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Pioneers of Gentrification: Transformation in Global Neighborhoods in Urban America in the Late Twentieth Century

Jackelyn Hwang[1]

Abstract Few studies have considered the role of immigration in the rise of gentrification in the late twentieth century. Analysis of U.S. Census and American Community Survey data over 24 years and field surveys of gentrification in low-income neighborhoods across 23 U.S. cities reveal that most gentrifying neighborhoods were "global" in the 1970s or became so over time. An early presence of Asians was positively associated with gentrification; and an early presence of Hispanics was positively associated with gentrification in neighborhoods with substantial shares of blacks and negatively associated with gentrification in cities with high Hispanic growth, where ethnic enclaves were more likely to form. Low-income, predominantly black neighborhoods and neighborhoods that became Asian and Hispanic destinations remained ungentrified despite the growth of gentrification during the late twentieth century. The findings suggest that the rise of immigration after 1965 brought pioneers to many low-income central-city neighborhoods, spurring gentrification in some neighborhoods and forming ethnic enclaves in others.

Keywords Gentrification · Immigration · Race and ethnicity · Multiethnic neighborhoods · Enclave

Introduction

Although several studies have examined the causes of gentrification, few have considered the role of immigration in the early wave of gentrification that took place in the

✉ Jackelyn Hwang
    jihwang@princeton.edu

[1] Office of Population Research, Princeton University, 261 Wallace Hall, Princeton, NJ 08544, USA

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United States in the last quarter of the twentieth century. *Gentrification* is a process by which low-income central-city neighborhoods experience investment and renewal accompanied by an in-migration of middle- and upper-middle-class residents (Smith 1998:198).[1] Thus, gentrification is broadly a process of neighborhood selection—not only by relatively well-off individual households but also by developers, businesses, and institutions—that results in the physical, demographic, and cultural transformation of a low-income area into a higher-value, middle- or upper-class neighborhood.

There are a number of reasons to believe that the influx of immigrants following the passage of the 1965 Hart-Celler Act, which eased immigration restrictions, influenced the development of gentrification. The rise of predominantly Asian and Hispanic immigrants to central cities in the United States beginning in 1968, when the new immigration laws became effective, preceded the rise of gentrification in U.S. cities that occurred in the late 1970s and 1980s (Hackworth and Smith 2001).[2] Ethnographic accounts of neighborhoods that began gentrifying during this time indicate that Hispanic and Asian immigrant groups were present prior to the influx of middle-class residents. These include well-known examples of gentrified neighborhoods, such as Brooklyn's Williamsburg (Susser 1982), Manhattan's Lower East Side (Mele 2000), and Chicago's Wicker Park (Lloyd 2006).

New immigrants repopulated areas that lost population as a result of deindustrialization and suburbanization and established commercial businesses in affordable and vacant storefronts (Lin 1998; Muller 1993; Wilson 1987; Winnick 1990). Some of these neighborhoods eventually became established ethnic enclaves,[3] which have only begun to face gentrification pressures in recent decades as gentrification became rapid and widespread (Hackworth and Smith 2001; Hum 2014; Wilson and Grammenos 2005); however, the neighborhoods to which most of these immigrants arrived were not traditional ethnic enclaves at the time, even in traditional immigrant destination cities (Waldinger 1989). Many settled in affordable areas that were previously white and middle class, and others settled in affordable areas that were predominantly black and low income (Bogen 1987; Oliver and Johnson 1984; Waldinger 1989). Through this demographic renewal, new immigrants revitalized declining areas by increasing housing demand in emptying neighborhoods and populating previously vacant residences and commercial storefronts (Winnick 1990), thereby creating more desirable economic and social neighborhood conditions that could attract gentrification.

The influx of primarily Asian and Hispanic immigrants also altered the racial and ethnic composition of these neighborhoods in ways that are consistent with evidence documenting the race-based residential preferences of gentrifiers during this period. Accounts of the early wave of gentrification have described gentrifiers' aversion to living in predominantly minority, particularly black, neighborhoods (Laska and Spain 1980; Smith 1996; Smith and Williams 1986), and others have depicted gentrifiers'

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[1] For this study, I employ this working definition and conceptualize gentrification as a phenomenon that occurs at the neighborhood-level within central urban areas. See Brown-Saracino (2010) for alternative definitions.

[2] Evidence of gentrification in U.S. cities dates back to the 1950s, but this period of gentrification was slow, sporadic, and generally isolated to a few neighborhoods in northeastern cities (Hackworth and Smith 2001).

[3] I use the term *ethnic enclave* to refer to the residential concentration of an ethnic group and make no assumptions about the socioeconomic status of the area (c.f. Logan et al. 2002) or the structure of the local economy (c.f. Waldinger 1993).

affinity toward racial and ethnic diversity and distaste for the homogeneous character of the suburbs (Brown-Saracino 2009; Lloyd 2006; Zukin 1987). Thus, the racial and ethnic compositional changes that the influx of Asians and Hispanics brought to neighborhoods were more likely to satisfy gentrifiers' preferences.

Although these observations suggest that the influx of Asians and Hispanics to urban neighborhoods resulting from post-1965 immigration is associated with gentrification, studies of the early wave of gentrification across multiple neighborhoods and cities—like most past studies on racial and ethnic change—used basic race categories, such as predominantly white, predominantly minority, or racially mixed, and rarely considered race groups beyond blacks and whites (Logan and Zhang 2010). As a result, these studies have overlooked the importance of immigration in the development of gentrification. The goal of this article is to document the relationship between the presence of Asians and Hispanics in the period following 1965 and the subsequent early wave of gentrification. In the following section, I bridge research on gentrification with literature on immigration, multiethnic neighborhoods, and segregation to develop hypotheses for examining this relationship.

How Immigration Influenced Early Gentrification

In the wake of large population declines in U.S. cities, both gentrifiers and new immigrants settled in low-income, affordable neighborhoods during the 1970s and 1980s, yet analyses of these two processes together is rare. While new immigrants concentrated near central business districts, sometimes revitalizing ethnic enclaves in traditional immigrant gateways or forming new ones, they also settled in a diversity of other low-cost areas: the suburbs; central-city areas that whites had fled; and low-income, predominantly black neighborhoods (Bogen 1987; Oliver and Johnson 1984; Waldinger 1989). Early gentrification also concentrated in and around central business districts, but it exhibited significant variation within these areas, which scholars have attributed to gentrifiers' tastes, investment calculations, and the availability of low-cost housing (Zukin 1987). Although studies have not systematically examined the relationship between immigration and early gentrification, the literatures on Asian and Hispanic immigration during this period and residential selection preferences of gentrifiers provide insight into how the influx of immigrants to low-cost central-city neighborhoods may have influenced gentrification.

The new rise of Asians and Hispanics during the 1970s provided a "demographic renewal" to older, inner-city neighborhoods that had fallen out of favor and undergone population declines (Muller 1993; Winnick 1990). Many of these neighborhoods were marked by low residential and commercial rents and high vacancy rates, which provided opportunities for affordable housing and entrepreneurship (Lin 1998; Winnick 1990). Consequently, they stabilized and spurred local economic growth by creating demand for local services, establishing their own enterprises, and replenishing demand in local housing markets (Lin 1998; Muller 1993; Vigdor 2014). This revitalization of declined neighborhoods by immigrants did not necessarily result in the influx of higher-class residents and investment that characterizes gentrification, as defined earlier; but by stabilizing relatively low-cost, declining neighborhoods through filling vacancies and stimulating the local economy and housing market, the influx of Asians

and Hispanics improved the social and economic conditions of these areas, potentially increasing their desirability to gentrifiers. This suggests the following hypothesis:

Hypothesis 1: Neighborhoods with more Asians or Hispanics are more likely to gentrify than neighborhoods with less Asians or Hispanics, respectively.

The rise of Asians and Hispanics also changed the racial and ethnic compositions of the central-city neighborhoods in which they settled. Although recent gentrification is often associated with its location in previously minority neighborhoods, early gentrification primarily did not take place in predominantly black neighborhoods, even when they had similar building and price characteristics to other areas that eventually gentrified (Laska and Spain 1980; Smith 1996; Smith and Williams 1986; for an exception, see Gale 1979). Moreover, some accounts have characterized gentrifiers as having distinct tastes for diversity and racial integration, in opposition to the homogeneous suburbs, and have documented how real estate actors and other stakeholders marketed such diversity to attract gentrifiers (Brown-Saracino 2009; Lloyd 2006; Mele 2000; Zukin 1987). Therefore, the presence of Asians and Hispanics in central-city neighborhoods may have also made neighborhoods more favorable to gentrifiers relative to both homogeneously white and predominantly black neighborhoods where these groups were absent. Therefore, in addition to the first hypothesis, I also expect the following:

Hypothesis 2: Neighborhoods with Asians or Hispanics are more likely to gentrify than both predominantly black and predominantly white neighborhoods with few or no Asians or Hispanics.

However, other studies have suggested that the share of minorities that gentrifiers favor for such diversity is limited (Bader 2011; Berrey 2005; Gale 1979; Hwang and Sampson 2014). Survey evidence on the residential preferences of the general population has found that people prefer integrated neighborhoods but favor white neighbors the most, black neighbors the least, and Asian over Hispanic neighbors in the middle (Charles 2003). Thus, in contrast to Hypothesis 2, this literature suggests the following alternative:

Hypothesis 2a: Neighborhoods with Asians or Hispanics are more likely to gentrify than predominantly black neighborhoods but less likely to gentrify than predominantly white neighborhoods.

Further, when gentrifiers are white, which is most often the case (Ellen and O'Regan 2011; Freeman 2005; Gale 1979), a buffering process may also occur; that is, whites may be willing to live in the same neighborhoods with blacks after Asians and/or Hispanics are present to relieve black-white racial tensions (Farley and Frey 1994). This pattern is consistent with prior studies documenting a racial order in residential preferences and also suggests a moderating effect of Asians and Hispanics in neighborhoods with greater shares of blacks:

Hypothesis 3: The positive effects of Asians and Hispanics on the likelihood of gentrification are stronger in neighborhoods with greater shares of blacks compared with those with smaller shares of blacks.

In addition to being favored over Hispanics in surveys on race-based residential preferences, Asians generally garnered more economic and social capital relative to Hispanics among this new of immigrants. Asians had disproportionately higher levels of self-employment: many were highly educated but faced difficulty entering the labor market and could rely on alternative sources of capital (Godfrey 1988; Lee 2002; Light 1972). This leads to an additional hypothesis:

> *Hypothesis 4:* The positive effect of Asians on the likelihood of gentrification is greater than the effect of Hispanics.

Although many of the neighborhoods to which post-1965 immigrants settled neither were established ethnic enclaves nor became them, some enclaves formed as subsequent immigrants continued to concentrate in these areas (Bean et al. 1987; Waldinger 1989). Although ethnic enclaves often revitalized the social and economic conditions of neighborhoods, these neighborhoods rarely gentrified during the early gentrification of the late 1970s and 1980s (Wilson and Grammenos 2005).[4] Evidence from New York City suggests that Hispanic neighborhoods had strong organizational capacity that was able to maintain affordable housing (Winnick 1990), which may have prevented gentrification in neighborhoods with high levels of Hispanic growth, and the continued rapid growth of immigrants into these neighborhoods may have limited points of entry for gentrifiers as low-cost vacancies quickly disappeared. This literature offers the following hypothesis:

> *Hypothesis 5:* Gentrification is less likely in neighborhoods that serve as Asian or Hispanic enclaves than in neighborhoods that do not serve as such enclaves.

City-Level Contexts of Immigration and Race

Immigration flows, however, were unevenly spread between cities. Through the latter half of the twentieth century, immigration was largely concentrated in a handful of cities and expanded to a larger set of cities in later decades (Singer 2004). Hispanic enclaves generally only arose during the 1970s in cities with large post-1965 Hispanic growth (Massey and Denton 1987). The growth of Hispanic enclaves was also far more prevalent than Asian enclaves given the relatively lower presence of Asians in the United States at the time; consequently, new Asian immigrants often settled in other affordable urban neighborhoods instead (Massey and Denton 1987). This literature suggests that in cities that served as primary destinations for these groups, incoming Asians and/or Hispanics were more likely to move to enclave areas because these areas were more likely to exist in these cities. As a result, they were less likely to serve as pioneers in other low-income neighborhoods in these cities:

> *Hypothesis 6:* The positive effects of Asians and Hispanics on the likelihood of neighborhood gentrification are weaker in cities with large Asian and Hispanic

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[4] Enclaves sometimes attracted middle-class Asians and Hispanics (e.g., Logan et al. 2002; Portes 1987), but they did not necessarily experience the transformations associated with gentrification, as defined in this article, particularly among central-city neighborhoods during this period.

populations, respectively, compared with those with a small presence of these groups in the period following 1965.

Finally, cities also have varying levels of residential segregation that are dependent on the overall minority share and shape patterns of residential mobility and neighborhood change (Blalock 1967; Crowder et al. 2012; Massey and Denton 1993). Therefore, the extent to which the influx of immigrants makes neighborhoods more conducive to gentrification may be conditional on the existence of predominantly black neighborhoods as the main alternative low-cost residential option (Charles 2003; Smith 1996). Specifically, the influx of immigrants to low-cost neighborhoods in central cities with high shares of predominantly black neighborhoods may have had a stronger influence on the relative desirability of the neighborhoods they entered:

> *Hypothesis 7:* The positive effects of Asians and Hispanics on the likelihood of neighborhood gentrification are stronger in cities with large shares of blacks compared with those with low shares of blacks.

In assessing these hypotheses, I improve upon prior research in three ways. First, I offer the first systematic test of the relationship between early gentrification and post-1965 immigration, incorporating a key dimension missing from studies on gentrification. Second, I enhance understandings of this relationship by considering multiple racial and ethnic categories. Third, I take into account the broader racial and immigrant context of the cities in which neighborhoods gentrify.

Data and Methods

To identify gentrification, I use data from an influential large-scale neighborhood field survey conducted once in each of 23 U.S. cities by geographers Daniel Hammel and Elvin Wyly (hereafter, HW) (1996; Wyly and Hammel 1998, 1999, 2004) from 1994 to 2001. Table 1 lists the cities, which span a range of immigrant and racial compositions and degrees of gentrification. Given that gentrification requires preexisting economic disadvantage, HW considered census tracts to be gentrifiable if they were below the citywide median income level in 1960 for cities in the Northeast and Midwest, and in 1970 for cities in the South and West.[5] The different baseline years capture regional differences in the timing of urban decline and suburban expansion. HW documented visible evidence of gentrification based on structural improvements and new construction among the gentrifiable tracts and considered a tract to be gentrifying if it had a minimum of one improved structure on a majority of blocks and at least one block with at least one-third of its structures improved. They considered all other tracts to be

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[5] Only tracts below the citywide median were observed, which excludes many working-class neighborhoods in cities that experienced widespread economic decline. About 25 % of tracts below the national 1970 median income were not observed. Supplementary analysis using census-based gentrification measures (see Footnote 7) for these tracts yield similar results for Asians, and Hispanics are negatively associated with gentrification. Over 10 % of the additional tracts became Hispanic enclaves, for which none gentrified. Results are presented in Online Resource 1.

Table 1 List of surveyed cities and city-level categories

Cities	Asian Destination	Hispanic Destination	Black Presence
Atlanta	X		X
Baltimore			X
Boston	X	X	
Chicago	X	X	X
Cincinnati			X
Dallas	X	X	X
Denver		X	
Detroit			X
Fort Worth	X	X	
Indianapolis	X		
Kansas City	X		
Milwaukee			
Minneapolis-St. Paul			
New Orleans	X		X
Oakland	X	X	X
Philadelphia			X
Phoenix	X	X	
Saint Louis			X
San Diego	X	X	
San Francisco	X	X	
San Jose	X	X	
Seattle	X		
Washington, DC			X

ungentrified. Across the 23 cities, they coded 358 tracts as gentrifying and 1,729 tracts as not gentrifying; 2,953 were not gentrifiable.[6]

Although these surveys were conducted in 1994–2001, the gentrification that HW identified primarily captures the early gentrification of the late 1970s and 1980s, not its expansion during the late 1990s. The tracts that were gentrifying according to the survey had median household income increases, poverty rate declines, and stalled declines in their white populations beginning in the late 1970s and early 1980s (see Online Resource 1). Moreover, using Bostic and Martin's (2003) census-based strategy for identifying gentrification,[7] only 8 % of gentrifying tracts identified by HW were gentrifying in 1990–2000 and not in 1970–1990, and the main results are similar if I exclude these tracts from the analysis.

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[6] I exclude 24 tracts with missing housing data because of having very few housing units.

[7] This measure is based on discriminatory analysis comparing HW's field survey results with census variables. The measure considers tracts with the highest average rank for the following factors to be gentrifying: % college-educated at the end of the period (t_1); % with some college education (t_1); average household income ratio in t_1 to the beginning of the period (t_0); homeownership rate (t_1); % professionals (t_1); change in % ages 30–44 from t_0 to t_1; and % above poverty (t_1). They also included % black and % white nonfamily households, but I exclude these measures to avoid imposing assumptions of racial change for the purpose of the analysis.

Although the surveys are limited to a single observation in time, 23 U.S. cities, and tracts that were below citywide median income levels in 1960 or 1970, these measures are preferable to alternative strategies for identifying gentrification in large sample studies, such as using census-based or administratively based variables. Owens (2012) found that socioeconomic ascent based on census-based indicators commonly employed to identify gentrification captures various forms of neighborhood change, many of which are not inherent to the direct indicators of neighborhood upgrading associated with gentrification. Moreover, Barton (2014) demonstrated that Bostic and Martin's (2003) and Freeman's (2005) census-based strategies identify gentrification in distinct areas from both each other and well-known gentrifying areas identified in newspaper content. Wyly and Hammel (1999) also found that tracts that they identified as gentrifying correlated with expected socioeconomic census variables, but approximately 10 % of tracts were also incorrectly classified as gentrifying when using the same census variables to identify gentrification. Given that census data do not directly consider new construction and renovation or aesthetic and commercial changes that are better observed with the visible streetscape, it is not surprising that census variables can misidentify gentrification. Recognizing these issues, recent studies have used alternative indicators, such as filed building permits, home loans, and coffee shop counts (Helms 2003; Kreager et al. 2011; Papachristos et al. 2011), but these measures capture narrow aspects of gentrification, require time-intensive data collection efforts that limit cross-city comparisons, or rely on data that are not available for the time period of interest. Thus, the gentrification surveys provide the largest and most reliable existing dataset of early gentrification.

For the independent variables, I employ tract-level census data from 1970 to 2000 from the GeoLytics Neighborhood Change Database, harmonized to 2000 census tract boundaries to allow for comparisons across time for the same geographic areas, and American Community Survey (ACS) five-year estimates from 2005 to 2009, which use identical boundaries.[8] Only tracts with nonzero populations for all census years are included in the analysis to assess racial and ethnic transitions over time.

Publicly available tract-level census data do not distinguish the foreign-born population by their race and ethnicity prior to 2000. Most immigrants arriving soon after 1965 were Asian or Hispanic, and Puerto Ricans are not included in the foreign-born population. Percentage foreign-born and the combined percentage of Hispanics and Asians in the sample have correlations of .63, .75, .87, and .92 for 1970, 1980, 1990, and 2000, respectively.[9] In the results presented, I examine Asian and Hispanic populations, and I do not include a separate variable for nativity because these variables are highly collinear during this period. Online Resource 1 presents results examining

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[8] Gentrification surveys in eight of the 23 cities use 1990 tract boundaries. Although the majority of tract boundaries remained the same from 1990 to 2000, in tracts that were split into multiple tracts, I assigned the same gentrification category to all tracts; in tracts that were merged or where boundaries were revised, I assigned the gentrification category that comprised the majority of the spatial area.

[9] The 1970 census does not distinguish Hispanics by race group or Asians from Native Americans and "other race" groups. I employ Timberlake and Iceland's (2007) strategy to allocate Hispanics to racial categories based on the proportions of Hispanics identifying by each race in the tract in 1980 and to separate Asians from other groups based on the 1980 proportions of Asians among a combined category of Asians, Native Americans, and other races. I consider only those individuals who reported being a member of one racial/ethnic group in the 2000 census.

the foreign-born population instead of Asians and Hispanics, which generally reflect effect sizes in between the estimates presented for the two groups.

Because the gentrification surveys took place in various years, I construct linearly interpolated census variables for the survey year and the preceding 24 years. For example, I create interpolated census variables from 1970 to 1994 for cities observed in 1994 and from 1977 to 2001 for cities observed in 2001. Because 1970 is the earliest year for which census data harmonized to 2000 census boundaries is available, 24 years is the longest period for which the data span all 23 cities. This strategy allows me to assess the same length of time for each tract.[10] The final data set consists of 2,087 gentrifiable census tracts, whether each tract was gentrifying when HW observed it, and various census-based characteristics of these tracts over 24 years.

I first compare racial and ethnic compositions over time of gentrifying and nongentrifying census tracts. Then, I report results from logistic regression models predicting the likelihood of gentrification. The dependent variable in all models is whether a tract was gentrifying when HW observed it,[11] and I include only gentrifiable tracts in the analyses.[12] I test the effects of the Asian and Hispanic populations on gentrification 24 years prior to the surveys. Beginning 24 years prior to the surveys ensures that I capture racial and ethnic compositions across all the cities preceding the rise of gentrification during the late 1970s, with the latest baseline year being 1977.[13]

Control variables for all models presented are census-based measures at the baseline year. I include a variable for the share of blacks to control for the remaining variation in tracts' racial compositions.[14] Production-side perspectives on gentrification emphasize the importance of the available housing supply as a major factor predicting gentrification (Smith 1996). Thus, I control for residential stability (share of residents who have lived in their home for more than five years), homeownership rates, and vacancy rates. I also include a variable for the share of residents older than 65 years as an indicator for increased available housing in the future. In addition, I include poverty rates and logged median household incomes to control for preexisting socioeconomic differences between neighborhoods.[15]

Finally, I include city-level dummy variables to identify cities based on characteristics relevant to the literature reviewed earlier to test the hypotheses that the effects of Asians and Hispanics on gentrification may vary by city-level contexts of immigration

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[10] Models using 1970 or 1980 as baseline years with survey-year fixed effects yield similar results, which are presented in Online Resource 1, except that Hispanics had a negative effect in high-immigration cities only in 1980.

[11] HW distinguished between whether tracts showed early signs of gentrification or intense gentrification activity. Multinomial logistic regression models predicting gentrification levels show similar main results across levels except that the interaction effects occur only in intensely gentrifying tracts.

[12] I do not use a selection model because the goal of the analysis is to understand the determinants of gentrification among gentrifiable tracts, rather than to infer what neighborhoods would have experienced across the economic spectrum. Thus, there is no need to adjust for the fact that nongentrifiable tracts are excluded from the sample.

[13] Results for models examining tract characteristics 16 years prior to the survey (presented in Online Resource 1) are similar, except that Hispanics have a stronger and statistically significant negative effect on gentrification.

[14] Models with black and white population counts instead of percentages or percentage whites instead of blacks yield similar results.

[15] Consumption-side perspectives of gentrification emphasize characteristics of gentrifiers, such as education levels and professionals (Ley 1996), but these variables reflect ongoing gentrification, rather than predictors of subsequent gentrification, and therefore are not included.

and the relative black population size.[16] I categorize cities as Asian destinations if they had a growth in their foreign-born population from 1970 to 1980 and either a growth in Asians from 1970 to 1980 greater than the national average (133 %) or a share of Asians greater than the national average in both 1970 (0.8 %) and 1980 (1.5 %). I categorize cities as Hispanic destinations if that met similar criteria for Hispanics (1970–1980: 52.1 %; 1970: 4.4 %; 1980: 6.4 %). Last, I categorize cities with a ratio of non-Hispanic whites to blacks less than three as cities having a high presence of blacks.[17] Of the gentrifiable tracts, 29 % of tracts are over 95 % black in these cities, whereas only 4 % are over 95 % black in cities with a low presence of blacks. These categories are not mutually exclusive, which Table 1 shows.[18]

The preceding variables are included in the basic models to test the first and main hypothesis: that neighborhoods with more Asians or Hispanics are more likely to gentrify than those with less. I test the second hypothesis and its alternative, which compare neighborhoods with Asians or Hispanics with predominantly black and white neighborhoods, by including dummy indicators for tracts greater than 95 % black and 95 % white. These make up 18 % and 5.6 % of the sample, respectively. To test the third hypothesis—that the effect of Asians or Hispanics is stronger in neighborhoods with greater shares of blacks compared with those with lower shares of blacks—I include interaction terms between Asians and Hispanics with percentage black. I test Hypothesis 4—that the effect of Asians is greater than the effect of Hispanics—by testing differences in their coefficients in the main model. To examine ethnic enclaves for Hypothesis 5, I include dummy indicators for tracts greater than 40 % Hispanic and 40 % Asian by the gentrification survey year to identify enclaves, which make up 22 % of the sample.[19] I test the last two hypotheses, which posit differential effects of Asians and Hispanics depending on city-level characteristics, by including interaction terms between neighborhood-level Asian and Hispanic populations with dummy indicators for Asian and Hispanic destinations and cities with a substantial presence of blacks, respectively.

Results

Racial/Ethnic Composition and Gentrification

Table 2 displays averages of selected characteristics for tracts across all 23 cities starting 24 years prior to the gentrification field observations and up to the observation

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[16] The distinction between city contexts in the 1970s is most relevant for this analysis; thus, I do not use other common immigrant destination typologies, which focus on the timing of immigrant flows over the last century (e.g., Singer 2004).
[17] Models using continuous variables for the percentage change in Asians and Hispanics or the share of blacks in cities yield similar results.
[18] Models with city fixed effects produce similar results.
[19] I use a relatively higher threshold than other studies identifying enclaves with census data (Alba et al. 1997; Logan et al. 2002) because I include all Asians and Hispanics rather than specific ethnic groups. The results are similar with lower thresholds and nonlinear continuous terms, as described in the Results section. Over 40 % of tracts that met this threshold were in nongentrifiable tracts, indicating that many enclaves formed in higher-income areas or in areas that declined in later years. Results are similar from analysis of tracts that were low-income in 1970 or 1980 using census-based gentrification measures and are presented in Online Resource 1, except that Hispanics have a stronger and statistically significant negative effect on gentrification.

Table 2 Average neighborhood characteristics by gentrification categories over 24 years[a]

	24 Years Prior to Gentrification Field Survey, 1970–1977			16 Years Prior to Gentrification Field Survey, 1978–1985			8 Years Prior to Gentrification Field Survey, 1986–1993			Year of Gentrification Field Survey, 1994–2001		
	"Gentrifiable"		Not "Gentrifiable"	"Gentrifiable"		Not "Gentrifiable"	"Gentrifiable"		Not "Gentrifiable"	"Gentrifiable"		Not "Gentrifiable"
	Not Gentrifying	Gentrifying		Not Gentrifying	Gentrifying		Not Gentrifying	Gentrifying		Not Gentrifying	Gentrifying	
Racial, Ethnic, and Nativity Composition												
% non-Hispanic white	39.2	65.4	78.7	31.6	61.8	68.8	26.2	61.7	60.9	21.9	61.4	52.3
% black	47.2	22.3	15.0	49.9	23.1	21.4	51.0	22.4	25.6	50.6	20.6	29.2
% Hispanic	11.2	8.5	4.5	14.2	9.0	6.3	17.1	9.2	8.6	20.8	9.9	12.1
% Asian	0.9	1.9	0.7	2.2	3.0	1.8	4.8	5.6	4.2	5.9	7.3	5.8
% foreign-born	7.2	10.5	7.6	9.9	12.3	8.7	12.5	12.7	10.1	15.9	14.4	13.0
Population	3,635	3,210	3,894	3,272	2,899	3,904	3,153	2,955	3,991	3,136	3,142	4,169
Non-Hispanic white	1,306	2,119	2,982	1,005	1,844	2,604	845	1,865	2,390	710	1,952	2,157
Black	1,886	695	684	1,654	599	924	1,486	568	1,043	1,336	552	1,163
Hispanic	368	277	159	471	274	236	611	301	343	832	353	543
Asian	27	55	31	73	94	77	182	190	188	233	260	279
Foreign-born	232	351	310	326	381	350	453	428	428	635	521	603
Socioeconomic Characteristics												
Household income ($)	43,550	48,111	67,113	41,379	50,297	66,111	42,628	63,283	69,846	48,327	75,616	74,024
% below poverty	25.1	22.4	8.8	29.8	22.8	11.2	33.1	21.2	13.3	31.2	19.0	14.1
% college-educated	7.0	20.2	15.9	9.7	31.3	20.3	11.9	41.0	24.0	14.4	49.4	27.0
% in professional or managerial occupations	14.6	28.0	26.4	17.8	36.3	28.6	21.0	44.0	31.9	23.4	51.4	34.1
Residential Characteristics												
% same residence 5 years ago	49.5	38.4	51.4	52.1	37.8	53.8	50.7	35.3	53.6	51.0	34.8	53.7
% of units owned	39.4	27.4	61.9	36.5	21.1	59.6	36.1	22.8	58.0	37.1	26.2	58.1
% of units vacant	8.8	10.7	4.8	11.0	11.9	6.1	13.0	12.4	7.1	12.4	9.6	6.3
% over 65 years old	10.9	15.2	11.3	11.6	14.2	12.4	11.5	12.1	12.9	10.6	10.3	12.2

a Gentrification categories are based on Hammel and Wyly's field observations of "gentrifiable" tracts (retrieved from http://ibis.geog.ubc.ca/~ewyly/replication/gent.xls). "Nongentrifiable" tracts had median household incomes above the respective city's median income value in 1960 (for the Northeast and Midwest) and 1970 (for the South and West). All dollar values are in 2009 constant dollars. Data are linearly interpolated to the relevant year.

year. The tracts are separated by whether they were gentrifiable and also by whether HW observed gentrification in the gentrifiable tracts. Tracts that were gentrifying were in many ways distinct from their counterparts, even in the 1970s. Twenty-four years prior to the surveys, the average share of whites in subsequently gentrifying tracts was much higher than the average share in tracts that did not gentrify, and the average share of blacks in gentrifying tracts was much lower. Average population sizes by group show that the white population declined in the first period across all tracts, but gentrifying tracts had increases in subsequent periods. Both tracts that did not gentrify and gentrifying tracts had declining black populations, but tracts that did not gentrify had steeper declines in the years that followed the initial eight-year period.

The average share of Hispanics in gentrifying tracts was lower than in nongentrifying tracts but higher than in nongentrifiable tracts, and, notably, the average share of Asians and foreign-born residents in gentrifying tracts was higher than tracts in *both* other categories. All tracts had substantial Asian, Hispanic, and foreign-born population growth, but gentrifying tracts had much smaller increases in both the share and size of Hispanics and immigrants. Compared with tracts that did not gentrify and nongentrifiable tracts, the percentage of whites, Hispanics, and blacks remained stable in gentrifying tracts. Altogether, these trends suggest that gentrification is associated with higher initial levels of Asians and foreign-born residents, an increase of Asians, the mitigated increase of Hispanics and foreign-born residents, and stalled declines for white and black populations.

Despite the racial, ethnic, and nativity differences at baseline, household incomes and poverty levels were generally similar among gentrifiable tracts but substantially different from tracts that were not gentrifiable. Over time, the socioeconomic gaps between tracts that were gentrifying and those that were not grew substantially, as incomes increased among gentrifying tracts and poverty rates increased among tracts that were not gentrifying. Moreover, gentrifying tracts had greater shares of highly educated and professional/managerial residents—characteristics often associated with gentrifiers—which suggests that gentrification may have already begun in these tracts. However, they also had lower residential stability and homeownership rates and higher vacancy rates and shares of elderly residents—characteristics often associated with the stage prior to gentrification. In addition, gentrifying tracts had increases in income and college-educated and professional/managerial residents and decreases in homeownership during the first eight years, despite average declines in their white populations.

Multiethnic Neighborhoods and Gentrification

I further investigate the racial and ethnic differences between tracts that were gentrifying and those that were not by categorizing tracts by their racial and ethnic compositions and comparing their likelihoods of gentrification. Following Logan and Zhang's (2010) analysis of racial and ethnic transitions in multiethnic neighborhoods, I categorize each tract into one of 15 possible types: all white (W), all black (B), all Hispanic (H), all Asian (A), all six combinations with two groups present (WA, WB, WH, BH, BA, and HA), all four combinations with three groups present (WBA, WHA, WBH, and BHA), and all four groups present (WBHA). I determine the presence or absence of a racial/ethnic group using thresholds based on the relative share of the population at each time point and

within each city.[20] This classification scheme allows me to account for the varying presence of Asians and Hispanics over time and across cities. A 25 % criterion means that if the shares of whites and blacks in a city are 50 % and 20 %, respectively, a share of 12.5 % (25 % of 50 %) is required for whites to be considered present in a tract, and a share of 5 % (25 % of 20 %) is required for blacks to be considered present in a tract. The results presented use the 25 % criterion, but the general conclusions are consistent across threshold levels ranging from 10 % to 50 %. Online Resource 1 displays the average racial and ethnic composition of all tracts and results for each composition category across this range of thresholds.

Table 3 presents the percentage of tracts that were not gentrifying, the percentage of tracts that were gentrifying, and the probability of gentrification for each racial and ethnic category 24 years prior to the survey year and in the survey year. For example, 4.3 % of tracts that were not gentrifying and 16.2 % of tracts that were gentrifying were in the WHA category, and tracts in this category had a 43.9 % chance of gentrifying. Over 90 % of tracts that were gentrifying contained whites and either Hispanics or Asians 24 years prior to the surveys, and over 50 % of these tracts were "global" neighborhoods, having whites, blacks, and either Hispanics or Asians.[21] Although the trajectory of most low-income tracts is not gentrification, the probabilities of gentrification are highest in tracts with both whites and Asians (WHA, WBHA, WA, and WBA). By the survey, over 68 % of the gentrifying tracts were global neighborhoods, and another 28 % contained whites and either Hispanics or Asians. In contrast, low-income tracts that did not gentrify were predominantly WBH, BH, WH, and B at baseline, and global neighborhoods accounted for a far smaller share of these tracts. Seventy-nine percent and 22 % of nongentrifying tracts did not contain Asians or Hispanics, respectively, at baseline, compared with 51 % and 10 % of gentrifying tracts.

These descriptive results show that the majority of neighborhoods that were gentrifying began the period as global neighborhoods, and most were global by the end of the period. These patterns support prior findings that early gentrification took place in racially diverse neighborhoods (e.g., Freeman 2009), but they also highlight the importance of Asians and Hispanics in this racial and ethnic mix. Further, neighborhoods containing blacks were more likely to gentrify if they contained both whites and Asians.

Regression Results

I further investigate these relationships using regression analyses to account for baseline differences in the structural conditions of neighborhoods and differences across cities. Table 4 displays results predicting the likelihood of gentrification for Asians and

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[20] I use population shares rather than population thresholds because populations vary widely across the sample. I use relative, rather than fixed, threshold values to define neighborhood racial categories to account for the changing Hispanic and Asian populations over time and relative differences between cities. For similar reasons, I define racial categories based on the relative share within each city, in contrast with Logan and Zhang (2010), who constructed categories based on relative shares across their entire sample of high-immigration metropolitan areas.

[21] Even though Logan and Zhang (2010) described "global" neighborhoods as containing all four groups, I also include tracts with either Hispanics or Asians.

Hispanics 24 years prior to the surveys, using the logged populations for these groups.[22] These groups' population counts rather than percentages provide a better proxy for testing if their presence contributes to the economic and social conditions of neighborhoods that may increase the likelihood of gentrification in a neighborhood. I use the log-transformations of these measures because the Asian and Hispanic populations are highly skewed. Online Resource 1 presents similar main results using dummy variables indicating the presence of Asians and Hispanics based on the threshold categories presented earlier herein.

The first column in Table 4 presents results examining the likelihood of gentrification on the early Asian and Hispanic populations when I control only for the share of blacks. The results indicate that the Asian population is positively associated with early gentrification, whereas the Hispanic population and the share of blacks are negatively associated with it. Model 1 controls for preexisting residential and socioeconomic tract characteristics and city-level differences. Consistent with the first hypothesis that neighborhoods with more Asians or Hispanics are more likely to gentrify than those with less, the coefficient for Asians is positive and statistically significant. The estimates indicate that a one-unit increase in the logged Asian population (mean = 0.96; SD = 1.71) increases the odds of gentrification by 20 % ($e^{0.18}$ = 1.20). However, the negative coefficient for Hispanics is no longer statistically significant. Wald tests confirm that the difference between the Asian and Hispanic coefficients is statistically significant, which is consistent with the hypothesis that the effect for Asians is greater than for Hispanics (Hypothesis 4).

Model 2 assesses whether the Asian and Hispanic populations in neighborhoods make them more likely to gentrify than homogenously black or white neighborhoods (Hypotheses 2 and 2a). The results indicate that the Asian population still positively predicts gentrification and that predominantly black neighborhoods are negatively associated with gentrification; the association for predominantly white neighborhoods is positive but not significant. The results are similar when I exclude the share of blacks from the model. Thus, consistent with other findings that suggest a racial hierarchy by which neighborhoods gentrify, neighborhoods with more Asians are more likely to gentrify than predominantly black neighborhoods. Nonetheless, they are not necessarily less likely to gentrify than predominantly white neighborhoods.

Model 3 includes interaction terms with percentage black and Asian and Hispanic populations to test whether a moderating effect of Asians and Hispanics exists in neighborhoods with higher shares of blacks (Hypothesis 3). The coefficient for the Hispanic interaction term indicates that the effect of Hispanics on the likelihood of gentrification is greater in neighborhoods with greater shares of blacks. Figure 1 illustrates the predicted probabilities of gentrification by Asian and Hispanic population levels for tracts that are 10 %, 50 %, and 90 % black, holding all other control variables at their means. The three positive slopes in the upper plot indicate that Asians have a positive effect across all neighborhoods. Hispanics, however, have a positive effect in neighborhoods with high shares of blacks, as indicated by the

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[22] Results are similar for unlogged group population counts or percentages trimmed at the 5th and 95th percentiles. The negative effect of Hispanics, however, is statistically significant with these alternative specifications and not statistically different in high-immigration cities.

Table 3 Low-income tracts and gentrification outcomes by race and ethnic classification categories over 24 years

Racial and Ethnic Classification Category	24 Years Prior to Gentrification Field Survey, 1970–1977			Year of Gentrification Field Survey, 1994–2001		
	Not Gentrifying %	Gentrifying %	Probability of Gentrifying	Not Gentrifying %	Gentrifying %	Probability of Gentrifying
Whites (W)	1.2	1.4	20.0	0.1	0.6	66.6
Blacks (B)	14.9	1.4	1.9	20.2	0.6	0.6
Hispanics (H)	0.2	0.0	0.0	1.6	0.0	0.0
Asians (A)	0.1	0.3	33.3	0.2	0.3	25.0
Hispanics/Asians (HA)	0.1	0.0	0.0	0.4	0.0	0.0
Whites/Asians (WA)	0.8	2.2	36.3	1.5	6.1	45.8
Whites/Hispanics (WH)	16.6	20.4	20.2	2.7	3.1	19.3
Whites/Hispanics/Asians (WHA)	4.3	16.2	43.9	8.8	18.4	30.2
Blacks/Asians (BA)	2.5	0.8	6.5	4.0	0.3	1.4
Blacks/Hispanics (BH)	17.2	3.6	4.2	12.7	0.6	0.9
Blacks/Hispanics/Asians (BHA)	2.9	0.6	3.8	10.1	0.0	0.0
Whites/Blacks (WB)	1.5	1.4	16.1	1.9	2.0	17.5
Whites/Blacks/Asians (WBA)	1.0	2.8	35.7	2.5	8.9	42.1
Whites/Blacks/Hispanics (WBH)	27.8	23.2	14.7	7.3	4.2	10.6
Whites/Blacks/Hispanics/Asians (WBHA)	8.9	25.7	37.4	26.0	55.0	30.4
N	1,729	358		1,729	358	

Table 4 Logistic regression results predicting gentrification on Asian and Hispanic populations[a]

	No Controls	Asian and Hispanic Presence	Homogeneous Neighborhoods	× % Black	Ethnic Enclaves	× City Immigration Levels	× City Black Presence
	(0)	(1)	(2)	(3)	(4)	(5)	(6)
Asian Population (logged)	0.293**	0.179**	0.166**	0.201**	0.173**	0.053	0.231**
	(0.031)	(0.034)	(0.034)	(0.043)	(0.038)	(0.065)	(0.046)
Hispanic Population (logged)	−0.096*	−0.050	−0.085	0.003	0.073	0.040	−0.008
	(0.038)	(0.050)	(0.055)	(0.059)	(0.055)	(0.072)	(0.073)
% Black	−0.020**	−0.015**	−0.010**	−0.013**	−0.019**	−0.015**	−0.015**
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
% black × Asians				0.002			
				(0.001)			
% black × Hispanics				0.004**			
				(0.001)			
Predominantly Black (>95 %)			−1.590**				
			(0.463)				
Predominantly White (>95 %)			0.131				
			(0.301)				
Asian Enclave (>40 %)					−2.076**		
					(0.529)		
Hispanic Enclave (>40 %)					−1.949**		
					(0.295)		

Table 4 (continued)

	No Controls (0)	Asian and Hispanic Presence (1)	Homogeneous Neighborhoods (2)	× % Black (3)	Ethnic Enclaves (4)	× City Immigration Levels (5)	× City Black Presence (6)
City Types							
Asian destination		-0.160	-0.117	-0.132	-0.198	-0.264	-0.198
		(0.198)	(0.199)	(0.200)	(0.198)	(0.201)	(0.203)
Hispanic destination		0.143	0.229	0.220	0.432*	0.121	0.133
		(0.209)	(0.211)	(0.212)	(0.211)	(0.208)	(0.216)
Black presence		0.342*	0.340*	0.333*	0.350*	0.370*	0.439**
		(0.152)	(0.152)	(0.152)	(0.157)	(0.155)	(0.166)
Interactions With City Types							
Asian destination × Asians						0.160*	
						(0.074)	
Hispanic destination × Hispanics						-0.164†	
						(0.092)	
Black presence × Asians							-0.117†
							(0.069)
Black presence × Hispanics							-0.056
							(0.086)
AIC	1,688	1,495	1,483	1,489	1,424	1,491	1,495

[a] $N = 2,087$. Standard errors are shown in parentheses. All variables are 24 years prior to gentrification field surveys. Models 1–6 also include controls for median household income (logged), % below poverty, % same residents 10 years ago, homeownership rate, vacancy rate, and % over 65 years old. Interaction term variables are mean-centered.

† $p < .10$; * $p < .05$; ** $p < .01$ (two-tailed test)

positive slope of the darker line in the lower plot, but they have a negative effect in neighborhoods with fewer blacks.

In Model 4, I test whether neighborhoods that served as Asian and Hispanic enclaves were less likely to gentrify (Hypothesis 5). The results indicate that neighborhoods that became over 40 % Asian or over 40 % Hispanic by the survey year were far less likely to gentrify than neighborhoods that did not serve as primary destinations for these groups. The effects of the early Asian and Hispanic populations on the likelihood of gentrification remain similar to previous models. Models using alternative thresholds for enclaves show that the results are similar for neighborhoods as low as 9 % Asian and 5 % Hispanic by the survey year. Model specifications using nonlinear terms or excluding the baseline Asian and Hispanic population counts yield similar results.[23]

In all models presented thus far, the share of blacks is also negatively associated with the likelihood of gentrification, unsurprisingly, and neighborhoods in cities with high shares of blacks had higher likelihoods of gentrification than those with less. The coefficients for socioeconomic and residential characteristics are not shown, but all variables except poverty rates strongly predict the likelihood of gentrification in expected directions.[24]

Models 5 and 6 test whether the effects of Asians and Hispanics are weaker in cities with high levels of immigration or low shares of blacks, respectively (Hypotheses 6 and 7). Contrary to my hypothesis, the results in Model 5 indicate that the Asian effect is actually stronger in cities with high Asian growth; however, this interaction effect is absent in models using continuous measures for city-level characteristics. For Hispanics, though, the results confirm the hypothesis: the Hispanic population is negatively associated with neighborhood gentrification in cities with high Hispanic growth but is not associated with it in cities with no growth. Further inspection reveals cities with high Hispanic growth that did not have a substantial Hispanic population prior to 1965 drive these differences.[25]

In Model 6, the negative interaction term between the Asian population and the city-level black presence indicator shows that the positive effect of Asians on the likelihood of gentrification is actually weaker in cities with a substantial share of blacks, contrary to my hypothesis; however, these results are also absent using a continuous measure for the city-level characteristics. The early Hispanic population effect is similar across cities with varying shares of blacks.

In summary, the results are consistent with some hypotheses and not others and vary substantially between Asians and Hispanics. Table 5 presents a summary of findings pertaining to each hypothesis for each group. Consistent with the hypotheses, the early presence of Asians is positively associated with early wave gentrification. The early presence of Hispanics, on the other hand, shows no association with the likelihood of gentrification on average, and the results provide evidence that a hierarchy exists between Asians and Hispanics. Moreover, the early presence of Hispanics increased the probability of gentrification in neighborhoods with high shares of blacks but

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[23] Results from models examining the early growth of Asians and Hispanics are consistent with these findings and are presented in Online Resource 1.

[24] Tract-level income gains and poverty losses are also positively associated with gentrification, but the main results hold in models including these variables.

[25] I find no differences, however, in the effects of Hispanics in Puerto Rican gateways.
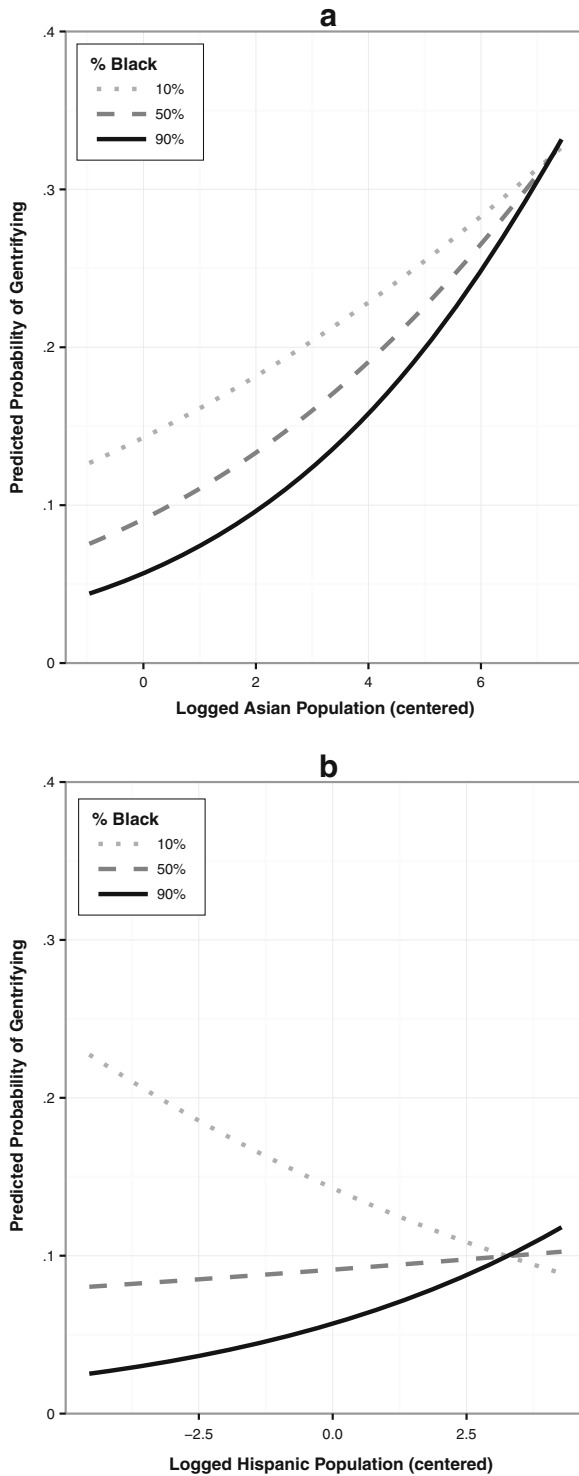
Fig.1 Predicted probabilities of gentrifying for (a) Asians and (b) Hispanics at various black composition levels

Table 5 Hypotheses and summary of results

	Asians	Hispanics
Hypothesis 1: Neighborhoods with more Asians or Hispanics are more likely to gentrify than neighborhoods with less Asians or Hispanics, respectively.	Yes	No
Hypothesis 2: Neighborhoods with Asians or Hispanics are more likely to gentrify than both predominantly black and predominantly white neighborhoods with few or no Asians or Hispanics.	No	No
Hypothesis 2a: Neighborhoods with Asians or Hispanics are more likely to gentrify than predominantly black neighborhoods but less likely to gentrify than predominantly white neighborhoods.	Yes, for black neighborhoods; no difference with white neighborhoods	Yes, for black neighborhoods; no difference with white neighborhoods
Hypothesis 3: The positive effects of Asians and Hispanics on the likelihood of gentrification are stronger in neighborhoods with greater shares of blacks compared with those with smaller shares of blacks.	No	Yes
Hypothesis 4: The positive effect of Asians on the likelihood of gentrification is greater than the effect of Hispanics.	Yes	n/a
Hypothesis 5: Gentrification is less likely in neighborhoods that serve as Asian or Hispanic enclaves than in neighborhoods that do not serve as such enclaves.	Yes	Yes
Hypothesis 6: The positive effects of Asians and Hispanics on the likelihood of neighborhood gentrification are weaker in cities with large Asian and Hispanic populations, respectively, compared with those with a small presence of these groups in the period following 1965.	No, the effect is stronger (but sensitive to models)	Yes
Hypothesis 7: The positive effects of Asians and Hispanics on the likelihood of neighborhood gentrification are stronger in cities with large shares of blacks compared with those with low shares of blacks.	No, the effect is weaker (but sensitive to models)	No

decreased the likelihood of gentrification in neighborhoods in cities with high Hispanic growth. For both groups, neighborhoods that served as residential enclaves were less likely to gentrify. Last, predominantly black neighborhoods were very unlikely to gentrify, but predominantly white neighborhoods were not particularly more likely to gentrify. These results are consistent with the notion that gentrifiers are attracted to some level of diversity, but they also reflect a racial hierarchy, suggesting a limit to such diversity.

Limitations

Although this study sheds light on the link between post-1965 immigration and early wave gentrification, the conclusions that I can draw about the causal role of the rise of immigrants on gentrification and the precise mechanisms linking them are limited. Publicly available census data do not distinguish socioeconomic status by nativity, race, ethnicity, or race and ethnicity by nativity before 2000. There are undeniably important distinctions within the broad foreign-born, Asian, and Hispanic categories that have implications for understanding the mechanisms linking these two processes. Although I draw from existing accounts of immigrants to central cities and early-wave gentrifiers in the period following 1965 to outline the probable mechanisms by which immigrants' settlement in urban areas may be associated with gentrification, alternative data sources are necessary to uncover these mechanisms and should be explored in future research. These data limitations also preclude consideration of non-Hispanic black immigrants; however, their arrival to the United States occurred primarily in later decades, beyond the period of analysis and in far fewer numbers. Only 2.6 % and 5.8 % of foreign-born residents were black in 1970 and 1980, respectively, and they primarily concentrated in New York City (Waters 1999), which is not included in this study.

Moreover, although the gentrification field surveys are the most comprehensive and reliable measures of gentrification to date for multiple cities, having only one observation in time in a particular set of cities further limits broader conclusions and causal inference. The surveyed cities exclude some of the most heavily impacted cities by immigration, such as New York City and Los Angeles, and thereby limits generalizability. The data also provide no way of identifying when gentrification began in neighborhoods. Although census data suggest that gentrification had begun decades before the field surveys took place, gentrification is an evolving and temporally uneven process. It is possible that Asians were attracted to neighborhoods where gentrification had already begun, reflecting an assimilation process instead. Last, the data exclude working-class neighborhoods in cities that experienced widespread decline and neighborhoods that became low-income after 1970, which are arguably gentrifiable; however, the findings are similar when I consider these neighborhoods using a census-based measure of gentrification.

Discussion and Conclusion

The rise of Asians and Hispanics to low-income urban neighborhoods in the United States following 1965 is an important dimension left out of scholarship on gentrification. By examining this factor, this study offers several key contributions to our understanding of urban transformations in the United States in the late twentieth century. First, counter to many characterizations of gentrification, low-income tracts that were gentrifying by the 1990s were overwhelmingly "global" as early as the 1970s. Although the results are consistent with accounts that depict early gentrifiers as being attracted to diverse neighborhoods (e.g., Zukin 1987), they highlight the significance of the presence of Asians and Hispanics, in some contexts, in these neighborhoods. After accounting for socioeconomic and housing characteristics, I find that Asians are positively associated with gentrification, and Hispanics are positively associated with gentrification in neighborhoods with higher shares of blacks. Although I am unable to

definitively assess the mechanisms by which the presence of these groups spurred gentrification in low-income neighborhoods, these results suggest that Asians and, in some conditions, Hispanics served as early pioneers to many low-income neighborhoods in the wake of urban decline across U.S. cities.

Second, although the results reveal that early wave gentrification occurred in racially and ethnically diverse neighborhoods, these patterns followed a racial hierarchy. Even though predominantly white neighborhoods were not more likely to gentrify, neighborhoods with greater shares of blacks were less likely to gentrify. Moreover, the positive effect of Hispanics in black neighborhoods, after controlling for socioeconomic indicators, suggest that race-based residential preferences of gentrifiers may be at work. In addition, Asians had a consistently positive and greater effect on the likelihood of gentrification compared with Hispanics.

Third, neighborhoods that served as ethnic enclaves for Asians and Hispanics were far less likely to gentrify, and the Hispanic population was negatively associated with gentrification in cities with high levels of Hispanic growth after 1965. Although the influx and concentration of these groups may have revitalized the neighborhoods in which they settled, these neighborhoods rarely experienced the distinct changes associated with gentrification—namely, the physical renewal and influx of middle- and upper-middle-class residents—by the 1990s. The findings are also consistent with existing scholarship on immigration, documenting the increased concentration of these groups, particularly Hispanics, in cities with high levels of post-1965 immigration (Massey and Denton 1987). In these high-immigration cities and in neighborhoods where enclaves formed, new arrivals likely settled in neighborhoods where coethnics were already present, rather than acting as pioneers of gentrification in other low-income neighborhoods.

The findings highlight the role of immigration in shaping both the dynamics of the housing market at the neighborhood-level and the metropolitan-level conditions that structure neighborhood change. Although this study examines early gentrification, the rapid and widespread gentrification and immigrant settlement patterns of today are often dependent on preexisting neighborhood formations (Hackworth and Smith 2001; Waldinger 1989). The increased demand for affordable housing, the growth of multi-ethnic neighborhoods, and changing race-based residential preferences impact residential selection processes and have important implications for the future of residential segregation and immigrant incorporation. Data distinguishing nativity by racial and ethnic group became publicly available after 2000, and these differences should be examined in studies of more recent neighborhood changes. Moreover, an updated understanding of residential selection processes and discriminatory behaviors, more generally, that considers the intersection of nativity with race and ethnicity would enhance this area of research.

This study also advances understanding of the durability of poor, minority neighborhoods in U.S. cities over the last quarter of the twentieth century despite major urban transformations. Gentrification has generated highly contentious debates surrounding racial and socioeconomic inequality that have generally centered on the direct displacement of low-income minorities living in neighborhoods that gentrify, but the findings show that few predominantly black neighborhoods and ethnic enclaves actually experienced gentrification in this early period. This highlights the extent to which low-income minority neighborhoods generally remained isolated and often

disadvantaged amid the expansion of gentrification that took place during this period, leaving these neighborhoods particularly vulnerable to gentrification in recent decades, especially in cities with tight housing markets. Thus, policy makers face challenges to both increase the affordable housing supply to meet demand and to ensure sustained reinvestment occurs in areas beyond gentrifying neighborhoods. As some low-income neighborhoods with particular characteristics garner investment, others tend to remain left behind, perpetuating and increasing neighborhood inequality. Nevertheless, the results reveal the potential of global neighborhoods to transform low-income neighborhoods in decline.

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