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Laurent Gobillon, Anne Lambert, Sandra Pellet

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Laurent GOBILLON*, Anne LAMBERT**, and Sandra PELLET***

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Access to homeownership is often difficult for low-income households because lending institutions require a level of income and collateral that these households do not have. In 1995, the French government introduced no-interest loans to enable more households to become homeowners. What are the effects of this policy on access to homeownership and on the places where these new beneficiaries settle? Combining quantitative analysis based on administrative databases and surveys with qualitative analysis, Laurent Gobillon, Anne Lambert, and Sandra Pellet show that, for some household groups, access to homeownership has come at the cost of living far from city centres and increased social segregation.

Since the turn of the century, socioeconomic segregation has increased in large U.S. and European metropolitan areas (Fry and Taylor, 2012; Tammaru et al., 2015; Quillian and Lagrange, 2016; Florida, 2017; Musterd et al., 2017; Sampson, 2019; Préteceille and Cardoso, 2020). Several factors have been considered to explain the exclusion of the poorest from valued areas (central cities in Europe and residential suburbs in the United States): household characteristics and individual preferences; housing policy and construction of large social housing estates in the 1970s; and racial discrimination inherited from the colonial period (Massey and Denton, 1993; Massey and Kanaiaupuni, 1993; Rohe and Freeman, 2001; Dreier et al., 2004; Tissot, 2005; Slater, 2013; Bourgeois, 2018). Researchers have also emphasized community- and neighborhood-level factors such as ethnic enclaves and community cultural resources in order to explain the concentration of minorities in poor districts (Wilson, 1987). Despite the variety of these factors, they commonly relate to the public sector of the real estate market and intra-urban segregation. However, most

* Paris School of Economics–CNRS, Institut national d'études démographiques (INED), CEPR, IZA.

** Institut national d'études démographiques (INED).

*** Université Paris-Est Créteil (UPEC), research unit ERUDITE and ICM Fellow.

Correspondence: Laurent Gobillon, Paris School of Economics, 48 Boulevard Jourdan, 75014 Paris, France. Email: laurent.gobillon@psemail.eu

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of the population lives in private sector housing as either tenants or homeowners, including low-income households. Moreover, suburbanization is increasing and population growth is now higher in peri-urban areas than in inner cities (Keil, 2017; Valles, 2018).

Considering these stylized facts, this article focuses on the private sector and studies socioeconomic segregation in France among households benefiting from a new type of housing assistance. We examine the role played by no-interest loans (NIL) in the access to homeownership among households from different social groups, as well as changes in the spatial distribution of social groups who access homeownership with a NIL. We also combine administrative data, national housing surveys, and in-depth interviews to investigate the subjective perceptions and experiences of mobility, as described by NIL recipients at the individual level.

Indeed, homeownership has gained widespread support in France and Europe over the past 40 years (Andrews and Sánchez, 2011). The notion of an "asset-based" (or "property-based") welfare system has become increasingly popular in various OECD countries (Doling and Ford, 2007; Groves et al., 2007; Lowe et al., 2011; Lambert, 2015), and homeownership is viewed by governments as a way to protect individuals against a decrease in income due to illness, unemployment, or retirement. However, location choices are becoming more constrained due to increasing land prices in metropolitan areas.

After the Second World War, the proportion of homeowners increased steadily in most OECD countries, such that homeowners currently outnumber renters.(1) The main factors proposed for explaining the rise in homeownership are economic growth during the postwar 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). At the same time, the late 1970s saw many governments cutting back on the social housing that emerged in the postwar period and turning to housing policies that favored homeownership. In Great Britain, over a million social sector dwellings were sold to their occupants below market prices (Hamnett, 1996; Butler and Hamnett, 2011). In the United States, the federal government supported low-income-household purchases of homes through NILs (Shlay, 2006). In France, new individual-based subsidies for home purchases were introduced with the 1977 reform, and a NIL called *prêt à taux zéro* was additionally created in 1995 to help low- and middle-income households access homeownership while also favoring construction of new dwellings. As a consequence, the housing supply expanded to the city periphery, where land was

(1) In the United States, the homeownership rate has been declining since 2004 (when it peaked at 69%) and stood at 63.7% as of 2016. This rate is close to that of the United Kingdom, where 71% of households owned their home in 2007.
See https://ec.europa.eu/eurostat/web/income-and-living-conditions/data/database

cheaper, and average-quality dwellings were constructed in some NIL-targeted housing developments (Gobillon and Le Blanc, 2008).

Empirically, little is known about either the influence of NILs on access to homeownership or the neighborhood attributes of places of origin and destination when benefiting from a NIL. Thus, questions naturally arise, such as: Are housing tenure transitions from tenancy to ownership characterized by upward residential mobility (i.e., moving to wealthier neighborhoods)? How do new home buyers perceive their places of residence? Finally, while living in a single-family house has long been considered both a sign of social and economic success and a symbol of family stability (Bourdieu, 2000; Devine, 2010; Bonvalet and Bringé, 2013), is this view consistent with the perceptions of recent home buyers who received assistance?

We focus on the 1996–2006 period, during which the legal context of the NIL remained stable and only new home purchases were subsidized by the NIL program.(2) We first review the literature on housing subsidies and their role in residential segregation (Section I). We then turn to our three complementary data sources: the French Housing Survey by INSEE (1996, 2002, and 2006 waves); the administrative records of all NILs granted since the program's creation in 1995 (never before used in an academic study); and a set of 43 interviews with lower-class households that accessed homeownership in the mid-2000s, most often with a NIL (Section II). Our empirical analysis first assesses differences in access to homeownership with and without NILs across socio-occupational groups during a period characterized by large increases in housing prices (Section III). It then quantifies changes in the municipality characteristics of NIL recipients after accessing homeownership. Finally, in-depth interviews make it possible to access the personal experience of new home buyers and determine the extent to which they clearly perceived the socioeconomic characteristics of their new neighborhoods before moving in (Section IV).

I. Background

1. Increasing residential segregation

Residential segregation has been studied extensively since the emergence of urban sociology in the United States at the beginning of the 20th century (Park and Burgess, 1925; Oberti and Préteceille, 2016). Thus, an exhaustive review of the sociological literature on the causes of segregation, its intensity, or its consequences on population is beyond the scope of this article. However, suffice it to say that racial and socioeconomic segregation (measured in terms of either income or socio-occupational status) has increased in large metropolitan areas since the beginning of the 21st century, although France maintains

(2) The terms *new home* and *new dwelling* will refer to newly built rather than existing structures.

lower levels than the United States (Safi, 2009; Reardon and Bischoff, 2011; Quillian and Lagrange, 2016; Logan et al., 2018). In particular, segregation has increased in Paris as the rich and poor tend to concentrate in different neighborhoods (Préteceille, 2006).

Whereas "racial segregation is a major part of the neighborhood effects story in the USA" (Sampson, 2019, p. 8), the recent rise of wealth inequalities in advanced economies (Piketty, 2013; Alvaredo et al., 2019) suggests a need to reconsider the role of social stratification and socioeconomic inequalities. Most U.S. studies on residential segregation are based on income, while most analogous French studies are based instead on socio-occupational categories. This classification, created by the Institut National de la Statistique et des Études Économiques (INSEE), combines occupation-related information with the social situation associated with employment (distinguishing between employees and self-employed by occupational skill level, etc.). Nevertheless, both approaches (income-based and socio-occupational) reveal that segregation is increasing in both the United States and France (Rhein, 1998; Maurin, 2004; Préteceille, 2006; Fleury et al., 2013), albeit the rise is higher in the United States. 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.

Several research contributions to the literature on neighborhood effects indicate 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, and social inclusion (Wilson, 1987; Sharkey and Faber, 2014; Sampson, 2019).

Most of the literature appears to link poverty concentration to either housing deprivation (slums and informal settlements) or social housing programs. These programs were initially implemented after the Second World War to address housing shortages and improve the living conditions of working-class and middle-class households until their incomes rose and they gained access to employment stability and homeownership (Chombart de Lauwe, 1959). However, scholars in the 1990s began to increasingly contest their positive impact on social mobility as mass unemployment rose in advanced economies and massive urban riots broke out in large housing estates (Tissot, 2007). Thus, many scholars have begun to consider social housing programs to be a major contributor to social and racial segregation, both in the United States (Massey and Denton, 1993; Galster, 1999) and in Europe (Pan Ké Shon, 2009; Verdugo, 2011).

2. Place versus individual-based programs to reduce segregation

Consequently, public policies since the 1990s have taken two different approaches to reducing the spatial concentration of the poor and racial groups

in specific neighborhoods: they intervene at either the neighborhood or individual level, thus facing the famous "place versus people" dilemma (Galster, 2017). Place-based programs aim to rehabilitate poor neighborhoods and buildings, such as Hope VI in the United States (which involves demolishing, refurbishing, and privatizing social housing) and the Programme National de Rénovation Urbaine in France (a national urban policy that aims to demolish low-quality social dwellings in the poorest neighborhoods and enact new small-scale social housing construction projects in mixed areas). In contrast, individual-based programs aim to increase "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). These programs include housing vouchers coupled with mobility assistance for low-income 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 studies have tried to evaluate the impact of such housing policies on their recipients. An analysis of 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 (Covington et al., 2011). Moreover, despite the substantial income supplement from the vouchers, most voucher recipients have remained severely economically deprived (Galster, 2017).

Our article aims to contribute to this debate by studying the *objective* and *subjective* dimensions of residential mobility among those benefiting from an individual-based program, the NIL; and we will do so by combining data at both the individual and municipality levels.

3. Mortgage and real estate market

The location choices of low- and middle-income households trying to access homeownership have become more constrained by the recent rise in housing prices relative to average earnings in many developed countries and by the existence of borrowing constraints. In the United States, the mortgage market is also considered to be a major determinant of racial segregation (Ross and Yinger, 2002) because of direct or indirect discrimination in access to credit (Massey and Denton, 1993; Munnell et al., 1996; Pager and Shepherd, 2008). More recently, some studies have revealed that the rise in subprime lending and the ensuing wave of foreclosures have affected mainly racial

(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 toward rent, and the rest is paid to the landlord by the housing authorities.

minorities (Rugh and Massey, 2010; Ross and Squires, 2011). In Europe, Aalbers (2011) shows frequent occurrences of mortgage redlining—the rejection of mortgage loan applications solely on the basis of residential place—thus leading to high levels of socioeconomic segregation. Despite great interest in this research, the role of the mortgage market in segregation processes has been less studied in Europe, and France is no exception (Lambert, 2016).

4. The no-interest loan in France

In France, several measures have been implemented 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 *prêt à taux zéro* is the most widespread of these measures. Created in 1995 to help first-time home buyers, this NIL is a complementary interest-free loan that cannot exceed 20% of the transaction amount or 50% of the household's total loan amount for purchasing the dwelling. There is an income criterion for accessing a NIL that depends on family structure (the threshold increases with the number of children) on the one hand, and on location of the dwelling to be purchased on the other. The latter initially distinguished only between the Paris region and the rest of France (where the threshold was lower); but three types of zones were established after 2003, depending on housing market tightness.(4) Because the income criterion is not very restrictive, the NIL was accessible to 94% of tenant households outside the Paris region in 1998 (Gobillon and Leblanc, 2008).(5) According to the 2002 and 2006 housing surveys, the yearly average value of NILs was around €16,000. The NIL was first restricted to newly built homes before it was extended to existing homes in 2005.

The NIL is expected to affect the housing decisions of credit-constrained households on the borderline of being able to access homeownership. As banks consider it an additional down payment, it should help modest-income households to purchase a dwelling. In that perspective, it should affect manual and clerical workers to a larger extent. Still, in large cities where housing prices are high, the NIL may also allow higher-income households to purchase homes in places rather close to the city center, while low-income households may not be provided enough help to access homeownership in such attractive areas. Such a case thus makes the expected overall effect ambiguous. As for spatial effects, modest households may be able to purchase only dwellings far away from city centers, since housing prices are often lower at the periphery of French cities. By extension, one may wonder whether households relocating far away from city centers anticipate all the potential harmful effects of distance,

(4) After our period of study ending in 2005, France added other revisions that we do not detail here.

(5) A recent report shows that the proportion of tenants eligible for the NIL in all of France was 83% in 2018 (Deniau et al., 2019).

specifically regarding accessing the labor market and consumption amenities (such as nurseries, schools, and shops).

II. Data, variables, and methods

This paper uses both quantitative and qualitative information to investigate the objective and subjective dimensions of mobility and residential choices, particularly for low-income 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, including NILs (as well as personal savings, family help, bank loan/mortgage, other subsidized loans, and government housing benefits). Housing tenure 4 years before the survey date is also included. For 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 NIL. Between the introduction of the NIL 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 are analyzed from the subsample of households who were tenants 4 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), providing an exhaustive administrative record of all the NILs granted in France since 1995 and used here for the first time in an academic research paper. Compared to the French housing survey, this dataset has two advantages for studying the housing transitions of NIL recipients. First, it contains the municipal location of dwellings both before and after a move (rather than locations at two given dates separated by a 4-year period). Second, its large size makes the results far more accurate. Indeed, 1.4 million households obtained a NIL between 1995 and 2006. Of these, 31.3% of their heads[(6)] were manual workers, 28.6% were

(6) The household head in the NIL data is the main borrower of the primary loan used to purchase a dwelling. The definition thus differs from those of the housing surveys and of the qualitative survey presented below, namely in terms of the reference person defined by the French Statistical Office (the reference person in those surveys is determined from the three oldest persons in the household; if there is a couple among them, the reference person is the man; if there is no couple, the reference person is the oldest person still in the labor market—whether a man or woman; and if no one is in the labor market, it is the oldest person). The definition of the reference person has continuously evolved following the surveys used in this study; see: https://www.insee.fr/fr/metadonnees/definition/c1192

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 nonacademic purposes and contain less information on the sociodemographic characteristics of households than the housing surveys, but they contain a municipal identifier after the purchase (i.e., the INSEE municipal code) and the postal code (which is usually less precise) before the purchase.[7] Around 90% of households with a NIL resided outside the Paris region both before and after their purchase.

We matched NIL data with municipal variables constructed from several databases: notary databases to compute dwelling prices; the 2000 FILOCOM database, which provides housing and income information; and the 1999 census for population structure by socio-occupational category and employment status (see Appendix B). This matching procedure allowed us to precisely analyze the changes in urban environment for households accessing homeownership with a NIL. First, 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, and poverty rate), as well as the characteristics of their housing stock (size, proportions of single-family and collective dwellings, and proportion of social dwellings).

In addition to our quantitative approaches, we conducted in-depth interviews in Cleyzieu-Lamarieu,[8] a peri-urban municipality located 30 km from the center of Lyon, the second largest urban area (*aire urbaine*) in France.[9] We interviewed all the households (N = 43) of a new housing development. They were all first-time home buyers, and 51% of them (22) benefited from a NIL. Households that did not benefit from a NIL were either unaware of its existence, ran out of time to apply for all the assisted loans necessary for a purchase due to commercial pressure from landowners, or were not eligible (in particular, middle managers). Among NIL recipients, 95% of households (21) were headed by manual and clerical workers, who will be our focus hereafter.[10]

Appendix Table C.1 shows that, relative to NIL recipients in the urban area of Lyon, the characteristics of manual and clerical worker interviewees benefiting

(7) Since the prepurchase location identifier is usually less precise, prepurchase location is indicated with proxies, of which their construction is detailed in Appendix B.

(8) The name of the municipality has been changed to comply with the anonymity and confidentiality requirements.

(9) According to the official definition of the French Statistical Office, an urban area is a group of touching municipalities, without pockets of clear land, encompassing an urban unit providing at least 10,000 jobs (the urban center), as well as rural districts and/or urban units (the urban periphery) which have at least 40% of their employed resident population that work in the urban center or in the municipalities attracted by this center. An urban unit is a municipality or a group of municipalities whose built-up area is continuous and which includes at least 2,000 inhabitants. Municipalities that do not fall within any urban units are considered rural.

(10) Among the 43 heads of interviewed households, 5 were managers/professionals, 13 had an intermediate position, 8 were clerical workers, and 17 were manual workers. Among the 22 heads of households benefiting from a NIL: 1 was a manager/professional, 7 were clerical workers, and 14 were manual workers.

from a NIL in the municipality of Cleyzieu-Lamarieu are closer to NIL recipients in their urban unit (*unité urbaine*): they are on average older, a bit wealthier, more often couples, and more likely to be previous renters of public dwellings. Furthermore, they more often purchased a detached house, as housing prices are low enough in Cleyzieu-Lamarieu to purchase large detached or semi-detached dwellings at reasonable prices. It is interesting to note that, among NIL recipients who are manual and clerical workers in the municipality of Cleyzieu-Lamarieu, those interviewed are on average older and a bit wealthier. Their purchased dwellings are also a bit more expensive. This can be explained by other NIL recipients who are manual and clerical workers in the municipality of Cleyzieu-Lamarieu purchasing homes in lower quality developments.

We interviewed both members of couples several times to collect their respective perceptions of housing characteristics and the residential environment, which could vary over time and across genders. The objective of the in-depth interviews was threefold: reconstruct the different stages in accessing homeownership; obtain information on the household perception of their new dwelling and residential environment; and compare responses of men and women within couples. This kind of information is not available in existing quantitative surveys, which collect variables on living conditions at the household rather than individual level. By informing ourselves about how women and men make their housing choices, it paves the way to new research on gender and urban inequalities (Lambert et al., 2018).

III. The limited redistributive effects of no-interest loans

Over the 1996–2006 period, the homeownership rate did not increase much, rising from 54.3% to 57.1%, while the proportion of homebuyers with a mortgage decreased by 2.9 percentage points. This lies in contrast to the proportion of outright homeowners, which increased by 5.6 percentage points (see Appendix Table A.1), suggesting that access to homeownership has become more difficult for households needing a mortgage. Considering that NILs target first-time homebuyers, did they nevertheless play a significant role? Did NILs improve the situations of manual and clerical workers in the housing market?

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. For that purpose, we use the 1996, 2002, and 2006 housing surveys and restrict the sample to households who were tenants 4 years before the survey date. We report in Table 1 the differences between socio-occupational categories and managers/professionals (taken as the reference) in the proportions of households

in each wave who purchased a new dwelling, purchased an existing dwelling, and remained tenants (with or without a residential move). The proportions are reported in Appendix Table D.1. First, note that the proportions of managers/professionals purchasing existing and new dwellings increased between 1996 and 2002 (respectively, from 17.5% to 23.7%, and from 4.9% to 5.4%) before stabilizing. The difference in the proportions of manual (resp. clerical) workers and managers/professionals purchasing existing dwellings in the 1996 wave is large, reaching –11.5 (resp. –12.6) percentage points for manual (resp. clerical) workers. It grows even larger over time, reaching –17.9 (resp. –18.7) percentage points for the 2006 wave (Table 1). Patterns are similar when separately considering the Paris region and other regions. When turning to the new dwelling purchases, we find that differences in percentage points are initially much smaller than for existing dwellings, reaching, respectively, –1.6 and –3.2 percentage points for manual and clerical workers in the 1996 wave. Interestingly, differences increase only very slightly over time and they amount, respectively, to –1.9 and –3.7 percentage points for the 2006 wave. Again, the patterns are similar when separately considering the Paris region and other regions. As NILs can be used only to purchase new dwellings, the results suggest that NILs may limit the increase in disparities among socio-occupational categories regarding their access to new dwellings.

An important issue is that household and local characteristics within socio-occupational categories may vary over time and be correlated with the propensity of becoming the homeowner of a new or existing dwelling. To deal with this issue, we use the pooled 1996, 2002, and 2006 housing surveys to estimate a multinomial logit model with the following three outcomes: (1) purchased a new dwelling during the 4 years preceding the survey date, (2) purchased an existing dwelling, and (3) remained a tenant (reference outcome).[11] The specification involves household and local characteristics, and in particular indicators for socio-occupational categories as well as their interactions with indicators of the survey wave after the introduction of NILs (2002 or 2006), taking the 1996 survey wave as a reference. The model is estimated for the whole of France and then separately for the Paris region and other regions. Details on variables introduced in the specification and estimated odds ratios are reported and discussed in Appendix E.1. From the estimated coefficients, we then compute for each socio-occupational category the evolution of the probabilities of purchasing existing and new dwellings, for given distributions of household and local characteristics (using those of the considered category in the 1996 survey, before NILs were introduced). Finally, we compute differences in these evolutions between each socio-occupational

(11) A tempting alternative route would consist of using a difference-in-differences approach to compare the evolution in access to homeownership for eligible and ineligible households following the introduction of NILs. However, this would require determining which households are eligible. This is not possible with the data at hand, since eligibility depends on fiscal income 2 years before purchasing the dwelling, for which no information is available.

Table 1. Differences between socio-occupational categories and managers/professionals in the proportions of tenants (in percentage points) for every housing transition type and use of NILs, in 1996, 2002, and 2006

	Pooled			Paris region			Other regions		
	1996	2002	2006	1996	2002	2006	1996	2002	2006
Purchased an existing dwelling									
Manual workers	–11.5	–15.6	–17.9	–11.8	–14.8	–19.2	–12.5	–16.6	–18.6
Clerical workers	–12.6	–17.6	–18.7	–11.8	–17.6	–18.0	–13.7	–18.2	–19.6
Intermediate occupation	–6.5	–7.9	–8.6	–7.7	–11.0	–11.4	–6.7	–7.2	–8.3
Managers/professionals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	–10.0	–11.4	–16.7	–9.0	–13.4	–16.2	–11.2	–11.7	–17.7
Purchased a new dwelling									
Manual workers	–1.6	–1.4	–1.9	–1.5	–0.7	–1.4	–2.6	–3.0	–3.8
Clerical workers	–3.2	–3.3	–3.7	–2.2	–1.3	–2.1	–4.3	–5.0	–5.6
Intermediate occupation	0.9	–0.6	0.7	–0.6	–1.3	–0.5	0.9	–1.2	–0.2
Managers/professionals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	–1.8	–2.3	–0.5	–1.8	–0.9	–0.2	–2.7	–3.9	–2.2
Without NIL									
Manual workers	-	–1.6	–2.2	-	–0.7	–1.3	-	–2.4	–3.2
Clerical workers	-	–1.8	–2.7	-	–0.8	–1.5	-	–2.6	–3.7
Intermediate occupation	-	–1.0	–0.9	-	–0.3	–0.5	-	–1.6	–1.7
Managers/professionals	-	0.0	0.0	-	0.0	0.0	-	0.0	0.0
Others	-	–1.1	–0.1	-	0.6	0.0	-	–2.1	–0.9
With NIL									
Manual workers	-	0.2	0.3	-	0.0	–0.1	-	–0.6	–0.6
Clerical workers	-	–1.5	–1.1	-	–0.6	–0.6	-	–2.4	–1.9
Intermediate occupation	-	0.4	1.6	-	–1.1	–0.0	-	0.4	1.5
Managers/professionals	-	0.0	0.0	-	0.0	0.0	-	0.0	0.0
Others	-	–1.1	–0.4	-	–1.5	–0.2	-	–1.9	–1.3
Remained tenant (with or without a residential move)									
Manual workers	13.1	17.0	19.8	13.3	15.5	20.6	15.1	19.6	22.4
Clerical workers	15.8	20.9	22.4	14.0	18.9	20.1	18.0	23.2	25.2
Intermediate occupation	5.5	8.4	7.9	8.4	12.4	11.9	5.8	8.4	8.6
Managers/professionals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	11.8	13.6	17.2	10.7	14.3	16.4	14.0	15.7	19.9

Note: The proportions of tenants for every housing transition type and use of NILs used for the computations are provided in Appendix Table D.1. When computing the proportion of tenants purchasing a new dwelling, the 65 households with missing NIL information are dropped.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 1996, 2002, and 2006 INSEE housing surveys.

category and managers/professionals. In this way, we measure differences in evolution between socio-occupational categories, such that the composition of households within each category is held constant over time.

Results on the adjusted probabilities confirm our descriptive statistics (Table 2). Before the introduction of NILs, the difference in the adjusted probabilities of purchasing an existing dwelling is large, reaching –11.5 (resp. –12.6) percentage points when contrasting manual (resp. clerical) workers with

managers/professionals. After the introduction of NILs, differences are larger and amount to, respectively, –17.9 and –19.4 percentage points. Turning to the adjusted probabilities of purchasing new dwellings, we find that differences are much smaller than for existing dwellings before the introduction of NILs: –1.7 and –3.3 percentage points, respectively, for manual and clerical workers. After the introduction of NILs, they remain stable.

Table 2. Differences between socio-occupational categories and managers/professionals in the adjusted proportions of tenants (in percentage points) for every housing transition type before and after the introduction of NILs

	Pooled		Paris region		Other regions	
	Before NIL	After NIL	Before NIL	After NIL	Before NIL	After NIL
Purchased an existing dwelling						
Manual workers	–11.5	–17.9	–11.8	–16.7	–12.4	–21.9
Clerical workers	–12.6	–19.4	–11.8	–17.4	–13.7	–23.7
Intermediate occupation	–6.4	–8.5	–7.7	–10.0	–6.6	–9.7
Managers/professionals	0.0	0.0	0.0	0.0	0.0	0.0
Others	–10.0	–15.2	–9.0	–14.5	–11.2	–18.6
Purchased a new dwelling						
Manual workers	–1.7	–1.8	–1.5	–0.9	–2.8	–2.2
Clerical workers	–3.3	–3.4	–2.2	–1.8	–4.5	–3.3
Intermediate occupation	0.9	–0.2	–0.5	–0.9	0.8	–0.6
Managers/professionals	0.0	0.0	0.0	0.0	0.0	0.0
Others	–1.7	–1.2	–1.8	–0.9	–2.6	–1.7
Remained tenant (with or without a residential move)						
Manual workers	13.2	19.7	13.3	17.6	15.2	24.1
Clerical workers	15.9	22.8	14.0	19.2	18.1	27.0
Intermediate occupation	5.5	8.6	8.3	10.9	5.9	10.3
Managers/professionals	0.0	0.0	0.0	0.0	0.0	0.0
Others	11.7	16.4	10.7	15.4	13.9	20.3

Note: Diff. = difference. We compute for each socio-occupational category the evolution of the probabilities of purchasing existing and new dwellings, for given distributions of household and spatial characteristics (using those of the considered category in the 1996 survey, before NILs were introduced). They are derived from the estimates of a multinomial logit model of housing transitions for tenants, detailed in Appendix E.1.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 1996, 2002, and 2006 INSEE housing surveys.

2. Disparities in housing transitions and the use of NILs across occupations

We now focus on housing transitions and the use of NILs after the no-interest loan policy was implemented. For that purpose, we use only the 2002 and 2006 housing surveys and report in Table 1 differences between each socio-occupational category and managers/professionals in the proportions of previous tenants purchasing an existing dwelling, a new dwelling with NIL, and a new dwelling without NIL (proportions are reported in Appendix Table D.1). First, note that the proportions of managers/professionals purchasing a new dwelling without and with a NIL were, respectively, 3.2% and 2.2% in

2006 (Appendix Table D.1). The difference between manual (resp. clerical) workers and managers/professionals for the purchase of a new dwelling without NIL reaches –2.2 (resp. –2.7) percentage points in 2006, and it is even smaller for the purchase of a new dwelling with a NIL, at +0.3 (resp. –1.1) percentage points (Table 1). Patterns are similar for the Paris region and other regions, but, interestingly, differences are a bit starker for new dwelling purchases with and without a NIL outside the Paris region. Overall, these findings show smaller disparities (in percentage points) across socio-occupational categories in new dwelling purchases with rather than without a NIL.

Manual/clerical workers and managers/professionals likely have different household and local characteristics that affect their ability to purchase existing and new dwellings, as well as their access to NILs. To deal with this issue, our model now distinguishes, among households who purchased a new dwelling, between those who benefited from NILs and those who did not. We thus use the pooled 2002 and 2006 housing surveys to estimate a multinomial logit model with the following four outcomes: (1) purchased an existing dwelling, (2) purchased a new dwelling without a NIL, (3) purchased a new dwelling with a NIL, and (4) remained a tenant (reference outcome). The specification includes household and local characteristics, as before, and in particular indicators for socio-occupational categories. Details on the variables introduced into the specification and estimated coefficients are reported and discussed in Appendix E.2. From the estimated coefficients, we can compute for each socio-occupational category the probabilities of purchasing existing and new dwellings with and without a NIL, for given distributions of household and local characteristics (using those of managers/professionals). We can then compute the differences in these probabilities between each socio-occupational category and managers/professionals. In this way, we recover differences in housing choices between socio-occupational categories—which are possibly related to differences in income—but net of the impact of other characteristics. Results reported in Table 3 confirm very large differences in the purchase of an existing dwelling between manual (resp. clerical) workers and managers/professionals (respectively, –17.8 and –12.8 percentage points) and much smaller differences in the purchase of a new dwelling without a NIL (respectively, –3.3 and –1.8 percentage points). Almost no differences exist in new dwelling purchases with a NIL (respectively, –1.1 and –0.7 percentage points). Patterns for the Paris region and other regions are again similar. Overall, these results confirm that differences in new dwelling purchases between socio-occupational categories come from differences in purchases without a NIL.

Differences in access to homeownership across socio-occupational categories are likely to capture differences in income. We thus estimate an alternative specification using income quintiles to capture household heterogeneity in financial capacities rather than socio-occupational categories. The results are very close to those obtained with socio-occupational categories, although the disparities are larger (see Appendix Table F.1). Ultimately, one may argue

Table 3. Differences between socio-occupational categories and managers/professionals in the adjusted proportions of tenants (in percentage points) for every housing transition type and use of NILs after the introduction of NILs

	Pooled	Paris region	Other regions
Purchased an existing dwelling			
Manual workers	–17.8	–16.3	–17.4
Clerical workers	–12.8	–11.9	–12.6
Intermediate occupation	–8.5	–9.6	–7.6
Managers/professionals	0.0	0.0	0.0
Others	–12.5	–13.5	–11.7
Purchased a new dwelling without NIL			
Manual workers	–3.3	–1.7	–3.8
Clerical workers	–1.8	–0.9	–2.1
Intermediate occupation	–1.4	–0.5	–1.9
Managers/professionals	0.0	0.0	0.0
Others	–1.3	–0.1	–1.7
Purchased a new dwelling with NIL			
Manual workers	–1.1	–0.1	–1.3
Clerical workers	–0.7	–0.4	–0.8
Intermediate occupation	0.2	–0.5	0.4
Managers/professionals	0.0	0.0	0.0
Others	–1.3	–0.8	–1.3
Remained tenant (with or without a residential move)			
Manual workers	22.2	18.1	22.5
Clerical workers	15.2	13.2	15.5
Intermediate occupation	9.8	10.5	9.0
Managers/professionals	0.0	0.0	0.0
Others	15.1	14.4	14.8

Note: We compute for each socio-occupational category the probabilities of purchasing existing and new dwellings with and without a NIL, for given distributions of household and spatial characteristics (using those of managers/professionals). They are derived from the estimates of a multinomial logit model of housing transitions and use of NILs for tenants, detailed in Appendix E.2.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 2002 and 2006 INSEE housing surveys.

that occupation is endogenous in our regressions, since it is measured at the survey date and can thus be influenced by a housing transition. Access to homeownership in a distant suburb can influence access to employment and thus make some new homeowners change jobs and possibly even the occupations associated with those jobs. Thus, we assess in Appendix Table F.2 the robustness of our results when using educational attainment, which is exogenous, rather than socio-occupational categories. In particular, we contrast individuals who have no diploma or a vocational degree with those who have a 2-year higher education degree. Looking at the results obtained from studying not only the housing transitions over the whole period[12] but also

(12) The results from studying housing transitions over the whole period are not presented here but are available upon request.

housing transitions together with the use of NILs after their introduction, we find that they are very consistent when contrasting occupations and when contrasting diplomas.

Combined with the decrease in interest rates that allowed households with sufficient income to borrow, the increase in real estate prices during the NIL program period may have counterbalanced the specific effects of NILs and limited their redistributive effects. Additionally, given the income thresholds specified by the law, the NIL program may have benefited mostly the least affluent managers/professionals and the most affluent manual workers. This could explain why the socio-occupational differences in access to homeownership of new dwellings with NILs are smaller than the differences in access to homeownership of both existing and new dwellings without NILs. Overall, the NIL program seems to have redistributed flows of new homeowners across segments of the market. In particular, it contributed to channeling low socio-occupational groups toward new home purchases—which is one of the most complex pathways to homeownership, given the large number of public and private intermediaries involved, namely: subdividers, landowners, home builders, notaries, planning departments, and others (Bourdieu, 2000). It thus remains unclear if access to homeownership enabled by the specific terms of NILs was more favorable to manual and clerical worker households than were other pathways to homeownership from which they were increasingly excluded.

IV. Changes in the spatial distribution of NIL recipients

1. The characteristics of previous and new municipalities of residence

Hereafter, we use NIL data to assess variations across socio-occupational categories in the evolution of municipal characteristics for households with a NIL. We first assess the extent to which access to homeownership is associated with a change in city size. Table 4 provides 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 of those living in rural areas increased.[13] Only 11.6% of manual workers resided in urban units with more than 200,000 inhabitants after their move, compared to 24.3% of clerical workers and 36.9% of managers and professionals.

We then investigate whether access to homeownership goes along with larger proportions of households in the city outskirts. For that purpose, we decompose the area outside urban units into three categories: (1) within an urban area but outside of urban units, i.e., in the outskirts of a single city;

(13) Rural areas comprise all municipalities that do not belong to urban units. Most of these municipalities have less than 2,000 inhabitants.

Table 4. Municipal characteristics before and after NIL-assisted home purchase

Variables	Managers/ Professionals		Clerical workers		Manual workers	
	Before	After	Before	After	Before	After
Urban Unit Size (1999 definition)						
Paris	19.1	17.4	11.7	9.6	4.3	3.0
200,000–2,000,000	25.9	19.5	21.0	14.7	14.4	8.6
50,000–200,000	14.1	10.6	16.0	11.0	13.5	8.1
20,000–50,000	6.8	5.4	8.1	5.8	8.2	4.9
< 20,000	15.0	18.1	18.0	20.4	23.2	21.7
Rural	19.2	28.9	25.2	38.4	36.5	53.6
Urban Category of the Municipality in 1999						
Within an urban unit	80.8	71.1	74.8	61.6	63.5	46.4
Within an urban area but outside urban units	9.3	15.6	10.8	19.1	13.4	22.6
Within several urban areas but outside urban units	2.4	4.0	3.1	5.1	5.1	8.0
Rural, outside urban areas	7.5	9.3	11.3	14.3	18.0	23.0
Unemployment rate in 1999	12.5	11.7	12.9	11.9	12.3	11.2
Household income by consumption unit (in euros)	12,795	12,488	11,815	11,519	11,073	10,833
Proportion of social housing units among principal residences in 2000	15.6	13.0	14.8	11.3	13.1	8.8
Proportion of homes in detached houses in 2000	50.4	60.6	57.6	68.6	67.4	78.6
Price/m^2 of dwellings in 2000	1,372	1,324	1,222	1,170	1,071	1,031
Number of dwellings in the municipality in 2000	26,837	16,864	19,433	11,164	11,434	5,004
Number of dwellings in the urban unit in 2000	735,217	684,876	419,613	420,615	231,290	188,258
Proportion of managers/ professionals in 1999	15.3	14.0	12.7	11.2	10.1	8.8
Proportion of workers in intermediate occupations in 1999	20.7	20.6	19.8	19.4	18.3	17.6
Proportion of clerical workers in 1999	29.6	29.2	29.8	29.2	28.5	27.6
Proportion of manual workers in 1999	22.6	23.9	25.3	27.0	30.0	31.8
Proportion of other categories of workers in 1999	11.8	12.4	12.5	13.2	13.1	14.2
Number of observations	123,447	123,447	360,959	360,959	392,165	392,165

Note: For every socio-occupational category, the mean of each variable before and after NIL-assisted home purchase is estimated with great accuracy due to the large sample size, and differences between means before and after NIL-assisted home purchase are all significant at the 1% level.
Coverage: Tenants with a NIL contracted between January 1997 and December 2005.
Source: Calculated from SGFGAS data.

(2) within several urban areas but outside of urban units, i.e., in the outskirts of several cities; and (3) rural, outside of urban areas, i.e., farther than the outer fringes of a city. Interestingly, Table 4 shows that the proportion of households living in the outskirts of a single city is much larger after purchasing

a dwelling for all socio-occupational categories, but especially for manual workers. The increase in this proportion is as large as 9.2 percentage points for manual workers, compared to 8.3 percentage points for clerical workers and 6.3 percentage points for managers and professionals. Such differences are observed to a lesser extent for the proportions of households in the outskirts of several cities and farther areas.

As neighborhood socioeconomic composition contributes to determining access to resources (job opportunities, schools, social network, etc.), we also examine the socioeconomic profile of the residential municipalities before and after tenants access homeownership with a NIL. Table 4 shows that after managers/professionals and manual/clerical workers moved, they lived in municipalities that were less wealthy since they were characterized by lower income per consumption unit and lower housing prices. These municipalities also exhibited lower proportions of managers/professionals and workers in intermediate occupations, but a higher proportion of manual workers. This is especially true for NIL-assisted manual workers and managers/professionals. At the same time, municipalities after the move were characterized by a lower unemployment rate and a smaller proportion of social housing than municipalities before the move.

Regarding NIL-assisted manual workers, they accessed homeownership in small municipalities that were markedly poorer than the new municipalities of NIL-assisted managers/professionals. Moreover, these municipalities were characterized by lower proportions of managers/professionals and workers in intermediate occupations, but also by a lower proportion of social housing. This is because, to a larger extent, manual workers moved to peri-urban or distant rural areas where the proportion of social housing is structurally low, as social housing in France is concentrated mostly in urban metropolitan areas. Among new homeowners with a NIL, clerical workers occupied an intermediate position between managers/professionals and manual workers in terms of municipal income, proportion of socio-occupational categories, and proportion of social housing after moving.

2. From objective indicators to subjective perceptions of residential mobility

As shown above, for manual and clerical workers accessing homeownership with a NIL, income per consumption unit and the proportion of social housing were lower in the new municipality than in the previous one. How did these socio-occupational groups perceive their destination municipalities, where fewer situations of poverty seem to exist than in their previous municipalities? Even more specifically, did lower-class households value peri-urban and rural municipalities with mainly individual accommodations as well as low building and population density? Were there differences across genders within couples, who represent the majority of first-time homebuyers?

Our in-depth interviews in a peripheral area of Lyon show that two determining factors in NIL-assisted households' choice of residential location were greater housing availability and lower real estate prices in low-density areas. Lower-class households did not mention the attractiveness of the "countryside" and the "green environment" (low urban density, proximity to nature, low pollution, etc.) when referring to their new places of residence. Even if they left metropolitan areas, none of them valued the old stone houses, traditional French village architecture, or built heritage. On the contrary, the majority mostly associated living in the countryside with peasantry, a traditional economy, and a lack of modern accommodations. Moreover, no household mentioned prioritizing the technical and aesthetic characteristics of the building (type, dimension, or materials). As stated by one 52-year-old father of four and manual worker in the car industry, "I don't care what the house is like, all I care about is the social environment."

In contrast, when referring to their new neighborhoods, households rather emphasized the need for urbanizing the area (which involves building new shopping centers, amenities such as sidewalks, playgrounds for children, high schools, and providing public buses, etc.). For example, a 30-year-old young mother of four who left school at 16, grew up in a social housing project in Lyon, and married a construction worker, described her new neighborhood as "a hole," "in the middle of nowhere," adding:

> 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 in high-density areas) was motivated by issues such as poverty, social and racial segregation, and poorly performing schools. A father of two who recently arrived in Cleyzieu-Lamarieu even declared, "I was looking for schools where the proportion of Pierre, Paul, and Jacques was normal. [*Interviewer:* Meaning what?] Around 80% of the pupils." This suggests that the main goal of the interviewed households was not to access homeownership and an individual dwelling, but instead to escape from the large public housing projects built in the 1960s in the suburbs of Lyon, although not specifically from the city.

In-depth interviews also enabled us to reconstruct all the steps taken in searching for a better home, which is otherwise not possible using current quantitative data. What kind of dwelling were the households originally looking for? How many dwellings did they visit? And how did they change their housing target during the search (with respect to location, housing tenure status, and housing type)? 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 in charge of child care. They valued proximity to their former neighborhoods and their relatives (who tended to live close by) because they provided continuous and free services that were central to their everyday lives, as well as affective support (Lambert et al., 2018). Indeed, informal family support plays a substantial role for low-income households (Schwartz, 1990), for whom nonstandard work schedules and short-term contracts are more frequent (Letroublon and Daniel, 2018). The qualitative data also show that, before looking into the private sector, former social housing tenants first applied for a better social dwelling in lower-density buildings and/or in more valued areas within the city (as they considered that social housing provides better protection from eviction and rent increases than the private housing sector does). However, due to the rise in rents and other housing costs in the public sector over the past decade (INSEE, 2017), long waiting lists to access a social dwelling, and new government subsidies for home purchases, these tenants gradually changed their residential strategies and started considering rural and peri-urban areas, even if they had neither professional nor familial connections in such areas.

As we followed both men and women within households over a 3-year period, we were also able to analyze gender-specific changes in living conditions and neighborhood perceptions. We observed that most lower-class individuals coming from distant municipalities rapidly perceived major disadvantages that they had not anticipated, even though differences in perception also exist across genders. A few weeks after moving in, low-skilled women showed signs of boredom or even depression ("[W]hen we moved in, the first week, I cried and thought, 'what did [my husband] take from me?' It was hard," said a 32-year-old mother of two who was a nurse and married to a French phone company employee). After a few months 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—which was not the case for men, whose wages are traditionally higher. This suggests that physical distance to place of work had been underestimated, as well as the expenses for commuting and childcare, which had to be outsourced and ended up being unsustainable for some households. Indeed, low-skilled women in our sample frequently occupied low-paying jobs with nonstandard working hours and part-time jobs located in the first-ring suburbs of the metropolitan area. These work arrangements weighed heavily on their work–life balance while making it difficult to organize their lives far away from their relatives and former favorable locations in big cities, where the municipalities often provided free or heavily subsidized childcare services and public transport ran extensively and frequently all day from early morning to late at night. By contrast, low-income families from municipalities bordering Cleyzieu-Lamarieu (who were on average older than those from the Lyon metropolitan area) appeared to be satisfied with their new dwellings. Moving to Cleyzieu-Lamarieu had almost no impact on their jobs (mostly blue-collar, local industry jobs) or on their social relationships with

friends and family. The new house was thus perceived as a sign of upward social mobility and family achievement. Finally, both partners in middle-class couples moving to Cleyzieu-Lamarieu (including those from distant municipalities) could keep their jobs, as they worked regular office hours during the day and could afford the daily commute. They considered their house to be a first step (springboard) into the homeownership market, and they hoped to soon move to a better-off area closer to the Lyon city center, where their professional and social activities were still based.

Both lower-class men and women who moved a long distance from their former neighborhoods appeared to have a negative perception of their residential environment, which they compared to old types of suburbs. They called their new development "flat public housing" (*HLM à plat*) because they viewed their neighborhood as a horizontal succession of small, low-quality, standardized dwellings similar to the vertical stacks of low-quality apartments piled up in high-rise social housing projects constructed *en masse* during the postwar 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 suburban housing projects (*grands ensembles*) did in the 1960s (Fourcaut, 2006).

Conclusion

This article analyzes the role played by subsidized loans in access to homeownership and the spatial distribution of recipients. First, our results suggest that—in a context of increasing property prices—NILs may have limited the exclusion of lower- and middle-class households from the new-build housing market. Second, we compared the neighborhoods where 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, while the proportions of managers and workers in intermediate occupations were lower. Third, in-depth interviews suggest that low-income 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 occurring with access to homeownership may threaten upward social mobility in the long run, especially for women. It diminishes access to extra-local support networks such as immediate family and other relatives, thus making it difficult to commute and remain in the job market, even though low-quality jobs tend to relocate to rural and peri-urban areas (Gilli, 2005).

Over the 1996–2005 period, NILs were granted mostly for the purchase of new dwellings. The 2006 extension of NILs to existing dwellings 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 existing dwellings 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 farther from job opportunities and family networks, but also characterized by fewer consumption amenities (i.e., fewer high schools and universities, fewer transport means, etc.). This trend may have been amplified by the reinforcement over time of the zoning of NILs (eligibility for a NIL and its amount takes location into account), such that households have been granted greater support when purchasing a home in peripheral areas. The effects of policy adjustments on socio-spatial inequalities deserve future research.

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Appendices

Appendix A: Evolution of homeownership rate

Table A.1. Homeownership rate in France, 1984–2006 (%)

	1984	1988	1992	1996	2002	2006
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
All homeowners	50.7	53.6	53.8	54.3	56.0	57.1

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 statistical department of the Ministry of Sustainable Development. These data include the number of housing sales and local average price per square meter (from *Enquête sur la Commercialisation des Logements neufs*), 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 of the 20 metropolitan regions of France. Finally, the resulting average index 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 of households that purchased a dwelling are measured at either the municipality or district (*arrondissement*) level for the three largest cities in France (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 muncipality and in the urban unit. This exhaustive database of dwellings is constructed from household income tax and housing tax declarations.

The price of dwellings per m^2 was calculated using the databases of notarial transactions for existing 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 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 NILs 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 a probability proportional to its population in 1999.

Appendix C: Average characteristics of NIL recipients

Table C.1. Average characteristics of households (manual and clerical workers) accessing homeownership with a no-interest loan

Variable	Interviewees with NIL	Municipality: Cleyzieu-Lamarieu	Urban unit	Urban area: Lyon
Union status				
Living in couple (married or not)	1	0.72	0.69	0.54
Living alone	0	0.28	0.31	0.46
Age				
20–29	0.09	0.40	0.45	0.45
30–39	0.50	0.42	0.38	0.38
40+	0.41	0.18	0.17	0.17
Previous housing status				
Renter in the public sector	0.55	0.13	0.06	0.06
Renter in the private sector	0.36	0.58	0.65	0.70
Other	0.09	0.28	0.29	0.24
New dwelling type				
Detached house	1	0.77	0.73	0.41
Flat	0	0.23	0.27	0.59
Household annual net income	29,809	28,029	25,799	25,066
Mortgage subsidies other than NIL	n/a	0.68	0.59	0.56
NIL amount	n/a	22,702	22,310	22,644
Aggregated amounts of all loans	n/a	147,723	148,153	136,800
Housing value	186,864	167,337	167,851	165,174
Number of observations	21	60	162	2,417

Note: n/a = information not available in the qualitative survey because households were not able to accurately assess the composition and value of their loans.
Coverage: Manual and clerical workers accessing homeownership with a NIL in the qualitative survey and over the 2007–2009 period in the NILs data.
Source: Qualitative survey (Column 1) and SGFGAS no-interest loan data (Columns 2–4).

Appendix D: Descriptive statistics on the proportions of tenants by housing transition type and use of NILs

Table D.1. Proportions of tenants by housing transition type and use of NILs (in %) in 1996, 2002, and 2006

	Pooled			Paris region			Other regions		
	1996	2002	2006	1996	2002	2006	1996	2002	2006
Purchased an existing dwelling									
Manual workers	6.0	8.1	5.7	3.7	7.3	2.7	6.5	8.2	6.2
Clerical workers	4.8	6.1	4.9	3.7	4.5	3.9	5.3	6.6	5.2
Intermediate occupation	11.0	15.8	15.0	7.7	11.1	10.5	12.3	17.7	16.5
Managers/professionals	17.5	23.7	23.6	15.4	22.1	21.9	19.0	24.8	24.8
Others	7.5	12.3	6.9	6.5	8.7	5.7	7.7	13.1	7.1
Total	8.2	11.6	9.9	7.1	11.0	9.8	8.5	11.8	9.9
Purchased a new dwelling									
Manual workers	3.3	4.0	3.5	1.4	2.0	0.8	3.7	4.4	4.0
Clerical workers	1.7	2.1	1.7	0.7	1.4	0.2	2.1	2.4	2.2
Intermediate occupation	5.9	4.9	6.1	2.3	1.3	1.8	7.3	6.2	7.6
Managers/professionals	4.9	5.4	5.4	2.9	2.7	2.3	6.4	7.4	7.8
Others	3.2	3.2	5.0	1.2	1.8	2.1	3.7	3.5	5.6
Total	3.6	3.8	3.9	1.7	1.8	1.3	4.3	4.5	4.7
Without NIL									
Manual workers	-	0.6	1.0	-	0.4	0.3	-	0.7	1.2
Clerical workers	-	0.4	0.5	-	0.4	0.2	-	0.5	0.6
Intermediate occupation	-	1.3	2.3	-	0.9	1.2	-	1.5	2.6
Managers/professionals	-	2.3	3.2	-	1.2	1.7	-	3.1	4.3
Others	-	1.2	3.1	-	1.8	1.7	-	1.0	3.4
Total	-	1.0	1.6	-	0.8	0.9		1.1	1.8
With NIL									
Manual workers	-	3.4	2.5	-	1.6	0.5	-	3.7	2.8
Clerical workers	-	1.7	1.2	-	1.0	0.0	-	1.9	1.5
Intermediate occupation	-	3.6	3.9	-	0.5	0.6	-	4.7	4.9
Managers/professionals	-	3.1	2.2	-	1.5	0.6	-	4.3	3.4
Others	-	2.0	1.8	-	0.0	0.4	-	2.4	2.1
Total	-	2.9	2.3	-	1.1	0.4	-	3.4	2.9
Remained tenant (with or without a residential move)									
Manual workers	90.7	87.9	90.8	94.9	90.8	96.4	89.8	87.4	89.8
Clerical workers	93.4	91.9	93.4	95.6	94.2	95.9	92.6	91.0	92.6
Intermediate occupation	83.1	79.3	78.8	90.0	87.6	87.7	80.5	76.1	76.0
Managers/professionals	77.6	70.9	71.0	81.6	75.2	75.8	74.7	67.8	67.4
Others	89.4	84.5	88.2	92.4	89.5	92.2	88.6	83.5	87.3
Total	88.2	84.6	86.2	91.2	87.2	88.9	87.2	83.7	85.4
Number of observations	9,733	10,964	14,778	2,267	2,213	4,244	7,466	8,751	10,534

Note: When computing the proportion of tenants purchasing a new dwelling, the 65 households with missing NIL information are dropped.
Coverage: All households who were tenants 4 years before the survey date.
Source: 1996, 2002, and 2006 INSEE housing surveys.

Appendix E: Details on specifications and estimated coefficients of multinomial logits

E.1. Changes in housing transitions across occupations after introducing NILs

With our logit model of housing transitions, we assess the relative risks of manual workers, clerical workers, and workers in intermediate occupations experiencing housing transitions before and after the reform compared to workers in managerial/professional occupations (the reference group). They allow us to determine changes in the chances of becoming homeowners for the different social groups following the implementation of the NIL program.[14] The specification also includes other observable household characteristics (age and sex of the household head, and number of children), as well as variables for relevant time-variant and spatial factors (interest rate, regional real estate price index, and urban unit size) in order to quantify the effects while making all other things equal. The estimates are calculated either for the whole sample or separately for households in the Paris region and in the rest of France. 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, manual workers, clerical workers, and tenants in intermediate occupations were significantly less likely to become homeowners of either a new or existing dwelling, relative to managers/professionals (Appendix Table E.1). For manual workers compared to managers/professionals, the relative risk ratio of purchasing an existing dwelling rather than remaining a tenant was very small: 0.181 in the Paris region and 0.257 in the rest of France. Put differently, the probability ratio of purchasing an existing dwelling rather than remaining a tenant was 81.9% lower for manual workers than for managers/professionals in the Paris region and 74.3% outside that region.[15] Again for manual workers compared to managers/professionals, the relative risk ratio of purchasing a new dwelling was also small, at 0.248 in the Paris region and 0.325 in the rest of France. Before the NIL program, overall disparities in access to homeownership were already less marked for new dwellings than for existing ones, which are more often located in city centers where prices have increased more quickly. Moreover, when both housing sectors (new and existing dwellings) are taken separately or combined, the disadvantage of low-income households compared to managerial/professional households was always greater in the Paris region than in the rest of France, due to the large increases in real estate prices in that region.

(14) We included an indicator of whether the household belonged to the 2002 or 2006 wave in order to capture changes over time in the chances of becoming a homeowner for a household in the reference category (managers and professionals).

(15) These figures were computed, respectively, as (1 – 0.181) × 100 = 81.9% and (1 – 0.257) × 100 = 74.3%.

For manual and clerical workers outside the Paris region during the NIL program period, the relative risks of purchasing an existing dwelling (for which NILs were not available) compared to managers/professionals were significantly smaller, at 7.4 percentage points for manual workers and 9.7 percentage points for clerical workers.[16] These declines 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 appears to be insufficient at significantly counteracting the deepening disparities in access to homeownership, as observed over the study period.

E.2. Disparities in housing transitions and use of NILs across occupations

With our logit model of housing transitions and use of NILs, we estimate the relative risks for households in the different socio-occupational categories of becoming homeowners of existing dwellings, homeowners of new dwellings with a NIL, or homeowners of new dwellings without a NIL, rather than remaining tenants (reference category). We find that clerical and manual workers were less likely than managers/professionals to become homeowners (of new or existing dwellings, with or without NILs) rather than remaining tenants. However, manual and clerical workers were more likely to purchase a new dwelling with a NIL than a new dwelling without a NIL or an existing dwelling. They nevertheless remained less likely to purchase a new dwelling with a NIL than managers and professionals.[17]

(16) After the reform, the chances of being the owner of an existing dwelling 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.

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

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

Variables	Pooled	Paris region	Other regions
Purchased an existing dwelling			
Manual workers	0.232***	0.181***	0.257***
	(0.025)	(0.044)	(0.032)
Clerical workers	0.297***	0.245***	0.328***
	(0.038)	(0.062)	(0.050)
Intermediate occupations	0.532***	0.423***	0.597***
	(0.058)	(0.088)	(0.079)
Others	0.358***	0.351***	0.378***
	(0.055)	(0.116)	(0.067)
Managers/professionals	*Ref.*	*Ref.*	*Ref.*
After reform (T)	1.690	1.621***	1.960
	(0.631)	(0.244)	(0.878)
Manual workers × T	0.757**	0.962	0.711**
	(0.094)	(0.272)	(0.104)
Clerical workers × T	0.739**	0.834	0.703**
	(0.108)	(0.244)	(0.121)
Intermediate occupations × T	0.986	1.037	0.958
	(0.124)	(0.248)	(0.145)
Others × T	0.863	0.760	0.869
	(0.155)	(0.309)	(0.179)
Male head of household	2.079***	2.109***	2.071***
	(0.108)	(0.228)	(0.123)
Age of the head of household	1.067***	1.091***	1.066***
	(0.012)	(0.031)	(0.013)
Age of the head of household squared / 100	0.902***	0.866***	0.907***
	(0.011)	(0.028)	(0.012)
Urban unit size			
Rural	*Ref.*	*Ref.*	*Ref.*
< 20,000	0.539***	0.598*	0.530***
	(0.036)	(0.181)	(0.036)
20,000–50,000	0.285***	0.259***	0.286***
	(0.028)	(0.104)	(0.029)
50,000–200,000	0.444***	0.141***	0.451***
	(0.030)	(0.085)	(0.031)
200,000–2,000,000	0.383***		0.387***
	(0.022)		(0.023)
> 2,000,000	0.254***	0.232***	
	(0.036)	(0.056)	
Number of children			
0	*Ref.*	*Ref.*	*Ref.*
< 3	1.668***	1.506***	1.746***
	(0.072)	(0.135)	(0.087)
3+	1.269***	1.090	1.349***
	(0.088)	(0.169)	(0.106)
Regional average real estate price (4-year period)	0.799	0.893	0.845
	(0.160)	(0.304)	(0.193)
Interest rate (%)	0.991		1.018
	(0.078)		(0.099)
Paris region dummy	1.140		
	(0.168)		
Constant	0.151**	0.156***	0.098**
	(0.132)	(0.112)	(0.103)

Table E.1 (cont'd). Multinomial logit model of housing transition type for tenants, estimated from the stacked 1996, 2002, and 2006 housing surveys

Variables	Pooled	Paris region	Other regions
Purchased a new dwelling			
Manual workers	0.294***	0.248***	0.325***
	(0.050)	(0.106)	(0.061)
Clerical workers	0.334***	0.197***	0.384***
	(0.072)	(0.111)	(0.092)
Intermediate occupations	0.816	0.592	0.914
	(0.141)	(0.235)	(0.178)
Others	0.387***	0.304	0.430***
	(0.092)	(0.225)	(0.111)
Managers/professionals	*Ref.*	*Ref.*	*Ref.*
After reform (T)	1.245	1.096	0.885
	(0.721)	(0.366)	(0.561)
Manual workers × T	0.853	1.360	0.755
	(0.167)	(0.705)	(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)
Male head of household	3.382***	1.975**	3.639***
	(0.338)	(0.525)	(0.392)
Age of the head of household	1.099***	0.990	1.115***
	(0.024)	(0.055)	(0.026)
Age of the head of household squared / 100	0.868***	0.969	0.854***
	(0.022)	(0.059)	(0.023)
Urban unit size			
Rural	*Ref.*	*Ref.*	*Ref.*
< 20,000	0.454***	0.263***	0.466***
	(0.037)	(0.109)	(0.038)
20,000–50,000	0.200***	0.113***	0.205***
	(0.027)	(0.071)	(0.028)
50,000–200,000	0.169***	0.140***	0.170***
	(0.019)	(0.092)	(0.019)
200,000–2,000,000	0.134***		0.135***
	(0.013)		(0.013)
> 2,000,000	0.077***	0.057***	
	(0.016)	(0.017)	
Number of children			
0	*Ref.*	*Ref.*	*Ref.*
< 3	3.317***	2.826***	3.428***
	(0.259)	(0.617)	(0.288)
3+	2.916***	2.568***	2.995***
	(0.307)	(0.815)	(0.336)
Regional average real estate price (4-year period)	1.435	0.422	1.209
	(0.418)	(0.341)	(0.381)
Interest rate (%)	0.983		0.890
	(0.120)		(0.121)
Paris region dummy	1.082		
	(0.225)		
Constant	0.012***	1.021	0.019***
	(0.016)	(1.466)	(0.028)

Table E.1 (cont'd). Multinomial logit model of housing transition type for tenants, estimated from the stacked 1996, 2002, and 2006 housing surveys

Variables	Pooled	Paris region	Other regions
Remained tenant (with or without a residential move) (reference)			
N	35,540	8,730	26,808

* $p < .10$. ** $p < .05$. *** $p < .01$.
Interpretation: According to the multinomial logit estimates, the relative risk ratio of purchasing an existing dwelling 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 else being equal.
Note: Relative risk ratios are reported, with their standard errors in parentheses.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 1996, 2002, and 2006 INSEE housing surveys.

Table E.2. Multinomial logit model of housing transition type and use of NILs for tenants, estimated from the stacked 2002 and 2006 housing surveys

Variables	Pooled	Paris region	Other regions
Purchased an existing dwelling			
Manual workers	0.177***	0.174***	0.185***
	(0.012)	(0.027)	(0.014)
Clerical workers	0.218***	0.202***	0.229***
	(0.017)	(0.031)	(0.020)
Intermediate occupations	0.528***	0.439***	0.576***
	(0.033)	(0.052)	(0.043)
Others	0.312***	0.267***	0.332***
	(0.030)	(0.063)	(0.036)
Managers/professionals	*Ref.*	*Ref.*	*Ref.*
Male head of household	1.997***	2.027***	1.988***
	(0.116)	(0.241)	(0.132)
Age of the head of household	1.073***	1.077**	1.074***
	(0.014)	(0.033)	(0.015)
Age of the head of household squared / 100	0.897***	0.884***	0.898***
	(0.013)	(0.030)	(0.014)
Urban unit size			
Rural	*Ref.*	*Ref.*	*Ref.*
< 20,000	0.566***		0.561***
	(0.044)		(0.045)
20,000–50,000	0.304***		0.300***
	(0.035)		(0.035)
50,000–200,000	0.506***		0.511***
	(0.040)		(0.040)
200,000–2,000,000	0.397***		0.401***
	(0.027)		(0.028)
> 2,000,000	0.299***		
	(0.051)		
< 20,000		0.569	
		(0.207)	
20,000–2,000,000		0.252***	
		(0.111)	
> 2,000,000		0.278***	
		(0.080)	
Number of children			
0	*Ref.*	*Ref.*	*Ref.*
< 3	1.612***	1.552***	1.651***
	(0.081)	(0.162)	(0.095)
3+	1.375***	1.256	1.434***
	(0.111)	(0.219)	(0.131)
Regional average real estate price (4-year period)	0.992	1.031	1.009
	(0.084)	(0.082)	(0.099)
Interest rate (%)	0.801		0.826
	(0.175)		(0.193)
Paris region dummy	1.029		
	(0.188)		
Constant	0.221**	0.213**	0.176**
	(0.134)	(0.160)	(0.119)

Table E.2 (cont'd). Multinomial logit model of housing transition type and use of NILs for tenants, estimated from the stacked 2002 and 2006 housing surveys

Variables	Pooled	Paris region	Other regions
Purchased a new home without NIL			
Manual workers	0.118***	0.118***	0.113***
	(0.021)	(0.066)	(0.021)
Clerical workers	0.150***	0.181***	0.143***
	(0.033)	(0.102)	(0.035)
Intermediate occupations	0.444***	0.549	0.419***
	(0.072)	(0.209)	(0.075)
Others	0.413***	0.685	0.380***
	(0.085)	(0.358)	(0.085)
Managers/professionals	*Ref.*	*Ref.*	*Ref.*
Male head of household	3.029***	2.027*	3.280***
	(0.531)	(0.831)	(0.638)
Age of the head of household	1.221***	1.033	1.279***
	(0.049)	(0.078)	(0.060)
Age of the head of household squared / 100	0.805***	0.966	0.764***
	(0.035)	(0.073)	(0.040)
Urban unit size			
Rural	*Ref.*	*Ref.*	*Ref.*
< 20,000	0.492***		0.538***
	(0.081)		(0.091)
20,000–50,000	0.187***		0.212***
	(0.054)		(0.062)
50,000–200,000	0.210***		0.214***
	(0.045)		(0.047)
200,000–2,000,000	0.137***		0.140***
	(0.025)		(0.026)
> 2,000,000	0.093***		
	(0.035)		
< 20,000		0.079***	
		(0.071)	
20,000–2,000,000		0.035**	
		(0.046)	
> 2,000,000		0.045***	
		(0.020)	
Number of children			
0	*Ref.*	*Ref.*	*Ref.*
< 3	2.679***	3.355***	2.556***
	(0.383)	(1.238)	(0.398)
3+	2.399***	3.341**	2.221***
	(0.495)	(1.771)	(0.499)
Regional average real estate price (4-year period)	0.544***	0.835	0.465***
	(0.114)	(0.218)	(0.108)
Interest rate (%)	0.773		0.613
	(0.398)		(0.329)
Paris region dummy	0.988		
	(0.396)		
Constant	0.006***	0.103	0.005***
	(0.009)	(0.203)	(0.008)

Table E.2 (cont'd). Multinomial logit model of housing transition type and use of NILs for tenants, estimated from the stacked 2002 and 2006 housing surveys

Variables	Pooled	Paris region	Other regions
Purchased a new home with NIL			
Manual workers	0.382***	0.591	0.384***
	(0.054)	(0.249)	(0.058)
Clerical workers	0.413***	0.377**	0.427***
	(0.070)	(0.187)	(0.077)
Intermediate occupations	0.798	0.400*	0.862
	(0.116)	(0.198)	(0.135)
Others	0.362***	0.146	0.389***
	(0.079)	(0.190)	(0.088)
Managers/professionals	*Ref.*	*Ref.*	*Ref.*
Male head of household	3.054***	1.421	3.284***
	(0.430)	(0.630)	(0.489)
Age of the head of household	1.413***	1.590*	1.397***
	(0.083)	(0.395)	(0.084)
Age of the head of household squared / 100	0.604***	0.502**	0.615***
	(0.046)	(0.163)	(0.048)
Urban unit size			
Rural	*Ref.*	*Ref.*	*Ref.*
< 20,000	0.397***		0.408***
	(0.045)		(0.047)
20,000–50,000	0.126***		0.113***
	(0.029)		(0.028)
50,000–200,000	0.139***		0.139***
	(0.024)		(0.024)
200,000–2,000,000	0.094***		0.094***
	(0.014)		(0.014)
> 2,000,000	0.063***		
	(0.022)		
< 20,000		0.259*	
		(0.185)	
20,000–2,000,000		0.328	
		(0.231)	
> 2,000,000		0.061***	
		(0.030)	
Number of children			
0	*Ref.*	*Ref.*	*Ref.*
< 3	3.704***	2.014*	3.963***
	(0.454)	(0.784)	(0.517)
3+	3.425***	2.234	3.624***
	(0.548)	(1.206)	(0.612)
Regional average real estate price (4-year period)	1.390**	2.108**	1.257
	(0.224)	(0.645)	(0.212)
Interest rate (%)	2.190**		1.893
	(0.840)		(0.743)
Paris region dummy	1.001		
	(0.335)		
Constant	0.00003***	0.00001**	0.00004***
	(0.00004)	(0.00004)	(0.00007)

Table E.2 (cont'd). Multinomial logit model of housing transition type and use of NILs for tenants, estimated from the stacked 2002 and 2006 housing surveys

Variables	Pooled	Paris region	Other regions
Remained tenant (with or without a residential move) (reference)			
N	25,742	6,457	19,283

*$p < .10$. **$p < .05$. ***$p < .01$.
Interpretation: According to the multinomial logit estimates, the relative risk ratio of purchasing an existing 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 else being equal.
Note: Relative risk ratios are reported, with their standard errors in parentheses.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 2002 and 2006 INSEE housing surveys.

Appendix F: Robustness checks using income or diploma instead of socio-occupational categories

Table F.1. Multinomial logit model of housing transition type and use of NILs for tenants, estimated from the stacked 2002 and 2006 housing surveys, using income quintiles instead of socio-occupational categories

Outcomes	Income quintiles	Pooled	Paris region	Other regions
Purchased an existing dwelling	1st	0.073***	0.110***	0.069***
		(0.008)	(0.030)	(0.009)
	2nd	0.130***	0.160***	0.126***
		(0.011)	(0.034)	(0.012)
	3rd	0.215***	0.212***	0.219***
		(0.015)	(0.037)	(0.017)
	4th	0.434***	0.315***	0.471***
		(0.025)	(0.041)	(0.031)
	5th	*Ref.*	*Ref.*	*Ref.*
Purchased a new dwelling without NIL	1st	0.023***	0.000	0.025***
		(0.011)	(0.000)	(0.012)
	2nd	0.069***	0.096***	0.067***
		(0.018)	(0.074)	(0.019)
	3rd	0.130***	0.225***	0.121***
		(0.026)	(0.110)	(0.026)
	4th	0.308***	0.212***	0.323***
		(0.045)	(0.099)	(0.051)
	5th	*Ref.*	*Ref.*	*Ref.*
Purchased a new dwelling with NIL	1st	0.065***	0.050**	0.067***
		(0.017)	(0.069)	(0.018)
	2nd	0.150***	0.154**	0.152***
		(0.026)	(0.113)	(0.027)
	3rd	0.312***	0.202***	0.323***
		(0.041)	(0.122)	(0.044)
	4th	0.647***	0.524*	0.672***
		(0.073)	(0.202)	(0.080)
	5th	*Ref.*	*Ref.*	*Ref.*
Remained tenant (with or without a residential move) (reference)				
N		25,742	6,457	19,283

*$p < .10$. **$p < .05$. ***$p < .01$.
Note: Relative risk ratios are reported, with their standard errors in parentheses. 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 but are available upon request.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 2002 and 2006 INSEE housing surveys.

Table F.2. Multinomial logit model of housing transition type and use of NILs for tenants estimated from the stacked 2002 and 2006 housing surveys, using educational attainment instead of socio-occupational categories

Variables	Pooled	Paris region	Other regions
Purchased an existing 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 degree	0.643*** (0.042)	0.515*** (0.065)	0.704*** (0.055)
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)
High school or 2-year college degree	0.729* (0.126)	0.906 (0.346)	0.691* (0.134)
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)
Degree High school or 2-year college	1.140 (0.171)	1.505 (0.698)	1.119 (0.178)
Higher degree	*Ref.*	*Ref.*	*Ref.*
Remained tenant (with or without a residential move) (reference)			
N	25,737	6,456	19,279

*$p < .10$. ** $p < .05$. ***$p < .01$.
Note: Relative risk ratios are reported, with their standard errors in parentheses. 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). Estimates are not reported but are available upon request.
Coverage: All households who were tenants 4 years before the survey date.
Sources: 2002 and 2006 INSEE housing surveys.

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Laurent Gobillon, Anne Lambert, Sandra Pellet • **The Suburbanization of Poverty: Homeownership Policies and Spatial Inequalities in France**

This article examines the role played by assisted loans in the access to homeownership and in the residential segregation of low-income households in France. During the 1996–2006 period, no-interest loans affected 1.4 million households and were the main policy tool favoring homeownership. We rely on French housing surveys (INSEE) and administrative records on no-interest loans (SFGFAS) to compare the position of social groups in the housing market before and after the introduction of no-interest loans. We show that, in a context of increasing housing prices, no-interest loans have limited the exclusion of lower- and middle-class households from the new-build housing market, especially outside the Paris region. Nevertheless, households with no-interest loans tend to relocate to peripheral areas characterized not only by a lower proportion of professionals and managers relative to central areas, but also by lower access to public transportation, the childcare system, high schools, and job opportunities. Moreover, in-depth interviews at the individual level suggest that low-income households had no clear perception of the social and physical disconnections they would experience when purchasing their new homes.

Laurent Gobillon, Anne Lambert, Sandra Pellet • **La périurbanisation de la pauvreté : politiques d'accès à la propriété et inégalités socio-spatiales en France**

Cet article examine le rôle joué par les prêts aidés dans l'accès à la propriété et la ségrégation résidentielle des ménages modestes en France. Au cours de la période 1996-2006, le Prêt à taux zéro a bénéficié à 1,4 million de ménages et constitue la principale mesure pour favoriser l'accession à la propriété. L'analyse s'appuie sur les enquêtes Logement (Insee), les registres administratifs du Prêt à taux zéro (SFGFAS) et des entretiens approfondis auprès d'accédants. Elle compare la position de différentes catégories socioprofessionnelles sur le marché du logement avant et après l'introduction du programme. Dans un contexte de hausse des prix de l'immobilier, on constate que le Prêt à taux zéro a limité l'exclusion des ménages modestes du marché du logement neuf, en particulier en dehors de la région parisienne. Pour autant, les ménages ayant bénéficié d'un Prêt à taux zéro ont eu tendance à s'installer plus souvent dans les zones périurbaines et rurales, caractérisées par une moindre proportion de cadres et de professions intellectuelles supérieures par rapport aux centres villes. De plus, les entretiens suggèrent que les ménages modestes n'avaient pas une perception claire de l'éloignement géographique généré par l'accession à la propriété, ni de ses conséquences sur leur mode de vie et l'accès à certains services publics (systèmes collectifs de garde d'enfants, transports en commun, lycées, opportunités d'emplois).

Laurent Gobillon, Anne Lambert, Sandra Pellet • **La periurbanización de la pobreza: políticas de acceso a la propiedad y desigualdades socio-espaciales en Francia**

Este artículo examina el papel desempeñado por los préstamos aventajados en el acceso a la propiedad de la vivienda y en la segregación residencial que affecta los hogares de bajos ingresos en Francia. Durante el periodo 1996-2006, el Préstamo sin interés ha beneficiado a 1,4 millones de hogares y ha sido el principal instrumento político para favorecer el acceso a la propiedad. El análisis se basa en las encuestas Vivienda (Insee), los registros administrativos del Préstamo a Tipo Cero (SFGFAS) y entrevistas en profundidad con las peronas que acceden por primera vez a la propiedad. Compara la posición de diferentes categorías socioprofesionales en el mercado de la vivienda antes y después de la introducción del programa. En un contexto de alza de los precios de la vivienda, se observa que el préstamo a tipo cero limitó la exclusión de las familias modestas del mercado de la vivienda nueva, en particular fuera de la región parisina. Sin embargo, las familias que se han beneficiado de un préstamo a tipo cero se han instalado con mayor frecuencia en las zonas periurbanas y rurales, caracterizadas por una menor proporción de categorias socio-profesionales superiores en comparación con los centros urbanos. Además, las entrevistas sugieren que los hogares modestos no tenían una idea clara de la lejanía geográfica generada por el acceso a la propiedad, ni de sus consecuencias sobre su modo de vida y el acceso a determinados servicios públicos (sistemas colectivos de guardería, transportes públicos, institutos de enseñanza, oportunidades de empleo).

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