Measuring the Effect of Local Ethnic Composition on Natives' and Immigrants' Geographic Mobility in France: Evidence from Panel Data (1982 to 1999)

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Abstract
This article provides empirical results on patterns of native and immigrant geographic mobility in France. Using longitudinal data, we measure mobility from one French municipality (commune) to another over time and estimate the effect of the initial municipality's ethnic composition on the probability of moving out. These data allow us to use panel techniques to correct for biases related to selection based on geographic and individual unobservables. Our findings tend to discredit the hypothesis of a "white flight" pattern in residential mobility dynamics in France. Some evidence does show ethnic avoidance mechanisms in natives' relocating. We also find a strong negative and highly robust effect of co-ethnics' presence on immigrants' geographic mobility.

Keywords
geographic mobility, white flight, ethnic clustering, ethnic preferences, contextual variables

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Studies of ethnicity have lacked scientific and political legitimacy for decades in France, but French urban sociology is increasingly concerned with this issue.[1] During the 2005 riots, black and Arab youth in the French suburbs were primarily depicted in violent images. The media and some politicians linked the riots to immigrants' failed assimilation and the rise of communitarianism in France. At the same time, scholars are increasingly using ghettoization terminology, usually regarded as specific to the U.S. context, to describe French urban dynamics. This debate has lacked evidence regarding the extent to which neighborhood ethnic characteristics are driving geographic mobility.

We seek to describe natives' and immigrants'[2] geographic mobility in France, as well as how these groups react to neighborhoods' ethnic compositions. We build on U.S. literature concerning the effect of ethnic preferences on mobility for whites and minorities and discuss its relevance for France. Our empirical analyses rely on unique data that combine longitudinal individual information on geographic mobility with contextual aggregated socioeconomic and ethnic characteristics of residential areas. This panel data structure allows us to control for effects of individual and geographic unobserved characteristics on mobility, thus enhancing confidence in our estimates. Findings show very little support for "French white flight" in out-migration but some support for avoidance patterns in relocating. On the other hand, we find the ethnic clustering pattern to be highly robust.

IN SEARCH OF WHITE FLIGHT: UNDERLYING HYPOTHESES AND LIMITATIONS

Classical sociologists depict geographic mobility as the channel through which ethnic segregation can lose ground (Duncan and Lieberson 1959; Park and Burgess 1921;). Geographic

mobility is thus seen as a sign—or an outcome—of the assimilation process (Massey and Denton 1985; South, Crowder, and Chavez 2005). Studies on patterns and trends of segregation in the United States emphasize the limitations of this framework, especially for African Americans (Iceland and Scopilliti 2008; Massey and Denton 1993). The very slow decrease in racial segregation after the Civil Rights Act shifted focus to the white population's behavior. Much work supports the idea that, after Jim Crow and with the upheaval of anti-discrimination laws, segregation has been sustained by whites' unwillingness to remain in neighborhoods with large and growing ethnic minority populations. Scholars have documented white flight over more than three decades in the United States (Farley et al. 1978; Galster 1990; Massey, Gross, and Shibuya 1994; South and Crowder 1998). Some studies have also attempted to directly measure natives' out-migration as a response to minority influx in their residential areas (Boustan 2010; Card and DiNardo 2000; Frey 1995; Kritz and Gurak 2001; White and Liang 1998). In these studies, scholars have attempted to account for the possibility that whites' out-migration may not be motivated by the presence of ethnic minorities (or their growing number) per se, but rather by the poor socioeconomic conditions (e.g., employment opportunities, safety conditions, and social interactions) of the neighborhoods in which minorities are (or become) overrepresented (Frey 1979).[3] For example, research shows that school choice is a significant component of whites' decisions to out-migrate (Fairlie and Resch 2002; Renzulli and Evans 2005).

U.S. scholars typically assume that empirical findings supporting white flight demonstrate the persistence of racial prejudice among whites (Farley et al. 1994; Yinger 1976). Studies on subjective preferences toward neighborhood ethnic and racial composition tend to show patterns consistent with this hypothesis (Bobo and Zubrinsky 1996; Charles 2003). However, none of these studies were conducted on white movers, nor asked them to what extent the ethnic composition of their initial neighborhoods prompted them to move. Krysan's (2002) study is one of the rare investigations of the motivations of whites who said they would leave integrated neighborhoods; it provides some evidence of negative racial stereotypes.

The only quantitative findings on French attitudes toward minority populations show high prejudice toward post-colonial migration and specifically North Africans (Girard 1971; Lamy, Charbit, and Girard 1974). More recently, comparative studies document increasing anti-immigrant attitudes in European countries, including France (Malchow-Møller et al. 2009; Quillian 1995; Semyonov, Raijman, and Gorodzeisky 2006). High proportions of right-wing extremism since the 1980s also point toward the prominence of ethnoracial prejudice (Mayer 2002). Finally, the Commission Nationale Consultative des Droits de l'Homme regularly publishes opinion survey results on racism and prejudice in French society.

None of these studies document preferences in terms of neighborhood ethnic composition. Using the European Social Survey (ESS), one of the rare datasets containing information on neighborhood preferences, Semyonov, Glikman, and Krysan (2007) show that the French, and more generally Europeans, tend to live in ethnically homogeneous neighborhoods and overwhelmingly report they wish to reside in areas without ethnic minorities. The authors also show that in addition to socioeconomic predictors of these preferences, racial prejudice measured by a set of social psychological variables holds consistent explanatory power. They thus conclude that whites' patterns of avoidance of ethnic minorities are similar in Europe and the United States. Preferences in terms of ethnoracial neighborhood composition may thus shape French natives' residential strategies and would lead us to expect avoidance dynamics resembling white flight patterns in the United States. In particular, some research suggests the educational dimension of anti-immigrant flight is substantial in France specifically because school choice is often limited to the location of residence and the presence of immigrants' children in classrooms is usually associated with lower quality education (Oberti 2007; van Zanten 2001). Other research shows a high correlation between neighborhood ethnic

composition and perceptions of safety in European countries; sense of safety is lowest among Europeans residing in neighborhoods populated mostly by ethnic minorities (Semyonov, Gorodzeisky, and Glikman 2012). These findings suggest anti-immigrant flight might also be driven by fear of crime due to stereotypes associating immigration with insecurity.

On the other hand, even if stereotypes and prejudice about minority populations are widespread and affect neighborhood preferences, this does not necessarily mean that white flight patterns would be observed in France. According to Schelling (1969), individual preferences are only activated once a threshold is reached. This idea has led scholars to attempt to measure the tipping point of whites' tolerance toward their black neighbors (Card, Mas, and Rothstein 2008; Clark 1991). The literature highlights that these tipping points are related to urban and population structures that may differ across countries and even within cities in a given country. Such factors as population size, proportion of each minority group, total minority population size, and level of spatial segregation can affect the point at which local tipping points are reached. Many urban geographers and sociologists argue that for historical and geographic reasons, the configuration of cities is different in Europe and the United States (Peach 1996, 1999; Wacquant 1992).

The dominant discourse about the lower level of ethnic and racial segregation in France compared to the United States builds on a general acceptance that U.S. society generates more social inequality due to lower redistribution (Brandolini and Smeeding 2006). The latest French research suggests that income segregation is also lower in France than in the United States (Guyon 2012). Some evidence, however, shows more intense education inequality in France measured in terms of effects of social and immigrant backgrounds on education outcomes (OECD 2010).

The presumably lower level of ethnic and racial segregation in France is also linked to a prevailing belief that, compared to the U.S. context, ethnicity and race are less prominent stratification factors. Due to limitations in data availability, studies have only recently provided information regarding the magnitude of ethnic segregation in France (Pan Ké Shon 2009; Préteceille 2009; Rathelot 2012; Safi 2009; Verdugo 2011). For example, Safi (2009) computed dissimilarity indices for the eight largest French cities using five subsequent censuses (from 1968 to 1999). In 1999, these indices ranged from .09 (in Nice) to .31 (in Strasbourg) when computed for the whole immigrant population, and they have increased over time for some specific groups, approaching .5 for Turks and sub-Saharan Africans in some cities. Along with other studies reporting similar findings, this research tends to confirm that segregation is less salient in France compared to the United States, where black-white segregation indices average around .65 and reach .85 in some metropolitan areas.[4] This lower level of segregation suggests that neighborhood ethnic composition preferences may have less of an effect on geographic mobility dynamics in France, not necessarily because these preferences are less prominent, but rather because segregation is globally less intense and local tipping points are rarely reached.

We rely considerably on theoretical and empirical frameworks from U.S. research, but the terminology must be modified when transposed to the French case. It is not strictly correct to speak of white flight when using French data, because some ethnic minority populations are natives and cannot be distinguished from "non-ethnic French" in the census. Rather, what we measure in this study is more accurately called "native flight." We occasionally use the expression "French white flight" for the sake of comparability with the U.S. case.

ETHNIC CLUSTERING: CHOSEN OR CONSTRAINED?

We use the expression "ethnic clustering" to refer to ethnic minority concentration resulting from complex processes that may be linked to these populations' residential strategies and to

structural constraining mechanisms. By ethnic clustering, we are not implying any particular segregation pattern (Massey and Denton 1988) but simply increasing proportions of minority populations in some locations.

In the United States, the white flight framework's underlying assumption holds that blacks and ethnic minorities also prefer white or integrated neighborhoods. Contesting this assumption, research shows that in-group preferences are widespread for both majority and minority populations (Bobo and Zubrinsky 1996; Krysan and Farley 2002; Pais, South, and Crowder 2009; Vigdor 2003). However, such preferences are still much stronger among whites than among blacks and ethnic minorities in the United States.

Most empirical studies find that blacks and immigrants are reluctant to leave areas where persons of their own group are concentrated (Ihlanfeldt and Scafidi 2002; Zavodny 1999). Moreover, some research draws attention to the fact that ethnic groups may even seek self-segregation because it can bring about economic and social advantages (Aldrich and Waldinger 1990; Borjas 1992; Logan, Alba, and Zhang 2002; Munshi 2003; Portes 1998; Zhou 1992).

To date, there has been little research on minority neighborhood preferences in France. Urban studies, however, are increasingly documenting the concentration of immigrants in certain areas. Glikman and Semyonov (2012) studied immigrants' perceptions of their neighborhoods' ethnic and racial composition comparing 13 countries. They found that first- and second-generation immigrants in Europe tend to live in neighborhoods where ethnic and racial minorities are concentrated. Preferences for ethnic neighborhoods partly explain this geographic concentration, but the authors also show that perceived discrimination is positively correlated to Africans' and Muslims' probability to live in ethnic neighborhoods.

Discrimination is indeed a major structural mechanism challenging the validity of ethnic minorities' self-segregation (Dawkins 2004; Galster 1988). A considerable number of studies in the United States document the continuing prevalence of ethnic and racial housing discrimination, mostly relying on audit studies (Fix and Struyk 1993; Galster 1992). Direct and indirect discrimination impedes ethnic minorities from locating or relocating in some areas and thus may have crucial effects on their geographic mobility.

Similar mechanisms may be preventing ethnic minorities in France from desegregating through geographic mobility. Although studies on housing discrimination in France are still rare, some recent findings on the extent of the phenomenon are quite alarming (Bonnet et al. 2011). According to a study by the Haute Autorité de Lutte contre les Discriminations et pour l'Egalité (2006), ethnic minorities (namely African) are only 25 percent as likely as their paired non-ethnic French to be selected to rent an apartment. Some measures of reported discrimination in access to housing also indicate high levels of ethnoracial discrimination (Safi and Simon forthcoming).

Increasing housing inequality brings about additional constraints on geographic mobility that may structurally disadvantage ethnic minority populations, specifically because they cannot rely on inherited resources. Barriers to securing affordable housing severely hinder ethnic minorities' access to homeownership, leading to increasing wealth inequality (Krivo and Kaufman 2004; Oliver and Shapiro 1995).

In France, recent research reveals intensifying wealth inequality and the growing role that household income flows play in a context where real estate prices have steadily increased in almost every major French city (Gallot, Leprévost, and Rougerie 2011). Although there is still no research regarding the effect of these dynamics on ethnic inequality, it is plausible that they

have sharpened ethnic housing disadvantages at the individual level and intensified economic disparities between immigrant and native neighborhoods.

These studies show that interpreting the concentration of minority populations as a conscious ethnic locational strategy understates the fact that structural economic and institutional factors, as well as direct and indirect mechanisms of housing discrimination, may also lead to a form of imposed segregation. The aim of this article is to investigate causal links between local ethnic composition and immigrants' and natives' geographic mobility in France. Our review of the literature highlights two hypotheses. First, the high level of hostility to immigration, combined with an increase in ethnic segregation and the growing relevance of ethnoracially motivated locational decisions, leads us to expect French white flight.

> *Hypothesis 1:* Natives' out-mobility increases with the local share of immigrants.

On the other hand, preferences for co-ethnic neighbors, housing discrimination, and structural factors in the housing market suggest a possible statistical association between immigrants' residential mobility and their neighborhoods' ethnic composition.

> *Hypothesis 2:* Immigrants' out-mobility decreases with the local share of their co-ethnics.

A considerable body of French urban research would contest these hypotheses, arguing that levels of segregation are low in France and that ethnicity and race are less potent factors in the French social stratification structure than in the United States. This article provides an empirical test of these hypotheses.

DATA

Our data were extracted from a large French longitudinal database called *Echantillon Démographique Permanent* (EDP). The EDP was created by the French National Institute of Statistics (INSEE) in 1967 as a longitudinal dataset to link successive censuses as well as various events reported in registration data (e.g., births, deaths, and marriages). The EDP currently contains data from the 1968, 1975, 1982, 1990, and 1999 population censuses. The EDP is constructed through simple individual sampling: it includes individuals born on certain days of the year (4 out of 365 days, around 1 percent of the population) and for whom a census form or civil status certificate issued upon a major demographic event in the individual's life (e.g., birth, marriage, death, or childbirth) is available. Whenever individuals enter the panel, they may be tracked across the following censuses if they are listed again. Sampling is thus the same for immigrants and for natives; they appear in the EDP as soon as they are identified, or as soon as one of their civil status certificates is collected.[5] The EDP is a valuable dataset for studying immigration because it allows researchers to deal with significant samples of immigrants and to compare the situations of several groups that are often underrepresented in other surveys. Although the EDP does not focus on ethnicity-related issues, many studies show it is one of the most valuable empirical sources for analyzing geographic mobility in France (Détang-Dessendre, Goffette-Nagot, and Piguet 2008).

We analyze geographic mobility during two inter-census periods (1982 to 1990 and 1990 to 1999). Our sample includes only individuals who are listed in two successive censuses between 1982 and 1999 and for whom information about the municipality of residence (i.e., commune) is available.[6] If one's residence is different in $t + 1$ from the one declared in t, we assume geographic mobility. Conversely, individuals who declared the same municipality of residence in t and $t + 1$ are defined as sedentary. This broad definition of mobility does not take the

distance of a move into account. The U.S. literature typically uses the expression "residential mobility" to refer to short distance moves (within a metropolitan area) (Alba et al. 1999). Given our different definition, we prefer to speak more generally of "geographic mobility," by which we mean any movement out of a municipality. In the findings section we test for alternative definitions of geographic mobility.

We enriched EDP data with local indicators extracted from the General Population Census in 1982 and 1990. We used the census to compute for each municipality the main covariates of interest: proportions of the most sizeable minority groups (Algerians, Moroccans, Portuguese, Italians, and Spanish). We then matched these proportions with EDP data to build the proportion of co-ethnics in a municipality of residence. We also used census data to build contextual variables at the municipality level, which are mainly used to control for a municipality's social and economic situation, such as population size, unemployment rate, proportion of managers, proportion of subsidized housing tenants, and proportion of school dropouts. For an individual *i* and a period of observation between *t* and *t* + 1, these variables provide information about municipality characteristics at time *t*. Our data thus offer a unique opportunity to measure effects of individual- and contextual-level characteristics on EDP respondents' geographic mobility.

One could criticize the geographic level at which these variables are measured. French municipalities are larger than U.S. census tracts and are hardly equivalent to local neighborhoods. French communes are an intermediary scale between U.S. census tracts and U.S. counties (Courgeau 1982), but, unfortunately, EDP longitudinal data cannot identify individuals' locations at a smaller geographic level.[7]

Nevertheless, use of the municipality level is relevant to analysis of contextual effects on geographic mobility for several reasons. Municipalities are the smallest political entities; local housing policy guidelines (especially in terms of public housing construction), provision of important local amenities (e.g., elementary schools and security), and some taxes (business taxes and property taxes) are defined at this level. Rhein (1998:431) argues that the commune level is relevant for "evaluating the differential impacts of housing and urban policies upon social structure at the national as well as at the municipal level." Even though some studies show that within-commune heterogeneity has increased in recent years, this heterogeneity is still on a smaller scale than in the United States. A few studies have compared measures of segregation using the IRIS and commune divisions in the 1999 census and found similar patterns of ethnic segregation (Verdugo 2011).

Figures 1 and 2 provide maps of French municipalities in the Parisian metropolitan area (*Ile-de-France*), which stretches roughly 150km east to west and 100km north to south (around 12,000 sq. km. or 4,600 sq. mi.). This area comprises approximately 1,600 communes. Other large metropolitan areas in France usually include hundreds of communes. Figure 1 reports municipalities' population density (total population/total area), and Figure 2 shows the share of immigrants within municipalities. Both maps are based on 1990 census data. Communes are very diverse with regard to density and immigrant populations. The center of Paris is very dense, but overall population density decreases progressively as distance from the center increases. The local share of immigrants in the total population does not reflect the same spatial correlation. Indeed, the distribution in Figure 2 underlines immigrant populations' historical concentration in the northeast of Paris, the ex-industrial red belt (i.e., municipalities with a high proportion of working class, who tended to vote for the French Communist Party in the 1950s).

<FIGURES 1 and 2 about here>

Table 1 displays summary statistics on French communes in which at least one EDP individual resided in 1990 (28,795 out of a total of 36,568 communes). The first three columns show distribution of the population across communes, average share of immigrants, and average mobility rate for all communes, as well as averages for subsamples of communes according to their size. The first striking fact is that most French communes are very small, with 90 percent counting fewer than 3,000 inhabitants. Communes with more than 10,000 inhabitants are relatively rare: 854 out of 28,795 (about 3 percent). Second, immigrants' share is positively correlated with commune size: the proportion of immigrants is more than three times higher in communes of more than 10,000 inhabitants compared to communes of fewer than 10,000 inhabitants. The mobility rate also tends to be higher in larger communes, but not by a large extent. The last three columns represent individuals in our sample. Among the 322,759 individuals in our sample for 1990, 53 percent lived in communes of fewer than 10,000 inhabitants, and 47 percent of the sample resided in the 3 percent most populated communes.

<Table 1 about here>

Our sample contains 569,569 native and 41,917 immigrant observations. Natives and immigrants differ mainly in terms of individual characteristics (see Table S1 in the online supplement [http://asr.sagepub.com/supplemental]). The most prominent disparities can be observed in education level (with a large proportion of immigrants reporting no education) and occupation (with a large proportion of blue-collar immigrants). The average characteristics of municipalities where immigrants lived do not differ consistently from natives' municipalities. The most noticeable disparities concern the total proportion of immigrants, which is significantly higher in immigrants' municipalities compared to natives' municipalities (see Table S2 in the online supplement).

METHODOLOGICAL ISSUES

Much sociological literature is concerned with misattribution of contextual effects (Hauser 1974; Robinson 1950; Sampson, Morenoff, and Gannon-Rowley 2002). The most frequent concerns are related to selection into geographic locations, measurement error, and cluster autocorrelation. We now turn to these three issues.

Isolating the Causal Effect of Local Ethnic Composition: Controlling for Individual and Geographic Unobserved Variables

A frequent concern regarding the use of aggregated contextual variables is related to nonrandom sorting into geographic units. This selection may lead to considerable estimation biases, among which we distinguish two sources.

The first source of bias is related to geographic unobservable characteristics. Despite the introduction of several social and demographic covariates to describe locations, some unobserved determinants may still affect mobility. When these determinants are correlated with the proportion of immigrants, estimation of our parameters of interest will be biased. Some areas are undesirable due to "pure" geographic features, such as weather, proximity to natural resources or amenities, and transportation connectivity. If, for historical reasons, immigrants tend to live in the least desirable geographic areas, this lack of desirability may continue to cause people to avoid these areas independent of the current local ethnic composition.

A second potential source of bias is individual unobserved heterogeneity. Ethnic composition of a municipality at time *t* is a consequence of prior residential decisions and is probably affected by variables similar to the ones underlying the probability to move (Halaby 2004). In our case, individual preferences with regard to a municipality's ethnic composition may affect both the choice of location in *t* and mobility between *t* and *t* + 1. The same hypothesis can be put forward concerning individual strategies driven by social attainment motivations. If individuals seek better schools for their children, this affects both their choice of location in *t* and their mobility pattern between *t* and *t* + 1. Selection into the initial location may thus upwardly bias the effect of local ethnic composition on the probability of geographic mobility.[8]

Nearly all communes and 63 percent of individuals were observed during both periods: these features allow us to control for both geographic unobserved heterogeneity at the commune level and individual heterogeneity. We use panel models to control for geographic and individual effects. The most general version of the model we estimate is the following:

$$Y^*_{iglt} = c_{glt}\alpha + m_{lt}\beta + Z_{lt}\gamma_g + X_{it}\delta_g + \mu_i + \mu_l + \mu_t + u_{iglt}$$
$$Y_{iglt} = Y^*_{iglt} > 0$$

where *i* is the individual, *g* is individual *i*'s ethnic group, *t* is the time period (1982 to 1990 or 1990 to 1999), and *l* is the location where individual *i* lived at the beginning of time period *t*. The binary outcome *Y* is equal to one if the individual moved during the period. A latent *Y** is assumed to exist and to depend linearly on the covariates. The covariates of most interest in this study are *c*, the proportion of co-ethnics in the municipality, and *m*, the total share of immigrants in the municipality. We include other covariates to control for observable and unobservable heterogeneity: *Z* represents local contextual variables; *X* individual variables; and μ individual, time, and geographic effects. γ and δ are indexed by *g*, as we interact most of the individual and contextual covariates with the dummy variable of "being an immigrant."

In the remainder of the text we use some expressions that may imply a causal denotation (e.g., "white flight effect" or "clustering effect"), but our data and methods cannot rule out alternative assumptions about underlying mechanisms and consequently do not lend themselves to strictly causal inference.

Measurement Error

There are three reasons why measurement error may be an issue in our study. First, the main covariates of interest are proportions of immigrants, and some municipalities may have few immigrants. Second, we computed these proportions using a one-fourth extract of the censuses, because detailed information on immigrants' country of origin is not available on an exhaustive basis. Finally, French municipalities are rather small (more than 20,000 of the 36,600 municipalities have fewer than 500 inhabitants). Because of these three factors, immigrants' proportions in municipalities are not measured accurately; the error will be higher for smaller municipalities and those with few immigrants. Measurement errors generate a systematic bias of coefficients corresponding to proportions of immigrants (Mairesse and Greenan 1999). To reduce this bias, we introduce interaction terms for the variables of interest (proportion of immigrants and proportion of co-ethnics in the municipality) with the size of the municipality, distinguishing their effect in small versus large (more than 10,000 inhabitants) municipalities. Small municipalities' coefficients are likely to be biased downward, but their sign can still be informative. Only coefficients related to large municipalities might be expected to be unbiased.

Autocorrelation within Units

Estimating effects of aggregate variables on micro-units may lead to severely biased results. Moulton (1990) stresses that, when a multi-level analysis is carried out, one must account for the cluster structure of the variance-covariance. Omitting the relevant cluster structure will likely lead to downward-biased standard errors for the coefficient relating to contextual covariates: estimates will too often appear significantly different from zero when they are not. This issue is dealt with by relaxing the assumption that the error terms of two observations belonging to the same municipality are not correlated. Adjusting the variance-covariance matrix to account for this cluster structure is enough to recover unbiased inference.

FINDINGS: A STATISTICALLY NONSIGNIFICANT "NATIVE FLIGHT" EFFECT VERSUS ROBUST ETHNIC CONCENTRATION DYNAMICS

A binary logit model shows a significant effect of local proportions of immigrants for both natives and immigrants (see Table 2). Natives and immigrants tend to move more often out of areas with higher immigrant concentrations. For immigrants, however, mobility is also affected by co-ethnic concentration: the higher the proportion of immigrants of the same group in the municipality, the lower the probability of immigrants moving out. All in all, individual and contextual[9] control variables have similar associations for natives' and immigrants' residential mobility. The only noticeable difference is related to the proportion of subsidized housing, which has a significant positive effect only for natives' residential mobility.

<Table 2 about here>

We now take advantage of the panel structure of our dataset. Table 3 displays results of three different models. Model 1, which introduces geographic fixed effects at the commune level, is our preferred model. Model 2 is a variation of Model 1 relaxing the assumption that communes' fixed effects are equal for natives and immigrants. One might suspect that unobserved geographic heterogeneity may be at play differently for immigrants and for natives. Weather or school quality may be more determinant factors for natives, whereas concentrations of public housing and levels of discrimination within localities may have a more decisive effect on immigrants' mobility. Moreover, specifying identical geographic effects for immigrants and natives does not reflect the fact that municipalities may actually differ in how they treat immigrants (e.g., space dedicated to immigrants in subsidized housing or landlords' tolerance toward immigrants) (Garbaye 2005; Light 2006). In Model 2, we thus allow for geographic heterogeneity to vary for natives and immigrants. This amounts to estimating twice as many communes' fixed effects; we only apply it for large communes.

<Table 3 about here>

Models 1 and 2 introduce only geographic heterogeneity, yet our data lend themselves to the additional control for individual heterogeneity. In Model 3, we account for both types of heterogeneity. Because the number of communes is large and we only have two periods of observation, performing this estimation requires restricting the number of geographic fixed effects. We therefore estimate Model 3 only for large communes. Individual effects here are designed as random,[10] whereas geographic effects are fixed.

We introduce a full set of individual and contextual control variables in these models (the same ones as in Table 2), but Table 3 reports only coefficients of the variables of interest (share of immigrants for natives and immigrants, and share of co-ethnics for immigrants). We focus on findings for large communes because they are less sensitive to measurement error bias.

First, it is remarkable that the statistical association between the share of co-ethnics and immigrants' mobility is strongly robust across three models. Immigrants are considerably less

likely to move from communes where their co-ethnics are numerous. The effect is significant at .1 percent and is large in magnitude. In communes of more than 10,000 inhabitants, increasing the proportion of co-ethnics by one standard deviation will decrease the probability to move by 5.7 percentage points (21 percent), which should be compared to the average mobility rate of immigrants from large communes, equal to 28 percent (calculations based on Model 1).

Second, the native flight effect is only significant in the simple logit model (Table 2) or in models where only individual heterogeneity is controlled (see Table S3 in the online supplement), but not when geographic fixed effects are introduced. In Table 3, the local share of immigrants has no significant effect on either immigrants' or natives' geographic mobility. Allowing geographic effects to differ between natives and immigrants (Model 2) does not alter the coefficients. Findings are also very similar when both individual and geographic heterogeneities are controlled for (Model 3), with an even stronger co-ethnics effect. These results suggest that controlling for local unobserved characteristics is crucial in explaining residential mobility. Given the similarities in findings in Models 1, 2 and 3, and because Model 1 is the most simply designed, we consider it our preferred model and perform our robustness tests using it.

Do Findings Differ across Subpopulations?

Table 4's first panel reports interaction effects for the share of immigrants and the share of co-ethnics with individual occupation (managers, blue collar, and other); interactions with age are displayed in the second panel (younger than 55 years and older than 55). Each interaction effect is incorporated successively into Model 1 (Table 3).

<Table 4 about here>

The proportion of immigrants has a uniformly nonsignificant effect across occupations, but a native flight effect is statistically perceivable for older natives. Indeed, some prior studies show that migration at retirement age is motivated by residential considerations (Détang-Dessendre et al. 2008). Our findings indicate that local ethnic characteristics are among these residential considerations. They also suggest that the effect of ethnic preferences on the decision to move is activated only when family or labor-related constraints are reduced.

Except for immigrant managers, the significance and magnitude of the ethnic clustering effect are similar across groups. The nonsignificance of the ethnic clustering effect for manager immigrants may be interpreted in light of the literature on ethnic communities: immigrant managers do not need the ethnic group's social capital, whereas the most disadvantaged immigrants may benefit from their ethnic group's socioeconomic support and thus stay geographically close. These results may also be interpreted in terms of constraining mechanisms on mobility that operate most effectively for the most disadvantaged categories of immigrants. Finally, we test for different effects across immigrant groups and we consistently find a nonsignificant white flight and a sizeable ethnic clustering effect in all regressions.

Are these Findings Sensitive to the Geographic Definition of Residential Mobility?

In the analyses presented earlier, the effect of municipalities' ethnic composition is measured only for individual moves between municipalities. This definition of mobility is questionable because it does not distinguish between short- and long-distance moves (Long 1988; Long, Tucker, and Urton 1988). Local ethnic composition may affect only short-distance mobility, whereas long-distance moves are more likely to be influenced by life-cycle events, work status, or work position.

In Table 5, we perform several analyses that test whether our findings are sensitive to the definition of geographic mobility. In the first two columns, mobility is still observed only if individuals change municipalities, but the distance between origin and destination municipalities is taken into account. The first column reports findings of an ordered probit model differentiating between four ordered mobility outcomes: "no mobility," "less than 10 km mobility," "between 10 and 100 km mobility," and "more than 100 km mobility." The second column uses a tobit model in which the first equation models the propensity to move out of the municipality, and the second equation models the distance between the origin and destination municipalities for the individual who moved. Identification of tobit models requires an exclusion variable that must be correlated with the first equation's dependent variable and unrelated to the second one. We use homeownership as the exclusion variable; although it is negatively correlated with the probability of mobility, it will hardly affect the movement distance. In each of these models, geographic fixed effects are controlled by introducing commune dummies (only for communes with more than 10,000 inhabitants). Table 5 clearly shows that the native flight effect is uniformly nonsignificant no matter the definition of residential mobility. Nor does a municipality's immigrant concentration affect distance between origin and destination municipalities.

<Table 5 about here>

It remains possible, however, that some native flight dynamics are at play at a smaller contextual scale, namely for moves within communes. Contexts within communes are unfortunately impossible to analyze with our data, but the French census includes a question about individuals' place of residence at the previous census date that allows us to detect within-commune moves. Prior analyses rely on longitudinal tracking of individuals' locations to identify geographic mobility, whereas here we use individuals' declarations about place of residence on the former census date and thus infer within-commune mobility (for individuals who did not change their commune between censuses but reported a different place of residence at the former census). In the last column of Table 5, we test for the effect of municipality ethnic composition on a threefold geographic mobility variable using a multinomial logit model: "no mobility" (the base outcome), "within commune mobility," and "between commune mobility." If native flight takes place within communes, one may expect natives' within-commune moves to be more frequent in municipalities with greater proportions of immigrants. Table 5 falsifies this hypothesis: natives' within-commune moves are not sensitive to the ethnic composition of their municipality of residence. Although this analysis cannot completely rule out the possibility of within-commune native flight, it suggests this is not prominent.

On the other hand, all models in Table 5 show that the ethnic clustering effect is very robust to changes in the definition of mobility. The presence of co-ethnics diminishes not only immigrants' probability of moving out of their communes but also the distance that separates their origin and destination locations. The share of co-ethnics in one's commune is nonetheless positively correlated with immigrants' within-commune mobility. Although we cannot further investigate this result with our data, this finding does not contradict the ethnic clustering effect we measure when between-commune moves are modeled. This suggests that immigrants' within-commune moves tend to be frequent in communes where the share of their co-ethnics is large, most likely because immigrants relocate even closer to their co-ethnics.

What about Ethnic Avoidance in Relocation Decisions?

The white flight paradigm supposes that a neighborhood's ethnic composition acts like a push factor for the white population's mobility. However, when people have stable jobs, schools for their children, and social attachments, it is questionable whether their preferences toward a neighborhood's ethnic composition would push them to move out. Alternatively, natives'

unwillingness to live with ethnic minorities may be activated once they decide to move (regardless of the reason). Such preferences would thus be more likely to shape relocation choices rather than determine probability of geographic mobility (Ellen 2000; Quillian 2002; South and Crowder 1998). In that case, we should observe a very small or even nonsignificant ethnic composition effect on the probability of fleeing, whereas the same effect would be determinant upon relocating.

To test for a potential relocating effect, we ran an aggregate model[11] that counts, for each commune, the number of natives and the number of immigrants entering the commune in 1990 and 1999. Because we have two time periods, it is possible to control for a geographic fixed effect at the municipality level (see Table 6). Controlling for other contextual variables, the effect of the local immigrant share on the number of natives settling in a commune is significant and sizeable. For each additional standard deviation in the share of immigrants, the number of natives entering a commune is reduced by 10 percent. Although nonsignificant, the share of the immigrant population has, conversely, a positive impact on the number of immigrants moving into a commune.[12] These results suggest that the weak native flight effect initially measured while modeling out-migration is only part of the story; ethnic preferences seem to have a significant impact on movers' location choice. Nonetheless, these findings suffer from their aggregated nature and do not lend themselves to interpretation in terms of individual choice.

<TABLE 6 about here>

DISCUSSION AND CONCLUSIONS

This article is one of the first to measure effects of local ethnic composition on native and immigrant geographic mobility in France. Our estimation strategy puts forward the value of panel data and modeling compared to simple cross-sectional estimations. The correlation between immigrant concentration in some areas and French natives moving out of these areas becomes less pronounced and even loses its significance when we control for geographic heterogeneity. Conversely, immigrants' mobility (or more precisely their immobility) is highly associated with the presence of co-ethnics in their residential location. This ethnic clustering effect resists all variations in model specifications and its magnitude is considerable. All in all, only Hypothesis 2 is supported by our analyses.

What may explain the absence of French white flight? Does it reflect a greater degree of tolerance toward minority populations? This interpretation contradicts existing evidence on prejudice and racism in French society. Anti-immigrant sentiments experienced a steady rise during the period covered by our data. With the extreme right's growing popularity since the 1980s, immigration has become a crucial political issue. At the same time, a new generation of immigrants' descendants entered adulthood, marked by their experiences of racism and discrimination. The global climate covered by our data saw exacerbating intolerance toward minority populations.

Alternative explanations may draw on the relatively lower degree of ethnic segregation in France compared to the United States. Research links white flight dynamics to tipping points; few municipalities in France have high proportions of minorities, so it is possible the tipping-point threshold has not yet been reached.

On the other hand, the small and nonsignificant effect of the share of immigrants on natives' out-migration may stem from limitations of our data and, specifically, categorization issues. Unlike U.S. data, the French census only allows us to measure native flight, rather than rigorous white flight. The native category includes unidentified immigrant descendants whose share in the whole population is estimated around 10 percent since the 1980s (Borrel and Lhommeau

2010; Tribalat 1997). If their geographic mobility more closely resembles first-generation immigrants' patterns rather than natives without immigrant ascendants, our estimate may be biased downward, which may at least partly explain the nonsignificance of native flight in our models. Geographic categorization issues may also be at stake: because this study relies on data at the municipality level, we cannot dismiss the possibility that some native flight dynamics might be at play at a smaller contextual scale. Our analyses suggest otherwise, however, given that our findings are not sensitive to the definition of residential mobility.[13]

The absence of a French white flight effect provides support for more fundamental criticism of the white flight literature. This literature supposes that individual preferences are the driving forces of residential mobility—and consequently of segregation—and that measurement of a statistical association between local ethnic composition and the probability to move is an appropriate empirical assessment of this social fact. Our results show that although the white flight effect is perceptible in simple regression models, introduction of additional controls, specifically other observed and unobserved geographic characteristics, make it small and insignificant. These results put into perspective attempts to empirically detect white flight in quantitative data on individuals' place of residence. In such data, the empirical proof of (personal) motivations underlying mobility is invariably at risk of being invalidated once additional controls are included.

Analyses of relocation lend themselves more appropriately to interpretations in terms of preferences. In our case, it seems that the ethnic composition of neighborhoods where people happen to move (whatever the reason) does matter: natives tend to relocate to communes with a smaller proportion of immigrants. Nonetheless, investigating the effect of ethnic composition on relocation decisions requires data that track locational choice processes (e.g., all housing inquiries or visits). Data with specific information about neighborhood preferences may also be helpful. Finally, qualitative research on residential strategies is also valuable in understanding individual preferences in terms of neighborhood ethnic composition.

What about the ethnic clustering pattern that consistently appears in our analyses? What may explain the strong and resistant negative effect of the proportion of co-ethnics on immigrants' probability to move out? Some may argue that this finding is related to immigrants' increasing ethnic retention and their willingness to separate from mainstream society. Here again, this contradicts empirical findings on the desirability of integration within the immigrant population and their relatively rapid cultural assimilation (Safi 2008). Some research draws attention to mechanisms of solidarity that prompt ethnic groups to seek self-segregation to enhance ethnic social capital, especially in a context of widespread hostility and discrimination in the host society (Portes 1998). Glikman and Semyonov's (2012) comparative study shows, for example, that although preferences for ethnic neighbors explain a considerable share of Asians' concentration in European cities, perceived discrimination is a more influential factor underlying Muslim and African immigrants' segregation. Musterd and Vos (2007) also find very little evidence that immigrant groups themselves consciously strengthen the ethnic identity of their residential areas. Public debate tends to focus only on cultural factors of ethnic clustering (e.g., the search for religious homogeneity or the desire to maintain traditions and language), but academic literature also emphasizes the structural mechanisms at play (e.g., chain migration and ethnic networks, endogamous marriages and family relations, and ethnic businesses) (Fischer 1975, 1984, 1995; Logan et al. 2002).

Alternative explanations of the ethnic clustering pattern we observe may draw on the increasingly ethnicized structures of the French housing market. The period of observation in our data corresponds to important changes in immigrant occupancy of the public housing sector. Initially inaccessible to them, immigrant families began to access the public housing stock in substantial numbers only since the 1980s. These families, who were increasingly replacing male

guest workers, often had no other housing options. The proportion of natives living in public housing units was stable over the period (around 14 percent), but the proportion of immigrants increased from 24 percent in 1982 to 33 percent in 1999 (Verdugo 2011). The rise was most notable for sub-Saharan Africans (25 percent in 1982 versus 42 percent in 1999) (Fougère et al. 2013). Segregation of non-European immigrants in public housing has increased to such an extent that only in such neighborhoods can one find substantially more immigrants than natives (Barou 2002).

Some qualitative studies suggest that subsidized housing agencies practiced ethnoracial profiling of tenants, which may partly explain the increasing pattern of ethnic segregation within public housing (Tissot 2005). Ethnoracial assignment into public housing units may interact with specific socioeconomic constraints facing immigrant families. Middle-class natives may be able to reject the first housing offer (partly motivated by a location's ethnic composition), but immigrant families are more likely to be desperately in need of a place to live, and thus inclined to take the first offer even if it is in the least desirable neighborhood. Finally, housing discrimination in the private market can also lead immigrants to be more inclined to stay in public housing units once obtained. This is all the more true given that, in some cases, legal residency status and the opportunity to bring family members to France through family reunion procedures are increasingly conditioned by housing criteria.

Our study puts into perspective the validity of the traditional opposition between patterns of ethnoracial urban inequality in the United States and in France (and Europe more generally). Of course, the magnitude of segregation is not the same across the Atlantic and it is important to keep in mind the historical specificity of the black ghetto. However, depiction of the French urban landscape as a highly heterogeneous universe in which racial or ethnic categories have little social potency (Wacquant 2008) is not supported by our empirical analysis. Local social characteristics and individuals' socioeconomic status are not sufficient to explain patterns of natives' and immigrants' geographic mobility. Native flight dynamics are certainly minor, but ethnic preferences still exert effects on natives' relocation decisions. Moreover, the consistent pattern of ethnic clustering sheds light on some ethnically biased mechanisms of urban inequality that reinforce segmentation of the housing market in France. Our study suggests that, instead of exclusively focusing on individual explanations related to preferences and ethnoracial prejudice, research on residential mobility should be more attentive to structural explanations and seek appropriate data and methods to empirically investigate them. In France, research needs to draw on longitudinal data tracking residential mobility into and out of public housing units. Additional research is still needed on the settlement dynamics of recent waves of migrants as one major structural factor that may lead to increasing ethnic clustering in the urban landscape.

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Notes

1. The French republican model refuses to recognize any ethnic or racial differentiation in French society. It rejects ethnicity, culture, and religion as bases for political organization, claims-making, and even, historically, categories for official statistics (Simon 1998, 2010).

2. Ethnicity per se is not reported in any French public statistics survey. Only migration status (immigrant or native) can be found in census data. In this article, ethnicity refers more specifically to first-generation immigrants' country of birth.

3. Recent research has used experimental methods to assess racial or ethnic preferences in neighborhood choice net of other social factors (Emerson, Chai, and Yancey 2001; Krysan et al. 2009). These studies tend to show that whites' neighborhood preferences are not racially blind.

4. The comparison of French and U.S. indices suffers from many limitations related to geographic units and population definitions. In France, recently published indices use a geographic scale that is still too big in comparison with census tracts used in the United States. Moreover, indices are computed for ethnic groups in the United States, whereas they are obtained only for first-generation immigrants in France because no data are available on ethnicity. If French statistics on segregation included at least the second generation (which is almost as large as the first generation), the indices might be considerably greater (Rathelot 2012).

5. For more information, see the INSEE webpage about the EDP (http://www.insee.fr/fr/methodes/default.asp?page=sources/ope-adm-echantillon-edp.htm).

6. Communes represent the smallest administrative geographic subdivision and are governed by mayors. In big cities (Paris, Marseille, Lyon) we use the arrondissement rather than the commune because it is the smallest administrative unit available there. In this article, the term municipality is interchangeable with the French term commune.

7. IRIS (an acronym of "aggregated units for statistical information"; they contain between 1,800 and 5,000 inhabitants) are much more comparable to U.S. census tracts than are municipalities. INSEE (the French National Statistical Office) introduced this territorial division for dissemination of the 1999 population census. Unfortunately, it is only available since 1999.

8. Using a natural experiment design, data in Sweden and Denmark (Damm 2009; Edin, Fredriksson, and Aslund 2003) show that immigrants' initial location decisions are highly determined by the presence of their co-ethnics and that the proportion of co-ethnics in relocation neighborhoods has a lasting effect on subsequent mobility.

9. All contextual variables (except log of total population) are proportions (between 0 and 1). Therefore, the odds ratio should be interpreted as the impact of a variation from 0 to 1 (and not the increase of one percentage point). We computed variance inflation factors (VIF) to detect multicollinearity between contextual variables. All VIF are lower than three; multicollinearity does not seem to be an issue in our case.

10. We discuss results using random and fixed individual effects in the online supplement.

11. Unlike geographic mobility, location choice is very difficult to model with individual data. Ioannides and Zabel (2008), for example, used multinomial models, but their framework relies on strong microeconomic hypotheses. In addition, models of destination choice suffer from potentially considerable selection bias.

12. Note that the co-ethnic effect remains very difficult to measure within these aggregate models of moving out of and into French municipalities; it would necessitate reiterating the estimation for each ethnic group. Given that ethnic groups' subsamples are not sizeable enough, we would have a lot of municipalities with very few immigrant arrivals from a specific ethnic group and measurement errors would become very problematic.

13. We nevertheless acknowledge that all our definitions of residential mobility are based on a spatial conception of the urban landscape in which geographic distance is the primary reference. This framework ignores other patterns of segregation that have more to do with a city's urban structure, neighborhoods' connections, and the degree to which residential streets communicate. This urban infrastructure may have more of an effect than geographic distance on determining social interactions (Grannis 1998).

References

Alba, Richard D., John R. Logan, Brian J. Stults, Gilbert Marzan, and Wenquan Zhang. 1999. "Immigrant Groups in the Suburbs: A Reexamination of Suburbanization and Spatial Assimilation." *American Sociological Review* 64:446–60.

Aldrich, Howard E. and Roger Waldinger. 1990. "Ethnicity and Entrepreneurship." *Annual Review of Sociology* 16:111–35.

Barou, Jacques. 2002. *L'Habitat des Immigrés et de leurs Familles.* Paris: La Documentation française.

Bobo, Lawrence and Camille L. Zubrinsky. 1996. "Attitudes on Residential Integration: Perceived Status Differences, Mere In-Group Preference, or Racial Prejudice?" *Social Forces* 74:883–909.

Bonnet, François, Etienne Lalé, Mirna Safi, and Etienne Wasmer. 2011. "A la Recherche du Locataire "Idéal": du Droit aux Pratiques en Région Parisienne." *Regards Croisés sur l'Economie* 9:216–27.

Borjas, George J. 1992. "Ethnic Capital and Intergenerational Mobility." *Quarterly Journal of Economics* 107:123–50.

Borrel, Catherine and Bertrand Lhommeau. 2010. "Etre Né en France d'un Parent Immigré." *Insee Première* n°1287, Insee.

Boustan, Leah Platt. 2010. "Was Postwar Suburbanization 'White Flight'? Evidence from the Black Migration." *Quarterly Journal of Economics* 125:417–43.

Brandolini, Andrea and Timothy M. Smeeding. 2006. "Patterns of Economic Inequality in Western Democracies: Some Facts on Levels and Trends." *PS: Political Science and Politics* 39:21–26.

Card, David and John DiNardo. 2000. "Do Immigrant Inflows Lead to Native Outflows?" *American Economic Review* 90:360–67.

Card, David, Alexandre Mas, and Jesse Rothstein. 2008. "Tipping and the Dynamics of Segregation." *Quarterly Journal of Economics* 123:177–218.

Charles, Camille Zubrinsky. 2003. “The Dynamics of Racial Residential Segregation.” *Annual Review of Sociology* 29:167–207.

Clark, William. A. V. 1991. “Residential Preferences and Neighborhood Racial Segregation: A Test of the Schelling Segregation Model.” *Demography* 28:1–19.

Courgeau, Daniel. 1982. “Comparaison des Migrations Internes en France et aux Etats-Unis.” *Population* 37:1184–88.

Damm, Anna Piil. 2009. “Determinants of Recent Immigrants’ Location Choices: Quasi-Experimental Evidence.” *Journal of Population Economics* 22:145–74.

Dawkins, Casey J. 2004. “Recent Evidence on the Continuing Causes of Black-White Residential Segregation.” *Journal of Urban Affairs* 26:379–400.

Détang-Dessendre, Cécile, Florence Goffette-Nagot, and Virginie Piguet. 2008. “Life Cycle and Migration to Urban and Rural Areas: Estimation of a Mixed Logit Model on French Data.” *Journal of Regional Science* 48:789–824.

Duncan, Otis Dudley and Stanley Lieberson. 1959. “Ethnic Segregation and Assimilation.” *American Journal of Sociology* 64:364–74.

Edin, Per-Anders, Peter Fredriksson, and Olof Aslund. 2003. “Ethnic Enclaves and the Economic Success of Immigrants: Evidence from a Natural Experiment.” *Quarterly Journal of Economics* 118:329–57.

Ellen, Ingrid Gould. 2000. *Sharing America’s Neighborhood*. Cambridge, MA: Harvard University Press.

Emerson, Michael O., Karen J. Chai, and George Yancey. 2001. “Does Race Matter in Residential Segregation? Exploring the Preferences of White Americans.” *American Sociological Review* 66:922–35.

Fairlie, Robert W. and Alexandra M. Resch. 2002. “Is There White Flight Into Private Schools? Evidence from the National Educational Longitudinal Survey.” *Review of Economics and Statistics* 84:21–33.

Farley, Reynolds, Howard Schuman, Suzanne Bianchi, Diane Colasanto, and Shirley Hatchett. 1978. “Chocolate City, Vanilla Suburbs: Will the Trend Toward Racially Separate Communities Continue?” *Social Science Research* 7:319–44.

Farley, Reynolds, Charlotte Steeh, Maria Krysan, Tara Jackson, and Keith Reeves. 1994. “Stereotypes and Segregation: Neighborhoods in the Detroit Area.” *American Journal of Sociology* 100:750–80.

Fischer, Claude S. 1975. “Toward a Subcultural Theory of Urbanism.” *American Journal of Sociology* 80:1319–41.

Fischer, Claude S. 1984. *The Urban Experience.* (2nd ed)New York: Harcourt Brace Jovanovich.

Fischer, Claude S. 1995. “The Subcultural Theory of Urbanism: A Twentieth-Year Assessment.” *American Journal of Sociology* 101:543–77.

Fix, Michael and Raymond Jay Struyk. 1993. *Clear and Convincing Evidence: Measurement of Discrimination in America*. Washington, DC: Urban Institute Press.

Fougère, Denis, Francis Kramarz, Roland Rathelot, and Mirna Safi. 2013. “Social Housing and Location Choices of Immigrants in France.” *International Journal of Manpower* 34:56–69.

Frey, William H. 1979. “Central City White Flight: Racial and Nonracial Causes.” *American Sociological Review* 44:425–48.

Frey, William H. 1995. “Immigration and Internal Migration ‘Flight’ from U.S. Metropolitan Areas: Toward a New Demographic Balkanisation.” *Urban Studies* 32:733–57.

Gallot, Philippe, Elodie Leprévost, and Catherine Rougerie. 2011. “Prix des Logements Anciens et Loyers entre 2000 et 2010.” *Insee Première* n°1350, Insee.

Galster, George. 1988. “Residential Segregation in American Cities: A Contrary Review.” *Population Research and Policy Review* 7:93–112.

Galster, George. 1990. “White Flight from Racially Integrated Neighborhoods in the 1970s: The Cleveland Experience.” *Urban Studies* 27:385–99.

Galster, George. 1992. “Research on Discrimination in Housing and Mortgage Markets: Assessment and Future Directions.” *Housing Policy Debate* 3:637–83.

Garbaye, Romain 2005. *Getting Into Local Power: The Politics of Ethnic Minorities in British and French Cities*. Oxford: Blackwell.

Girard, Alain. 1971. “Attitudes des Français à l’Egard de l’Immigration Etrangère: Enquête d’Opinion Publique.” *Population* 26:827–76.

Glikman, Anya and Moshe Semyonov. 2012. “Ethnic Origin and Residential Attainment of Immigrants in European Countries.” *City & Community* 11:198–219.

Grannis, Rick. 1998. “The Importance of Trivial Streets: Residential Streets and Residential Segregation.” *American Journal of Sociology* 103:1530–64.

Guyon, Nina. 2012. “Residential Income Segregation: Empirical Evidence From France.” Working Paper, Sciences Po, Department of Economics, Paris, France.

Halaby, Charles N. 2004. “Panel Models in Sociological Research.” *Annual Review of Sociology* 30:507–544.

Hauser, Robert M. 1974. “Contextual Analysis Revisited.” *Sociological Methods & Research* 2: 365-75

Haute Autorité de Lutte contre les Discriminations et pour l’Egalité (HALDE). 2006. “La Discrimination dans l’Accès au Logement Locatif Privé.” *ASDO études*. Mai.

Iceland, John and Melissa Scopilliti. 2008. “Immigrant Residential Segregation in U.S. Metropolitan Areas, 1990–2000.” *Demography* 45:79–94.

Ihlanfeldt, Keith R. and Benjamin Scafidi. 2002. “Black Self-Segregation as a Cause of Housing Segregation: Evidence from the Multi-City Study of Urban Inequality.” *Journal of Urban Economics* 51:366–90.

Ioannides, Yannis M. and Jeffrey E. Zabel. 2008. “Interactions, Neighborhood Selection and Housing Demand.” *Journal of Urban Economics* 63:229–52.

Kritz, Mary M. and Douglas T. Gurak. 2001. “The Impact of Immigration on the Internal Migration of Natives and Immigrants.” *Demography* 38:133–45.

Krivo, Lauren J. and Robert L. Kaufman. 2004. “Housing and Wealth Inequality: Racial-Ethnic Differences in Home Equity in the United States.” *Demography* 41:585–605.

Krysan, Maria. 2002. “Whites Who Say They’d Flee: Who Are They, and Why Would They Leave?” *Demography* 39:675–96.

Krysan, Maria, Mick P. Couper, Reynolds Farley, and Tyrone A. Forman. 2009. “Does Race Matter in Neighborhood Preferences? Results from a Video Experiment.” *American Journal of Sociology* 115:527–59.

Krysan, Maria and Reynolds Farley. 2002. “The Residential Preferences of Blacks: Do They Explain Persistent Segregation?” *Social Forces* 80:937–80.

Lamy, Marie-Laurence, Yves Charbit, and Alain Girard. 1974. “Attitudes des Français à l’Egard de l’Immigration Etrangère: Nouvelle enquête d’opinion.” *Population* 29:1015–69.

Light, Ivan H. 2006. *Deflecting Immigration: Networks, Markets, and Regulation in Los Angeles*. New York: Russell Sage Foundation

Logan, John R., Richard D. Alba, and Wenquan Zhang. 2002. “Immigrant Enclaves and Ethnic Communities in New York and Los Angeles.” *American Sociological Review* 67:299–322.

Long, LarryH. 1988. *Migration and Residential Mobility in the United States*. New York: Russell Sage Foundation.

Long, Larry H., C. Jack Tucker, and William L. Urton. 1988. “Migration Distances: An International Comparison.” *Demography* 25:633–40.

Mairesse, Jacques and Nathalie Greenan. 1999. “ Using Employee Level Data in a Firm Level Econometric Study.” Pp. 489–514 in *The Creation and Analysis of Employer-Employee Matched Data*, edited by J. C. Haltiwanger, J. I. Lane, J. R. Spletzer, J. J. M. Theeuwes, and K. R. Troske. Amsterdam: Elsevier Science B.V.

Malchow-Møller, Nikolaj, Jakob Munch, Sanne Schroll, and Jan Skaksen. 2009. “Explaining Cross-Country Differences in Attitudes towards Immigration in the EU-15.” *Social Indicators Research* 91:371–90.

Massey, Douglas S. and Nancy A. Denton. 1985. “Spatial Assimilation as a Socioeconomic Outcome.” *American Sociological Review* 50:94–106.

Massey, Douglas S. and Nancy A. Denton. 1988. “The Dimensions of Residential Segregation.” *Social Forces* 67:281–315.

Massey, Douglas S. and Nancy A. Denton. 1993. *American Apartheid : Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.

Massey, Douglas S., Andrew B. Gross, and Kumiko Shibuya. 1994. “Migration, Segregation, and the Geographic Concentration of Poverty.” *American Sociological Review* 59:425–45.

Mayer, Nonna. 2002. “Les hauts et les bas du vote Le Pen 2002.” *Revue française de science politique* 52:505–520.

Moulton, Brent R. 1990. “An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Units.” *Review of Economics and Statistics* 72:334–38.

Munshi, Kaivan. 2003. “Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market.” *Quarterly Journal of Economics* 118:549–99.

Musterd, Sako and Sjoerd De Vos. 2007. “Residential Dynamics in Ethnic Concentrations.” *Housing Studies* 22:333–53.

Oberti, Marco. 2007. *L’Ecole dans la Ville: Ségrégation, Mixité, Carte Scolaire*. Paris: Presses de Sciences Po.

Organisation for Economic Co-operation and Development (OECD). 2010. *PISA 2009 Results: Overcoming Social Background – Equity in Learning Opportunities and Outcomes*, Vol. II (http://dx.doi.org/10.1787/9789264091504-en).

Oliver, Melvin L. and Thomas M. Shapiro. 1995. *Black Wealth/White Wealth: A New Perspective on Racial Inequality*. New York: Routledge.

Pais, Jeremy F., Scott J. South, and Kyle Crowder. 2009. “White Flight Revisited: A Multiethnic Perspective on Neighborhood Out-Migration.” *Population Research & Policy Review* 28:321–46.

Pan Ké Shon, Jean-Louis. 2009. “Ségrégation Ethnique et Ségrégation Sociale en Quartiers Sensibles.” *Revue Française de Sociologie* 50:451–87

Park, Robert E. and Ernest W. Burgess. 1921. *Introduction to the Science of Sociology*. Chicago: University of Chicago Press.

Peach, Ceri. 1996. “Does Britain Have Ghettos?” *Geographical Journal* 11:216–35.

Peach, Ceri. 1999. “London and New York: Contrasts in British and American Models of Segregation.” *International Journal of Population Geography* 5:319–47.

Portes, Alejandro. 1998. “Social Capital: Its Origins and Applications in Modern Sociology.” *Annual Review of Sociology* 24:1–24.

Préteceille, Edmond. 2009. “La Ségrégation Ethno-raciale a-t-elle Augmenté dans la Métropole Parisienne?” *Revue Française de Sociologie* 50:489–519.

Quillian, Lincoln. 1995. “Prejudice as a Response to Perceived Group Threat: Population Composition and Anti-Immigrant and Racial Prejudice in Europe.” *American Sociological Review* 60:586–611.

Quillian, Lincoln. 2002. “Why Is Black-White Residential Segregation So Persistent? Evidence on Three Theories from Migration Data.” *Social Science Research* 31:197–229.

Rathelot, Roland. 2012. “Measuring Segregation When Units Are Small: A Parametric Approach.” *Journal of Business & Economic Statistics* 30:546–53.

Renzulli, Linda A. and Lorraine Evans. 2005. “School Choice, Charter Schools, and White Flight.” *Social Problems* 52:398–418.

Rhein, Catherine. 1998. “Globalisation, Social Change and Minorities in Metropolitan Paris: The Emergence of New Class Patterns.” *Urban Studies* 35:429–47.

Robinson, William S. 1950. “Ecological Correlations and the Behavior of Individuals.” *American Sociological Review* 15:351–57.

Safi, Mirna. 2008. “The Immigrant Integration Process in France: Inequalities and Segmentation.” *Revue Française de Sociologie, English Issue* 49:3–44.

Safi, Mirna. 2009. “La dimension spatiale de l’intégration: évolution de la ségrégation des populations immigrées en France entre 1968 et 1999.” *Revue Française de Sociologie* 50:521–52.

Safi, Mirna and Patrick Simon. Forthcoming. “La mesure des discriminations ethniques et raciales: représentations, expériences subjectives et situations vécues.” *Economie et Statistique*.

Sampson, Robert J., Jeffrey D. Morenoff, and Thomas Gannon-Rowley. 2002. “Assessing ‘Neighborhood Effects’: Social Processes and New Directions in Research.” *Annual Review of Sociology* 28:443–78.

Schelling, Thomas C. 1969. “Models of Segregation.” *American Economic Review* 59:488–93.

Semyonov, Moshe, Anya Glikman, and Maria Krysan. 2007. “Europeans’ Preference for Ethnic Residential Homogeneity: Cross-National Analysis of Response to Neighborhood Ethnic Composition.” *Social Problems* 54:434–53.

Semyonov, Moshe, Anastasia Gorodzeisky, and Anya Glikman. 2012. “Neighborhood Ethnic Composition and Resident Perceptions of Safety in European Countries.” *Social Problems* 59:117–35.

Semyonov, Moshe, Rebeca Raijman, and Anastasia Gorodzeisky. 2006. “The Rise of Anti-Foreigner Sentiment in European Societies, 1988–2000.” *American Sociological Review* 71:426–49.

Simon, Patrick. 1998. “Nationalité et Origine dans la Statistique Française.” *Population* 53:541–67.

Simon, Patrick. 2010. “Statistics, French Social Sciences and Ethnic and Race Relations.” *Revue Française de Sociologie, English Issue* 51:159–74.

South, Scott J. and Kyle D. Crowder. 1998. “Leaving the ‘Hood’: Residential Mobility between Black, White, and Integrated Neighborhoods.” *American Sociological Review* 63:17–26.

South, Scott J., Kyle Crowder, and Erick Chavez. 2005. “Migration and Spatial Assimilation among U.S. Latinos: Classical versus Segmented Trajectories.” *Demography* 42:497–521.

Tissot, Sylvie. 2005. “Une Discrimination Informelle? Usage du Concept de Mixité Sociale dans la Gestion des Opérations de Logement HLM.” *Actes de la Recherche en Sciences Sociales* 159:54–69.

Tribalat, Michèle. 1997. “Chronique de l’Immigration: les Populations d’Origine Etrangère en France Métropolitaine.” *Population* 52:163–219.

van Zanten, Agnès. 2001. *L’Ecole de la Périphérie: Scolarité et Ségrégation en Banlieue*. Paris: Puf.

Verdugo, Gregory. 2011. “Public Housing and Residential Segregation of Immigrants in France, 1968–1999.” *Population* 66:169–94.

Vigdor, Jacob L. 2003. “Residential Segregation and Preference Misalignment.” *Journal of Urban Economics* 54:587–609.

Wacquant, Loïc. 1992. “Banlieues Françaises et Ghetto Noir Américain: de l’Amalgame à la Comparaison.” *French Politics, Culture & Society* 10:81–103.

Wacquant, Loïc. 2008. *Urban Outcasts: A Comparative Sociology of Advanced Marginality*. Cambridge, UK: Polity Press.

White, Michael J. and Zai Liang. 1998. “The Effect of Immigration on the Internal Migration of the Native-Born Population, 1981-1990.” *Population Research & Policy Review* 17:141–66.

Yinger, John. 1976. “Racial Prejudice and Racial Residential Segregation in an Urban Model.” *Journal of Urban Economics* 3:383–96.

Zavodny, Madeline. 1999. “Determinants of Recent Immigrants’ Locational Choices.” *International Migration Review* 33:1014–30.

Zhou, Min. 1992. *Chinatown: The Socioeconomic Potential of an Urban Enclave*. Philadelphia: Temple University Press.

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Table 1. Description of French Communes in 1990

	Unit: Commune			Unit: Individual		
	All Sizes	Less than 10,000 inh.	More than 10,000 inh.	All Sizes	Less than 10,000 inh.	More than 10,000 inh.
Number	28,795	27,941	854	322,759	170,818	151,941
Population						
Mean	1,918	985	32,452	35,885	2,822	73,056
P10	144	144	11,092	550	332	13,912
P25	252	248	13,516	1,693	720	21,669
P50	512	489	19,957	8,160	1,860	42,744
P75	1,144	1,044	35,342	40,221	4,316	99,281
P90	2,998	2,356	60,616	123,552	7,090	187,632
Share of Immigrants						
Mean	.042	.039	.125	.090	.053	.130
Mobility Rate						
Mean	.266	.263	.352	.318	.275	.366

P10 stands for the 10th percentile, P25 the 25th percentile, P50 the median, P75 the 75th percentile and P90 the 90th percentile.

Table 2. Logit Models of Geographic Mobility for Natives and Immigrants

		Natives		Immigrants	
		Odds Ratios	SE	Odds Ratios	SE
Education/No Education					
	Primary school certificate	1.058***	.012	1.018	.040
	Lower secondary school diploma	1.237***	.017	1.143*	.068
	Vocational high school	1.191***	.013	1.151***	.046
	High school	1.582***	.023	1.345***	.076
	College	1.653***	.026	1.551***	.088
Occupation/Blue Collar[a]					
	Farmer	.449***	.012	.835	.126
	Craftsman or retail trader	1.472***	.025	1.346***	.085
	Manager	1.495***	.027	1.396***	.104
	Intermediate professions	1.379***	.018	1.402***	.080
	Office worker	1.252***	.015	1.184***	.052
	Unemployed (has never worked)	.723***	.030	1.185	.140
	Non-working (has never worked)	.928*	.034	.994	.097
	Currently unemployed	1.145***	.019	1.075	.049
	Currently non-working	1.332***	.050	1.057	.105
	Still studying	1.482***	.026	1.035	.073
Family Situation/Single without Children					
	Single with children	.969	.017	1.011	.073
	Married without children	1.117***	.017	1.028	.051
	Married with one or two children	.707***	.011	.734***	.033
	Married with more than two children	.729***	.016	.600***	.036
	Divorced or widowed without children	1.386***	.027	1.283**	.101
	Divorced or widowed with children	1.152***	.024	.957	.080
	Undeclared without children	1.127**	.047	1.105	.143
	Undeclared with children	.858**	.046	.596***	.089
Immigrant Origin/Algeria					
	Western Europe			1.118	.071
	Eastern Europe			.924	.064
	Spain			1.016	.058
	Italy			.913	.051
	Portugal			1.018	.050
	Sub-Saharan Africa			1.904***	.116
	Cambodia–Laos–Vietnam			1.665***	.115
	Morocco			.822*	.063

	Tunisia			.851*	.061
	Turkey			1.030	.084
Other Individual Characteristics					
	Women	.903***	.008	.848***	.028
	Age at *t*	.861***	.002	.912***	.007
	Age square at *t*	1.001***	.000	1.001***	.000
	Between 1990 and 1999	1.353***	.016	.906*	.035
	Homeownership in *t*	.465***	.004	.583***	.089
Contextual Characteristics at the Municipality Level					
	Unemployment rate	1.006	.006	1.028	.021
	Share of managers	1.177***	.012	1.182***	.024
	Share of subsidized housing	1.103***	.013	.995	.020
	Share of dropouts	.969***	.007	1.042	.026
	Log of total population	.870***	.014	.775***	.026
For Municipalities > 10,000 Inhabitants					
	Share of immigrants	1.127***	.015	1.162***	.030
	Share of co-ethnics (for immigrants)			.812***	.022
For Municipalities < 10,000 Inhabitants					
	Share of immigrants	1.032***	.009	.996	.026
	Share of co-ethnics (for immigrants)			.896***	.020
N		569,569		41,917	
Pseudo *R*-sq		.17		.12	

[a]We use categories from the French PCS (Professions et Catégories Socioprofessionnelles) occupational nomenclature. Intermediate professions mainly include teachers and technicians.
*p < .05; **p < .01; ***p < .001 (two-tailed z-tests).

Table 3. Influence of Local Ethnic Composition on the Probability of Moving in the Next Period, Controlling for Geographic Fixed Effects

	(1)		(2)		(3)	
	Coef.	SE	Coef.	SE	Coef.	SE
Communes > 10,000 Inhabitants						
Natives						
Share of immigrants	.040	.034	–.004	.046	.02	.05
Immigrants						
Share of immigrants	.005	.040	.149	.138	–.03	.06
Share of co-ethnics	–.234***	.023	–.236***	.030	–.34***	.03
Communes < 10,000 Inhabitants						
Natives						
Share of immigrants	.018	.022				
Immigrants						
Share of immigrants	–.042	.038				
Share of co-ethnics	–.112***	.024				
Commune FE	Yes		Yes, interacted with immigrant dummy		Yes	
Individual Heterogeneity	No		No		Random Effects	
Communes' Sample	All		> 10,000 inhabitants		> 10,000 inhabitants	
N	583,266		287,844		288,442	
Pseudo *R*-Sq	.1		.05		.05	

*p < .05; **p < .01; ***p < .001 (two-tailed z-tests).

Table 4. Heterogeneity of Results across Subpopulations

	Native Flight Effect				Ethnic Clustering Effect	
	Natives		Immigrants		Immigrants	
	Coef.	SE	Coef.	SE	Coef.	SE

Model 1. Interaction Effects with Occupations						
Managers	.017	.037	–.098	.091	.101	.119
Blue Collar	.045	.035	.028	.046	–.220***	.037
Other Occupations	.043	.034	.000	.042	–.231***	.029
Model 1. Interaction Effects with Age						
Younger than 55 Years	.018	.034	.013	.041	–.240***	.025
Older than 55 Years	.205***	.036	–.007	.059	–.302***	.066

*p < .05; **p < .01; ***p < .001 (two-tailed z-tests).

Table 5. Testing Different Definitions of Residential Mobility

			Tobit Model				Multinomial Logit			
	Ordered Probit		Moving Out		Distance		Within Commune		Between Communes	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Natives										
Share of immigrants	.029	.022	.015	.024	.082	.050	.036	.063	.045	.049
Immigrants										
Share of immigrants	–.011	.025	–.007	.027	–.150*	.059	–.022	.067	.023	.055
Share of co-ethnics	–.142***	.012	–.129***	.013	–.205***	.038	.092***	.034	–.227***	.036

*p < .05; **p < .01; ***p < .001 (two-tailed z-tests).

Table 6. Moving into French Communes (Coefficients on the Standardized Share of Immigrants)

	Natives		Immigrants	
	Coeff.	SE	Coeff.	SE
Moving In (log)				
Less than 10,000 inh.	–.001	.011	–.021	.053
More than 10,000 inh.	–.097*	.047	.076	.059
N	34,833		4,823	

*p < .05; **p < .01; ***p < .001 (two-tailed z-tests).

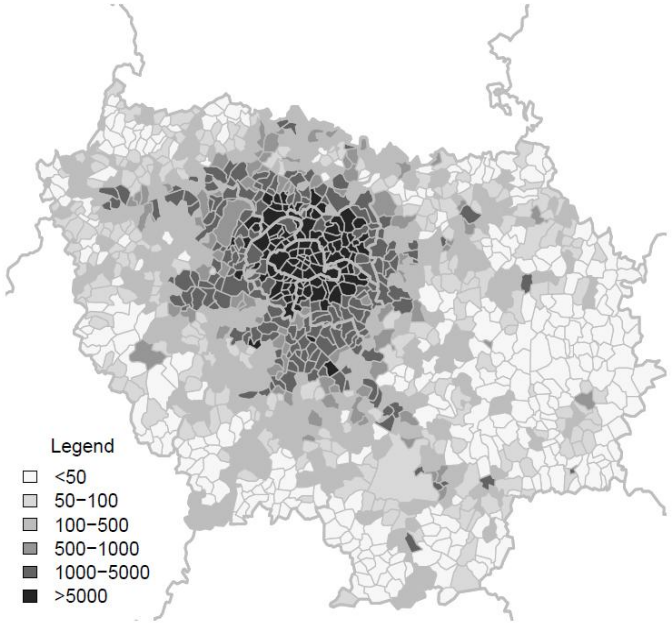

Figure 1. Population Density in Ile-de-France Communes in 1990 (inhabitants per km^2)
Source: French census (INSEE) 1990.

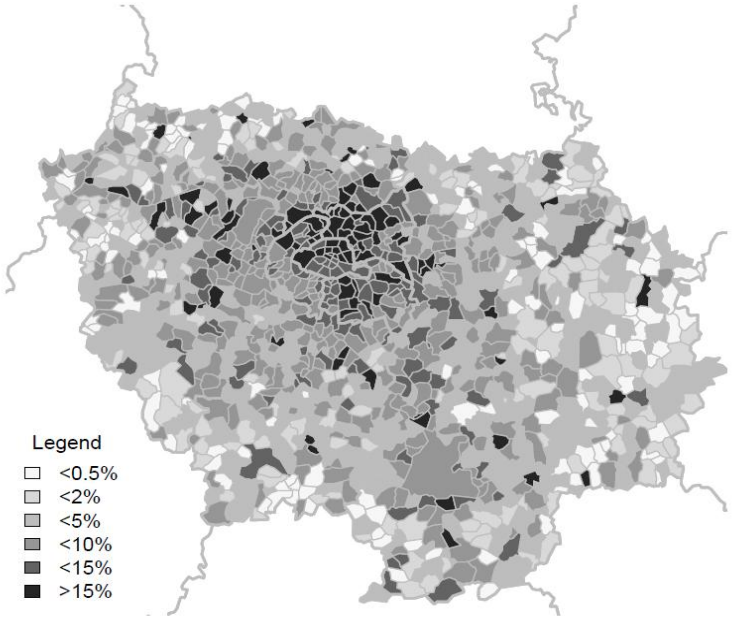

Figure 2. Proportion of Immigrants in Ile-de-France Communes in 1990
Source: French census (INSEE) 1990.