This restriction is made because we want deaths to be properly observed and they are not recorded for individals born before 1891, and thus more than age 84 in 1975.

In our econometric analysis, we are interested in the evolution of homeownership over the 1975-1999 period. For the rest of the appendix, we thus consider only individuals who are observed either in 1975 or 1999.

Observations for which the information of the census forms on housing and household is not recorded in the Permanent Demographic Sample are deleted. This happens mostly in 1975 since, at that date, among individuals aged 18-84, this occurs for 11.1% of individuals, 10.5% of natives and 16.1% of immigrants.

There are inconsistencies in the way permanent characteristics and birthplace are declared. Among individuals identified as immigrants (ie. born abroad with a foreign nationality at birth) in 1975 and present in 1999, 9.7% are not defined as immigrants in 1999 (and among those, 20% declare that they are

[28] Our brief history of immigration in France borrows heavily from Blanc-Chaléard (2001) and Weil (2005).

born in mainland France). Among individuals identified as natives in 1975, only 0.5% are not defined as natives anymore in 1999 (and among those, 0.7% are identified as immigrants in 1999).

B.2 Definition of individual categories

Conditions to be in our sample at a given date are: Being in the census with available information on location, household and dwelling, being aged 18-84 and located in mainland France.

Individuals are defined as "stayers" if they are in our sample in both 1975 and 1999, and keep the same immigration status (ie. native or immigrant). There are also individuals in the sample in 1975 but not in 1999, and they belong to one of the three following groups:

- "Leavers": They are not in the sample or in Corsica in 1999 whereas they would have been aged 18-84 at that date and they did not die in France over the 1975-1999 period.

- "Dead/too old": They are not in the sample in 1999 because they died in France during the 1975-1999 period or they reached (or would have reached) age 85 in 1999.

- "Not selected": They are in the census and aged 18-84 in 1999, but their location is missing or they are located in Corsica at that date. When considering the subsample of immigrants, they also include individuals recorded as immigrants in 1975 but as natives in 1999 (the opposite for the subsample of natives is very seldom).

Finally, there are individuals in the sample in 1999 but not in 1975, and they belong to one of the three following groups:

- "Entrants": They are already born in 1975 but they are not in the 1975 census, or they are born abroad after 1975 when considering immigrants, or they are born in French overseas territories when considering natives.

- "Too young": They are in the census in 1975 but they are aged 0-17 at that date, or they were born in mainland France after 1975.

- "Not selected": They are in the census and aged 18-84 in 1975, but they are not located in mainland France at that date, or information on housing and household is missing. When considering the subsample of natives, they also include individuals recorded as natives in 1999 but as immigrants in 1975 (the opposite for the subsample of immigrants is very seldom).

Some individuals are not included in the stayer group because their immigrant status changes between 1975 and 1999. For immigrants in 1975, the group of stayers decreases by 9.71% when individuals recorded as natives in 1999 are discarded (21.8% for North Africans, 8.0% for Southern Europeans, but only 0.5% for natives). When individuals identified as immigrants in 1975 but as natives in 1999 are considered to be immigrant stayers, the homeownership rates for all immigrants, North Africans and Southern Europeans at every censuses are hardly affected (except for North Africans for whom the homeownership rates are larger by around 3 percentage points in 1990 and 1999).

C Quantifying the influence of differences in values and returns for subgroups of variables

In this appendix, we propose two approaches to quantify the importance of the differences in coefficients and values of any given variable or group of variables introduced in the logit specifications of homeownership.

C.1 First approach: Influence of returns to individual characteristics

The first approach is a counterfactual exercise making use of the index specification for the probability of homeownership. We decompose the set of characteristics X_{it} into a variable or group of variables X_{it}^{v} and the remaining characteristics X_{it}^{-v}. We also decompose accordingly β_g, the returns to characteristics for a given group g (with $g = m$ for immigrant stayers, $g = l$ for immigrant leavers and $g = e$ for immigrant entrants), into β_g^{v} and β_g^{-v}. We extend our definition of the function corresponding to the probability of homeownership for a set of coefficients β at time t, $R(g, \beta, t)$, to distinguish the variable or group of variables of interest v from the other variables. The extended definition of this function is given by:

$$R(g, v, \beta^{v}, \beta^{-v}, t) = \frac{1}{N_{gt}} \sum\nolimits_{i \in (g,t)} F\left(X_{it}^{v}\beta^{v} + X_{it}^{-v}\beta^{-v}\right) \tag{7}$$

So far, we have quantified, for leavers, the difference in homeownership rate when considering the returns to characteristics of immigrant stayers rather than theirs, $R(l, \beta_{mt}, t) - R(l, \beta_{lt}, t)$. Similarly, it is possible to compute the difference in homeownership rate when changing only the returns to a variable or group of variables v to those of stayers: $R\left(l, v, \beta_m^{v}, \beta_l^{-v}, t\right) - R\left(l, v, \beta_l^{v}, \beta_l^{-v}, t\right)$. Note that, as the function $R(\bullet)$ is not linear in the effects of explanatory variables, differences obtained for every variable or group of variables do not sum to $R(l, \beta_{mt}, t) - R(l, \beta_{lt}, t)$. We can then introduce an index to quantify the importance of the difference in returns to a variable or group of variables v between immigrant stayers and leavers relative to the overall difference in homeownership rates as:

$$P_v = \frac{R\left(l, v, \beta_m^{v}, \beta_l^{-v}, t\right) - R\left(l, v, \beta_l^{v}, \beta_l^{-v}, t\right)}{R(m, \beta_{mt}, t) - R(l, \beta_{lt}, t)} \tag{8}$$

Importantly, we cannot use a similar approach to assess the importance of a difference in the values of a variable or group of variables between immigrant stayers and leavers. Indeed, any counterfactual homeownership rate for immigrant leavers implies averaging their individual probabilities of homeownership. Implicitly, this means that the joint distribution of their explanatory variables is considered and it is not clear how correlations between explanatory variables should be altered if the distribution of only one given variable or group of variables is changed to that of immigrant stayers.

C.2 Second approach: Influence of values and return to individual characteristics

We therefore propose a second approach that allows the study of the importance of differences in both returns and values of any given variable or group of variables. This approach relies on a transformation of the individual probability of homeownership that linearizes the model. Indeed, it is then possible to compute all the contributions in line with a standard Oaxaca decomposition. For this approach, we consider the transformation $g(p) = \log\left(\frac{p}{1-p}\right)$ which is such that, when this function is evaluated at the value taken by an individual probability of homeownership, $F(X_{it}\beta)$, we have $g(F(X_{it}\beta)) = X_{it}\beta$. We can then introduce the functions:

$$\widetilde{R}(g, \beta, t) = \frac{1}{N_{gt}} \sum\nolimits_{i \in (g,t)} g(F(X_{it}\beta)) = \overline{X}_{gt}\beta \tag{9}$$

$$\widetilde{R}(g, v, \beta^{v}, \beta^{-v}, t) = \frac{1}{N_{gt}} \sum\nolimits_{i \in (g,t)} g\left(F\left(X_{it}^{v}\beta^{v} + X_{it}^{-v}\beta^{-v}\right)\right) = \overline{X}_{gt}^{v}\beta^{v} + \overline{X}_{gt}^{-v}\beta^{-v} \tag{10}$$

where $\overline{X}_{gt}$ is the average of individual characteristics for group g at time t, and $\overline{X}_{gt}^{v}$ (resp. $\overline{X}_{gt}^{-v}$) is the average of a specific variable or group of variables v (resp. of the other variables). This time, we can compute the difference in transformed homeownership rate when changing only the returns to a variable or group of variables v to those of stayers: $\widetilde{R}\left(l, v, \beta_m^{v}, \beta_l^{-v}, t\right) - \widetilde{R}\left(l, v, \beta_l^{v}, \beta_l^{-v}, t\right) = \overline{X}_{lt}^{v}(\beta_m^{v} - \beta_l^{v})$. As the function $\widetilde{R}(\bullet)$ is linear in the effects of explanatory variables, differences obtained for every variable or group of variables sum to $\widetilde{R}(l, \beta_{mt}, t) - \widetilde{R}(l, \beta_{lt}, t) = \sum_v \overline{X}_{lt}^{v}(\beta_m^{v} - \beta_l^{v})$. We can also propose an index

similar to P_v to quantify the importance of the difference in returns to a variable or group of variables v between immigrant stayers and leavers:

$$\widetilde{P}_v = \frac{\widetilde{R}\left(l, v, \beta_m^v, \beta_l^{-v}, t\right) - \widetilde{R}\left(l, v, \beta_l^v, \beta_l^{-v}, t\right)}{\widetilde{R}\left(m, \beta_{mt}, t\right) - \widetilde{R}\left(l, \beta_{lt}, t\right)} = \frac{\overline{X}_{lt}^v \left(\beta_m^v - \beta_l^v\right)}{\overline{X}_{mt}\beta_{mt} - \overline{X}_{lt}\beta_{lt}} \tag{11}$$

Note that fixing $\beta^{-v} = 0$ in expression (10) is equivalent to getting rid of variables or groups of variables other than v. We can then compute the difference in transformed homeownership rate when changing only the values of a variable or group of variables v from those of leavers to those of stayers (evaluating this change with the returns to characteristics of stayers) as: $\widetilde{R}\left(m, v, \beta_m^v, 0, t\right) - \widetilde{R}\left(l, v, \beta_m^v, 0, t\right) = \left(\overline{X}_{mt}^v - \overline{X}_{lt}^v\right)\beta_m^v$. Differences obtained for every variable or group of variables sum to $\widetilde{R}\left(m, \beta_{mt}, t\right) - \widetilde{R}\left(l, \beta_{mt}, t\right) = \sum_v \left(\overline{X}_{mt}^v - \overline{X}_{lt}^v\right)\beta_m^v$. It is this time possible to introduce an index to quantify the importance of the difference in values of a variable or group of variables v between immigrant stayers and leavers:

$$\widetilde{S}_v = \frac{\widetilde{R}\left(m, v, \beta_m^v, 0, t\right) - \widetilde{R}\left(l, v, \beta_m^v, 0, t\right)}{\widetilde{R}\left(m, \beta_{mt}, t\right) - \widetilde{R}\left(l, \beta_t, t\right)} = \frac{\left(\overline{X}_{mt}^v - \overline{X}_{lt}^v\right)\beta_m^v}{\overline{X}_{mt}\beta_{mt} - \overline{X}_{lt}\beta_{lt}} \tag{12}$$

In this linear setting, the sum of all the indices for returns to characteristics and values of explanatory variables sum to one: $\sum_v \widetilde{P}_v + \sum_v \widetilde{S}_v = 1$. Finally, note that the same approach can be applied to study the differences in characteristics and their returns between stayers and entrants. Results of decompositions are reported in Table A.5.

D Alternative logit models estimated for stayers

In our main specifications of logit models for native and immigrant stayers, we take into account the location of individuals by using dummies for urban area population brackets, which indirectly capture the effects of many local factors. In an alternative specification, we investigate more specifically whether the homeownership rate in the urban area influences the propensity to be a homeowner to the same extent for native and immigrant stayers. More precisely, dummies for urban area population brackets are replaced by a dummy for being located in an urban area and its interactions with the logarithm of the urban area population and the logarithm of the homeownership rate.

It would be tempting to add variables at the municipality level in the specification, such as the municipal proportion of immigrants; but these variables are likely to be endogenous, since the housing tenure influences the place where individuals are located. We thus decided to discard municipality variables from the regressions, but in section 6.4 we characterize the municipality of residence for renters accessing homeownership before and after their move. Hence, we rather stick to variables at the urban area level, which are less likely to be endogenous since it is possible to check that most moves to access homeownership happen within the same urban area. Note that it would make sense to introduce a measure of the relative costs of renting and owning in the urban area in line with the literature (Henderson and Ioannides, 1983), but the information needed to construct such a measure is not available for the entire period of study.

To deal with the existence of unobserved urban area factors that can bias the estimated coefficients as well as their standard errors (Moulton, 1990), we estimate a mixed logit that involves random terms at the urban area level, which are supposed to be independent and identically distributed, and to follow a centered normal law with a common variance parameter that will be estimated. Results are reported in Table A.6 and are discussed in the main text.

Figure A.1 – Homeownership rates of natives, Southern Europeans and North Africans

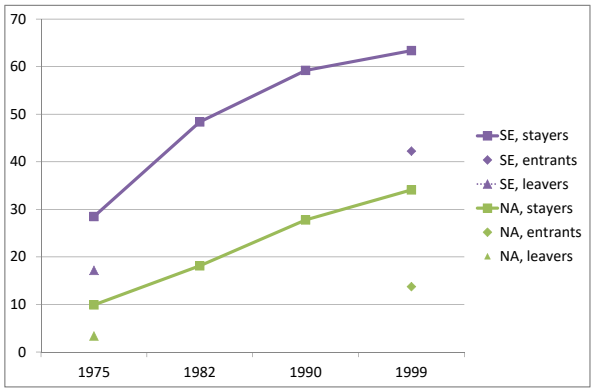

Fig. A.1.a: Immigrant stayers, entrants and leavers

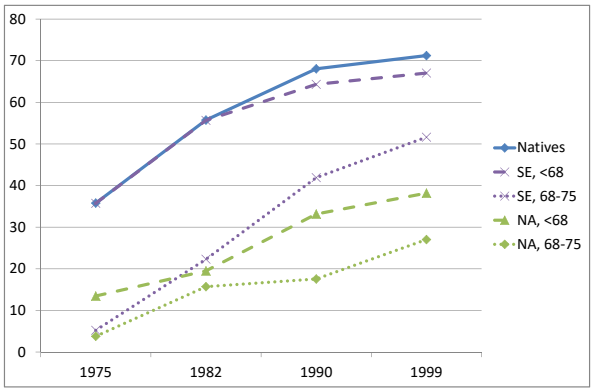

Fig. A.1.b: Natives and cohorts of immigrant stayers

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 and located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). "Imm." refers to immigrants. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals in the sample in 1999 but not in 1975 whereas they were already born that year, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were aged 18-84 that year and they did not die in France over the 1975-1999 period. Fig. A.1.a is constructed from figures in Tables A.3 and A.4, and Fig. A.1.b from those in Table A.3.

Table A.1 – Proportion of immigrants in 1975 and 1999 by country of origin

1975		1999	
Country	Proportion (%)	Country	Proportion (%)
Italy	22.72	Portugal	15.41
Spain	16.60	Algeria	11.76
Portugal	15.66	Italy	9.66
Algeria	11.83	Morocco	9.22
Poland	6.17	Spain	7.50
Tunisia	5.03	Turkey	6.69
Germany	3.69	Tunisia	5.34
Belgium	2.93	Germany	2.40
Yugoslavia	2.15	Poland	1.98
Morocco	2.07	Belgium	1.91
Turkey	1.91	Vietnam	1.74
Switzerland	1.19	Yugoslavia	1.64
		Cambodia	1.62
		UK	1.49
		Laos	1.08
N	14,937		22,190

Note: Computed from the Permanent Demographic Sample on the population of immigrants aged 18-84 and located in mainland France. Only countries which represent at least 1% of immigrants in a given year are reported.

Table A.2 – Homeownership rates of natives and immigrants (1975-1999)

	1975	1982	1990	1999
Proportion of homeowners (%)				
Natives	40.76	45.55	49.17	50.50
Immigrants	25.69	27.65	32.42	36.38
including:				
North Africans	8.35	10.17	15.02	19.29
Southern Europeans	28.83	34.51	44.33	53.77
Proportion of immigrants in the population				
Immigrants	9.36	9.65	9.71	9.90
including:				
North Africans	1.77	2.18	2.28	2.61
Southern Europeans	5.15	4.58	3.97	3.22
Number of observations				
Natives	144,628	43,567	190,458	201,926
Immigrants	14,937	4,655	20,474	22,190
including:				
North Africans	2,828	1,052	4,801	5,841
Southern Europeans	8,213	2,208	8,381	7,227

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 and located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any).

Table A.3 – Homeownership rates of native and immigrant stayers (1975-1999)

	Homeownership rates				N			
	1975	1982	1990	1999	1975	1982	1990	1999
Natives	35.79	55.74	68.05	71.23	89,548	21,309	86,370	89,548
Immigrants	25.80	43.16	53.90	57.54	5,396	1,126	4,892	5,396
including:								
North Africans	9.91	18.13	27.77	34.09	1,009	193	875	1,009
Southern Europeans	28.48	48.38	59.21	63.37	3,230	678	2,949	3,230
Immigrants, arrival≤1968	33.20	50.36	59.70	61.82	3,910	836	3,615	3,910
including:								
North Africans	13.46	19.51	33.16	38.18	639	123	573	639
Southern Europeans	35.73	55.66	64.32	67.03	2,463	530	2,276	2,463
Immigrants, 1968<arrival≤1975	6.33	22.41	37.51	46.30	1,486	290	1,277	1,486
including:								
North Africans	3.78	15.71	17.55	27.03	370	70	302	370
Southern Europeans	5.22	22.30	41.90	51.63	767	148	673	767

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 and located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. natives or immigrants). In 1982, the sample is only one-fourth of the census.

Table A.4 – Homeownership rates for entrants and leavers (1975-1999)

			Homeownership rate				Proportion	
	Sample	Subsample	1975	1982	1990	1999	1975	1999
Natives	All		40.76	45.55	49.17	50.50		
	Getting into	Entrants	/			52.01	/	6.52
	the sample	Age	/			26.78	/	43.39
		Not selected	/			67.92	/	5.74
	Getting out of	Leavers	24.91			/	2.64	/
	the sample	Age/Dead	50.81			/	35.03	/
		Not selected	34.22			/	0.41	/
Immigrants	All		25.69	27.65	32.42	36.38		
	Getting into	Entrants	/			26.59	/	63.91
	the sample	Age	/			38.04	/	5.94
		Not selected	/			53.63	/	5.84
	Getting out of	Leavers	13.06			/	29.88	/
	the sample	Age/Dead	37.99			/	30.08	/
		Not selected	26.50			/	3.92	/
North Africans	All		8.35	10.17	15.02	19.29		
	Getting into	Entrants	/			13.75	/	70.23
	the sample	Age	/			19.09	/	6.01
		Not selected	/			40.11	/	6.49
	Getting out of	Leavers	3.37			/	43.00	/
	the sample	Age/Dead	16.88			/	11.32	/
		Not selected	14.49				10.01	/
Southern Europeans	All		28.83	34.51	44.33	53.77		
	Getting into	Entrants	/			42.23	/	36.17
	the sample	Age	/			48.69	/	11.08
		Not selected	/			59.28	/	8.05
	Getting out of	Leavers	17.18			/	27.57	/
	the sample	Age/Dead	39.06			/	29.65	/
		Not selected	38.03			/	3.46	/

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 and located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). Individuals getting in the sample are those in the sample in 1999 but not in 1975. Among them, "Entrants" are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives; "Age" corresponds to individuals who are in the 1975 census but aged 0-17 and those born in mainland France after 1975; "Not selected" includes individuals in the census and aged 18-84 in 1975 but not located in mainland France and those with missing information on housing and household in 1975 (see section 3); They also include, when considering the subsample of immigrants (resp. natives), individuals recorded as immigrants (resp. natives) in 1999 but as natives (resp. immigrants) in 1975. Individuals getting out of the sample are those in the sample in 1975 but not in 1999. Among them, "Leavers" are individuals who would have been aged 18-84 in 1999 and did not die in France over the 1975-1999 period; "Age/Dead" corresponds to individuals not in the sample in 1999 because they died in France during the 1975-1999 period or they reached age 85 in 1999; "Not selected" individuals are those in the census and aged 18-84 in 1999 but not located in mainland France; They also include, when considering the subsample of immigrants (resp. natives), individuals recorded as immigrants (resp. natives) in 1975 but as natives (resp. immigrants) in 1999.

Table A.5 – Difference in homeownership between immigrant stayers and leavers in 1975 / entrants in 1999: explanatory power of variables and groups of variables (in %)

%	Immigrant stayers - leavers, 1975			Immigrant stayers - entrants, 1999		
	Returns (version 1)	Returns (version 2)	Values (version 2)	Returns (version 1)	Returns (version 2)	Values (version 2)
Age	1.0	-11.2	4.3	-6.2	-5.2	38.7
Education	-0.4	-0.7	3.4	4.3	4.5	-4.7
Sex	-0.1	-0.1	1.7	-3.7	-3.9	-0.4
Employed	40.9	47.9	-2.2	-4.9	-4.7	-3.8
Professional category	26.9	23.8	7.3	5.8	6.1	5.1
Urban area size	8.9	11.1	1.1	3.8	4.3	4.7
Family status	-11.2	-12.4	6.9	-4.3	-3.7	12.2
Family structure	4.8	6.6	35.7	-9.0	-11.6	7.3
Children	-19.0	-17.0	-1.0	-7.8	-7.2	2.5
Constant	-3.9	-5.1	0	60.4	60.1	0

Note: Computed from the Permanent Demographic Sample on the population of individuals aged 18-84 and located in mainland France. When a household owns a dwelling, it is considered to be the property of the household head and his or her partner (if any), but not the property of the other members of the household (if any). Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. natives or immigrants). Entrants are individuals who were already born in 1975 but were not in the 1975 census, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals who would have been aged 18-84 in 1999 and did not die in France over the 1975-1999 period. ''Returns" (resp. "Values") refers to the contribution of differences in returns (resp. values) of a variable or group of variables to the difference in homeownership rate that can be between immigrant stayers and leavers in 1975, or between immigrant stayers and entrants in 1999. There are two approaches to compute the contribution of differences in returns and they are labelled "version 1" and "version 2". The contribution of differences in values can be computed only when using the second approach and it is thus labelled "version 2". Technical details are relegated in Appendix C.

Table A.6 – Logit model of homeownership for stayers, entrants and leavers when urban area variables are introduced

Urban area variable	Stayers				Leavers		Entrants	
	1975		1999		1975		1999	
	Nat.	Imm.	Nat.	Imm.	Nat.	Imm.	Nat.	Imm.
Population (in logarithm)	1.0498***	1.0209	1.0179	1.0138	1.0061	0.9764	1.0165	0.9925
	(0.0172)	(0.0414)	(0.0127)	(0.0334)	(0.0312)	(0.0512)	(0.0179)	(0.0298)
Homeownership rate	1.0554***	1.0300**	1.0523***	1.0527***	1.0414***	1.0155	1.0415***	1.0227**
	(0.0037)	(0.0119)	(0.0034)	(0.0112)	(0.0130)	(0.0163)	(0.0069)	(0.0096)

Note:computed from the Permanent Demographic Sample on the population of individuals aged 18-84 and located in mainland France. Matched data from censuses (1/5 sample in 1975 and 1/4 sample in 1999 aggregated at the municipality level) provide information on municipality variables. Stayers are individuals in the sample in both 1975 and 1999 who keep the same immigration status (ie. native or immigrant). Entrants are individuals in the sample in 1999 but not in 1975 whereas they were already born that year, and individuals born abroad after 1975 when considering immigrants, and individuals born in French overseas territories when considering natives. Leavers are individuals in the sample in 1975 but not in 1999 whereas they were in the age bracket 18-84 that year and they did not die in France over the 1975-1999 period. Odds ratios are reported as well as their standard errors in parentheses ($p < 0.1$, ** $p < 0.05$, *** $p < 0.01$). We report only estimated coefficients and standard errors for the urban area variables that are interacted with the dummy for being located in an urban area.*