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The suburbanization of poverty: Homeownership policies and spatial inequalities in France

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Abstract:

This article examines the role of assisted loans in accessing homeownership and in the residential segregation of low-income households in France. During the 1996-2006 period, no-interest loans (NILs) affected 1.4 million households and were the main policy tool that favored homeownership. We rely on French housing surveys and the administrative records on NILs to compare the position of social groups in the housing market before and after implementing NILs. We show that in a context of increasing housing prices, NILs have limited the exclusion of lower- and middle-class households from the new-build housing market outside the Paris region. Nevertheless, households with NILs tend to relocate to peripheral areas that are characterized not only by a lower proportion of professionals and managers than central areas, but also by lower access to public services and collective amenities. Moreover, in-depth interviews suggest that low-income households had no clear perception of the social and physical disconnections they would experience when they purchased their new homes.

Keywords: assisted loans, homeownership, segregation, suburbanization, inequalities

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Urban sociology has paid great attention to residential segregation in its different forms: the exclusion of the poor from the housing market, the ghettoization of minorities, the concentration of wealthy people in rich neighborhoods and gated communities, and the shift of social boundaries in gentrifying areas. Despite heated debates on how to measure its characteristics, there is now a consensus that the contemporary city is experiencing a negative transformation leading to an increase in the spatial isolation of poor people in the US (Florida 2017; Sampson 2019) and in Europe (Musterd et al. 2017; Tammaru et al. 2015). Studies adopting a life-course perspective find also that ethno-racial segregation and spatial disadvantages persist within and across generations (Bråmås 2006; Bolt et al. 2008; Verdugo 2011; Fougere et al. 2013; McAvay 2018).

Three types of mechanisms are usually put forward to explain segregation (Oberti and Preteceille 2016): economic stratification processes based on market mechanisms (Sassen 1991; Rhein 1998; Steven and Stoll 2010); cumulative effects of individual choices and preferences for living arrangements (Schelling, 1980; Maurin 2004; Storper and Manville, 2006); and structural effects of public policies, whether they intentionally aim at segregation or not. Until the eighties, research considered mainly the roles played by market mechanisms and individual characteristics in excluding the poorest from valued areas (central cities in Europe, residential suburbs in the US). Since then, a growing body of research has taken a more systemic view in exploring the impact of housing policy and state action (Harvey 1978; Massey and Denton 1993; Smith 1996; Rothstein 2017; Slater 2013; Dreier, Mollenkopf and Swanstrom 2004), thus contributing to a renewal of urban Marxist theory and the development of race studies. For some authors, public policies are seen as a major cause of inequalities because of state racism and systemic discriminations inherited from the colonial period (Tissot 2005; Bourgeois 2018). Other authors use census tract data to provide evidence on the undesirable effects of public housing on poverty concentration (Massey and Kanaiaupuni, 1993). Government-assisted housing appears to be disproportionately located in the poorest neighborhoods, especially in the United States (Quillian and Lagrange 2018).

This literature focuses mainly on the public sector of the real estate market, whereas most of the population lives in the private sector. Our article considers a far less investigated topic: the spatial exclusion of modest-income and low-occupation households who benefit from housing policies favoring access to homeownership. Indeed, the government provision of housing assistance takes different forms over time and across countries. What is more, homeownership has gained wide support in France and Europe over the past forty years. After the Second World War, the proportion of homeowners increased steadily in most OECD countries, leading to there being now more homeowners than renters.¹ Some of the many factors that explain the rise in homeownership are economic growth during the post-war period, changes in population structure, housing policies, tax

incentives (Henderson and Ioannides 1983; Eilbott and Binkowski 1985; Balchin 1996; Hilber 2007; Bugeja 2011), and the growing importance of housing industry lobbies (Topalov 1987; Aalbers 2011).

The state has continuously intervened in the housing market (Fahey and Norris 2010; Driant 2015), although the nature of the intervention has evolved: At the end of the seventies, many governments cut back on the social housing that emerged in the post-war period and turned to housing policies that favored homeownership. In Great Britain, more than a million dwellings in the social sector were thus sold to their occupants below the market price (Hamnett 1996; Hamnett and Butler 2011). In the United States, the federal government supported home purchases by low-income households through no-interest loans (Shlay 2006). In France, new person-based subsidies for home purchases were introduced with the 1975 reform and, in 1995, a no-interest loan (NIL) called *Prêt à Taux Zéro* was created to help low- and medium-income households access homeownership while also favoring the construction of new dwellings. As a consequence, the housing supply expanded to the city periphery, where land was cheaper and average-quality dwellings (“*lotissements PTZ*”) were constructed (Gobillon and Le Blanc 2005).

In the past decade, especially after the 2008 crisis, new concerns about the financial sustainability of the welfare state led many governments to promote homeownership more widely (OECD, 2011). The notion of an “asset-based” (or “property-based”) welfare system is becoming increasingly popular in Western Europe (Groves and al. 2007; Doling and Ford 2007; Lowe 2011; Lambert 2015). From this perspective, homeownership is seen as a way to protect individuals against a decrease in income due to illness, unemployment or retirement. Other authors argue that the shift towards property is deeply rooted in an “ideology of home-ownership” that emerged at the end of the 19th century along with urban growth and industrialization. For the ruling classes, access to homeownership would have helped attach the poor to the land and to the factories they were working for (Topalov 1987). Moreover, living in a single-family house was widely considered to be a sign of social and economic success and a symbol of family stability (Bourdieu 2001; Devine 2010; Bonvalet and Bringé 2013).

Considering the major socioeconomic changes that industrial nations faced at the end of the 20th century (unemployment, job market flexibility, low wage growth, high divorce rates, etc.), a growing body of research suggests that purchasing a dwelling has become more difficult (Briant 2010; Bugeja 2011; Dewilde and Lancee 2013) and can be costly for households. Moreover, location choices are constrained by financial capacities, especially for low-income households. Empirically, little is known about either the influence of NILs on access to homeownership or about the neighborhood attributes of places of origin and destination. In light of these gaps in knowledge, two critical questions arise. First, are housing tenure transitions from tenancy to ownership characterized

by upward residential mobility? (This would be measured by the proportion of social dwellings in the area, the unemployment rate, and the proportion of poor households.) Second, how do low-income households perceive their new places of residence?

The purpose of our article is threefold: analyze the role of no-interest loans in households' access to homeownership for the different social groups in France; study changes in the spatial distribution of social groups accessing homeownership with a NIL; and investigate the subjective perceptions and experiences of mobility by NIL beneficiaries. We focus on the 1996-2006 period, during which the legal context of the no-interest loan was stable because no reforms to that loan had yet been implemented. During that period, the NIL program subsidized only the purchase of new homes. We first review the literature on housing subsidies and their role in residential segregation (Section 1). We then turn to our three complementary data sources: the French Housing Survey (1996, 2002, and 2006 waves); the administrative records of all no-interest loans (NILs) granted since the creation of the program in 1995 (never before used in an academic study); and a set of 43 interviews with NIL recipients who accessed homeownership in the mid-2000s (Section 2). Our analysis shows that NILs did not reduce the gap in access to homeownership across socio-occupational groups during a period characterized by large increases in housing prices (Section 3). The main effect of NILs was rather to reorient first-time purchases from non-new to new dwellings. But at the same time, among first-time homebuyers using a NIL, manual and clerical workers moved to peripheral areas more extensively than managers and professionals, and they settled in less wealthy areas. The in-depth interviews suggest that they would have preferred to stay closer to job opportunities and amenities (such as public transport and high-quality schools), and that they had no clear perception of the social and geographical characteristics of their new neighborhoods before they moved in (Section 4).

1. Theoretical Background

1.1. Residential segregation: State distortion and market selection

Residential segregation has been one of the most widely studied topics since the emergence of sociology (Park and Burgess 1925; Oberti and Preteceille 2016). It is beyond the scope of this article to systematically review the sociological literature on the causes of segregation, its intensity or its consequences on populations. Suffice it to say that racial and socio-economic segregation (measured in terms of income or occupational status) has increased in large metropolitan areas since the beginning of the 21st century, even though France maintains lower levels than the US (Safi 2009;

Reardon and Bischoff 2011; Logan *et al.* 2018; Quillian and Lagrange 2016). A growing body of research indicates that the level of socioeconomic segregation in neighborhoods has major consequences on their inhabitants, especially children (Crane 1991; Chetty *et al.* 2016). Living in a deprived neighborhood affects child development and adult outcomes in the form of access to education, job opportunities, residential mobility, health, political participation and social inclusion (Wilson 1987; Sharkey and Faber 2014; Sampson 2019).

The concentration of poverty appears to be linked to social housing programs, even though these programs were initially implemented to improve the living conditions of poor and middle-class households. Indeed, these programs intended for families to leave the social housing units when their incomes rose and they gained access to employment stability. However, as the positive impact on social mobility has not been observed, many scholars have begun to consider social housing programs to be the major contributor to social and racial segregation, both in the US (Galster 1999; Massey and Denton 1993) and in Europe (Verdugo 2011; Pan Ke Shon 2011).

Consequently, public policies took two different paths to reducing the spatial concentration of the poor and racial groups in specific neighborhoods: they intervened at both the neighborhood and individual levels, thus posing a “place vs. people” dilemma (Galster 2017). Place-based programs aim at renewing poor neighborhoods, such as Hope VI in the United States (which involves the demolition, refurbishment and privatization of social housing) and PNRU² in France (a French national urban policy that aims to demolish low quality social dwellings in the poorest neighborhoods and build new small-scale social housing construction projects in mixed areas).

NIL belongs to individual-based programs. Such programs aim at increasing “the opportunities for low-income households to reside outside of deprived neighborhoods where, presumably, opportunities for socioeconomic advancement and quality of life are enhanced, while also increasing housing affordability and quality” (Galster 2017, p. 267). They include housing vouchers coupled with mobility assistance for families. During the 1990s, the U.S. federal government developed Section 8 programs such as the Housing Choice Voucher (HCV)³, while the “Moving to Opportunity” experiment proposed housing vouchers to encourage poor households to move into better neighborhoods. Many research papers have tried to evaluate the impact of such housing policies on their recipients. An analysis on the 100 biggest U.S. metropolitan areas in 2000 and 2008 showed that Housing Choice Voucher recipients have been suburbanizing over time along with other poor households (Convington, Freeman and Stoll 2011). Moreover, despite the substantial income supplement from the vouchers, most voucher recipients have remained severely economically deprived (Galster 2017).

The aim of our paper is to contribute to this debate by studying the *objective* and *subjective* dimensions of residential mobility among those benefiting from subsidized loans, and we will do so by using data at both the individual and municipality levels. Governments rely more on the market to provide affordable housing (through household incentives and subsidized loans rather than by creating new public housing), and housing prices have risen faster than average earnings in many developed countries over recent years. Such institutional and economic evolution demands new research on the relationship between residential segregation and loan subsidies. Almost all first-time buyers take out a mortgage in order to access homeownership. In the US, the mortgage market would be a major determinant of racial segregation (Ross and Yinger 2002), in particular because of discrimination in accessing credit in many large American cities (Massey and Danton 1993; Munnell *et al.* 1996; Pager and Shepherd 2008). More recently, some studies revealed that the rise in subprime lending and the ensuing wave of foreclosures affected mainly racial minorities (Rugh and Massey 2010; Ross and Squires 2011). In Europe, Aalbers (2011) shows frequent occurrences of mortgage redlining – i.e., rejecting mortgage loan applications solely on the basis of place. Additionally, some studies have measured immigrants' lower probability of accessing homeownership compared to natives with similar characteristics (Bonnet *et al.* 2016; Gobillon and Solignac 2018). However, the role of the mortgage market in segregation processes has been studied less from the perspectives of a socioeconomics and qualitative sociology (Lambert, 2016). NILs in France were intended to encourage access to homeownership for low and medium-income households, regardless of previous place of residence. Yet, two fundamental questions that have not been answered remain: How does access to homeownership with a subsidized loan transform their location and living conditions? And how do households perceive such transformations?

1.2. Occupation status vs. income-based approach

Whereas “racial segregation is a major part of the neighborhood effects story in the USA” (Sampson, 2018, p8), the recent rise of wealth inequalities (Piketty, 2013) suggests a need to also consider the role of social stratification. Two different approaches exist: income-based approaches and approaches based on occupational categories. According to Fligstein (2001), the role of occupations differs across countries according to the nature of educative and productive systems. In the US, low-skilled production workers and broadly trained managers would be interchangeable across industries. In comparison, workers and managers in Western Europe (especially in France and Germany) are trained with very specific skills. Educational achievement (which is indirectly captured by occupational categories) thus still plays a bigger role in building social status and hierarchy in France than in the US. Accordingly, residential segregation in the US is measured far more often

through an income approach, whereas most French studies on residential segregation are based on occupational categories. Nevertheless, both approaches (income-based and occupational) reveal that segregation is increasing in the US and in France (Rhein, 1998; Maurin, 2004; Preteceille, 2006; Fleury *et al.*, 2013), albeit the rise in the US is higher. In this paper, we are interested in the evolution of socio-spatial stratification in cities, and we thus study the changes in residential segregation for different socio-occupational categories of households benefiting from NILs in France.

1.3. The no-interest loan in France

In France, several measures have been created or reactivated to encourage homeownership: direct financial support to households (in the form of subsidies); tax incentives (through tax exemptions on mortgage interest for the main residence); and subsidized loans (on which the State pays the interest). The No-Interest Loan (*prêt à taux zéro*), or NIL, is the most widespread of these measures. Created in 1995 to help first-time home buyers, the NIL is a complementary interest-free loan that cannot exceed 50% of the total amount of the other loans. Although an income criterion for accessing a NIL is imposed, its lack of restrictiveness and of quotas means that the NIL is accessible to 94% of tenant households outside the Paris region (Gobillon and Leblanc, 2008).⁴

The NIL was first restricted to new homes, and then expanded to non-new homes in 2005. Between 1995 and 2006, 1.4 million French households obtained no-interest loans. However, during this period, the homeownership rate did not increase as much as expected. It rose from 54.3 % in 1996 to only 57.1 % in 2006, and the proportion of homebuyers with a mortgage decreased by 2.7 points over the same period. This is in contrast to the proportion of outright homeowners, which increased by 5.5 points (see Table A1 in Appendix A), suggesting that access to homeownership has become more difficult, despite new programs to support home purchases.

2. Data, variables, and methods

In this paper, we use both quantitative and qualitative information to investigate the objective and subjective dimensions of mobility and residential choices, in particular for lower- and middle-class households.

The available data on loans and housing tenure choice are dispersed across multiple sources. The French National Housing Survey, conducted at regular intervals since 1955, is the largest source of

information on the housing conditions of households in France. It provides detailed cross-sectional information on household composition, the characteristics of the main residence, and the associated forms of financing (personal savings, help from family, bank loan/mortgage, subsidized loan, government housing benefit). Housing tenure four years before the survey date is also included. In this article, we chose to use the three consecutive waves of 1996 (29,043 households), 2002 (32,156 households) and 2006 (42,963 households), because they cover a period of institutional stability with respect to the no-interest loan. Between its introduction in 1995 and its extension to non-new dwellings in 2005, the allocation rules remained constant in terms of geographic zoning, allocation criteria, and types of dwellings eligible for the program. The 1996 survey, which included only 64 first-time buyers with a NIL (due to slow initial uptake), is used as a reference such that NILs are virtually absent. Housing tenure transitions will be analyzed using multinomial logits estimated from the subsample of households which are tenants four years before the survey date.

We complemented the housing surveys with data from the Société de Gestion du Fonds de Garantie à l'Accession Sociale (SGFGAS), an exhaustive administrative record of all the NILs granted in France since 1995, which is used here for the first time in an academic research paper. Among the 1.4 million households who obtained a NIL between 1995 and 2006, 31.3 % were manual workers, 28.6% were clerical workers, 21.7 % were in intermediate occupations, and 9.8 % were managers/professionals (the remaining 8.5 % of households belonged to another socio-occupational category). NIL data are produced for non-academic purposes and contain less information on socio-demographic characteristics of households than the housing surveys, but they contain detailed information on residential location before the purchase (postcode) and after (municipality code). 90% of households with a NIL resided outside the Paris region both before and after their purchase.

NIL data were matched with municipal variables constructed from notary databases, as well as from social, fiscal and census data (see Appendix B). This matching procedure allowed us to precisely analyze the changes in urban environment for households accessing homeownership with a NIL. First of all, we compared the size and socioeconomic profile of the previous and new municipalities of residence (mean household income, proportions of different socio-occupational categories, unemployment rate, poverty rate), as well as the characteristics of their housing stock (size, proportions of single-family and collective dwellings, proportion of social dwellings).

In addition to our quantitative approaches, we conducted 43 in-depth interviews with assisted homebuyers in the Paris and Lyon metropolitan areas (i.e. the biggest metropolitan areas in France) – all in the peripheral areas, located between 30 km and 50 km from the city center – between 2008 and 2011. The goal was to understand how households accessed homeownership and how they

perceived their new dwellings and new neighborhoods. In order to focus on low-income households, manual workers were over-sampled and represent half of our sample, whereas clerical workers and intermediate employees together represent the other half. While immigrants represent 9% of the French population, they were also over-sampled due to their increasing access to homeownership in the past decade, and they constitute 50% of our sample. Household heads were aged between 27 and 54 at the time of the purchase, and their mortgage loans were repayable over a period of 18 to 34 years.

3. The limited redistributive effects of no-interest loans

After the real estate crisis of the 1990s, the number of homebuyers with a mortgage picked up vigorously in the second half of the 1990s (Daubresse, 2003). This trend was short-lived, however, as the number of homebuyers with a mortgage (compared to owners) increased by only 7% between the 1997-2002 and 2002-2006 periods (Briant, 2010). In targeting first-time homebuyers, what role did NILs play in these shifts? Did NILs improve the situations of manual and clerical workers in the housing market?

3.1. Changes in housing transitions across occupations after introducing NILs

Here, we compare the rates of first-time home purchases for different socio-occupational categories before and after the creation of the NIL program, and we do so using data from the stacked 1996, 2002 and 2006 housing surveys. For that purpose, we restrict the sample to households who are tenants four years before the survey date and estimate a multinomial logit model with the following three outcomes: 1) purchasing a new dwelling during the four years preceding the survey date, 2) purchasing a non-new dwelling, and 3) remaining a tenant (reference outcome). We assess the relative risk that manual workers, clerical workers and workers in intermediate occupations have of experiencing these transitions before and after the reform compared to workers in managerial/professional occupations (the reference group). For that purpose, we introduce into the model interactions between indicators for socio-occupational categories and indicators of the survey wave after the introduction of NILs (2002 or 2006), taking the 1996 survey wave as a reference. These interactions allow us to determine how the probability for the different social groups of becoming homeowners changed with the implementation of the NIL

program.⁵ The specification also includes other observable characteristics of the households (age and sex of the household head, number of children) and variables for relevant time-variant and spatial factors (interest rate, regional real estate price index, urban unit size) in order to quantify the effects with all other things being equal. The estimates are calculated either for the whole sample or separately for households located in the Paris region and for those in the rest of France. By considering these two groups separately, the effects specific to the tight housing market in the Paris region can be distinguished.

Before the introduction of the NIL, it can be seen that manual workers, clerical workers, and tenants in intermediate occupations were significantly less likely to become homeowners of either new or old housing than those in managerial/professional occupations (Table 1).⁶ The relative risk ratio of purchasing a non-new dwelling rather than remaining tenants for manual workers compared to managers/professionals was very small: 0.181 in the Paris region and 0.257 in the rest of France. Put differently, the probability ratio of purchasing a non-new dwelling rather than remaining tenants was 81.9% lower for manual workers than for managers in the Paris region and 74.3% outside that region.⁷ The relative risk ratio of purchasing a new dwelling for manual workers compared to managers was also small, at 0.248 in the Paris region and 0.325 in the rest of France. Overall, before the NIL program, disparities in access to homeownership were already less marked for new dwellings than for non-new ones, which are more often located in city centers where prices have increased more quickly. Moreover, in both housing sectors (new and non-new dwellings) taken separately or combined, the disadvantage of low-income households compared to managerial/professional households was systematically greater in the Paris region than in the rest of France, due to the large increases in real-estate prices in that region.

During the period of the NIL program, there was a significant deterioration outside the Paris region in the relative risk for manual and clerical workers of purchasing a non-new dwelling (for which NILs were not available) compared to managers and professionals. These decreases were 7.4 percentage points for manual workers and 9.7 percentage points for clerical workers.⁸ They were probably due to the increase in housing prices. Clerical and manual workers' chances of purchasing a new dwelling did not improve significantly after the introduction of NILs, neither in the Paris region nor in the rest of France. The NIL program thus does not seem sufficient to significantly counteract the deepening of inequalities in access to homeownership observed over the study period.

3.2. Disparities in housing transitions and use of NILs across occupations

We then compare the housing transitions of the different socio-occupational categories after the introduction of NILs, distinguishing purchases of new dwellings with and without NIL. Using a four-category multinomial logit model, we estimate the relative risks for households in the different socio-occupational categories of becoming homeowners of non-new dwellings, homeowners of new dwellings with a NIL, or homeowners of new dwellings without a NIL, rather than remaining tenants (reference category). The estimates were calculated using the stacked 2002 and 2006 housing surveys in order to focus on the period in which the NIL program was in place. Clerical and manual workers were less likely than managers and professionals to become homeowners (of new or non-new dwellings, with or without NILs) rather than remaining tenants (Table 2). However, manual and clerical workers were relatively more likely to purchase a new dwelling with a NIL than a new dwelling with no NIL or a non-new dwelling. They nevertheless remained less likely to purchase a new dwelling with a NIL than managers and professionals.⁹

Overall, the introduction of NILs limited the deterioration in the relative situation of low socio-occupational groups in some parts of the real estate market, but it did not reduce social inequalities in homeownership. Combined with the decrease in interest rates that allowed households with sufficient income to borrow, the increase in real estate prices during the period of the NIL program may have counterbalanced the specific effects of no-interest loans and limited their redistributive effects. Additionally, given the income thresholds specified by the law, the NIL program may have under-selected managers and professionals among the least affluent in their category and over-selected manual workers among the most affluent in their category. This could explain the greater differences between socio-occupational categories in access to homeownership of new and non-new dwellings without NILs, than in access to homeownership of new dwellings with NILs (Table 2). Overall, the NIL program seems to have redistributed flows of new homeowners across segments of the market. In particular, they contributed to channeling low socio-occupational groups toward the purchase of new homes – which, paradoxically, is one of the most complex pathways to homeownership, given the large number of public and private intermediaries involved: subdivider, landowner, home builder, notary, planning department, and others (Bourdieu, 2000). It is thus not clear whether access to homeownership made possible by NILs under specific terms was more favorable to manual and clerical workers' households than were other pathways to homeownership from which they were increasingly excluded.

3.3. Robustness checks

Differences in access to homeownership across socio-occupational categories are likely to capture differences in income. In order to assess the importance of income effects, we take specifications of housing transitions (whose results are reported in Table 1) and add to them dummies for income quintiles as well as their interactions with the indicator of survey wave being after the introduction of NILs (either 2002 or 2006). As shown by Table D1, differences between managers/professionals and manual/clerical workers are less pronounced when considering the purchase of both non-new and new dwellings. This is consistent with effects of occupations being partly due to differences in income. There is still a contrast between occupations when considering the effects of explanatory variables on access to homeownership of non-new dwellings after the introduction of NILs. Interestingly, this is now also the case for access to homeownership of new dwellings (whereas it was not the case when income was not included in the specification). This can be explained by the (non-significant) positive effect of being in the first income quintile, which is consistent with having better access to homeownership of new dwellings for low-income households after NILs are introduced.

We also investigate to what extent taking income into account affects differences across socio-occupational groups in housing transitions and the use of NILs after the introduction of NILs. We add dummies for income quintiles to specifications whose results are reported in Table 2. As shown by Table D2, differences between managers/professionals and manual/clerical workers are less pronounced, whatever the housing transition and use of NIL. This is especially true for the purchase of a new home with a NIL, as differences across occupations are now small and non-significant. Once again, income differences explain a significant part of disparities across occupations.

Finally, it can be argued that occupation is endogenous in our regressions, since it is measured at the survey date and can thus be influenced by a housing transition. In particular, access to homeownership in a distant suburb can influence access to employment and thus make some new owners change jobs and possibly even their occupation, since this is attached to the job. We assess the robustness of our results when using diplomas, which are exogenous, rather than occupations. In particular, we contrast individuals who have no/vocational diploma with those who have a diploma for more than two years of higher education. Looking at the results obtained from studying not only the housing transitions over the whole period, but also housing transitions and the use of NILs after they were introduced, we find that they are very much in line when contrasting occupations (Tables 1 and 2) and when contrasting diplomas (Tables E1 and E2).

4. Changes in the spatial distribution of NIL recipients

4.1. The characteristics of previous and new municipalities of residence

Hereafter, we use NIL data to assess the variation across socio-professional categories in the evolution of municipal characteristics for households with a NIL. Table 4 reports the proportions of first-time homebuyers with a NIL by urban category of the municipality (rural, peri-urban or urban) for each socio-occupational category before and after moving. It shows that NILs accentuated social segregation for their beneficiaries: the majority of managers and professionals who obtained a NIL remained in urban centers, whereas there was a greater tendency of manual and clerical workers to live in rural and peri-urban areas after purchasing their homes. These latter socio-occupational groups were slightly more likely to move into low-density rural areas where they were already over-represented.

We then assess to what extent access to homeownership is associated with a change in city size. Table 3 gives the proportion of first-time homebuyers with a NIL by urban unit size bracket for each socio-occupational category before and after moving. It shows that, whatever the category, the proportion of households located in urban units with more than 50,000 inhabitants decreased after the move, while the proportion living in rural areas increased. Only 11.4% of manual workers still resided in urban units with more than 200,000 inhabitants after their move, compared to 23.0% of clerical workers and 35.5% of managers and professionals.

Our data also allow us to examine the socioeconomic profile of the residential municipalities before and after access to homeownership for tenants with a NIL, as neighborhood socioeconomic composition contributes to determining access to resources (job, school, social network, etc.). Table 3 shows that the previous municipalities of most managers and professionals accessing homeownership with a NIL tended to be located in urban centers and large urban units. Housing prices and household incomes were higher there than in their new municipalities. At the same time, the unemployment rate and the proportion of social housing were also higher in the previous municipalities than the new ones. In other words, managers and professionals left wealthier, but also more segregated municipalities in large urban areas to live in slightly poorer, but socioeconomically more homogeneous municipalities. Manual workers who accessed homeownership with a NIL moved into small municipalities that were markedly poorer (in terms of income per consumption unit) than the new municipalities of NIL-assisted managers/professionals. But these municipalities were also characterized by a proportion of social housing markedly lower than that of the municipalities they left. Most manual workers moved to the rural fringes of peri-urban areas or to distant rural areas, where the proportion of social housing is structurally low.

4.2. From objective indicators to subjective perceptions of residential mobility

How do manual and clerical workers accessing homeownership perceive their destination municipalities, where the level of income per consumption unit is lower than in their municipalities of origin? Even more specifically, do lower-class households value peri-urban and rural municipalities where social housing represents a smaller proportion of all homes?

The in-depth interviews conducted in two peripheral areas of two major metropolises (Paris and Lyon) show that greater housing availability and lower real-estate prices in low-density areas were determining factors in the residential choice of households with NILs. Lower-class households did not mention the attractiveness of the “countryside” and the “green environment” (low density, proximity to nature, low pollution, etc.) when referring to their new places of residence. Nor did they mention the technical characteristics of the dwelling (type, dimension, materials) (“I don’t care what the house is like, all I care about is the social environment”, said a father). On the contrary, when referring to their new neighborhoods, these households rather emphasized the need for urbanizing the area (construction of new shopping centers, and amenities such as sidewalks, playgrounds for children, high schools, public buses, etc.). For example, a young mother of four children, who grew up in social housing projects in Lyon, described her new neighborhood as “a hole”, “in the middle of nowhere”: “Here, besides home and the school, there’s nothing to do. It’s a good thing I have my car! And a good thing that Cleyzieu is developing a lot, they’re going to build more housing estates and all that, it’ll be less like the countryside. [...] But when we feel down, we’re sick of it, we say to ourselves ‘Why did we ever come here to this hole?’” Moving away from the city center (and from large social housing projects built in high-density areas) was motivated by issues such as social and racial segregation as well as poor-performing schools. This suggests that access to homeownership was not the main goal of the interviewed households.

Moreover, the in-depth interviews enabled us to reconstruct all the steps in the search process for purchasing a home, which is otherwise not possible using current quantitative data: What kind of dwelling were the households looking for? How many dwellings did they visit? In which order? We found qualitative evidence that low-income families first tried to relocate to a better neighborhood *inside* the city center (whatever the housing tenure status) rather than purchasing a home right away in peripheral areas. This was especially the case for women who are traditionally in charge of child care and domestic work. They valued the proximity to their former neighborhood, as relatives (who traditionally live close by) provided informal services central to their everyday lives (Lambert, Dietrich-Ragon and Bonvalet, 2018). Indeed, family support plays a big role in the

economies of low-income households (Schwartz, 1990). Former social housing tenants, for example, first applied for a social dwelling within the city (as this is seen to provide better protection from tenant eviction) before prospecting in the private sector. However, due to the rise in rents and charges in the public sector over the past decade, combined with the new government subsidies for home purchases, these tenants gradually changed their residential strategies (Insee, 2017).

Finally, as we followed the households over the whole 2008-2011 period, we were able to analyze changes in their living conditions and their neighborhood perceptions. We observed that most of the households rapidly perceived major *disadvantages* that they had not anticipated, even though some differences in perception exist across gender and race. After a few months spent in their new housing developments, one third of the women in our sample had to quit their salaried jobs because they could no longer afford to commute. This suggests that physical distance to place of work had been underestimated, as well as the expenses for childcare – which had to be outsourced and ended up being unsustainable for some households. Indeed, low-skilled women in our sample frequently occupied jobs with non-standard working hours and part-time jobs located in the first ring suburbs of metropolitan areas. These work arrangements weighted heavily on their work-life balance and made it difficult for them to organize themselves far away from their relatives and former big-city amenities, where childcare services were often free or largely subsidized by municipalities.

Moreover, for non-European immigrant homebuyers, residential mobility did not favor social integration. First, due to their residential experience in their countries of origin (Algeria, Morocco and Sub-Saharan African countries represented in our sample), these immigrants associated living in the countryside mostly with peasantry, a traditional economy, and a lack of modernity. None of them valued the old houses and traditional architecture of French villages. They rather preferred brand new houses because of the image of modernity and comfort that was associated with detached single-family houses (Gilbert, 2017), and they valued living in the city center. Secondly, non-European immigrants are underrepresented in French rural areas, and those surveyed experienced racism at school or in their new neighborhoods (“they’re really racist at the village school”, said a Congolese mother of three children while complaining about discrimination against her three children).

Somewhat ironically, they called their new development “flat public housing” (“HLM à plat”), because they viewed their neighborhood as a horizontal succession of low-quality small standardized dwellings similar to the vertical piling up of low-quality flats in high-rise social buildings that were constructed *en masse* during the post-war period in France. They also criticized the great geographical distance from the city center and the lack of public transportation, exactly in the same way that the inhabitants of the first large housing projects (“Grands Ensembles”) in the suburbs did in the sixties.

Conclusion

This article analyzes the role played by subsidized loans in access to homeownership and the spatial distribution of recipients. First, we showed that – in a context of property price inflation – NILs have limited the exclusion of lower- and middle-class households' from the new-build housing market outside the Paris region. Second, we compared the neighborhoods in which the NIL recipients settled to those they left. We showed that manual workers and, to a lesser extent, clerical workers with a NIL tended to move into smaller municipalities often located in rural areas where the proportion of manual workers in the labor force was slightly higher than in their previous municipality; whereas the proportions of managers and workers in intermediate occupations were lower. Third, in-depth interviews suggest that lower-class households anticipated neither the social deprivation of their new neighborhoods nor the physical disconnection associated with their new homes when accessing homeownership. Our analysis of household transitions to homeownership suggests that the spatial displacement linked to accessing homeownership may threaten upward social mobility in the long run, especially for women: It diminishes access to extra-local networks such as family and relatives, thus making it difficult to commute and remain in the job market.

Over the 1996-2005 period, the level of support granted through NILs was not indexed on income but instead depended only on the household composition and location. Overall, the percentage of home value covered by a NIL is lower in densely populated areas from which lower-class households are already largely excluded. The extension of NILs to non-new housing in 2006 may have reinforced differences in residential trajectories between managers/professionals and manual/clerical workers. Indeed, this extension is likely to have encouraged managers/professionals to buy non-new housing in large urban centers and their inner residential suburbs. By contrast, lower-class households may not have had enough resources to do so and may have continued to purchase houses in peri-urban and rural areas that were not only located further from job opportunities and family networks, but also characterized by fewer consumption amenities (i.e. fewer schools, transport means, etc.). The effect of policy adjustments on socio-spatial inequalities merits future research.

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Tables

Table 1: Multinomial logit model of housing transition for tenants, estimated from the stacked 1996, 2002 and 2006 housing surveys

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	Manual workers	0.232*** (0.025)	0.181*** (0.044)	0.257*** (0.032)
	Clerical workers	0.297*** (0.038)	0.245*** (0.062)	0.328*** (0.050)
	Intermediate occupations	0.532*** (0.058)	0.423*** (0.088)	0.597*** (0.079)
	Others	0.358*** (0.055)	0.351*** (0.116)	0.378*** (0.067)
	Managers/professionals	REF.	REF.	REF.
	After reform (T)	1.690 (0.631)	1.621*** (0.244)	1.960 (0.878)
	Manual workers*T	0.757** (0.094)	0.962 (0.272)	0.711** (0.104)
	Clerical workers*T	0.739** (0.108)	0.834 (0.244)	0.703** (0.121)
	Intermediate occupations*T	0.986 (0.124)	1.037 (0.248)	0.958 (0.145)
	Others*T	0.863 (0.155)	0.760 (0.309)	0.869 (0.179)

(Other control variables are reported in Table C1 of Appendix C)

Purchased a new dwelling	Manual workers	0.294*** (0.050)	0.248*** (0.106)	0.325*** (0.061)
	Clerical workers	0.334*** (0.072)	0.197*** (0.111)	0.384*** (0.092)
	Intermediate occupations	0.816 (0.141)	0.592 (0.235)	0.914 (0.178)
	Others	0.387*** (0.092)	0.304 (0.225)	0.430*** (0.111)
	Managers/professionals	REF.	REF.	REF.
	After reform (T)	1.245 (0.721)	1.096 (0.366)	0.885 (0.561)
	Manual workers*T	0.853 (0.167)	1.360 (0.705)	0.755 (0.166)
	Clerical workers*T	0.862	1.414	0.758

	(0.215)	(0.936)	(0.208)
Intermediate occupations*T	0.755	0.794	0.697
	(0.153)	(0.395)	(0.159)
Others*T	1.064	1.546	0.955
	(0.298)	(1.352)	(0.289)

(Other control variables are reported in Table C1 of Appendix C)

Remained tenant (reference)			
N	35,540	8,730	26,808

Sources: INSEE Housing surveys of 1996, 2002, and 2006.

Coverage: All households who were tenants 4 years before the survey date.

*Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$. According to the multinomial logit estimates, the relative risk ratio of purchasing a non-new home rather than remaining a tenant for a manual worker compared to a manager/professional is 0.232 (that is, being a manual worker instead of a manager decreases the relative risk by $(1-0.232)*100=76.8\%$); and the relative risk ratio of purchasing a new home rather than remaining a tenant for a manual worker compared to a manager/professional is 0.294 (that is, being a manual worker instead of a manager decreases the relative risk by $(1-0.294)*100=70.6\%$), all other things being equal.*

Table 2: Multinomial logit model of housing transition and use of NIL for tenants, estimated from the stacked 2002 and 2006 housing surveys

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	Manual workers	0.177*** (0.012)	0.174*** (0.027)	0.185*** (0.014)
	Clerical workers	0.218*** (0.017)	0.202*** (0.031)	0.229*** (0.020)
	Intermediate occupations	0.528*** (0.033)	0.439*** (0.052)	0.576*** (0.043)
	Others	0.312*** (0.030)	0.267*** (0.063)	0.332*** (0.036)
	Managers/professionals	REF.	REF.	REF.
<i>(Other control variables are reported in Table C2 of Appendix C)</i>				
Purchased a new home without NIL	Manual workers	0.118*** (0.021)	0.118*** (0.066)	0.113*** (0.021)
	Clerical workers	0.150*** (0.033)	0.181*** (0.102)	0.143*** (0.035)
	Intermediate occupations	0.444*** (0.072)	0.549 (0.209)	0.419*** (0.075)
	Others	0.413*** (0.085)	0.685 (0.358)	0.380*** (0.085)
	Managers/professionals	REF.	REF.	REF.
<i>(Other control variables are reported in Table C2 of Appendix C)</i>				
Purchased a new home with NIL	Manual workers	0.382*** (0.054)	0.591 (0.249)	0.384*** (0.058)
	Clerical workers	0.413*** (0.070)	0.377** (0.187)	0.427*** (0.077)
	Intermediate occupations	0.798 (0.116)	0.400* (0.198)	0.862 (0.135)
	Others	0.362*** (0.079)	0.146 (0.190)	0.389*** (0.088)
	Managers/professionals	REF.	REF.	REF.
<i>(Other control variables are reported in Table C2 of Appendix C)</i>				
Remained tenant (reference)				
N		25,742	6,457	19,283

Sources: INSEE Housing surveys of 2002 and 2006.

Coverage: All households who were tenants 4 years before the survey date.

*Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$. According to the multinomial logit estimates, the relative risk ratio of purchasing a non-new dwelling rather than remaining a tenant for a manual worker compared to a manager/professional is 0.177 (that is, being a manual worker rather than a manager decreased the relative risk by $(1 - 0.177) * 100 = 82.3\%$), and the relative risk ratio of purchasing a new home with no NIL rather than remaining a tenant for a manual worker compared to a manager/professional is even lower (0.118); but that of purchasing a new home with a NIL rather than remaining a tenant is higher (0.382), all other things being equal.*

Table 3: Municipal characteristics before and after NIL-assisted home purchase

Variables	Managers/					
	Professionals		Clerical workers		Manual workers	
	Before	After	Before	After	Before	After
Urban Category of the Municipality (1999 definition)						
Urban center	68.1	53.8	59.9	42.0	45.1	27.2
Peri-urban	19.3	31.2	21.8	36.3	26.7	40.7
Rural	12.6	15.0	18.3	21.7	28.1	32.0
Urban Unit Size (1999 definition)						
Paris	17.0	15.2	10.3	8.1	4.0	2.7
200,000-2,000,000	27.7	20.3	22.1	14.9	14.8	8.7
50,000-200,000	14.3	10.6	16.4	10.9	13.9	8.0
20,000-50,000	6.8	5.4	8.2	5.8	8.0	4.9
<20,000	14.7	18.6	17.6	20.7	22.4	21.8
Rural	19.4	29.8	25.5	39.7	36.9	53.9
Unemployment rate in 1999	12.6	11.6	12.9	11.8	12.3	11.2
Household income by consumption unit	83,323	81,267	77,003	75,033	72,419	70,835
Proportion of social housing units among principal residences in 2000	15.7	12.7	15.0	11.1	13.5	8.8
Proportion of homes in detached houses in 2000	50.4	62.1	57.5	70.1	67.0	79.1
Price/m2 of dwellings in 2000	1,353	1,301	1,204	1,149	1,064	1,022
Number of dwellings in the municipality in 2000	27,453	16,258	20,042	10,533	11,897	4,779
Number of dwellings in the urban unit in 2000	682,54	621,05	450,12		224,61	177,44
	7	3	8	369,037	6	0
Proportion of managers/professionals in 1999	15.3	13.7	12.7	11.0	10.3	8.7

Proportion of workers in intermediate occupations						
in 1999	20.6	20.5	19.7	19.3	18.3	17.6
Proportion of clerical workers in 1999	29.8	29.1	30.2	29.1	29.0	27.6
Proportion of manual workers in 1999	22.9	24.2	25.6	27.4	30.4	32.0
Proportion of other categories of workers in 1999	11.3	12.4	11.8	13.3	12.1	14.1

Source: Calculated from SGFGAS data.

Coverage: Tenants with a NIL contracted between January 1997 and December 2005.

APPENDIX

Appendix A: Evolution of homeownership rate

Table A1. Homeownership rate in France, 1984 to 2006 (in %)

	1984	1988	1992	1996	2002	2006
All homeowners	50.7	53.6	53.8	54.3	56.0	57.1
Outright homeowners	26.3	27.4	30.3	32.1	35.0	37.7
Homeowners with mortgage	24.4	26.1	23.5	22.2	21.0	19.3

Source: INSEE housing surveys

Appendix B: Construction of the data

Regional data included in the regressions

The regional housing price used as an explanatory variable in logit regressions is constructed from regional data provided by the French Institute of Statistics (INSEE), which include the number of housing sales and the local average price per square meter broken down by dwelling type (apartment and house). For each dwelling type and region, we computed a year index: the ratio of average price divided by the price in 1992 (reference). The regional price index used in the logit specifications is then constructed as the sum of the house and apartment indices weighted by their proportion of sales among total sales. This index is computed for each year between 1992 and 2005, before being averaged over 4-year periods corresponding to the residential transition periods covered by the housing surveys, for each metropolitan region of France. Finally, it is merged with our household data according to the households' regional code and survey date.

Municipal data

The local data used to study the transitions experienced by households as they purchased a dwelling are measured at either the municipality level or the district (*arrondissement*) level for the three large cities (Paris, Lyon, and Marseille). Most data are not available for Corsica, which was thus excluded from the analysis.

The FILOCOM database for the year 2000 was used to calculate household income per consumption unit, the proportion of social housing units among primary homes, the proportion of detached houses, and the number of dwellings in the municipality and in the urban unit. This exhaustive database of dwellings is constructed on the basis of household income tax and housing tax declarations. The price of dwellings per sq. m² was calculated using the databases of notarial transactions for non-new dwellings (PERVAL and BIEN). These databases contain the sale prices and surface areas of dwellings. When the surface area was missing (which was the case for a significant proportion of dwellings), it was imputed using FILOCOM data. The municipal data constructed from FILOCOM, PERVAL, and BIEN were all drawn from the study by Gobillon and Vignolles (2016), which also describes the procedure for imputing surface areas.

The unemployment rate and the proportions of socio-occupational categories were calculated from the 1999 census. The calculation of proportions took into account only individuals whose socio-occupational category was non-missing. The municipality type (rural, peri-urban or urban) and urban unit size were drawn from the BDCOM database on municipalities for the year 1999.

Location in the NILs dataset

In the NILSs dataset (the SGFGAS file), location before and after households purchased a dwelling is given by the postal code and the municipal code, respectively. A single postal code can correspond to a number of municipal codes. There are around 37,000 municipal codes, but only 6,000 postal codes. To characterize location before the home purchase, we calculated the mean of the characteristics of the municipalities within each postal code area, weighting them by the 1999 population recovered from the census. This weighting allowed us to take municipality size into account, as households with a NIL were more likely to be located in areas with a larger population before becoming homeowners. Moreover, we assigned a municipality type and an urban unit size to a given postal code by randomly selecting one of the associated municipalities with probability proportional to its population in 1999.

Appendix C: Estimated coefficients for control variables

Table C1. Multinomial logit model of housing transition for tenants, estimated from the stacked 1996, 2002 and 2006 housing surveys, results for explanatory variables not included in Table 1

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	Male head of household	2.079*** (0.108)	2.109*** (0.228)	2.071*** (0.123)
	Age of the head of household	1.067*** (0.012)	1.091*** (0.031)	1.066*** (0.013)
	Age of the head of household squared/100	0.902*** (0.011)	0.866*** (0.028)	0.907*** (0.012)
	<i>Urban unit size</i>			
	Rural	REF.	REF.	REF.
	<20,000	0.539*** (0.036)	0.598* (0.181)	0.530*** (0.036)
	20,000-50,000	0.285*** (0.028)	0.259*** (0.104)	0.286*** (0.029)
	50,000-200,000	0.444*** (0.030)	0.141*** (0.085)	0.451*** (0.031)
	200,000-2,000,000	0.383*** (0.022)		0.387*** (0.023)
	>2,000,000	0.254*** (0.036)	0.232*** (0.056)	
	<i>Number of children</i>			
	No child	REF.	REF.	REF.
	Less than 3 children	1.668*** (0.072)	1.506*** (0.135)	1.746*** (0.087)
	3 children or more	1.269*** (0.088)	1.090 (0.169)	1.349*** (0.106)
	Regional average real estate price (4-year period)	0.799 (0.160)	0.893 (0.304)	0.845 (0.193)
	Interest rate (%)	0.991 (0.078)		1.018 (0.099)
	Paris region dummy	1.140 (0.168)		
	Constant	0.151** (0.132)	0.156*** (0.112)	0.098** (0.103)

Purchased a new dwelling	Male head of household	3.382*** (0.338)	1.975** (0.525)	3.639*** (0.392)
	Age of the head of household	1.099*** (0.024)	0.990 (0.055)	1.115*** (0.026)
	Age of the head of household squared/100	0.868*** (0.022)	0.969 (0.059)	0.854*** (0.023)
	<i>Urban unit size</i>			
	Rural	REF.	REF.	REF.
	<20,000	0.454*** (0.037)	0.263*** (0.109)	0.466*** (0.038)
	20,000-50,000	0.200*** (0.027)	0.113*** (0.071)	0.205*** (0.028)
	50,000-200,000	0.169*** (0.019)	0.140*** (0.092)	0.170*** (0.019)
	200,000-2,000,000	0.134*** (0.013)		0.135*** (0.013)
	>2,000,000	0.077*** (0.016)	0.057*** (0.017)	
	<i>Number of children</i>			
	No child	REF.	REF.	REF.
	Less than 3 children	3.317*** (0.259)	2.826*** (0.617)	3.428*** (0.288)
	3 children or more	2.916*** (0.307)	2.568*** (0.815)	2.995*** (0.336)
	Regional average real estate price (4-year period)	1.435 (0.418)	0.422 (0.341)	1.209 (0.381)
	Interest rate (%)	0.983 (0.120)		0.890 (0.121)
	Paris region dummy	1.082 (0.225)		
	Constant	0.012*** (0.016)	1.021 (1.466)	0.019*** (0.028)

Remained tenant (reference)

N	35,540	8,730	26,808
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Sources: INSEE Housing surveys of 1996, 2002, and 2006.

Coverage: All households who were tenants 4 years before the survey date.

Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$.

Table C2. Multinomial logit model of housing transition and use of NIL for tenants, estimated from the stacked 2002 and 2006 Housing surveys, results for explanatory variables not included in Table 2

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	Male head of household	1.997*** (0.116)	2.027*** (0.241)	1.988*** (0.132)
	Age of the head of household	1.073*** (0.014)	1.077** (0.033)	1.074*** (0.015)
	Age of the head of household squared/100	0.897*** (0.013)	0.884*** (0.030)	0.898*** (0.014)
	<i>Urban unit size</i>			
	Rural	REF.	REF.	REF.
	<20,000	0.566*** (0.044)		0.561*** (0.045)
	20,000-50,000	0.304*** (0.035)		0.300*** (0.035)
	50,000-200,000	0.506*** (0.040)		0.511*** (0.040)
	200,000-2,000,000	0.397*** (0.027)		0.401*** (0.028)
	>2,000,000	0.299*** (0.051)		
	<20,000		0.569 (0.207)	
	20,000-200,000		0.252*** (0.111)	
	>2,000,000		0.278*** (0.080)	
	<i>Number of children</i>			
	No child	REF.	REF.	REF.
	Less than 3 children	1.612*** (0.081)	1.552*** (0.162)	1.651*** (0.095)
	3 children or more	1.375*** (0.111)	1.256 (0.219)	1.434*** (0.131)
	Interest rate (%)	0.992 (0.084)	1.031 (0.082)	1.009 (0.099)
	Regional average real estate price (4-year period)	0.801 (0.175)		0.826 (0.193)

Purchased a new home without NIL	Paris region dummy	1.029 (0.188)		
	Constant	0.221** (0.134)	0.213** (0.160)	0.176** (0.119)
	Male head of household	3.029*** (0.531)	2.027* (0.831)	3.280*** (0.638)
	Age of the head of household	1.221*** (0.049)	1.033 (0.078)	1.279*** (0.060)
	Age of the head of household squared/100	0.805*** (0.035)	0.966 (0.073)	0.764*** (0.040)
	<i>Urban unit size</i>			
	Rural	REF.	REF.	REF.
	<20,000	0.492*** (0.081)		0.538*** (0.091)
	20,000-50,000	0.187*** (0.054)		0.212*** (0.062)
	50,000-200,000	0.210*** (0.045)		0.214*** (0.047)
	200,000-2,000,000	0.137*** (0.025)		0.140*** (0.026)
	>2,000,000	0.093*** (0.035)		
	<20,000		0.079*** (0.071)	
	20,000-200,000		0.035** (0.046)	
	>2,000,000		0.045*** (0.020)	
	<i>Number of children</i>			
	No child	REF.	REF.	REF.
	Less than 3 children	2.679*** (0.383)	3.355*** (1.238)	2.556*** (0.398)
	3 children or more	2.399*** (0.495)	3.341** (1.771)	2.221*** (0.499)
	Interest rate (%)	0.544*** (0.114)	0.835 (0.218)	0.465*** (0.108)
	Regional average real estate price (4-year period)	0.773 (0.398)		0.613 (0.329)
	Paris region dummy	0.988		

		(0.396)		
	Constant	0.006*** (0.009)	0.103 (0.203)	0.005*** (0.008)
Purchased a new home with NIL	Male head of household	3.054*** (0.430)	1.421 (0.630)	3.284*** (0.489)
	Age of the head of household	1.413*** (0.083)	1.590* (0.395)	1.397*** (0.084)
	Age of the head of household squared/100	0.604*** (0.046)	0.502** (0.163)	0.615*** (0.048)
	<i>Urban unit size</i>			
	Rural	REF.	REF.	REF.
	<20,000	0.397*** (0.045)		0.408*** (0.047)
	20,000-50,000	0.126*** (0.029)		0.113*** (0.028)
	50,000-200,000	0.139*** (0.024)		0.139*** (0.024)
	200,000-2,000,000	0.094*** (0.014)		0.094*** (0.014)
	>2,000,000	0.063*** (0.022)		
	<20,000		0.259* (0.185)	
	20,000-200,000		0.328 (0.231)	
	>2,000,000		0.061*** (0.030)	
	<i>Number of children</i>			
	No child	REF.	REF.	REF.
	Less than 3 children	3.704*** (0.454)	2.014* (0.784)	3.963*** (0.517)
	3 children or more	3.425*** (0.548)	2.234 (1.206)	3.624*** (0.612)
	Interest rate (%)	1.390** (0.224)	2.108** (0.645)	1.257 (0.212)
	Regional average real estate price (4-year period)	2.190** (0.840)		1.893 (0.743)
	Paris region dummy	1.001 (0.335)		

Constant	0.000*** (0.000)	0.000** (0.000)	0.000*** (0.000)
Remained tenant (reference)			
N	25,742	6,457	19,283

Sources: INSEE Housing surveys of 2002 and 2006.

Coverage: All households who were tenants 4 years before the survey date.

*Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$.*

Appendix D: Robustness checks with income

Table D1: Multinomial logit model of housing transition for tenants, estimated from the stacked 1996, 2002 and 2006 Housing surveys, adding income quintiles and income-period interaction.

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	Manual workers	0.586*** (0.076)	0.528** (0.149)	0.625*** (0.095)
	Clerical workers	0.639*** (0.092)	0.593* (0.168)	0.685** (0.117)
	Intermediate occupations	0.764** (0.090)	0.614** (0.136)	0.847 (0.120)
	Others	0.844 (0.141)	0.811 (0.285)	0.892 (0.172)
	Managers/professionals	REF.	REF.	REF.
	1st Income Quintile (p.c.)	0.118*** (0.020)	0.032*** (0.025)	0.134*** (0.025)
	2nd Income Quintile (p.c.)	0.199*** (0.029)	0.059*** (0.033)	0.230*** (0.038)
	3rd Income Quintile (p.c.)	0.398*** (0.050)	0.294*** (0.086)	0.442*** (0.065)
	4th Income Quintile (p.c.)	0.627*** (0.070)	0.609** (0.128)	0.665*** (0.089)
	5th Income Quintile (p.c.)	REF.	REF.	REF.
	After reform (T=1)	3.201*** (1.235)	1.619*** (0.254)	5.197*** (2.403)
	Manual workers*T	0.643*** (0.096)	0.646 (0.213)	0.656** (0.115)
	Clerical workers*T	0.651*** (0.107)	0.600 (0.196)	0.664** (0.129)
	Intermediate occupations*T	0.905 (0.122)	0.946 (0.240)	0.908 (0.147)
	Others*T	0.717* (0.140)	0.604 (0.260)	0.747 (0.167)
	Managers/professionals*T	REF.	REF.	REF.
	1st Income Quintile* T	1.005 (0.204)	6.120** (5.007)	0.805 (0.179)
	2nd Income Quintile* T	1.050 (0.179)	4.758*** (2.841)	0.853 (0.162)
	3rd Income Quintile* T	0.789 (0.115)	1.177 (0.403)	0.696** (0.116)
	4th Income Quintile* T	0.919 (0.116)	0.745 (0.187)	0.912 (0.137)

	5th Income Quintile* T	REF.	REF.	REF.
Purchased a new dwelling	Manual workers	0.903 (0.182)	0.931 (0.473)	0.952 (0.213)
	Clerical workers	0.821 (0.195)	0.583 (0.353)	0.912 (0.240)
	Intermediate occupations	1.255 (0.233)	0.944 (0.397)	1.375 (0.289)
	Others	1.044 (0.266)	0.750 (0.569)	1.143 (0.317)
	Managers/professionals	REF.	REF.	REF.
	1st Income Quintile (p.c.)	0.045*** (0.014)	0.027*** (0.037)	0.050*** (0.016)
	2nd Income Quintile (p.c.)	0.150*** (0.032)	0.021*** (0.030)	0.174*** (0.040)
	3rd Income Quintile (p.c.)	0.365*** (0.067)	0.103*** (0.074)	0.422*** (0.085)
	4th Income Quintile (p.c.)	0.625*** (0.105)	0.592 (0.227)	0.659** (0.125)
	5th Income Quintile (p.c.)	REF.	REF.	REF.
	After reform (T)	3.050* (1.823)	1.085 (0.374)	2.839 (1.856)
	Manual workers*T	0.643* (0.149)	0.901 (0.551)	0.607* (0.156)
	Clerical workers*T	0.713 (0.195)	0.966 (0.687)	0.661 (0.199)
	Intermediate occupations*T	0.674* (0.146)	0.721 (0.377)	0.646* (0.157)
	Others*T	0.791 (0.236)	1.418 (1.274)	0.729 (0.236)
	Managers/professionals*T	REF.	REF.	REF.
	1st Income Quintile* T	1.597 (0.593)	1.620 (2.742)	1.487 (0.576)
	2nd Income Quintile* T	0.978 (0.252)	7.049 (10.664)	0.853 (0.234)
	3rd Income Quintile* T	0.809 (0.174)	2.616 (2.110)	0.707 (0.164)
	4th Income Quintile* T	0.923 (0.177)	0.682 (0.331)	0.912 (0.195)
	5th Income Quintile* T	REF.	REF.	REF.
Remained tenant (reference)				

N	35 540	8 730	26 808
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Sources: INSEE Housing surveys of 1996, 2002, and 2006.

Coverage: All households who were tenants 4 years before the survey date.

*Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$. Control variables included in the model are the sex and age of the head of household, age squared divided by 100, indicators for the urban unit size bracket and for number of children, the interest rate, the average real estate price, and a Paris region dummy for the pooled sample (first column). Their estimates are not reported in order to save space, but they are available upon request.*

Table D2: Multinomial logit model of housing transition and use of NIL for tenants, estimated from the stacked 2002 and 2006 Housing surveys, adding income quintiles

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	Manual workers	0.385*** (0.030)	0.342*** (0.059)	0.418*** (0.037)
	Clerical workers	0.416*** (0.034)	0.357*** (0.058)	0.453*** (0.044)
	Intermediate occupations	0.698*** (0.046)	0.582*** (0.072)	0.774*** (0.061)
	Others	0.618*** (0.063)	0.491*** (0.122)	0.678*** (0.078)
	Managers/professionals	REF.	REF.	REF.
	1st Income Quintile (p.c.)	0.115*** (0.014)	0.194*** (0.055)	0.104*** (0.014)
	2nd Income Quintile (p.c.)	0.207*** (0.020)	0.281*** (0.063)	0.194*** (0.020)
	3rd Income Quintile (p.c.)	0.316*** (0.024)	0.349*** (0.065)	0.309*** (0.026)
	4th Income Quintile (p.c.)	0.582*** (0.036)	0.458*** (0.064)	0.612*** (0.043)
	5th Income Quintile (p.c.)	REF.	REF.	REF.
Purchased a new home without NIL	Manual workers	0.332*** (0.065)	0.316* (0.192)	0.325*** (0.068)
	Clerical workers	0.368*** (0.086)	0.402 (0.234)	0.360*** (0.092)
	Intermediate occupations	0.666** (0.112)	0.797 (0.312)	0.642** (0.119)
	Others	0.922 (0.198)	1.585 (0.867)	0.844 (0.197)
	Managers/professionals	REF.	REF.	REF.
	1st Income Quintile (p.c.)	0.036*** (0.017)	0.000 (0.000)	0.040*** (0.019)
	2nd Income Quintile (p.c.)	0.117*** (0.032)	0.166** (0.132)	0.115*** (0.034)
	3rd Income Quintile (p.c.)	0.201*** (0.042)	0.322** (0.169)	0.189*** (0.043)
	4th Income Quintile (p.c.)	0.430*** (0.067)	0.286** (0.140)	0.453*** (0.076)
	5th Income Quintile (p.c.)	REF.	REF.	REF.

**Purchased a new home
with NIL**

Manual workers	0.823 (0.129)	1.477 (0.717)	0.827 (0.139)
Clerical workers	0.795 (0.142)	0.795 (0.414)	0.825 (0.158)
Intermediate occupations	1.056 (0.159)	0.601 (0.304)	1.145 (0.186)
Others	0.702 (0.157)	0.314 (0.415)	0.754 (0.176)
Managers/professionals	REF.	REF.	REF.
1st Income Quintile (p.c.)	0.074*** (0.021)	0.041** (0.059)	0.077*** (0.022)
2nd Income Quintile (p.c.)	0.169*** (0.031)	0.132*** (0.103)	0.174*** (0.033)
3rd Income Quintile (p.c.)	0.341*** (0.049)	0.186*** (0.120)	0.353*** (0.052)
4th Income Quintile (p.c.)	0.689*** (0.083)	0.481* (0.208)	0.715*** (0.090)
5th Income Quintile (p.c.)	REF.	REF.	REF.

**Remained tenant
(reference)**

N	25,742	6,457	19,283
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Sources: INSEE Housing surveys of 2002 and 2006.

Coverage: All households who were tenants 4 years before the survey date.

Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$. Control variables included in the model are the sex and age of the head of household, age squared divided by 100, indicators for the urban unit size bracket and for number of children, the interest rate, the average real estate price, and a Paris region dummy for the pooled sample (first column). Their estimates are not reported in order to save space, but they are available upon request.

Appendix E: Robustness checks with diploma instead of socio-occupational categories

Table E1: Multinomial logit model of housing transition for tenants, estimated from the stacked 1996, 2002 and 2006 Housing surveys, using diploma instead of socio-occupational categories

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	No diploma or middle school	0.256*** (0.029)	0.228*** (0.054)	0.261*** (0.035)
	Vocational degree	0.394*** (0.042)	0.470*** (0.098)	0.385*** (0.049)
	High school or 2-year college Degree	0.777** (0.095)	0.736 (0.163)	0.792 (0.117)
	Higher degree	REF.	REF.	REF.
	After reform (T)	1.384 (0.514)	1.783*** (0.294)	1.488 (0.664)
	No diploma or middle school*T	0.784* (0.103)	1.197 (0.322)	0.724** (0.113)
	Vocational degree*T	0.817* (0.099)	0.532** (0.131)	0.892 (0.128)
	High school or 2-year degree*T	0.820 (0.114)	0.697 (0.178)	0.881 (0.147)
	Higher degree*T	REF.	REF.	REF.
Purchased a new dwelling	No diploma or middle school	0.235*** (0.045)	0.162*** (0.084)	0.250*** (0.053)
	Vocational degree	0.528*** (0.089)	0.521 (0.215)	0.540*** (0.102)
	High school or 2-year college Degree	0.817 (0.166)	1.048 (0.452)	0.785 (0.180)
	Higher degree	REF.	REF.	REF.
	After reform (T)	0.851 (0.494)	0.928 (0.350)	0.558 (0.354)
	No diploma or middle school*T	0.967 (0.218)	1.975 (1.226)	0.851 (0.211)
	Vocational degree*T	0.941 (0.183)	1.122 (0.562)	0.889 (0.193)
	High school or 2-year degree*T	1.135 (0.264)	1.068 (0.557)	1.153 (0.301)
	Higher degree*T	REF.	REF.	REF.
Remained tenant (reference)				

N	35,535	8,729	26,804
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Sources: INSEE Housing surveys of 1996, 2002, and 2006.

Coverage: All households who were tenants 4 years before the survey date.

*Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$. Control variables included in the model are the sex and age of the head of household, age squared divided by 100, indicators for the urban unit size bracket and for number of children, the interest rate, the average real estate price, and a Paris region dummy for the pooled sample (first column). Their estimates are not reported in order to save space, but they are available upon request.*

Table E2: Multinomial logit model of housing transition and use of NIL for tenants estimated from the stacked 2002 and 2006 Housing surveys, using diploma instead of socio-occupational categories

	Variables	Pooled	Paris region	Other regions
Purchased a non-new dwelling	No diploma or middle school	0.200*** (0.014)	0.263*** (0.037)	0.189*** (0.016)
	Vocational degree	0.327*** (0.020)	0.253*** (0.034)	0.349*** (0.024)
	High school or 2-year college	0.643*** (0.042)	0.515*** (0.065)	0.704*** (0.055)
	Degree	REF.	REF.	REF.
	Higher degree	REF.	REF.	REF.
Purchased a new home without NIL	No diploma or middle school	0.134*** (0.027)	0.203*** (0.096)	0.120*** (0.026)
	Vocational degree	0.292*** (0.046)	0.268*** (0.122)	0.284*** (0.049)
	Highschool or 2-year college	0.729* (0.126)	0.906 (0.346)	0.691* (0.134)
	Degree	REF.	REF.	REF.
	Higher degree	REF.	REF.	REF.
Purchased a new home with NIL	No diploma or middle school	0.303*** (0.051)	0.310* (0.208)	0.295*** (0.052)
	Vocational degree	0.664*** (0.088)	1.157 (0.508)	0.635*** (0.088)
	High school or 2-year college	1.140 (0.171)	1.505 (0.698)	1.119 (0.178)
	Degree	REF.	REF.	REF.
	Higher degree	REF.	REF.	REF.
Remained tenant (reference)				
N		25,737	6,456	19,279

Sources: INSEE Housing surveys of 2002 and 2006.

Coverage: All households who were tenants 4 years before the survey date.

Note: Relative risk ratios are reported, as well as their standard errors in parentheses. *: $p < 0.1$; **: $p < 0.05$; ***: $p < 0.01$. Control variables included in the model are the sex and age of the head of household, age squared divided by 100, indicators for the urban unit size bracket and for number of children, the interest rate, the average real estate price, and a Paris region dummy for the pooled sample (first column). Their estimates are not reported in order to save space, but they are available upon request.

Endnotes:

¹ In the United States, the homeownership rate has been declining since 2004 (when it peaked at 69%) and, as of 2016, it stood at 63.7%. This rate is close to that of the United Kingdom, where 71% of households owned their home in 2007 (Eurostat, 2007).

² Programme national de rénovation urbaine.

³ Section 8 of the Housing Act of 1937 authorized the payment of rental housing assistance to private landlords on behalf of low-income households. Further amendments to the 1937 Act constitute the Section 8 programs. In 1999, the Rental Certificate and Rental Voucher Programs were changed to the Housing Choice Voucher program, a tenant-based instrument for helping very low-income families afford decent dwellings in the private housing market. Program participants pay 30% of their monthly income towards rent, and the rest is paid to the landlord by housing authorities.

⁴ The income criterion depends on the family structure (the threshold increases with the number of children) and the location of the dwelling to be purchased (the maximum income threshold was higher in the Paris region than in the rest of France). Also, the NIL is limited to 20% of the amount of the transaction, which means that the yearly average value of NILs is around 16,000€ (computed from the 2002 and 2006 samples).

⁵ An indicator of whether the household belonged to the 2002 or 2006 wave was included in order to capture changes over time in the chances of becoming homeowners for a household in the reference category – managers and professionals.

⁶ Estimated coefficients for variables not related to socio-occupational categories are reported in Table C1 of Appendix C.

⁷ These figures were computed, respectively, as $(1-0.181)*100=81.9\%$ and $(1-0.232)*100=74.3\%$.

⁸ After the reform, the chances of being the owner of a non-new home rather than a tenant outside the Paris region were $(1-0.711*0.257)*100=81.7\%$ lower for manual workers than for managers, compared to $(1-0.257)*100=74.3\%$ before the reform; and they were $(1-0.703*0.328)*100=76.9\%$ lower for clerical workers, compared to $(1-0.328)*100=67.2\%$ before the reform.

⁹ In the Paris region, the difference is non-significant for manual workers, and it is significant only at the 10% level for clerical workers.