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RESEARCH ARTICLE

The ethnoracial context of residential mobility in France: Neighbourhood out-migration and relocation

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Abstract

Recent research from France has used census data to explore patterns of residential segregation among immigrants and natives. Yet few studies explore how residential mobility underpins these patterns. This article draws on recent panel data (1990–2013) to explore how the ethnoracial composition of neighbourhoods impacts moving among first and second generation immigrants and natives. Two hypotheses are explored: *ethnic clustering*, or reduced out-mobility of immigrants and their offspring from coethnic neighbourhoods, and *native flight*, or the departure of natives from immigrant neighbourhoods. This article is the only to measure these processes in France at the neighbourhood level, on both first and second generation immigrants, using panel models that control for individual and neighbourhood heterogeneity. The findings document a significant negative effect of the neighbourhood coethnic share on moving out among first and second generation immigrants that remains strong over all time periods. In contrast, the French majority are more likely to exit areas with increasing shares of immigrants, except in models controlling for unobserved neighbourhood characteristics. Moving destinations across groups are also analysed and show that non-Europeans enter neighbourhoods with substantially higher immigrant shares net of controls.

KEYWORDS

ethnic clustering, native flight, neighbourhoods, residential mobility, segregation

1 | INTRODUCTION

In France, urban inequalities impacting immigrants and their offspring have been a growing focus of debate in the media, in politics, and in the social sciences. Although research on the question is not widespread, existing findings provide broad support that spatial outcomes vary significantly by immigrant origin, showing the highest levels of segregation between natives and non-Europeans (Pan Ké Shon & Verdugo, 2015; Préteceille, 2009; Safi, 2009). As in most Western societies, the spatial concentration of immigrants is associated with socio-economic disadvantage, high unemployment, crime, lower quality schools, and public housing (Tissot & Poupeau, 2005) and is symbolically linked with the failure of the French state to integrate immigrants, as well as the alleged self-segregation of minorities who are perceived to refuse to assimilate (Lagrange & Oberti, 2006).

Major theoretical models of segregation emphasise how microlevel residential mobility processes reinforce broader segregation patterns (Charles, 2003; Iceland, 2009; Massey & Denton, 1993; Schelling, 1969; Wilson, 1987). Using this insight, a recent body of research forged in the United States has applied individual longitudinal data matched with neighbourhood-level characteristics to analyse household moves in and out of segregated spaces (Crowder & South, 2008; Massey, Gross, & Shibuya, 1994; South & Crowder, 1998; South, Crowder, & Chavez, 2005; South, Crowder, & Pais, 2008). This research has focused on whether ethnic/racial groups respond in different ways to the ethnoracial composition of neighbourhoods by remaining in them or moving out of them over time, documenting such phenomena as white flight and the immobility of minorities living in coethnic neighbourhoods.

With a few notable exceptions (see Pan Ké Shon, 2010; Rathelot & Safi, 2014), residential mobility studies of this kind are still rare in France. The majority of existing findings on immigrants' spatial concentration rely on cross-sectional data that cannot capture household moves, measure segregation at the city level, or concern first generation immigrants only (see Pan Ké Shon & Verdugo, 2015; Préteceille, 2009; Safi, 2009). Although these studies have the merit of ushering in important research into ethnoracial segregation in a context where racial/ethnic inequalities have generally been undermined (Sabbagh &

Peer, 2008; Safi, 2013; Simon, 2008), the static view of segregation provided in this research leaves several questions unanswered about the role of residential mobility. Moreover, in light of growing evidence of ethnoracial discrimination in France (Bunel, L'Horty, Du Parquet, & Petit, 2017; Jacquemet, 2013), the stigma surrounding peripheral urban areas concentrating immigrants, as well as school strategies implemented by families to avoid such spaces (Oberti, 2007; Poupeau & François, 2008; Van Zanten, 2001), it seems likely that in France, even in the absence of a formal recognition of race/ethnicity, the moving patterns of minorities may differ substantially from that of natives in ways that bolster segregation.

This article draws on recent data from the French panel *L'échantillon démographique permanent* (1990–2013) to analyse the residential mobility of immigrants and natives. The analyses make several novel contributions. First, I distinguish immigrants on the basis of generation. This has the double advantage of providing new findings about the moving patterns of the "unknown" second generation (Simon, 2003), while also refining the category of the French majority, from which immigrant offspring are indistinguishable in most data sources. Second, the impact of local ethnoracial composition on out-migration is measured at the scale of the neighbourhood. This enables a more precise assessment of two central hypotheses in segregation research, previously only investigated at the municipality level in France (Rathelot & Safi, 2014): *ethnic clustering*, or the reduced out-mobility of immigrants and their offspring from coethnic neighbourhoods, and *white/native flight*,[1] or whites'/natives' departure from neighbourhoods concentrating immigrants. This article is also one of the few to test these mobility patterns over three time periods, using panel models that control for the unobserved characteristics of individuals and neighbourhoods. Finally, I explore movers' destination neighbourhoods to determine which origin groups enter areas with the highest shares of immigrants.

2 | THEORETICAL BACKGROUND AND HYPOTHESES

Segregation research has traditionally been driven by two dominant theoretical approaches, the spatial assimilation theory and place stratification, each of which emphasise different mobility processes in space. Rooted in the First Chicago School's ecological model of the city, spatial assimilation posits that as immigrants experience social mobility and acculturation, they will gradually exit disadvantaged immigrant neighbourhoods (Alba & Logan, 1993; Massey & Denton, 1985; Park & Burgess, 1921). Considering integration as a generational process, spatial assimilation emphasises that second generation immigrants should be less spatially concentrated than immigrants, attaining residential outcomes similar to the majority.

Although this theory has received empirical support (Iceland, 2009), it fails to account for why certain ethnoracial groups are persistently more segregated controlling for socio-economic status and other factors. Substantial research shows that race/ethnicity is a decisive predictor of living in a segregated neighbourhood even after taking compositional differences between groups into account (Alba & Logan, 1993; Iceland, 2009; South et al., 2005; South et al., 2008). Moreover, by focusing solely on immigrants, spatial assimilation omits the ways in which the majority population contributes to segregation by moving out of certain neighbourhoods. The place stratification perspective addresses these blind spots by highlighting how racial prejudice, residential preferences, and housing market discrimination underpin moving behaviour as dominant groups try to maintain distance with minorities (Charles, 2003; Farley & Allen, 1987; Massey & Denton, 1993). These processes result in contrasting mobility patterns across ethnic/racial groups into and out of neighbourhoods depending on local ethnoracial composition. Two main mobility trajectories are identified: ethnic clustering and white flight.

Ethnic clustering refers to the concentration of immigrants and their offspring in coethnic neighbourhoods due to structural or preferential constraints on mobility (Massey & Denton, 1988). If the residential options of minorities are limited by housing market discrimination that channels them into similar neighbourhoods, they may be less able to convert socio-economic gains into a move towards a less segregated location. Minorities' residential preferences are also highlighted as a potential clustering mechanism. Prior literature has shown that minorities may implement preferences for remaining in ethnic enclaves due to the resources that may be accrued through spatial proximity to members of the same racial/ethnic group (Logan, Zhang, & Alba, 2002; Zhou, 1992). These resources may be economic or social, and for stigmatised groups, provide a buffer against racial hostility (Charles, 2003; Krysan & Farley, 2002).

The mobility patterns of the majority population, on the other hand, follow an opposite trajectory. First theorised in the United States, white flight is the process by which white households actuate their preferences for white neighbourhoods by moving out when the share of minorities reaches a certain threshold (Crowder & South, 2008; Schelling, 1969). Research into whites' residential preferences show that the desire to live apart from minorities is not necessarily a direct reflection of racial prejudice or in-group preferences. Whites may also seek to leave such neighbourhoods due to a "racial proxy" mechanism: Because real or perceived negative attributes are associated with the spaces in which minorities live, such as low quality housing and schools, crime, and socio-economic disadvantage, whites will flee or avoid such spaces due to these non-racial characteristics (Bobo & Zubrinsky, 1996; Charles, 2003; Harris, 2001; Krysan, 2002; Krysan, Couper, Farley, & Forman, 2009). This hypothesis has been tested empirically by exploring the impact of ethnroacial neighbourhood composition on whites' residential mobility after controlling for various indicators of neighbourhood quality.

If residential mobility is of central theoretical importance, it is only in recent years that researchers have empirically assessed the residential trajectories of ethnoracial groups. Using longitudinal surveys linked with census data, a wide range of evidence points to ethnic clustering and white flight patterns in U.S. urban areas. African Americans and Hispanics are less likely to move out of residentially segregated areas and are less likely to move into white neighbourhoods (Massey et al., 1994; Quillian, 2002; South et al., 2005; South et al., 2008; South & Crowder, 1998). In contrast, increasing shares of ethnoracial minorities in the original neighbourhood are positively correlated with whites' out-migration, controlling for other characteristics of the neighbourhood (Crowder,

2000; Crowder, Hall, & Tolnay, 2011; Pais, South, & Crowder, 2009; Quillian, 2002). In Europe, evidence from longitudinal data also points to ethnic clustering and native flight. Net of other factors, ethnic minorities are less likely than natives to move out of immigrant neighbourhoods, are more likely to move into them and are less likely to improve neighbourhood quality upon moving (Bolt & Van Kempen, 2010; Lersch, 2013; Skifter Andersen, 2017; Van Ham & Clark, 2009). Several studies further show that out-migration among natives is positively related to higher shares of ethnoracial minorities in the neighbourhood, in the Netherlands (Bolt, Van Kempen, & Van Ham, 2008; Van Ham & Clark, 2009), in Sweden Bråmå (2006), and in Denmark (Skifter Andersen, 2017).

In France, although empirical research exists on residential mobility among the general population (Couet, 2006; Courgeau, Lelièvre, & Wolber, 1998; Gobillon, 2001), only a few studies examine the moving patterns of immigrants versus natives. Using longitudinal data, Pan Ké Shon (2010) finds that African immigrants have a lower probability of exiting disadvantaged neighbourhoods, and net of socio-economic factors are more likely to move into them. Investigating ethnic clustering and native flight, Rathelot and Safi (2014) document a robust effect of the share of coethnics in the municipality on the out-mobility of immigrants. However, evidence of a "French native flight" is not confirmed in models controlling for unobserved municipality characteristics. Other research shows that immigrants' mobility patterns are largely confined within poor neighbourhoods, often within the public housing sector, although these studies are less robust due to the use of cross-sectional data with retrospective questions on residential mobility (Barou, 2006; Pan Ké Shon & Scodellaro, 2011).

This article is guided by the ethnic clustering and native flight hypotheses. I predict that immigrants will be less likely to move out of neighbourhoods concentrating immigrants of the same origin (H1: *ethnic clustering*). I also expect, in line with place stratification, to find signs of ethnic clustering in relocations after moving, especially among non-European immigrants. On the other hand, I work with the assumption that the French majority will be more likely to move out of neighbourhoods as the local immigrant share increases (H2: *native flight*). Moreover, I try to pinpoint the causes of these mobility dynamics by controlling for individual and neighbourhood fixed effects, to determine in particular whether natives' mobility is hinged on racial proxy mechanisms.

3 | DATA AND METHODS

Data come from the *Echantillon démographique permanent* (EDP), an ongoing panel conducted by the French National Institute of Statistics and Economic Studies (INSEE) since 1968. EDP compiles information from the French census and civil registries and is enriched every 8 to 9 years, and since 2004, on an annual basis.[2] EDP's sampling design guarantees representativeness by using days of birth for selection into the panel.[3] Individuals enter the panel at birth or as soon as information is collected regarding them in the census or registries. EDP is a valuable source for analysing residential mobility dynamics as individual moves can be tracked between panel waves.

3.1 | Immigrant generations and origins

In line with the principles governing public statistics in France (Simon, 2008), EDP does not use ethnoracial categories. Immigrants can be identified on the basis of country of birth and nationality at birth, but second generation immigrants who are French-born citizens are statistically invisible. Yet as EDP tracks individuals from birth, this category can be constructed using an indicator of the position of the individual in the household. When an EDP individual is observed as a child in a household, information is collected on the nationality and country of birth of the parents. *Second generation immigrants* (*G2*) are defined as EDP individuals who are observed as children at a given date in an immigrant household, that is, in which at least one parent is an immigrant.[4] *First generation immigrants* (*G1*) are foreign-born individuals who are not French citizens at birth. The term *immigrants* with no generational distinction refers to first and second generation immigrants combined. Finally, the *French majority* are French-born citizens who are never observed as children in an immigrant household.

Ten immigrant origin categories are created on the basis of the country of birth of EDP individuals or, in the case of second generation immigrants, the nationality at birth of the immigrant parent(s). If both parents are immigrants with a different national origin, the father's nationality is used. The resulting categories are Spanish, Portuguese, Italians, other Europeans, Algerians, Moroccans, Tunisians, Southeast Asians (Cambodia, Vietnam, and Laos), Turks, and sub-Saharan Africans. Individuals of other origins or for whom an origin could not be assigned due to missing data are excluded from the analysis.

3.2 | Neighbourhood-level variables

I merge EDP with the census to obtain a number of variables on individuals' neighbourhoods. The neighbourhood scale used is the IRIS,[5] an official intramunicipality division that is roughly equivalent to U.S. census tracts, containing between 1,800 and 5,000 inhabitants. As IRIS is not used in small municipalities of less than 10,000 inhabitants, individuals in these municipalities are excluded from the analysis.

Several variables are used to describe the IRIS ethnoracial and socio-economic characteristics. The immigrant share and coethnic share measure ethnoracial composition. The immigrant share is the proportion of immigrants[6] out of the entire IRIS population. The coethnic share measures the proportion of immigrants out of the IRIS population that have the same national origin as the EDP individual. The unemployment rate, share of managers, and the high school dropout rate are indicators of socio-economic composition, each calculated with respect to the entire IRIS population, or in the case of the unemployment rate, its working population.

3.3 | The sample

Using the four most recent waves of the panel (1990, 1999, 2008, and 2013), I restrict the sample on the basis of age, household position,[7] municipality size, and the availability of IRIS characteristics. These restrictions result in 1,303,440 adults aged 18 or older residing in municipalities of more than 10,000 inhabitants in metropolitan France at the first date of observation. As the analysis focuses on residential mobility between waves, the sample only includes individuals for

whom at least two consecutive time observations are available. Individuals thus remain in the analysis if they are observed in at least one of the following periods: 1990–1999, 1999–2008, and 2008–2013. After this restriction, the final sample size totals 439,704 individuals, or 718,958 $i^{*}t$ observations.[8] Table 1 shows that about half of the sample is observed at more than one period, particularly in the most recent years,[9] whereas 15% are present at all dates.

Table 2 displays the final sample by immigrant generation and origin. At 92%, the majority of the sample are French. Six percent are first generation immigrants and 2% are second generation immigrants, with the largest origin groups from Europe and Algeria.

3.4 | Modelling neighbourhood out-migration and relocation

Neighbourhood out-migration is estimated using a dummy that indicates a change in zip code over the 1990–1999, 1999–2008, or 2008–2013 periods. The variable is coded 1 to indicate a move to a different neighbourhood, municipality, or department and 0 to indicate no move or a move within the same neighbourhood. The basic specification of this model, Model 1, predicts neighbourhood out-migration separately for each time period on first and second generation immigrants (Model 1a) and the French majority (Model 1b).[10] The independent variables of interest are the ethnoracial composition of the original neighbourhood: The share of coethnics, interacted with immigrant generation, is used in Model 1a and the share of immigrants is used in Model 1b. The models further control for age, gender, marital status, family size, education, occupation, housing tenure, and municipality size. Several contextual controls are included: the municipality share of public housing, and at the neighbourhood level, the unemployment rate, the share of managers, the high school dropout rate, and the log of the population size. Model 1a also controls for immigrant origin and the overall neighbourhood share of immigrants. All time-variant covariates are measured at the beginning of the period so as to capture effects prior to moving.

The ethnic clustering and native flight hypotheses assume a causal relationship between neighbourhood ethnoracial composition and mobility. Immigrants will be tied to coethnic neighbourhoods due to constraints or preferences, whereas natives will seek to exit immigrant areas, regardless of other neighbourhood characteristics that are correlated with ethnoracial composition (racial proxies). The inclusion in Model 1 of several factors relating to individuals and neighbourhoods helps isolate the effect of local ethnoracial composition on mobility; however, omitted variables remain a source of bias. At the individual level, these might be residential histories and preferences, wealth, access to credit, school strategies, or other unobserved factors that intervene in moving decisions. At the neighbourhood level, overall neighbourhood quality and attractiveness, the natural or built environment, local amenities, schools, transportation, and job markets also impact moving decisions—factors that are often correlated with the presence of immigrants in the local area.

Fixed effects panel models help partially factor out the effect of these omitted variables. By drawing on intraindividual or intraneighbourhood variance over time, these models are able to control for the unobserved characteristics of individuals or neighbourhoods (individual/geographic heterogeneity) that are time-invariant (Allison, 2009). I run a new series of residential mobility models to test the robustness of the local ethnoracial composition effect on neighbourhood out-migration, this time pooling all time periods. Model 2 is the basic model, including no fixed effects.[11] Model 3 applies individual fixed effects whereas Model 4 introduces neighbourhood fixed effects. Specifications are run separately on first and second generation immigrants (Models 2a, 3a, and 4a) and the French majority (Models 2b, 3b, and 4b).[12]

The final aim of the analysis is to explore the ethnoracial composition of movers' destination neighbourhoods. To do so, I use a Heckman selection model, Model 5, to correct for the exclusion of individuals

TABLE 1 Panel structure

Period	Frequency	%
1999–2008 and 2008–2013	116,002	26
2008–2013	97,918	22
1990–1999	96,873	22
1990–1999, 1999–2008, and 2008–2013	64,460	15
1990–1999 and 1999–2008	34,332	8
1999–2008	30,119	7
Total	439,704	100

Source: *Echantillon démographique permanent* 1990–2013.

TABLE 2 The sample

	Frequency	%
First generation immigrants	41,235	6
Other Europe	6,564	16
Spain	3,948	10
Portugal	7,023	17
Italy	6,705	16
Algeria	5,705	14
Morocco	2,342	6
Tunisia	2,472	6
Asia	1,947	5
Turkey	1,916	5
Sub-Saharan Africa	2,613	6
Second generation immigrants	17,906	2
Other Europe	3,528	20
Spain	3,082	17
Portugal	2,038	11
Italy	5,427	30
Algeria	2,556	14
Morocco	547	3
Tunisia	366	2
Asia	108	1
Turkey	138	1
Sub-Saharan Africa	116	1
French majority	659,817	92

Source: *Echantillon démographique permanent* 1990–2013.Frequencies show individual/time observations.

who did not move over any period (Heckman, 1979). The selection equation includes all of the covariates included in the basic residential mobility model. The outcome equation predicts the neighbourhood share of immigrants after moving and includes immigrant origin, year of observation, family size, education, occupation, housing tenure, and city size. The model is run on the pooled sample of immigrants and the majority.

Table A1 shows summary statistics for all variables used in the analysis. Residential mobility is more pronounced among immigrants and their offspring relative to the French majority. This may be partially explained by compositional differences between groups, notably the young age of the second generation or the higher concentration of both generations in large cities.

4 | FINDINGS

Figure 1 displays out-migration rates for first and second generation immigrants and the French majority according to neighbourhood ethnoracial composition. The correlation between ethnoracial composition and mobility is particularly salient for the French majority. As the share of immigrants increases, the likelihood that they will leave the neighbourhood also rises. Around 20% of the French majority exit neighbourhoods with low immigrant shares (the first three deciles), whereas nearly 50% move out of the highest concentration area (the tenth decile). Among immigrants and their offspring, however, originating in an area with higher shares of coethnics does not result in a clear pattern of out-migration. With the exception of neighbourhoods with few coethnics (the first decile), where mobility is the lowest, moving rates remain quite stable and even tend to decrease as the coethnic share rises. The share of movers hovers at just above 30% for first generation immigrants, and around 45% among the second generation.

To identify whether these descriptive patterns point to ethnic clustering and native flight, Model 1 estimates the net effect of local ethnoracial composition on out-migration for each time period on first and second generation immigrants and the majority. Results are presented in Table 3.

Before turning to the ethnoracial composition coefficients, it is noteworthy that individual-level variables show similar correlations with residential mobility among both immigrants and the majority. Age is associated with reduced mobility, as is being married. Homeownership is also significantly negatively correlated with moving out, whereas higher education increases the log-odds of leaving the neighbourhood. Only family size and occupation appear to play a different role for the majority and immigrants. Having children increases the chances that the majority will move but is not significant for immigrants. Similarly, occupation is associated with moving among the majority, but with no clear-cut trend: Higher occupational categories (managers, intermediary professions) are more mobile than lower ones (blue collar workers), but so are the unemployed. For immigrants, most categories show insignificant coefficients, with the exception of higher occupations that show greater mobility in the earlier periods. Finally, disparities in the odds of moving out are not pronounced across immigrant origins.

Yet, as expected, the impact of the share of immigrants/coethnics in the original neighbourhood diverges for immigrants and the majority. Among first and second generation immigrants alike, a strong negative correlation is found between the share of coethnics in the original neighbourhood and the log-odds of moving out.[13] In contrast, among the majority, an opposite correlation is observed: In this case, an increased immigrant population is related to the departure of the French majority from the neighbourhood. These signs of ethnic clustering and native flight are found to be strong and significant over all periods, suggesting no significant change in these dynamics over time.

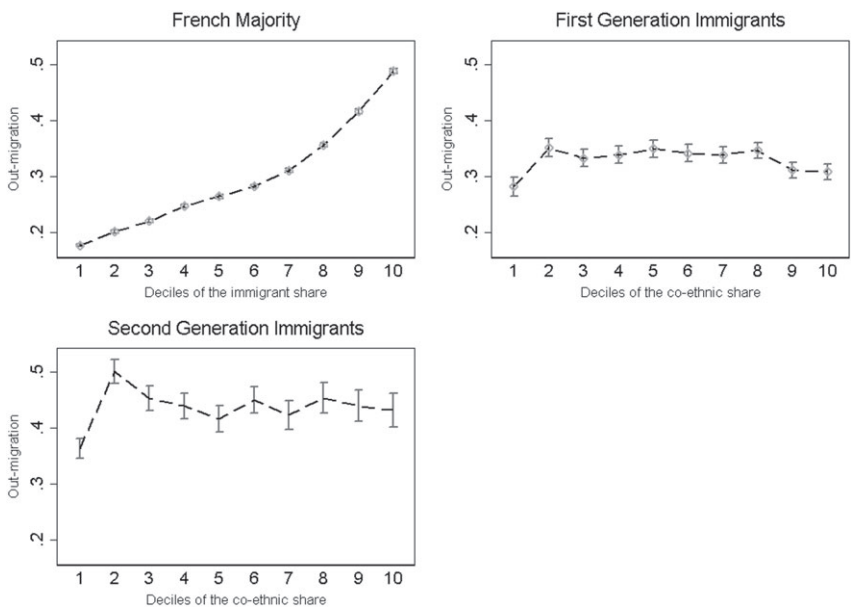

FIGURE 1 Neighbourhood out-migration according to local ethnoracial composition

Source: *Echantillon démographique permanent* 1990-2013.
Graphs show point estimates of out-migration rates and 95% confidence intervals.

TABLE 3 Logistic regression models predicting neighbourhood out-migration by period

	Model 1a first and second generation immigrants			Model 1b French majority		
	1990–1999	1999–2008	2008–2013	1990–1999	1999–2008	2008–2013
Age/ref: 18–25						
26–35	−0.811*** (0.0795)	−0.672*** (0.0944)	−0.612*** (0.112)	−1.051*** (0.0334)	−0.877*** (0.0325)	−0.895*** (0.0348)
36–45	−1.477*** (0.0862)	−1.417*** (0.0987)	−1.278*** (0.113)	−1.833*** (0.0344)	−1.658*** (0.0339)	−1.691*** (0.0356)
46–55	−1.706*** (0.0935)	−1.983*** (0.109)	−1.904*** (0.121)	−2.086*** (0.0363)	−1.977*** (0.0351)	−2.207*** (0.0375)
56–65	−1.870*** (0.103)	−2.068*** (0.120)	−2.260*** (0.138)	−2.274*** (0.0384)	−2.033*** (0.0377)	−2.362*** (0.0389)
Over 65	−1.887*** (0.108)	−1.939*** (0.124)	−2.348*** (0.145)	−2.363*** (0.0401)	−2.033*** (0.0393)	−2.410*** (0.0407)
Gender/ref: Men						
Women	−0.177*** (0.0443)	−0.0980* (0.0428)	−0.0968* (0.0479)	−0.123*** (0.0143)	−0.0971*** (0.0130)	−0.105*** (0.0138)
Marital status/ref: Single						
Married	−0.460*** (0.0569)	−0.310*** (0.0494)	−0.280*** (0.0518)	−0.274*** (0.0189)	−0.258*** (0.0161)	−0.168*** (0.0160)
Divorced/widowed	−0.170* (0.0805)	0.0275 (0.0726)	0.112 (0.0796)	0.0592* (0.0241)	0.159*** (0.0212)	0.264*** (0.0216)
Family size/ref: No children						
1 child	−0.0479 (0.0515)	−0.0156 (0.0510)	0.0440 (0.0585)	−0.0275 (0.0179)	0.0817*** (0.0166)	0.0517** (0.0170)
2 or more children	0.000184 (0.0447)	0.0668 (0.0445)	0.0140 (0.0520)	−0.000632 (0.0173)	0.167*** (0.0152)	0.0631*** (0.0157)
Education/ref: No degree						
Primary school	0.0583 (0.0529)	0.226*** (0.0666)	0.0449 (0.0835)	0.0733*** (0.0202)	0.0443* (0.0212)	0.105*** (0.0227)
Lower secondary	0.0370 (0.0829)	0.200** (0.0773)	0.0930 (0.0608)	0.234*** (0.0254)	0.207*** (0.0251)	0.0888*** (0.0206)
Vocational high school	0.107 (0.0554)	0.125* (0.0519)	0.294*** (0.0850)	0.154*** (0.0201)	0.147*** (0.0189)	0.151*** (0.0269)
General high school	0.319*** (0.0724)	0.302*** (0.0677)	0.241** (0.0838)	0.336*** (0.0236)	0.334*** (0.0227)	0.308*** (0.0280)
University	0.465*** (0.0803)	0.452*** (0.0676)	0.390*** (0.0710)	0.487*** (0.0255)	0.431*** (0.0235)	0.324*** (0.0241)
Occupation/ref: Blue collar						
Other	0.262*** (0.0793)	0.201* (0.0789)	0.0578 (0.0935)	0.428*** (0.0281)	0.0707** (0.0232)	0.0704** (0.0257)
Managers	0.329*** (0.0981)	0.220* (0.0907)	0.0570 (0.0942)	0.340*** (0.0274)	0.301*** (0.0262)	0.292*** (0.0266)
Intermediary professions	0.234** (0.0744)	0.113 (0.0669)	0.0340 (0.0728)	0.248*** (0.0228)	0.194*** (0.0205)	0.178*** (0.0212)
White collar	0.124* (0.0594)	0.0543 (0.0587)	−0.0575 (0.0680)	0.181*** (0.0206)	0.123*** (0.0187)	0.120*** (0.0198)
Unemployed	0.0723 (0.0675)	0.0105 (0.0671)	−0.0248 (0.0775)	0.296*** (0.0300)	0.265*** (0.0263)	0.245*** (0.0289)
Not working	−0.00772 (0.0588)	−0.0846 (0.0638)	−0.0857 (0.0776)	0.211*** (0.0239)	0.202*** (0.0223)	0.213*** (0.0262)
Housing tenure/ref: Renter						
Homeowner	−0.931*** (0.0399)	−0.918*** (0.0402)	−1.235*** (0.0470)	−1.142*** (0.0132)	−1.178*** (0.0126)	−1.427*** (0.0136)
Year of observation/ref: 2004						
2005			0.0218 (0.0664)			−0.0168 (0.0215)
2006			−0.129 (0.0665)			−0.0661** (0.0216)
2007			−0.209** (0.0672)			−0.219*** (0.0219)

(Continues)

TABLE 3 (Continued)

	Model 1a first and second generation immigrants			Model 1b French majority		
	1990–1999	1999–2008	2008–2013	1990–1999	1999–2008	2008–2013
2008			−0.439*** (0.0639)			−0.387*** (0.0190)
Municipality characteristics						
Size/ref: <100,000 inhabitants						
>100,000 inhabitants	0.352*** (0.0464)	0.239*** (0.0461)	0.237*** (0.0528)	0.253*** (0.0148)	0.286*** (0.0153)	0.182*** (0.0166)
Paris region	0.320*** (0.0569)	−0.00340 (0.0693)	−0.0982 (0.0819)	0.400*** (0.0203)	0.194*** (0.0271)	−0.0448 (0.0315)
Share of public housing	−0.306* (0.137)	1.648*** (0.151)	1.175*** (0.200)	0.159*** (0.0479)	1.948*** (0.0512)	1.764*** (0.0662)
Neighbourhood characteristics						
Share of immigrants	2.261*** (0.258)	1.213*** (0.362)	1.640*** (0.419)	2.144*** (0.0967)	1.977*** (0.129)	1.299*** (0.136)
Unemployment rate	0.291 (0.225)	2.605*** (0.322)	2.239*** (0.449)	0.101 (0.0853)	2.267*** (0.114)	1.587*** (0.147)
Share of managers	2.613*** (0.422)	7.102*** (0.599)	3.045*** (0.669)	2.412*** (0.139)	5.370*** (0.210)	3.806*** (0.205)
High school dropout rate	−0.860*** (0.177)	−0.883** (0.323)	−1.561** (0.513)	−0.469*** (0.0619)	−1.413*** (0.0947)	−1.384*** (0.146)
Log of population	−0.126** (0.0413)	−0.122*** (0.0305)	−0.0982** (0.0318)	−0.0340* (0.0140)	−0.0653*** (0.00815)	−0.0728*** (0.00831)
Immigrant origin/ref: Algeria						
Other Europe	−0.00412 (0.0687)	−0.0784 (0.0690)	0.257*** (0.0762)			
Spain	0.0137 (0.0714)	0.0373 (0.0724)	0.158 (0.0860)			
Portugal	−0.00583 (0.0666)	0.0250 (0.0683)	0.236** (0.0776)			
Italy	−0.166* (0.0663)	−0.0384 (0.0670)	0.127 (0.0774)			
Morocco	−0.0292 (0.101)	0.0647 (0.0916)	0.0800 (0.0942)			
Tunisia	0.146 (0.0831)	−0.103 (0.0996)	−0.0248 (0.117)			
Asia	0.0904 (0.0974)	0.0905 (0.111)	0.210 (0.136)			
Turkey	0.0437 (0.108)	−0.190 (0.107)	−0.0762 (0.111)			
Sub-Saharan Africa	0.228* (0.107)	−0.102 (0.103)	0.254** (0.0977)			
Interaction between generation and co-ethnic share						
Coethnic share effect for G1 immigrants	−3.655*** (0.593)	−3.779*** (0.883)	−6.441*** (1.055)			
Coethnic share effect for G2 immigrants	−3.750** (1.374)	−7.103*** (1.474)	−4.107** (1.501)			
G2 immigrants	0.187** (0.0676)	0.0440 (0.0569)	−0.0947 (0.0620)			
Constant	2.649*** (0.362)	1.291*** (0.290)	1.209*** (0.296)	1.845*** (0.122)	1.084*** (0.0799)	1.220*** (0.0778)
Observations	16,298	17,906	17,651	144,679	212,959	248,074

Source: *Echantillon démographique permanent* 1990–2013. Standard errors in parentheses.

*$p < .05$.

**$p < .01$.

***$p < .001$.

4.1 | Assessing the neighbourhood ethnoracial composition effect

These contrasting associations between neighbourhood ethnoracial composition and mobility may indeed be revealing ethnic clustering and native flight processes. Or they may be reflecting omitted variables that impact the likelihood of moving out and that are correlated with the local share of immigrants. Residential preferences, socio-economic mechanisms, and school strategies may explain why immigrants and their offspring remain among coethnics although the majority moves out of immigrant areas. Neighbourhood attractiveness and quality, also correlated with local ethnoracial composition, may also impact moving decisions. The next series of residential mobility models pools all time periods while gradually introducing fixed effects to partial out the impact of such omitted variables that remain stable over time. Table 4 displays the coefficients of the ethnoracial composition variables resulting from the models. Fixed effects model results are posted in Tables A2 and A3.

These findings provide further evidence in favour of ethnic clustering. The basic model, Model 2a, shows the significant negative effect of the coethnic share for both generations. Controlling for time-invariant unobserved characteristics of individuals, immigrants are still less likely to move out of neighbourhoods with increased shares of coethnics, as shown in Model 3a. The same, however, is not the case for second generation immigrants, for whom the effect of the coethnic share on moving is no longer significant. Yet the findings from Model 4a again document ethnic clustering patterns for both generations. Once the effects of stable neighbourhood characteristics are factored out, the negative impact of living among coethnics on mobility holds. Local ethnoracial composition thus appears to be decisive in the moving patterns of first generation and, to a somewhat lesser extent, second generation immigrants.

How well does evidence of native flight hold in these models? Taking into account individual heterogeneity, as shown in Model 3b, does not undermine the finding in the basic model (Model 2b) that the French majority are more likely to move out of immigrant neighbourhoods. However, the inclusion of neighbourhood fixed effects in Model 4b results in a non-significant coefficient for the local immigrant share. Hence, controlling for unobserved time-stable characteristics of local areas challenges the hypothesis that the French majority has increased mobility out of neighbourhoods specifically due to the immigrant share. Rather, this finding is suggestive that racial proxy mechanisms may account for why French exit immigrant areas.

4.2 | Group disparities in ethnic clustering and native flight

First and second generation immigrants and the majority do not constitute homogenous populations but are differentiated notably by social class and other demographics. Are ethnic clustering and native flight more salient among certain subpopulations? I test this hypothesis by introducing two interaction effects into the neighbourhood fixed effects models: (a) the local ethnoracial composition and occupation and (b) the local ethnoracial composition and family size.[14] Table 5 reports the results.

Heterogeneity within the immigrant population does not appear to alter the strong negative coethnic effect on out-migration. The interaction terms reveal no significant differences along the lines of occupation. Nor does having more children appear to significantly influence immigrants' mobility.

Among the French majority, however, disparities in the likelihood of moving out of immigrant neighbourhoods are found across occupation and family size. In this case, compared to blue collar workers, the unemployed and not working are less likely to leave the neighbourhood as the immigrant share increases. This is also true of white collar workers. Other professions, including small business owners and artisans, are more likely to move out. Furthermore, unlike the pattern seen for immigrants, family size is associated significantly with out-migration: French majority members with two or more children are more likely to leave neighbourhoods with stronger immigrant concentrations.

4.3 | Relocation patterns

The previous analyses ascertained that neighbourhood ethnoracial composition results in diverging mobility patterns among immigrants and the majority. But where do immigrants, their offspring, and the French majority relocate following a move? Do these groups enter

TABLE 4 Ethnic clustering and native flight effects

	Ethnic clustering (first and second generation immigrants)			Native flight (French majority)		
	Model 2a	Model 3a	Model 4a	Model 2b	Model 3b	Model 4b
Coethnic share effect for G1	−4.194*** (0.442)	−6.550*** (1.237)	−2.797*** (0.675)			
Coethnic share effect for G2	−4.727*** (0.818)	−0.399 (2.067)	−3.725** (1.185)			
Immigrant share				2.091*** (0.066)	3.163*** (0.204)	−0.418 (0.214)
Individual fixed effects	No	Yes	No	No	Yes	No
Neighbourhood fixed effects	No	No	Yes	No	No	Yes
Observations	51,855	13,120	30,620	605,712	158,208	548,114

Source: *Echantillon démographique permanent* 1990–2013. Robust standard errors in parentheses.

*$p < .05$.

**$p < .01$.

***$p < .001$.

TABLE 5 The ethnic clustering and native flight effects by family size and occupation

	Ethnic clustering Model 4a	Native flight Model 4b
Family size/difference in effect compared to no children		
1 child	−0.860 (1.272)	0.323 (0.173)
2 or more children	−0.0733 (1.061)	0.598*** (0.153)
Occupation/difference in effect compared to blue collar		
Others	1.308 (2.195)	1.250*** (0.292)
Managers	−3.607 (3.496)	0.00107 (0.264)
Intermediary professions	−1.023 (2.084)	0.0781 (0.207)
White collar	3.198 (1.774)	−0.596** (0.190)
Unemployed	−1.283 (1.449)	−1.848*** (0.288)
Not working	−0.688 (1.368)	−0.863*** (0.231)
Observations	30,620	548,114

Source: *Echantillon démographique permanent* 1990–2013. Robust standard errors in parentheses.

*$p < .05$.

**$p < .01$.

***$p < .001$.

different neighbourhoods in terms of ethnoracial composition, such that ethnic clustering processes are reinforced upon relocating?

Table 6 provides an overview of mobility destinations. Overall, most movers, 71%, enter new municipalities, whereas only 32%, make long-distance moves to a new department. However, destinations vary substantially between immigrants and the French majority. The mobility trajectories of first generation immigrants appear to be far more confined within the same spaces; the latter are indeed far less likely than the majority to move outside of the original municipality or department. Interestingly, however, second generation immigrants' moving behaviour reflects more closely that of the majority than the first generation, with a high rate of long-distance moves outside of the geographic area of origin.

Finally, Model 5 is a Heckman selection model predicting, for those who experienced residential mobility, the share of immigrants in the destination neighbourhood. Results are displayed in Table 7.[15] The major finding from this model is that the neighbourhood destinations of movers vary substantially by immigrant origin, confirming ethnic clustering mechanisms upon relocating. Indeed, this variable has the strongest correlation with the immigrant share in the destination neighbourhood. Compared to the majority, all immigrant groups have greater shares of immigrants in their destination neighbourhoods. Yet the most pronounced distinction in outcomes lies between French and non-Europeans, who have between a 6% and 8% higher average immigrant share in the neighbourhoods they move into. Between Europeans and the French majority, the net disparity is only about 2%.

TABLE 6 Destinations among movers

	Municipality change (%)	Department change (%)
First generation	54	25
Second generation	77	31
French majority	72	32
Total	71	32

TABLE 7 Heckman selection model predicting the immigrant share of movers' destination neighbourhoods

	Model 5
Immigrant origin/ref: French majority	
Other Europe	0.0166*** (0.00108)
Spain	0.0194*** (0.00129)
Portugal	0.0211*** (0.00112)
Italy	0.0193*** (0.00108)
Algeria	0.0606*** (0.00115)
Morocco	0.0548*** (0.00173)
Tunisia	0.0675*** (0.00190)
Asia	0.0648*** (0.00224)
Turkey	0.0794*** (0.00218)
Sub-Saharan Africa	0.0699*** (0.00181)
Family size/ref: No children	
1 child	−0.00549*** (0.000369)
2 or more children	−0.0101*** (0.000321)
Education/ref: No degree	
Primary school	−0.00474*** (0.000527)
Lower secondary	−0.00850*** (0.000536)
Vocational high school	−0.0108*** (0.000471)
General high school	−0.00933*** (0.000538)
University	−0.00848*** (0.000535)
Occupation/ref: Blue collar	
Other	−0.000534 (0.000641)
Managers	0.00290*** (0.000596)
Intermediary professions	−0.00237*** (0.000491)
White collar	0.000450 (0.000431)
Unemployed	0.00510*** (0.000580)
Not working	0.00470*** (0.000500)
Housing tenure/ref: Renter	
Homeowner	0.00533*** (0.000432)

(Continues)

TABLE 7 (Continued)

	Model 5
Municipality size/ref: <100,000 inhabitants	
>100,000 inhabitants	0.00880*** (0.000333)
Paris region	0.0536*** (0.000415)
Year of observation/ref: 1990	
1999	−0.00425*** (0.000328)
2004	−0.000541 (0.000750)
2005	−0.000912 (0.000739)
2006	−0.00202** (0.000742)
2007	0.000511 (0.000760)
2008	0.00000 (0.000536)
Constant	0.0738*** (0.000705)
Observations	670,757

Source: *Echantillon démographique permanent* 1990–2013. The LR test of independence shows a significant *p* value (0.0000), indicating that the rho (−0.203) is not equal to zero and thus that the equations are dependent.

Standard errors in parentheses.

*$p < .05$.

**$p < .01$.

***$p < .001$.

5 | DISCUSSION AND CONCLUSION

This article uses longitudinal data from France to study residential mobility among first and second generation immigrants and the majority. Specifically, I explored whether the ethnic clustering and native flight hypotheses hold in the French context by investigating the link between local ethnoracial composition and moving out of the neighbourhood over three time periods. Destinations were also assessed in order to identify relocation and ethnic clustering patterns following a move.

The findings broadly suggest that local ethnoracial context is a significant predictor of mobility among immigrants and the majority, albeit in diverging ways. A negative effect of the local share of coethnics on moving out of the neighbourhood was consistently found for first generation immigrants, and second generation immigrants in most models, confirming place stratification's emphasis on ethnic clustering patterns (H1) and prior evidence from France at the municipality level (Rathelot & Safi, 2014). Moreover, variation within the immigrant population linked to occupation and family size did not weaken the ethnic clustering effect. In a reverse trend, the French majority are more likely to move out of neighbourhoods with large shares of immigrants. A positive effect of the immigrant share on out-mobility was found in most models, lending partial support to the native flight hypothesis (H2). Although no clear patterns were found in terms of occupation, having children increases the French majority's likelihood of moving out of immigrant neighbourhoods. Finally, the salience of immigrant origin in neighbourhood outcomes after moving, with non-Europeans entering areas with the largest immigrant shares, further points to place stratification mechanisms.

A central contribution of this paper is the focus on mobility among the second generation. The findings highlight some important similarities to first generation immigrants that are contrary to the predictions of spatial assimilation. Ethnic clustering was not shown to be considerably weaker for the second generation. Yet, unlike for immigrants, the effect of ethnoracial composition on moving did not hold in the individual fixed effects model, suggesting that ethnic clustering among the second generation might be explained by omitted factors, perhaps revealing mechanisms linked to class, cultural capital, or mixed background (having a French native parent) that favour mobility. Such factors may further explain why second generation immigrants differ from the first generation when it comes to geographical relocation, with greater chances of making long-distance moves. Prior research from France has shown, for instance, the decisive role of mixed background for second generation outcomes (Beauchemin, Hamel, & Simon, 2010), which is not accounted for in this data.

What is behind the ethnic clustering patterns observed here? Are they revealing preferences for self-segregation or are they the product of structural constraints on mobility? Although the idea that non-Europeans prefer to self-segregate is a common trope in France, there is currently no survey data documenting immigrants' residential preferences. Yet, although locational choices may reflect in-group closure, they are also grounded in structural processes linked to networks and ethnic economies that may help immigrants experience social mobility (Logan et al., 2002; Zhou, 1992). Such evidence has been found among some immigrants in France (Toma, 2016). Past literature also highlights that preferences for ethnic neighbourhoods may be a reaction to discrimination and anti-immigrant sentiment in the host society. This could be a plausible explanation in Europe where evidence of racism and hostility towards immigrants are increasingly supported by survey data (Mayer, Michelat, Tiberj, & Vitale, 2014; Semyonov, Raijman, & Gorodzeisky, 2006) and reflected in the momentum of the far right.

The ethnic clustering effect could also be interpreted as resulting from the ethnoracial segmentation of the housing market. Postcolonial immigrants to France found accommodation primarily in public housing estates implanted in the suburbs near industrial sites where jobs were available (Bernardot, 1999; Pinçon, 1981). In the wake of deindustrialization and rising unemployment, these public housing neighbourhoods became synonymous with socio-economic disadvantage and increasingly came to concentrate poor immigrants. This historical urban configuration is reinforced by current discrimination in public and private housing. Extensive qualitative research now documents practices of exclusion and racial steering within public housing that channel non-Europeans into the most disadvantaged parts of the sector (Bourgeois, 2013; Sala Pala, 2005; Simon, Kirszbaum, Chafi, & Tissot, 2001). Evidence from audit studies further shows that discrimination on the private housing market is particularly acute against Africans (Bonnet, Lalé, Safi, & Wasmer, 2016; Bunel et al., 2017; HALDE, 2006), findings that are corroborated by self-declared reports of discrimination (Pan Ké Shon & Scodellaro, 2011; Safi & Simon, 2013).

What can be said about the native flight dynamics documented here? Although most models showed a strong positive effect of the neighbourhood immigrant share on the majority's out-migration, this trend was not confirmed in models controlling for neighbourhood fixed effects. This result mirrors that of Rathelot and Safi (2014), who also find an insignificant effect of the immigrant share in models controlling for geographic heterogeneity. A possible

interpretation of this finding lies in the racial proxy hypothesis: The majority may be more likely to leave these neighbourhoods not specifically because of their immigrant composition, but rather due to other attributes of the spaces in which immigrants are concentrated. Moreover, the greater tendency of French majority members with children to move out of immigrant areas is suggestive that school strategies may be shaping residential choice. This finding is in line with ethnographic research from France on school strategies implemented by middle-class families who seek to avoid immigrant areas where the quality of education is perceived to be lower (Oberti, 2007; Poupeau & François, 2008; Van Zanten, 2001).

All in all, this evidence suggests that residential segregation in France is maintained in part by an interconnected process of low mobility among immigrants and their offspring out of coethnic neighbourhoods, coupled with the increased mobility of the French majority out of immigrant neighbourhoods. These findings bring new substance to the debate on urban inequality in France, which has tended to oppose two paradigmatic representations of segregation: hypersegregation dividing blacks and whites in the United States (Massey & Denton, 1989; Wilkes & Iceland, 2004) versus ethnoracially diverse European cities where spatial disadvantage is less intense (Musterd, 2005; Pan Ké Shon & Verdugo, 2015; Wacquant, 2008). Due to data comparability issues between immigrants in France and ethnic/racial groups in the United States, this debate has been difficult to resolve. Nonetheless, the specific mobility patterns documented here, in which race/ethnicity plays a salient role, suggest that although urban configurations may differ across contexts, similar inequality processes are at work.

Further research is needed to explore the links between residential mobility and immigrant integration. These analyses could be extended by focusing on the interconnectedness of residential and social mobility and its consequences for ethnoracial inequality. Are ethnic clustering phenomena weakened as immigrants experience changes in occupation, as spatial assimilation would expect? Is this true for all origins? And how does intergenerational social mobility between immigrants and their children influence spatial outcomes among the second generation? Following prior qualitative research showing the increased influx of immigrants into periurban areas in France (Lambert, 2013), future studies could also investigate variations on ethnic clustering within specific types of geographical spaces (urban, suburban, periurban), and their impact on socio-economic integration. Focusing on this intertwining of social and spatial mobility would forge a better understanding of inequality-making processes in France and help guide public policy initiatives that favour the sociospatial opportunities available to minorities.

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ENDNOTES

[1] I use the terminology of white flight when referring to the U.S. literature. Native flight is the more commonly used expression in Europe, which I employ when discussing the French context.

[2] The periodicity of EDP follows that of the French census. From 1968 until 1999, the French census was conducted on the entire population at an interval of every 7 to 9 years (1968, 1975, 1982, 1990, and 1999). EDP was enriched with new information from the census at this regularity. As of 2004, however, the French census is conducted every year on only a share of the population (data are collected on 20% of addresses in municipalities under 10,000 inhabitants and 8% of addresses in municipalities over 10,000 inhabitants per year). A cycle of 5 years is required to obtain a representative sample (Pan Ké Shon, 2007). Likewise, although EDP data are now updated annually with each new census, 5 years must be aggregated to obtain a complete wave. In addition to the five previous waves (1968, 1975, 1982, 1990, and 1999), I thus compile years 2004 through 2008 to form the sixth wave and years 2009 through 2013 to form the seventh wave of the panel. I control for year of observation in all models.

[3] From 1968 to 1999, the first 4 days of October; after 1999, 4 days respectively in January, April, July, and October.

[4] The variable describing the respondents' position within the household is only available from 1975. I use information on childhood status from 1975 to 1999 to identify second generation immigrants. If an individual has at least one person/year observation as a child in an immigrant household, she is considered as a second generation immigrant. Belonging to this category is thus contingent on having been observed in EDP as a child, with the result that second generation immigrants who have entered the sample as adults cannot be distinguished from the French majority. This explains the relatively low share of second generation immigrants in the sample.

[5] The IRIS scale was introduced in French data in 1999, prior to which the inframunicipality division used was the *îlot*. I use the *îlot*/IRIS correspondence table provided by INSEE to match the 1990 *îlots* with the 1999 IRIS code in order to include EDP year 1990 in the analysis. Prior to 1990, the *îlot* code is difficult to identify in EDP; I thus restrict the analysis to the 1990–2013 period.

[6] First generation immigrants only (the foreign-born population without French citizenship at birth), not including the second generation.

[7] EDP individuals who are children in a household are excluded.

[8] The substantial reduction of the sample to individuals who have appeared in the panel at two or more dates raises issues of attrition. Attrition is inherent to longitudinal surveys and is related to the difficulty of tracking individuals over time due to death, migration, or other events that prevent locating respondents. To identify how attrition impacts the sample, I have performed a logistic regression model predicting the odds of being observed in EDP at only one date, controlling for origin, age, gender, marital status, number of children, education, occupation, and housing tenure. The findings show that most immigrants are more likely to have a shorter stay in the panel compared to the French majority; the odds of being observed only once are especially high for non-Europeans. Age, women, being married, having children, and owning one's home are also associated with greater stability in the panel. Education shows mixed effects, with shorter stays in the panel among people with no education and the college educated. For purposes of concision, I do not include the results of this model here, but they may be obtained upon request.

[9] This is due in particular to the broadening of the EDP sample after 2004.

[10] Separate models by group are estimated as the local ethnoracial composition variables differ for first generation and second generation immigrants (the coethnic share) and the French majority (the immigrant share).

[11] Given its similarity to Model 1, I do not show this model, but it may be obtained upon request.

[12] Fixed effects models require observations on individuals or neighbourhoods at several points in time; individuals must therefore

be present at at least two periods. As a result, the sample size is substantially reduced in these models. Furthermore, as observed variables that are stable over time cannot be estimated in fixed effects models, only time-variant factors related to individuals (Model 3) or neighbourhoods (Model 4) are estimated.

[13] The difference between first and second generation immigrants in the effect of the coethnic share on moving is not significant.

[14] Full results for these interaction models are not shown for the sake of concision but may be received from the author upon request.

[15] Findings from the selection equation are not displayed for sake of concision but may be received from the author upon request.

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APPENDIX A

TABLE A1 Summary statistics

	First generation immigrants	Second generation immigrants	French majority
Individual-level variables			
Neighbourhood out-migration	0.33	0.43	0.29
Age			
18–25	0.04	0.12	0.05
26–35	0.18	0.43	0.17
36–45	0.24	0.33	0.22
46–55	0.21	0.12	0.20
56–65	0.16	0.01	0.17
>65	0.18	0.00	0.20
Women	0.50	0.53	0.55
Marital status			
Single	0.12	0.38	0.21

(Continues)

TABLE A1 (Continued)

	First generation immigrants	Second generation immigrants	French majority
Married	0.76	0.55	0.65
Widowed/divorced	0.12	0.06	0.14
Family size			
No children	0.45	0.28	0.45
1 child	0.18	0.25	0.20
2 or more children	0.37	0.47	0.35
Education			
No education	0.44	0.15	0.17
Primary school	0.15	0.06	0.20
Lower secondary	0.09	0.19	0.16
Vocational high school	0.12	0.26	0.19
High school	0.08	0.13	0.11
University	0.13	0.21	0.18
Occupation			
Other	0.07	0.05	0.10
Managers	0.06	0.08	0.10
Intermediary professions	0.09	0.19	0.18
White collar	0.17	0.24	0.24
Blue collar	0.31	0.22	0.20
Unemployed	0.09	0.10	0.05
Not working	0.21	0.12	0.12
Housing tenure			
Homeowner	0.48	0.47	0.65
Renter	0.52	0.53	0.35
Municipality-level variables			
<100,000 inhabitants	0.39	0.53	0.61
>100,000 inhabitants	0.33	0.33	0.27
Paris region	0.29	0.14	0.12
Share of public housing	0.20	0.16	0.14
Neighbourhood-level variables			
Share of immigrants	0.12	0.09	0.06
Share of coethnics	0.03	0.02	—
Unemployment rate	0.13	0.12	0.11
Share of managers	0.06	0.05	0.05
Share of high school dropouts	0.33	0.27	0.27

Source: *Echantillon démographique permanent* 1990–2013. *Note*. Other occupations include small business owners, artisans and farmers.

TABLE A2 Conditional logit predicting neighbourhood out-migration with individual fixed effects

	First and second generation immigrants Model 3a	French majority Model 3b
Marital status/ref: Single		
Married	−0.486*** (0.112)	−0.584*** (0.0335)
Divorced/widowed	−0.623*** (0.152)	−0.711*** (0.0430)
Education/ref: No degree		
Primary school	0.145 (0.102)	0.0121 (0.0349)
Lower secondary	−0.0124 (0.107)	−0.0819* (0.0357)
Vocational high school	−0.0712 (0.104)	−0.0132 (0.0361)
General high school	0.0605 (0.137)	0.0900* (0.0448)
University	0.125 (0.164)	−0.0817 (0.0529)

(Continues)

TABLE A2 (Continued)

	First and second generation immigrants Model 3a	French majority Model 3b
Occupation/ref: Blue collar		
Other	−0.208 (0.146)	0.00435 (0.0432)
Managers	−0.327* (0.155)	−0.135** (0.0436)
Intermediary professions	−0.0943 (0.109)	−0.0904** (0.0339)
White collar	−0.0715 (0.105)	−0.0591 (0.0327)
Unemployed	−0.129 (0.106)	−0.0196 (0.0387)
Not working	−0.140 (0.111)	−0.0388 (0.0371)
Housing tenure/ref: Private renter		
Homeowner	−1.212*** (0.0689)	−1.228*** (0.0204)
Year of observation/ref: 1990		
1999	−0.624*** (0.0842)	−0.424*** (0.0226)
2004	−0.927*** (0.149)	−0.653*** (0.0437)
2005	−1.236*** (0.153)	−0.893*** (0.0436)
2006	−1.408*** (0.157)	−1.018*** (0.0448)
2007	−1.582*** (0.158)	−1.370*** (0.0465)
2008	−2.135*** (0.175)	−1.675*** (0.0485)
Municipality characteristics Size/ref: <100,000 inhabitants		
>100,000 inhabitants	0.920*** (0.102)	1.046*** (0.0292)
Paris region	1.150*** (0.171)	1.564*** (0.0533)
Share of public housing	2.610*** (0.264)	3.586*** (0.0888)
Neighbourhood characteristics		
Share of immigrants	3.746*** (0.625)	3.163*** (0.204)
Unemployment rate	1.728*** (0.511)	1.460*** (0.150)
Share of managers	3.037** (1.063)	2.497*** (0.250)
High school dropout rate	−0.0492 (0.347)	−0.429*** (0.100)
Log of population	−0.116** (0.0421)	−0.0417*** (0.0115)
Interaction between generation and co-ethnic share		
Coethnic share/G1 immigrants	−6.550*** (1.237)	
Coethnic share/G2 immigrants	−0.399 (2.067)	
Observations	13,120	158,208

Source: *Echantillon démographique permanent* 1990–2013. Robust standard errors in parentheses.

*$p < .05$.

**$p < .01$.

***$p < .001$.

TABLE A3 Conditional logit predicting neighbourhood out-migration with neighbourhood fixed effects

	First and second generation immigrants Model 4a	French majority Model 4b
Age/ref: 18–25		
26–35	−0.679*** (0.0690)	−0.943*** (0.0208)
36–45	−1.269*** (0.0727)	−1.736*** (0.0218)
46–55	−1.694*** (0.0802)	−2.118*** (0.0228)
56–65	−1.864*** (0.0902)	−2.287*** (0.0242)
Over 65	−1.897*** (0.0967)	−2.387*** (0.0256)
Gender/ref: Men		
Women	0.125*** (0.0374)	−0.103*** (0.00877)
Marital status/ref: Single		
Married	−0.291*** (0.0432)	−0.167*** (0.0109)
Divorced/widowed	0.0196 (0.0644)	0.196*** (0.0145)

(Continues)

TABLE A3 (Continued)

	First and second generation immigrants Model 4a	French majority Model 4b
Family size/ref: No child		
1 child	−0.0296 (0.0441)	0.0642*** (0.0111)
2 or more children	0.0439 (0.0386)	0.123*** (0.0103)
Education/ref: No degree		
Primary school	0.103* (0.0514)	0.0608*** (0.0139)
Lower secondary	0.169** (0.0536)	0.134*** (0.0145)
Vocational high school	0.190*** (0.0471)	0.124*** (0.0135)
General high school	0.277*** (0.0582)	0.280*** (0.0158)
University	0.394*** (0.0581)	0.342*** (0.0158)
Occupation/ref: Blue collar		
Other	0.158* (0.0709)	0.175*** (0.0167)
Managers	0.202** (0.0764)	0.272*** (0.0171)
Intermediary professions	0.190*** (0.0563)	0.177*** (0.0136)
White collar	0.00724 (0.0498)	0.0920*** (0.0126)
Unemployed	−0.0548 (0.0552)	0.225*** (0.0185)
Not working	−0.0677 (0.0521)	0.188*** (0.0155)
Housing tenure/ref: Private renter		
Homeowner	−0.991*** (0.0390)	−1.251*** (0.00970)
Year of observation/ref: 1990		
1999	0.216** (0.0748)	0.212*** (0.0229)
2004	0.274* (0.122)	0.110** (0.0392)
2005	0.0858 (0.125)	0.0320 (0.0379)
2006	0.0790 (0.127)	−0.0139 (0.0383)
2007	−0.171 (0.125)	−0.230*** (0.0391)
2008	−0.460*** (0.117)	−0.479*** (0.0358)
Municipality characteristics		
Share of public housing	−0.0997 (0.497)	−0.409* (0.199)
Neighbourhood characteristics		
Share of immigrants	0.847 (0.492)	−0.418 (0.214)
Unemployment rate	0.186 (0.406)	0.0141 (0.142)
Share of managers	−0.462 (0.850)	−0.726** (0.278)
High school dropout rate	−0.481 (0.305)	−0.281** (0.0951)
Log of population	0.00560 (0.108)	−0.0151 (0.0377)
Interaction between generation and coethnic share		
Coethnic share/G1 immigrants	−2.797*** (0.675)	
Coethnic share/G2 immigrants	−3.725** (1.185)	
G2 immigrants	0.232*** (0.0521)	
Immigrant origin/ref: Algeria		
Other Europe	0.173** (0.0604)	
Spain	0.0377 (0.0666)	
Portugal	0.161** (0.0612)	
Italy	−0.0101 (0.0591)	
Morocco	0.0535 (0.0778)	
Tunisia	−0.0809 (0.0770)	
Asia	0.231* (0.0930)	
Turkey	−0.0386 (0.0866)	
Sub-Saharan Africa	0.0465 (0.0830)	
Observations	30,620	548,114

Source: *Echantillon démographique permanent* 1990–2013. Robust standard errors in parentheses.

*$p < .05$.

**$p < .01$.

***$p < .001$.