

Housing Inequality in New York City: Racial and Ethnic Disparities in Homeownership and Shelter-Cost Burden

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During the 1970s and 1980s, New York City experienced large-scale and ethnically diverse immigration, which coincided with an increase in housing prices and severe affordability problems. This study utilizes the Public Use Microdata Sample (PUMS) data from the 1990 Census, to examine the extent to which immigration characteristics shape racial and ethnic differences in housing tenure and housing expenditure in New York City. A multivariate analysis, which encompasses households from seven racial and ethnic groups, reveals that the time of immigration, language proficiency, and residence in areas with a high number of newcomers play a critical role in determining white-minority differentials in homeownership and shelter-cost burden. However, the extent to which immigration shapes housing consumption varies substantially across racial and ethnic lines. The findings are discussed in light of their significance for the production and perpetuation of ethnic inequality in multiethnic societies.

Key words: Racial and ethnic inequality, housing inequality, immigration, New York City.

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INTRODUCTION

Research on social stratification has been characterized by an almost exclusive emphasis on the labor market as the main arena in which socioeconomic inequalities are generated and perpetuated while giving education and labor market remuneration major roles in the social organization of society. The emphasis on individual attainment in the production processes coincided with the neglect of the role that consumption-based divisions play in determining life chances and standards of living (Parkin, 1978). In recent years, there has been a renewed interest in the relationship between housing consumption and social inequality. We can identify two broad, complementary lines of study – labeled in this paper as *housing property* and *shelter poverty* – which focus on housing consumption as a distinct arena of socioeconomic inequality.

The housing-property literature contends that one's position in the housing market, defined in terms of tenure status, cannot be analyzed as a simple reflection of one's position in the production process. Although we cannot ignore some of the negative outcomes associated with homeownership, such as high transaction costs and reduced mobility (Marcuse, 1987), studies in the U.S. reiterate the substantial social and economic advantages of homeownership. This line of research contends that homeownership increases personal control and security, promotes social status and social

influence, generates social capital in the form of social contacts (Green and White, 1997; Page-Adams and Sherraden, 1997), and should be studied as a principal source of financial rewards (for example, tax deductions and long-term, amortized mortgages) and personal wealth (see Rex and Moore, 1967; Saunders, 1978, 1990; Thorns, 1981; Forrest et al., 1990; Oliver and Shapiro, 1995). Accordingly, homeownership is the preferred housing alternative for most Americans. During the second half of the twentieth century, the U.S. experienced a sharp increase in the rate of homeownership, from 43.6 percent in 1940 to 64.2 percent in 1990 (U.S. Bureau of the Census, 1992) and 67.2 percent in 2000. Home equity (the value of the home minus the mortgage principal still owed) constituted the largest share of household net worth (Department of Commerce, 2000: Table A, p. 5).

A second line of research contends that household economic status is determined not by labor market remuneration alone, but rather by housing costs together with income. Stone (1993) coined the term *shelter poverty* to describe a state in which the squeeze between high shelter costs and inadequate incomes leave a household unable to meet its "non-shelter needs at a minimum level of adequacy" (Stone, 1993:34; see also Savage et al., 1990). Empirical studies report that between 1970 and 1990, after decades of expansion and improvement in housing consumption, the relative amount of income American households had available

to spend on housing had been squeezed by the effect of the declining growth of the national economy (Levy, 1995) and the cutbacks in federal subsidies to housing (Ford Foundation, 1989). By 1991, 26.5 percent of households nationally were spending more than 30 percent of their income on housing. Renters, who are more likely than owners to face economic hardship, experienced a more significant affordability problem (Apgar, 1989; Koebel and Zappattini, 1993; Withers, 1997).

An analysis of disparities in homeownership and shelter-cost burden has critical implications for the understanding of social inequality in multiethnic societies. In racially and ethnically diverse societies, some minority groups tend to lag behind others in terms of human and tangible capital, and they are more likely to face unfavorable opportunity structure in both the labor and the housing market. This paper extends the literature on housing inequality by studying the determinants of racial and ethnic disparities in housing patterns in New York City during a period of large-scale immigration and an increasing affordability problem. The analysis incorporates both individual-level and contextual variables and it examines the extent to which socioeconomic and immigration characteristics shape racial/ethnic inequality in housing tenure and housing expenditures. The racial/ethnic coverage encompasses seven major groups: non-Hispanic white, non-Hispanic black, Puerto Rican, Dominican, Korean, Asian-Indian, and Chinese.

THEORIZING RACIAL AND ETHNIC VARIATION IN HOUSING CONSUMPTION

According to the microeconomic model of consumer choice, housing consumption is a function of the household's needs, given its financial constraints (see Alba and Logan, 1992). Accordingly, racial and ethnic differentials in the housing market are viewed as mere reflections of disparities in human capital, labor market attainment, and such demographic characteristics as age, marital status, and size of household. Hence, in multiethnic societies with a high number of foreign-born minority immigrants, the homeownership rate of immigrant populations is expected to be associated with length of residence and labor market advancement (Myers and Lee, 1998). With the passage of time, immigrants, who "generally enter at the bottom of their respective occupational ladders" (Portes and Rumbaut, 1990:47), tend to experience occupational mobility (Chiswick, 1982; Neidert and Farley, 1985), which in turn translates into higher homeownership rates and less severe affordability problems.

An alternative, complementary, approach to studying housing inequality underscores the distinct opportunity structure that some social groups (for example, the poor, racial and ethnic minorities, new immigrants) are exposed to in the housing market (Saunders, 1978, 1990; Wilson, 1979; Massey, 1985; Burrows and Marsh, 1992; Massey and Denton, 1993; see also Waldinger, McEvoy, and Aldrich, 1990; Waldinger, 1996). In recent years, a growing body of literature on housing inequality in multiethnic societies has underscored the *direct* effect that immigration has on family housing inequality, net of human capital and labor market success (Krivo, 1986; Lewin-Epstein et al., 1997; Borjas, 2002).¹ The effect of immigration is twofold: First, homeownership represents an important step toward socioeconomic assimilation: "Probably nothing is more central to the assimilation process than becoming a homeowner" (Clark, 1998:95). Accordingly, the time of arrival is likely to play a key role in shaping housing consumption, net of human capital and labor market assimilation:

Obtaining the broad array of information and successfully completing all the business transactions required to obtain larger, reasonably priced, owned housing, may be harder for immigrants and their offspring. ... [A poorer] ability in English could make it difficult to negotiate the necessary transactions. Also, recent immigrants have not established the credit rating necessary to acquire home loans (Krivo, 1995:601).

Second, population growth shapes supply and demand in the local housing market. Under conditions of large-scale immigration, the areas in which immigrants are concentrated experience an increasing demand for housing (Murphy, 1993; Potepan, 1994; Withers, 1997). Under these circumstances, newcomers are likely to face an unfavorable opportunity structure and an increasing affordability problem. Hence, the likelihood of homeownership might decrease while housing costs are likely to increase (Baldassare, 1986; Balakrishnan and Wu, 1992; Skaburskis, 1996; see also Kain and Quigley, 1975; Henretta, 1979; Lake, 1980; Lopez, 1986; Harris, 1999).

Most studies on racial inequality in the U.S. housing market have focused on disparities between African-Americans and whites (Jackman and Jackman,

¹ Throughout this paper, the terms *racial/ethnic* and *racial and ethnic groups* are used interchangeably. Because the Census survey uses the terms *Hispanic* and *black*, these two terms are used interchangeably with *Latino* and *African-American*, respectively. Also, the term *assimilation*, which is more commonly used in the American context of immigration, is used interchangeably with the term *integration*.

1980; Bianchi, Farley, and Spain, 1982; Parcel, 1982; Dymsky, 1997; Horton and Thomas, 1998). However, the models explaining the inequality between these two racial categories do not take into account the unique immigration context of other minority populations. Moreover, recent evidence indicates that the distinct experience of various racial and ethnic groups is determined to a large extent, by the demographic and socioeconomic composition of the communities in which they reside (Krivo, 1995; McArdle, 1997; Myers and Lee, 1998). New York City is a valuable case study of racial and ethnic differentials in housing patterns because of the rapid changes in the economic and housing market structure, as well as the large-scale immigration and the considerable changes in the racial/ethnic composition that have occurred in the city since the early 1970s.

THE SETTING: NEW YORK CITY

Research on racial and ethnic inequality in the U.S. has documented substantial disparities in education and labor market remuneration, as well as homeownership, housing conditions, and residential characteristics. Previous studies emphasized the distinct residential and housing conditions of black households and the low homeownership rate among this group. The altered racial/ethnic composition of the population due to varying fertility rates and changes in the makeup of immigration flows necessitates the consideration of inequality as it exists among other racial and ethnic minority groups (Borjas, 2002). In New York City, the main port of entry to the U.S., the racial/ethnic minority residents are a large and exceptionally diverse population. In 1990, 45.8 percent of the foreign-born persons in the city were newcomers who arrived during the 1980s (Department of City Planning, 1993; City of New York, 1995). The passage of the 1965 amendments to the Immigration and Nationality Act abolished the old country of origin quota and shifted the racial and ethnic composition of immigrants coming to the U.S. from predominately European to primarily Asian and Latin American origin (Borjas, 1994; Waldinger, 1996). Consequently, the city's racial/ethnic composition shifted from a white majority (63 percent) in the early 1970s, to a situation where whites constituted approximately one third of the population in the early 1990s (Department of City Planning, 1993; City of New York, 1995; Alba et al., 1997). Between 1980 and 1990, the number of Dominicans increased by 165 percent, and the number of Koreans increased by 215 percent, from 22,073 to 69,718 (Department of City Planning, 1993). During the same period, the Puerto Rican population increased by only 5.2 percent (Department of City Planning, 1993).

The influx of immigrants to New York City during the 1970s and 1980s coincided with drastic industrial restructuring and economic growth (Sassen, 1988; Kasarda, 1995:240–242) as well as a rapid increase in homeownership rate and housing prices (DeGiovanni and Minnite, 1991; Jackson, 1995; Myers and Wolch, 1995). Recent data on real estate prices reveal that between the mid-1970s and the late 1980s, the city experienced an unprecedented increase in housing prices; between 1975 and 1988, for example, the average price for apartments in Manhattan had risen from \$200,000 to about \$1 million (adjusted for inflation) (Neuman, 2004). Whereas for homeowners, inflation in housing prices means increasing equity and personal wealth, for tenants, such changes result in economic hardship (Bluestone and Harrison, 1982:19–20; Logan and Molotch, 1987:278; Allen and Hamnett, 1991:8). Whereas in 1981, the poorest 20 percent of the city's households spent about 60 percent of their income on rent, in 1993 the figure was close to 80 percent (Marcuse, 1996). Moreover, during the 1980s, spatial inequality became increasingly apparent across racial and nativity lines. Large-scale immigration and gentrification have accelerated economic polarization across racial/ethnic lines, resulting in displacement and a worsening affordability problem for many minority and foreign-born households (Foner, 1987; Marcuse, 1996; Schill, Friedman, and Rosenbaum, 1998; see also Allen and Hamnett, 1991:157–166; Murphy, 1993; Frey, 1995). Consequently, the geographic distribution of housing disparities between predominantly white neighborhoods and those areas with a high percent of foreign-born minority residents intensified (Sassen, 1990; Marcuse, 1996).

In line with the foregoing considerations, we hypothesize, first, that racial and ethnic groups that have, on average, lower levels of education and occupational attainment will also have lower levels of homeownership, and will experience a heavier housing payment burden. However, it can be expected that, net of human capital and labor market characteristics, immigration characteristics will account for a significant part of the racial/ethnic gaps in housing patterns. Specifically, racial/ethnic variations in the time of migration, language proficiency, and residential characteristics are likely to have a significant effect on housing inequality in general, and on racial/ethnic disparities in particular, even after socioeconomic and demographic characteristics are taken into account.

DATA AND VARIABLES

This study uses the Public Use Sample Data (PUMS 90A) of the 1990 census for New York City (extracted from Msa/Pmsa 5600), which includes the city's five

Table 1. Measurement of variables

Variable	Description	Values
Homeownership	Whether the household owns a home	1 – Own 0 – Rent
Shelter-cost-burden (renters)	Housing costs as a percentage of household Income	Ranges from 0 to 110
Racial/ethnic origin	A set of dummy variables based on the variables “Race” (for Whites, Blacks and Asians) and “Hispanic origin”	1 – Respondents’ origin 0 – Other
Value of housing (homeowners)	Value of the asset (\$)	Mid point of 25 categories ranges from 5000 to 450,000
Household income (\$)	Annual household income	Ranges from 0 to \$733,640
Time of migration	Year of immigration to the US (a set of four dummy variables)	1 – “Native born” 2 – “1980–1990” 3 – “1960–1979” 4 – “Before 1960”
“New immigrant” context	Percentage of post-1980 immigrant heads of households in the sub-borough	Ranges from 2.0–34.0 percent
“Racial” context	Percentage of White heads of households in the sub-borough	Ranges from 1 to 91 percent
Linguistic isolation	Dummy variable identifying households in which no person age 14 years or over, speaks only English, or speaks English “very well”	1 – Linguistically isolated 0 – Not Linguistically isolated
Size of household	Number of persons in the household	Ranges from 1 to 22
Marital status	Current marital status	1 – Married 0 – Unmarried
Children under 18	Presence of children in the household	1 – Yes 0 – No
Sex		1 – Female 0 – Male
Age		Ranges from 18 to 90
Education	Years of formal education	Ranges from 1 to 17
Occupation	A set of five dummy variable identifying current occupation	1 – Managerial/professional 2 – Technical/sales 3 – Service 4 – Other
Employment	Whether the respondent was employed in the previous year	1 – Employed 0 – Unemployed/not in labor force
Self-employed	Whether the respondent is self employed in “own not incorporated or incorporated business, professional practice or farm”	1 – Self-employed 0 – Not self employed
Borough	A set of five dummy variables identifying the borough of residence: Kings (Brooklyn); Queens; Bronx; New York (Manhattan); Richmond (Staten Island)	1 – Yes 0 – No

boroughs: Manhattan (New York County), the Bronx, Queens, Brooklyn (Kings County), and Staten Island (Richmond County). This geographical coverage represents the areas that are subject to the economic same processes in both the labor market and the housing market. The coverage excludes more remote areas: Long Island outside of Brooklyn and Queens, as well as Westchester and Putnam counties.

Several features of the dataset, such as detailed information on immigration status, the year of entry into the U.S., and English proficiency, make it exceptionally valuable for examining the determinants of housing inequality. In addition, by using the unique information on the Public Use Microdata Areas (PUMAs), the data enable us to identify 55 subborough areas in the city and to provide contextual-level data on racial and immigration characteristics in these

geographical units. The main limitation of the data is twofold: First, the use of cross-sectional data makes it impossible to identify and distinguish between the distinct effects that life cycle processes have on housing market inequality. Second, there is a lack of detailed information on subtenure categories (for example, rent-controlled units, rent-stabilized units, public housing, and city-owned units). Although immigrant households are underrepresented in the publicly owned housing sector (Schill et al., 1998: Table 3, pp. 212–213), subtenure categories can play an important role in determining housing choices and constraints among minority residents.

Table 1 displays descriptive statistics for all variables included in the analysis. As previous studies have shown, there is an enormous variation in demographic composition and socioeconomic attributes *within*

the major minority categories "Asian" and "Hispanic." The research population includes seven racial/ethnic groups: non-Hispanic whites, non-Hispanic blacks, three Asian groups (Koreans, Chinese, and Asian-Indians), and two Hispanic groups (Puerto Ricans and Dominicans). The variable "Race" was used to identify whites, blacks or African-Americans, Asian-Indians, Chinese, and Koreans. The variable "Hispanic origin" was used to identify Puerto Rican and Dominican households.²

In line with the previously mentioned hypotheses, two dependent variables are presented: (1) "Homeownership" is a dummy variable that measures housing tenure status (owner vs renter household); (2) "Shelter-cost burden" is measured as the percentage of household income that is spent on rent, using the data on monthly housing expenditure and household annual income (divided by 12). Renter households with no income or a net loss and those not renting for cash rent were excluded from the analysis.³ The upper level of the distribution was set at 110 percent.⁴

Three explanatory variables measure immigration: "Time of migration" of the head of household is measured by four dummy variables: "Nonimmigrant," "Before 1960," "1960–1980," and "1980–1990." "Linguistic isolation" measures English proficiency at the household level by identifying households in which no person age 14 years or over speaks only English or speaks English "very well." "New immigrant context" measures the percentage of heads of households in the subborough who immigrated between 1980 and

² Due to the nature of the data, the racial and ethnic categories are diverse in terms of country of origin. For example, the category "Chinese" includes respondents born in, among others, mainland China, Hong Kong, and Taiwan; and members of the Asian-Indian category include individuals born in India, as well as in Bangladesh or in Pakistan. Also, even though Puerto Rico is part of the U.S., previous studies have reported that island-born Puerto Ricans who immigrated to the city are likely to face labor and the housing markets similar to those of other immigrants (Sanches, 1986; Rosenbaum, 1994).

³ The households that were excluded from the sample comprise 4.7 percent of the renter population (unweighted number 2974) and have, on average, a lower income and educational level. Although the reasons for the higher costs relative to income cannot be drawn from the data, it is likely that since the main sources of income reported in the survey include wages and salary, self-employment income, public assistance, retirement, Social Security, and dividends and interests, these gaps might reflect the use of savings and transfers from family members to cover housing expenditures.

⁴ Two alternative procedures were utilized in order to treat the right-hand skew of the cost/income ratio distribution. The first was to exclude households that spend over 110 percent of their income on housing (truncated sample). In the second, the affordability measure was constructed by taking the natural logarithm of the shelter-cost burden variable. The multivariate results using these methods led to similar conclusions on the relationships between shelter-cost burden, racial/ethnic origin, and immigration to those presented in this paper. For the sake of parsimony, they are not reported in the paper.

1990. Although these three variables are positively correlated, they measure distinct forms of social integration at different units of analysis (individual, household, and ecological, respectively). In addition to immigration, other independent variables include a set of head of household characteristics that have a strong relationship to housing needs and financial resources. These variables include gender, age, marital status, education, and occupation. Also included is a dummy variable that identifies the self-employed. Self-employment is likely to be positively correlated with homeownership and housing costs; as Mulder and Smits (1999) assert, the self-employed generally have more local ties, and are less flexible about changing their workplace than are salaried workers. Data on the household include the number of people in the household and the presence of children under age 18 (a variable that indicates the dependency ratio of the household). Because the five boroughs of the city vary tremendously in terms of housing opportunities, five dummy variables that identify each of the boroughs are included in the model. In addition, because racial groups are distributed unevenly within the boroughs (Rosenbaum, 1994), and because this variation is likely to have strong implications for the opportunity structure faced by racial/ethnic minorities, a measure of the racial composition (percentage of white households) of the subborough is included.

FINDINGS

Descriptive Overview

Table 2 presents data describing each of the seven ethnic groups studied in the paper. The PUMS survey data include information on sampling weights, which enable the researcher to produce estimates of statistics that would have been obtained if the entire sampling frame (population) had been surveyed. Because the dependent variables are household level characteristics, the data are weighted by housing weight. The variables are divided into three categories: "Housing characteristics," "Immigration characteristics," and "Household and ecological characteristics." The table illustrates some striking differences across racial/ethnic lines.

Housing Characteristics: Whereas almost 40 percent of the white households own a home, the figures drop to 10.6 and 5.4 percent, respectively, among households of Puerto Rican and Dominican origin. The average value of housing among homeowners varies within a range of \$60,000, from approximately \$220,000 among white and Korean homeowners to an average of approximately \$160,000 for Puerto Rican homeowners. Although Chinese households are almost seven times

Table 2. Mean characteristics (standard deviation) of head of households by racial/ethnic origin: New York City 1990 (weighted)

	Non-Hispanic White	Non-Hispanic Black	Asian-Indian	Puerto-Rican	Dominican	Chinese	Korean
Housing characteristics							
Homeownership (%)	0.38 (0.48)	0.21 (0.41)	0.33 (0.47)	0.10 (0.30)	0.05 (0.22)	0.36 (0.48)	0.20 (0.40)
Shelter-cost burden among renters	0.32 (0.27)	0.36 (0.29)	0.35 (0.27)	0.41 (0.32)	0.43 (0.33)	0.35 (0.26)	0.45 (0.31)
Housing value (\$1000) among owners	220.3 (115)	155.3 (810)	205.7 (101)	162.5 (89.3)	191.8 (110)	193.1 (117)	223.2 (128)
Head of household characteristics							
Age	52.3 (18.4)	48.3 (15.8)	40.3 (10.8)	45.0 (15.2)	41.7 (13.4)	47.2 (15.4)	42.3 (12.8)
Sex (female)	0.41 (0.49)	0.59 (0.49)	0.14 (0.35)	0.56 (0.50)	0.59 (0.49)	0.24 (0.43)	0.22 (0.41)
Married	0.45 (0.50)	0.33 (0.47)	0.76 (0.43)	0.37 (0.48)	0.45 (0.50)	0.71 (0.45)	0.73 (0.45)
Household income (1000\$)	48.3 (48.7)	30.2 (27.0)	44.3 (38.6)	23.5 (23.1)	23.2 (21.7)	36.9 (32.5)	35.2 (33.4)
Years of education	11.1 (3.34)	9.72 (2.91)	11.7 (3.61)	8.19 (3.18)	7.53 (3.53)	9.22 (4.57)	11.50 (3.25)
Employed	0.68 (0.46)	0.66 (0.47)	0.89 (0.30)	0.53 (0.49)	0.59 (0.49)	0.79 (0.40)	0.85 (0.35)
Self-employed	0.11 (0.31)	0.03 (0.18)	0.09 (0.30)	0.02 (0.15)	0.05 (0.22)	0.10 (0.30)	0.24 (0.43)
Occupation: Service	0.06 (0.18)	0.19 (0.39)	0.10 (0.30)	0.13 (0.34)	0.17 (0.37)	0.23 (0.42)	0.09 (0.29)
Occupation: Managerial/ professional	0.32 (0.46)	0.17 (0.37)	0.33 (0.47)	0.10 (0.30)	0.07 (0.26)	0.21 (0.41)	0.25 (0.43)
Occupation: Technical/sales/ administrative	0.23 (0.42)	0.25 (0.43)	0.30 (0.46)	0.20 (0.40)	0.15 (0.35)	0.20 (0.40)	0.35 (0.47)
Occupation: Other	0.37 (0.48)	0.38 (0.48)	0.25 (0.43)	0.55 (0.49)	0.60 (0.48)	0.33 (0.47)	0.28 (0.45)
Household characteristics							
Number of persons in household	2.13 (1.32)	2.84 (1.79)	3.51 (1.75)	3.02 (1.72)	3.81 (1.83)	3.36 (1.83)	3.30 (1.58)
Children under 18	0.19 (0.39)	0.44 (0.50)	0.54 (0.50)	0.49 (0.50)	0.66 (0.47)	0.41 (0.49)	0.49 (0.50)
Ecological characteristics							
Borough: Manhattan	0.29 (0.45)	0.17 (0.37)	0.10 (0.30)	0.19 (0.39)	0.40 (0.49)	0.35 (0.47)	0.12 (0.33)
Borough: Kings	0.26 (0.44)	0.41 (0.49)	0.16 (0.36)	0.29 (0.45)	0.16 (0.36)	0.25 (0.43)	0.09 (0.29)
Borough: Queens	0.28 (0.44)	0.19 (0.39)	0.58 (0.49)	0.10 (0.30)	0.14 (0.35)	0.34 (0.47)	0.67 (0.46)
Borough: Bronx	0.08 (0.27)	0.20 (0.40)	0.10 (0.30)	0.38 (0.48)	0.28 (0.44)	0.02 (0.16)	0.07 (0.25)
Borough: Richmond	0.07 (0.26)	0.01 (0.12)	0.03 (0.19)	0.01 (0.13)	0.00 (0.05)	0.02 (0.14)	0.03 (0.17)
Racial context (low)	0.16 (0.36)	0.79 (0.40)	0.46 (0.49)	0.68 (0.46)	0.82 (0.37)	0.42 (0.49)	0.36 (0.48)
Racial context (middle)	0.44 (0.49)	0.18 (0.39)	0.40 (0.49)	0.24 (0.43)	0.14 (0.35)	0.29 (0.45)	0.43 (0.49)
Racial context (High)	0.39 (0.48)	0.01 (0.12)	0.12 (0.32)	0.06 (0.24)	0.02 (0.14)	0.27 (0.44)	0.19 (0.39)
Immigration characteristics							
Non-immigrant	0.77 (0.41)	0.71 (0.45)	0.02 (0.14)	0.29 (0.45)	0.03 (0.18)	0.09 (0.29)	0.03 (0.17)
Migration 1980–1990	0.04 (0.20)	0.09 (0.28)	0.58 (0.49)	0.08 (0.27)	0.35 (0.47)	0.39 (0.48)	0.63 (0.48)
Migration 1960–1980	0.07 (0.25)	0.16 (0.37)	0.37 (0.48)	0.25 (0.43)	0.57 (0.49)	0.41 (0.49)	0.33 (0.47)
Migration before 1960	0.10 (0.31)	0.02 (0.16)	0.01 (0.11)	0.37 (0.48)	0.03 (0.19)	0.09 (0.29)	0.00 (0.08)
Linguistic isolation	0.06 (0.24)	0.02 (0.15)	0.16 (0.37)	0.27 (0.44)	0.46 (0.50)	0.49 (0.50)	0.55 (0.51)
New Immigrant context (low)	0.35 (0.47)	0.25 (0.43)	0.16 (0.36)	0.13 (0.34)	0.05 (0.22)	0.13 (0.34)	0.17 (0.37)
New Immigrant context (middle)	0.46 (0.48)	0.39 (0.48)	0.27 (0.44)	0.38 (0.48)	0.23 (0.42)	0.28 (0.45)	0.16 (0.37)
New Immigrant context (High)	0.28 (0.45)	0.35 (0.47)	0.56 (0.49)	0.47 (0.49)	0.71 (0.45)	0.58 (0.49)	0.65 (0.48)
<i>N</i> = 96,187	57,282	20,012	1,037	10,802	3,461	2,778	848

more likely to own a home than are Dominican households, both minority groups report a similar home value (\$190,000). Evidently, the two Hispanic groups in the sample – Puerto Rican and Dominican – have both relatively lower rates of ownership and lower home values, a pattern that has critical implications for ethnic inequality in wealth and its reproduction across generations. Note, however, that the data are limited to information on housing assets in the U.S., and lacking in information on asset holdings abroad. The data show a substantial variation in housing assets between the two East-Asian minorities; housing property tends to be more concentrated within the Korean population: A relatively small number of Korean households own a home (20.8 percent), but the value of the property is relatively high (about \$223,000). Contrary to the substantial variation in human capital and labor market attributes between Korean and Hispanic households, these populations face the highest level of expenditure-to-income ratio in the population. On average, tenants of Korean, Dominican, and Puerto Rican origin spend more than 40 percent of their household income on rent. These figures indicate that racial/ethnic disparities in shelter-cost burden cannot be seen as a simple reflection of racial/ethnic variation in educational attainment. In a city that experiences large-scale immigration and a housing shortage, it is not solely income, but rather the squeeze between income and housing costs, that determines economic hardship.

Immigration Characteristics: Approximately 60 percent of the Koreans and the Asian-Indians in the sample are recent arrivals. New entrants compose more than one third of the Chinese and Dominican populations, and less than 10 percent among other ethnic groups. Another measure of social integration, "Linguistic isolation," reveals that 55 percent of the Korean households are defined as linguistically isolated. The residential variables reveal that not only do Dominican and Korean households share the highest housing payment burden, but they are also more likely than other groups to reside in areas that have a substantially higher number of recent (post-1980) immigrants. Note also that the relationship between the different indicators of social integration varies across racial/ethnic lines. Compared with Chinese households, Asian-Indians report good language proficiency, but are more likely to be newcomers. Whereas a relatively small number of Puerto Ricans are new entrants, almost one third of the Puerto Rican population are linguistically isolated, and about half reside in areas with a high concentration of new immigrants.

Household and Ecological Characteristics: The data on heads of household reveal that Asian-Indians have

the highest level of education and the Dominican population has the lowest level (11.7 and 7.5 years, respectively). Asian-Indian and whites are more likely than are other groups to hold managerial and professional occupations. Higher employment rates are seen among Asian-Indians and Koreans, two groups that have a high number of young, married, male heads of household. The highest level of self-employment is found among Koreans; almost a quarter of Korean head of households are self-employed. In line with our expectations, the data reveal a strong association between labor market attainment and housing attributes. White and Asian-Indian head of households, two populations with high levels of educational and occupational attainment, also have a high homeownership rate. The exception is for Korean households, which tend to have high levels of education but a relatively low rate of homeownership. The contextual indicators reveal that, among minority status households, Chinese households are more likely to reside in areas where there is a high percent of whites, whereas Dominican households are more likely to reside in areas in which white households are underrepresented.

SOCIOECONOMIC AND DEMOGRAPHIC DETERMINANTS OF RACIAL/ETHNIC DIFFERENCES IN HOUSING CONSUMPTION

Although the findings reported in Table 2 partially support the expectations on the association between demographic and socioeconomic characteristics, on the one hand, and housing conditions, on the other hand, a multivariate analysis was carried out in order to corroborate the relationship between race/ethnicity, immigration, and housing patterns. Specifically, the analysis in this section examines the question: To what extent do immigration characteristics explain the racial/ethnic gaps in housing tenure and expenditure? Table 3 displays results of multivariate regression analyses that predict homeownership and shelter-cost burden (among tenants). Ordinary-least-squares (OLS) models are utilized to predict shelter-cost burden in the renter-occupied sector (Models 1a–1d), and, because the variable "Homeownership" contains only two categories ("Homeowner" vs "Renter"), logistic regression models are used to predict the odds of homeownership (Models 2a–2c). In accordance with the hypotheses, each dependent variable was first regressed against the demographic and residential characteristics (subboroughs) (Model 1) and then against more elaborated sets of explanatory variables. The reference category for the racial/ethnic variable is "Non-Hispanic whites," which represents the largest single group in the population and the one that has the

Table 3. Unstandardized regression coefficients from OLS model predicting housing value and shelter-cost burden and logistic regression model predicting home ownership (standard errors)

	Renter-Occupied Sector Shelter-cost-burden			Homeownership		
	1a	1b	1c	2a	2b	2c
Black ^a	0.16 (0.34)	-0.84*** (0.32)	-0.62 (0.33)	-0.59*** (0.02)	-0.40*** (0.02)	-0.51*** (0.02)
Puerto Rican ^a	6.68*** (0.40)	-0.34 (0.37)	-1.34*** (0.40)	-1.46*** (0.03)	-1.00*** (0.03)	-1.16*** (0.03)
Dominican ^a	11.6*** (0.63)	4.46*** (0.56)	-0.20 (0.60)	-2.17*** (0.07)	-1.54*** (0.07)	-1.41*** (0.07)
Indian ^a	7.42*** (1.07)	8.48*** (1.06)	3.20*** (1.08)	-0.65*** (0.07)	-0.46*** (0.07)	-0.04 (0.08)
Korean ^a	17.4*** (1.28)	16.70*** (1.08)	9.54*** (1.11)	-1.47*** (0.08)	-1.22*** (0.09)	-0.69*** (0.09)
Chinese ^a	8.44*** (0.70)	5.79*** (0.69)	0.47 (0.72)	-0.28*** (0.04)	0.23*** (0.04)	0.60*** (0.05)
Demographic characteristics: household						
Children under 18	12.1*** (0.35)	10.16*** (0.33)	10.01*** (0.33)	-0.24*** (0.02)	0.05*** (0.02)	0.02 (0.02)
Size of Household	-2.94*** (0.11)	-3.59*** (0.10)	-3.54*** (0.10)	0.18*** (0.00)	0.07*** (0.00)	0.08*** (0.00)
Demographic characteristics: head of household						
Married	-8.21*** (0.29)	-6.29*** (0.28)	-6.68*** (0.28)	0.69*** (0.02)	0.45*** (0.02)	0.47*** (0.02)
Age	-1.16*** (0.04)	-0.71*** (0.03)	-0.69*** (0.03)	0.13*** (0.00)	0.11*** (0.00)	0.10*** (0.00)
Age * Age	0.01*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Sex (Female)	4.90*** (0.26)	2.84*** (0.25)	3.02*** (0.25)	-0.09*** (0.01)	0.04** (0.02)	0.03 (0.02)
Socioeconomic characteristics: head of household						
Employed		-23.09*** (0.32)	-23.26*** (0.32)	—	—	—
Self-Employed	—	7.11*** (0.44)	6.91*** (0.44)	—	—	—
Education	—	-0.79*** (0.04)	-0.71*** (0.04)	—	—	—
Occupation: managerial/professional ^d	—	-4.62*** (0.37)	-3.95*** (0.37)	—	—	—
Occupation: technical/sales/administrative ^d	—	-2.69*** (0.33)	-1.94*** (0.33)	—	—	—
Occupation: service ^d	—	1.97*** (0.38)	2.08*** (0.38)	—	—	—
Household income	—	—	—	—	—	—
HH income * HH income	—	—	—	—	—	—
Immigration characteristics						
Migration 1980–1990 ^e	—	7.46*** (0.41)	—	—	—	-0.83*** (0.04)
Migration 1960–1980 ^e	—	—	2.61*** (0.35)	—	—	0.24*** (0.02)
Migration before 1960 ^e	—	—	0.00 (0.39)	—	—	0.37*** (0.02)
Percent New immigrant (low) ^f	—	—	-0.25 (0.32)	—	—	0.84*** (0.02)
Percent New immigrant (mid) ^f	—	—	-0.12 (0.26)	—	—	0.48*** (0.02)
Linguistic Isolation	—	—	4.56*** (0.37)	—	—	-0.16*** (0.03)
Constant	58.5 (1.06)	90.64 (1.06)	87.90 (1.12)	-5.32 (0.05)	-6.85 (0.09)	-7.28 (0.10)
2 Log Likelihood	0.106	0.225	0.234	99.275	93.971	91.747
R ²	—	—	—	60.237	—	—
N	—	—	—	96,187	—	—

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

^aOmitted category: Non-Hispanic Whites.

^bOmitted category: Manhattan.

^cOmitted category: Percent Whites (High).

^dOmitted category: Occupation: Other/No occupation.

^eOmitted category: Native-born.

^fOmitted category: Percent New Immigrants (High).
Note: Control variables include Borough and Racial Composition.

highest rate of homeownership and the lowest rate of shelter-cost burden.⁵

DETERMINANTS OF SHELTER-COST BURDEN

Columns 1a–1c display results of OLS analysis predicting shelter-cost burden (housing costs as a percentage of household income). To assess the net effects of human capital and labor market characteristics on shelter-cost burden, the variable "Household income" was excluded from Models 1a–1c. After controlling for demographic characteristics (Model 1a), the coefficient estimates of Korean origin appear to be strongly associated with shelter-cost burden, followed by those of Dominican, Chinese, Indian and Puerto Rican origin, respectively; Korean households spend 17.4 percent more of their income on rent than do white households. Reflecting the close association between family structure and socioeconomic status, the analysis reveals that female heads of household spend more than male heads of household ($b = 4.9$). Also, the percentage of household income spent by married couples is smaller by about 8 percent when contrasted with that spent by nonmarried householders ($b = -8.2$). As expected, the presence of children in the household exerts a strong and significant effect on shelter-cost burden ($b = 12.1$). Age exerts a curvilinear effect; shelter-cost burden tends to decline with age but then increases at later stages of the life cycle.

The relatively high shelter-cost burden experienced by Dominican, Puerto Rican, and Chinese households is partially explained by their distinct human capital and labor market attributes (Model 1b). For example, once education, and labor market attributes are controlled for, the coefficient estimate for "Dominican" is reduced from ($b = 11.6$) in Model 1a to ($b = 4.4$) in Model 1b. As expected, education, employment status, and occupational attainment are negatively associated with shelter-cost burden. Also, people categorized as self-employed are likely to spend a higher percentage of their income on housing ($b = 7.1$).

Model 1c examines whether the effects of the racial and ethnic indicators change once immigration

⁵ Although some of the independent variables, such as the labor market and immigration attributes, are moderately correlated, multicollinearity is not a problem. For example, the Pearson correlation between "New immigrant context" and "Linguistic isolation" is ($r = 0.163$) and between "Linguistic isolation" and "Recent (1980–1990) immigration" is ($r = 0.296$). The correlations are statistically significant at the $p > 0.001$ (two-tailed). In addition, several alternative models, which excluded the occupational indicators in Models 2b–2c, and the "Employment" variable in Models 2b–2c, as well as a model that included the "Employment" indicator in Models 1b–1c, were tested. These analyses led to identical substantial conclusions pertaining to the immigration and racial/ethnic patterns reported in Table 2.

attributes are introduced. The estimates derived from this model underscore the distinct effects of time of migration, language proficiency, and immigration context. First, once these variables are controlled for, the coefficient estimates of the minority groups decrease. The estimates for the "Dominican," "Black," and "Chinese" categories are no longer statistically significant, and the coefficient estimates for the "Korean" and "Asian-Indian" categories decrease from ($b = 16.7$ and $b = 8.4$) to ($b = 9.5$ and $b = 3.2$), respectively. Second, immigration exerts a strong direct effect on shelter-cost burden. Specifically, the results show a strong association between "Shelter-cost burden" and the independent variables "Recency of arrival (migration 1980–1990)" and "Linguistic isolation" ($b = 7.4$ and $b = 4.5$, respectively).⁶

DETERMINANTS OF HOMEOWNERSHIP

Equations 2a to 2c focus on a critical stage in housing market attainment and analyze the determinants of entrance into the owner-occupied sector. When racial/ethnic differentials in family structure, age, gender, and place of residence are controlled for (Model 2a), the likelihood of owning a home for all minority groups is negative and significant when contrasted with the reference category, "Non-Hispanic white." Corroborating previous findings (Table 2), the coefficient estimate "Dominican origin" is very strong. As expected, marriage is positively and significantly associated with homeownership. The significant effects of age and age squared follow the life cycle processes according to which homeownership rates tend to increase and then decline at older age.

Model 2b, in which human capital and labor market attributes are incorporated, reveals that white-minority differentials in education and labor market characteristics explain a substantial portion of the observed gaps between the groups. The importance of white-minority differences in education and labor market characteristics is especially apparent in the case of Puerto Rican households; when these explanatory variables are controlled for, the coefficient estimate for "Puerto Rican" is reduced in absolute terms, from ($b = -1.4$) in

⁶ We also assessed the extent to which household income mediates the association between immigration attributes and shelter-cost burden. As expected, the inclusion of the variable coincided with a decrease in the coefficient estimates of linguistic isolation and time of migration (although they remain positive and statistically significant). Also, with the exception of the Korean and Asian-Indian indicators, the coefficient estimates of the racial/ethnic minority categories in the full model were negative, a pattern that can be attributed to the city's housing programs and the white-minority differentials in housing quality (see "Discussion and Conclusions").

Model 2a to ($b = -1.00$) in Model 2b. Using the properties of exponential functions, this coefficient ($\exp. b = -0.100 = 0.36$) can be more easily interpreted; even after controlling for human capital and labor market attainment, the odds of a Puerto Rican household owning a home is about one third of that of a non-Hispanic white household. When labor market attributes are controlled for, it appears that Chinese households are more likely than whites to own a home by a factor of 1.26 ($\exp. b = 0.236 = 1.26$). As expected, homeownership is positively associated with income, education, and self-employment, as well as with occupational attainment. Married couples are more likely to own a home than are single head of households. Whereas the size of the household is positively associated with homeownership, the presence of children in the household – an indicator of a greater dependency ratio – has only a small positive effect on homeownership.

The results derived from the full Model (3b) underscore the significance of immigration characteristics. Although immigration attributes seem to play a key role in determining housing market differentials, the effect varies considerably along racial and ethnic lines. Immigration attributes account for a substantial portion of the ethnic gaps in homeownership between the white households and the households of Asian-Indian origin. In fact, when immigration characteristics are incorporated, the coefficient estimate of Indian origin falls to a nonsignificant level, which suggests that immigration differentials between white and Indian households fully explain the homeownership gap between the two groups. Immigration characteristics appear to account for about 45 percent of the observed Korean-white differences that remain after controlling for human capital characteristics. The likelihood of Chinese households to own a home increases substantially from ($b = 0.23$) in Model 2b to ($b = 0.60$) in Model 2c. Adding immigration characteristics does not attenuate the effect for the “Black” and “Puerto Rican” categories, the two groups with a small percentage of newcomers, whose coefficient actually increases in absolute terms. When immigration attributes are controlled for, the likelihood of black households to own a home decreases from ($b = -0.40$) in Model 2b to ($b = -0.51$) in Model 2c.

The second finding that merits attention is the direct effects that immigration characteristics exert on the likelihood of homeownership. English proficiency, a principal indicator of acculturation, is a significant determinant of homeownership; net of timing of migration and labor market success, linguistic isolation is negatively associated with homeownership ($\exp. b = 0.161 = 0.69$). And when compared with native-born heads of household, recent immigrants are less likely,

and early comers are more likely, to own a home. This tendency of early comers to have a stronger propensity of homeownership reflects the need of immigrants to establish social identity and gain acceptance in the host society (Balakrishnan and Wu, 1992), and is not unique to housing market processes (Barringer et al., 1990). The effect of time of migration might imply the existence of a cohort effect, according to which arrival during a period of housing shortage has an independent and negative effect on housing opportunities. However, due to the cross-sectional nature of the data, it is impossible to identify the distinct mechanisms responsible for the effect that timing of migration has on housing tenure (but see, for example, Myers and Wolch, 1995). In addition, all else being equal, residence in areas that have a relatively small number of new immigrants is positively associated with homeownership; residents of areas in which new immigrants are underrepresented are more likely to own a home than are residents of areas that have a high concentration of newcomers ($\exp. b = 0.842 = 2.32$).

DISCUSSION AND CONCLUSIONS

As a dimension of social inequality, disparity in housing patterns explores an important aspect of ethnic hierarchy, in addition to the one deriving from labor market attainment. Housing-property and shelter-poverty measures have critical implications for standards of living and life chances. Inequality in homeownership is crucial for the production of wealth inequality and, through the mechanism of intergenerational transfers, its reproduction across generations. At the same time, severe shelter-cost burden can leave the household with insufficient financial resources to spend on education, health, and other non-shelter expenses. This study focuses on New York City, a multiethnic city that has experienced rapid industrial restructuring, economic growth, mass immigration, and a severe shortage of affordable housing. The data utilized in this paper were collected during a unique period in the city’s housing market; at the end of an unprecedented increase in housing prices and just before the down years of the early 1990s. Drawing inspiration from the literature on housing property and shelter poverty, this study aims to determine the extent to which white-minority differentials in socioeconomic and demographic characteristics shape housing inequality across racial and ethnic lines.

The data revealed that racial/ethnic differentials in housing consumption are too complex to be reduced to any generic racial categories (for example, white, black, or Asian), and substantial variations in housing patterns were found among the Asian and Latino

groups. Consistent with our theoretical expectations, the analyses indicate that racial and ethnic inequality in urban housing markets, especially during periods of economic and demographic growth, cannot be viewed as a simple reflection of disparity in human capital and labor market attainment. Minority groups that have, on average, high levels of education and income are not immune from experiencing a high shelter-cost burden. Asian minorities (Chinese and Koreans), sometimes referred to as "model immigrants," have clear advantages in terms of human capital and labor market remuneration. However, these groups experienced high levels of economic hardship that stem from the relatively high housing costs they faced when immigrating to a city with a severe housing shortage. In fact, one of the patterns attributed to the labor market success of Korean immigrants – their relatively high propensity for self-employment – is positively correlated with payment cost burden.

The multivariate analysis adds to previous research on housing inequality by identifying different stratification processes and by exploring the extent to which immigration characteristics shape the racial/ethnic hierarchy in the housing market. Several conclusions can be drawn from the analyses. The first is that immigration attributes are key to understanding housing patterns. During times of large-scale migration and a shortage of affordable housing, new immigrants are likely to experience heavy economic hardship that stems from the squeeze between income and housing costs. The effect of immigration characteristics on housing outcomes is apparent even after human capital and labor market attainment are controlled for, a pattern that underscores the independent effect that immigration plays in determining housing market inequality. Not only do new immigrants tend to enter at the bottom of the occupational ladder and to receive lower levels of remuneration (Chiswick, 1982), but they also face a severe shelter-cost burden that is likely to leave the household with fewer financial resources to spend on other needs.

Second, while strongly correlated, each of the three immigration-based attributes (spatial, temporal, and linguistic) tends to have an independent effect on housing attainment. This pattern is apparent in the case of homeownership. Homeownership has long been enshrined at the heart of the American dream of independence and financial security: "For immigrants, as for native-born Americans, homeownership is equated with social status, the accumulation of wealth and having 'a piece of the pie.' It is one of the important measure of 'making it' in America" (Clark, 1998:95). The analyses utilized in this paper underscore a complex process of assimilation, in which recency of arrival, lack of language proficiency, and

residence in areas with a high percentage of newcomers each has a significant effect on the likelihood of homeownership.

The third noteworthy point is that racial/ethnic stratification in housing outcomes is shaped by white-minority differentials in immigration characteristics. However, the extent to which immigration attributes determine housing stratification varies substantially across racial/ethnic lines and housing measures. These findings have important implications for the understanding of how ethnic minorities are incorporated into the stratification system in the host society. Previous studies indicate that homeownership encompasses a broad notion of social integration; it is associated with economic security and household stability, reflects a stronger commitment to the host society, and indicates a family's social status. The merit of homeownership as an indicator of socioeconomic assimilation is evident by the shortcoming of microeconomic variables in explaining racial and ethnic gaps in homeownership, and the significant effect that immigration attributes has on housing tenure. However, a word of caution is warranted: Whereas labor market and immigration attributes account for a substantial portion of the white-minority gap in economic hardship and homeownership, some disparities still remain when controlling for these factors. The reasons for the remaining disparities might be attributed to factors not included in the model. One such factor is the effect that intergenerational transfers of material resources have on housing attainment (Oliver and Shapiro, 1995; Mulder and Smits, 1999). For example, flows of financial resources received from family members might explain the relatively higher and only partly explained level of shelter-cost burden experienced by Korean households. A second explanation for the remaining ethnic gaps can be attributed to the role that public housing and other housing programs play in the New York City housing market. Compared with other cities in the United States, New York City has relatively extensive housing programs (for example, public housing, rent control, rent stabilization) that benefit low-income families (Schill et al., 1998). A third possible explanation might be found in the ethnic variation in investment preferences, which might reflect a stronger need of some ethnic minorities for establishing their social identity and seeking acceptance by the dominant groups through housing consumption (Balakrishnan and Wu, 1992; Owuso, 1998). Future research on housing stratification needs to further explore the relationships between immigration and housing processes in multiethnic societies, and to study the role that the housing market plays in shaping socioeconomic inequality under changing social, economic, and demographic contexts.

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