

Homeownership in the Immigrant Population



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I. Introduction

The social, demographic, and economic changes initiated by the resurgence of immigration to the United States are of historic proportions. As recently as the 1950s, only about 250,000 immigrants entered the country annually. By the 1990s, the United States admitted almost a million legal immigrants annually, and at least an additional 300,000 aliens entered *and* stayed in the country illegally. As a result, immigration today is at, or near, record levels. Moreover, because of the decline in the birthrates of native families, immigration now accounts for nearly half of the growth in population. In short, immigration inevitably plays an increasingly important role in determining demographic and economic trends in the United States.

Although some observers have argued that the resurgence of immigration may offset the decline in the demand for owner-occupied housing that may occur as the effects of the baby boom begins to wane (see Colburn, 1998; and Melman, 1995), the available evidence from the studies that examine the labor market impact of immigration suggests that the link between immigration and housing demand may not be as straightforward as it seems. For instance, there exists a large gap between the wages of immigrant and native workers. In 1998, the typical immigrant worker earned 23 percent less than the typical native worker. Moreover, a great deal of research has documented that immigrants who arrived in the 1980s and 1990s are relatively less skilled—and have correspondingly lower labor incomes—than immigrants who came in earlier waves. Finally, the wages of immigrant and native worker tend to converge, but slowly. As a result, the immigrant waves that arrived in the 1980s and 1990s may have a 10 to 20 percent wage disadvantage throughout much of their working lives. All of these trends suggest that a much more careful study of the link between tenure choice and the trends in the socioeconomic outcomes experienced by immigrants is required before one can assess how immigration will affect the market for owner-occupied housing.¹

The analysis presented in this paper uses data drawn from the 1980 and 1990 Public Use Microdata Samples of the U.S. Census, as well as from the 1998–2000 Annual Demographic Files of the Current Population Surveys (CPS), to provide a comprehensive empirical study of the determinants of homeownership in the immigrant population. The analysis addresses two related questions. First, what are the trends in homeownership

rates in the immigrant population? Second, which are the key factors that drive these trends?

As in the studies that document the labor market experiences of immigrants, it turns out that two variables—which been somewhat neglected in earlier studies of immigrant homeownership—play a central role in determining differences in homeownership rates between the immigrant and native populations: the national origin of immigrants and the residential location choices made by different immigrant groups. It is well known that different national origin groups experience very different socioeconomic outcomes *and* that different national origin groups cluster in different localities. The empirical analysis reported in this paper shows that these two variables are largely responsible for the key trends in immigrant homeownership rates in the past two decades, explaining why immigrant households are less likely to own their homes than native households and why the “homeownership gap” widened substantially since 1980. The evidence presented in this paper also suggests that the growth of ethnic enclaves in American cities could increase demand for owner-occupied housing in immigrant communities in the years ahead.

II. Recent Immigration to the United States: A Brief History

There has been a resurgence of immigration to the United States in recent decades. Nearly 250,000 legal immigrants entered the United States annually during the 1950s. By the 1970s, the annual rate of legal entry was almost 450,000, and by the 1990s over 900,000 legal immigrants entered the country each year.

There has also been a steady increase in the number of illegal aliens. In its most recent published estimate, the INS reported that 5 million illegal aliens resided in the United States as of October 1996, and that the *net* flow of illegal aliens was on the order of 300,000 per year (U.S. Immigration and Naturalization Service, 1998, p. 240).² The early population counts reported from the 2000 Census, however, suggest that the INS may have greatly underestimated the number of illegal aliens living in the United States. For instance, the 2000 Census enumerated several million more Hispanics than it expected, suggesting the number of illegal aliens present in the United States should be revised upwards.

The demographic impact of the resurgence of immigration is perhaps most evident when one estimates the role that immigration plays in determining population

growth in the United States. Only about 20 percent of the change in the population during the 1970s can be attributed to immigration. The combination of increasing numbers of immigrants and declining birthrates among American families implies that *half* of the growth in population during the 1990s can be attributed to immigration. Moreover, it is well known that immigrants are highly concentrated geographically, with three-quarters of the immigrants living in only six states (California, New York, Texas, Florida, Illinois and New Jersey). The demographic impact of immigration, therefore, is likely to be a dominant factor in the evolution of social and economic conditions in these affected regions.

The resurgence in immigration and its changing composition in recent decades can be attributable partly to changes in U.S. immigration policy. Prior to 1965, immigration was guided by the national-origins quota system. The 1965 Amendments to the Immigration and Nationality Act (and subsequent revisions) repealed the national origin restrictions, increased the number of available visas, and made family ties to U.S. residents the key factor that determines whether an applicant is admitted into the country. As a consequence both of the 1965 Amendments and of major changes in economic and political conditions in the source countries relative to the United States, the national origin mix of the immigrant flow changed substantially during the past few decades. Over two-thirds of the legal immigrants admitted during the 1950s originated in Europe or Canada, 25 percent originated in Latin America, and only 6 percent originated in Asia. By the 1990s, only 14 percent of the immigrants originated in Europe or Canada, almost half originated in Latin America, and 31 percent originated in Asia.

This change in the national origin composition of the immigrant population has had important economic consequences because there are huge differences in economic performance among national origin groups. Immigrants from El Salvador or Mexico earn 40 percent less than natives, while immigrants from Germany or the United Kingdom earn 30 to 40 percent more (Borjas, 1994, p. 1686). To some extent, these differences in economic performance among national origin groups mirror the disparity in skills across the populations of the source countries. Immigrants who originate in countries that have abundant human capital and higher levels of per-capita income tend to do better in the United States, partly because these immigrants have higher levels of educational attainment and may also have skills that are more easily transferable to the U.S. labor market.

A large academic literature has analyzed the labor market consequences of these historic trends in the number and national origin mix of immigrants.³ The key findings documented that the skills of successive immigrant waves (relative to natives) diminished during much of the postwar period, with the decline accelerating during the 1970s (Borjas, 1985). In addition, the evidence suggests that the rate of convergence between the earnings of immigrants and natives is not sufficiently rapid to allow the earnings of most recent immigrant cohorts to “catch up” with the earnings of native workers during their working lives.

The labor economics literature has also examined how immigrants alter the earnings opportunities of U.S.-born workers. Many studies document that native workers who live in cities with sizable immigrant populations are only slightly worse off than native workers who live in “non-immigrant” cities (Friedberg and Hunt, 1995). Recent work, however, has conjectured that this finding might arise because natives move away from cities with sizable immigrant populations, thus dissipating the potential adverse impact of immigration over the national labor market (and having corresponding “ripple effects” on housing markets far from the areas where immigrants cluster). As a result, a number of researchers have recently focused their efforts on investigating whether such diffusion effects exist, either through the internal mobility of native workers or the internal mobility of native jobs (Card, 2001; and Hanson and Slaughter, 1999).

In contrast to the vast literature that analyzes the labor market consequences of immigration, relatively few studies have attempted to determine the impact of immigration on the housing market. Most of the available studies have focused on documenting the trends in the demand for owner-occupied housing in the immigrant population—and in comparing homeownership rates in the immigrant and native populations. Myers and Lee (1996) and Myers, Megbolube, and Lee (1998), for example, apply the econometric framework developed in the labor market literature. They examine if the newer immigrant arrivals have different rates of homeownership than earlier immigrant waves and the rate at which a given immigrant cohort moves into owner-occupied housing (i.e., the assimilation effect).

These studies typically find that, other things equal, more recent immigrant waves have somewhat lower homeownership rates than earlier waves, but that the immigrant population experiences relatively fast assim-

ilation into homeownership. It should be noted, however, that the available studies on cohort and assimilation in homeownership rates typically use data from the 1980–90 decade, and do not investigate the links between region of residence and national origin that are likely to play a crucial role in determining the overall impact of immigration on homeownership rates. Even fewer studies have directly addressed the equally important question of whether immigration affects housing prices in the localities where immigrants cluster.⁴ As a result, there is yet much to learn about how the resurgence of immigration will likely affect the demand for owner-occupied housing in the United States.

III. Homeownership in the Immigrant Population: Descriptive Statistics

This section describes the basic trends in the demand for owner-occupied housing in the immigrant and native populations over the 1980–2000 period. The empirical analysis uses data drawn from the Public Use Microdata Samples (PUMS) of the 1980 and 1990 decennial U.S. Census, and the 1998–2000 Current Population Surveys (CPS).

The unit of observation is the household. A household is classified as an immigrant household if the head of the household was born outside the United States and is either an alien or a naturalized citizen; all other households are classified as “native” households.⁵ The study is restricted to households that do not reside in group quarters and that live in one of the identifiable metropolitan areas in the Census or CPS data.⁶ The definitions of households and their immigration status used by the Census and the CPS are, and have been, identical during the periods of observation. The household head must be at least 18 years old to be included in the analysis.

A 1/100 random sample of native households and a 5/100 random sample of immigrant households were extracted from each of the two decennial Censuses. To increase the size of the CPS sample, the data available in the 1998, 1999, and 2000 surveys were pooled. For descriptive convenience, these pooled data will be referred to as the “2000” CPS data.⁷

Table 1 summarizes the key trends revealed by these data. Homeownership rates are lower among immigrant households than among native households. Further, the “homeownership gap” between the two groups widened substantially between 1980 and 2000, with much of the

Table 1. Homeownership rates in native and immigrant households, 1980–2000

	Homeownership rate		
	1980	1990	2000
Native households	63.2	64.2	67.2
Immigrant households	51.2	49.9	47.4
Immigrant households, by year of migration			
1995–99	—	—	14.5
1990–94	—	—	26.4
1985–89	—	16.0	35.3
1980–84	—	30.6	46.0
1975–79	19.5	45.7	56.4
1970–74	35.9	54.5	60.0
1965–69	49.2	60.8	68.2
1960–64	56.3	66.5	72.8
1950–59	65.4	75.3	77.8
Number of observations			
Native households	572,125	593,532	94,056
Immigrant households	261,472	318,307	16,788
Percent of households that are foreign-born	8.4	9.8	13.1

Note: The population shares for the various immigrant cohorts are given as a percent of the total immigrant population.
Source: Public Use Micro Data Samples of the US Census, 1980, 1990; Annual Demographic Files of the *Current Population Surveys*, 1998–2000.

widening occurring during the 1990s. In particular, the rate of homeownership among immigrant households declined during this period, at a time when ownership rates increased steadily among native households. In 1980, for example, 51.2 percent of immigrant households owned their homes. This fraction fell to 49.9 percent in 1990, and to 47.4 percent by 2000. In contrast, the rate of homeownership for native households increased from 63.2 percent in 1980 to 67.2 percent by 2000. Put differently, the 12-percentage point gap in homeownership rates that existed between immigrants and natives in 1980 had widened to a 20-point disadvantage by 2000.

Table 1 also reports homeownership rates for various immigrant waves throughout the 1980–2000 period. The observed trends in homeownership rates for the various immigrant cohorts yield two key findings that will be explored further below. As in Myers and Lee (1998), the data suggest that immigrant households experience a high rate of assimilation into homeownership. Consider, for instance, the homeownership rate of the immigrants who arrived between 1975 and 1979. In 1980, shortly after their arrival, only 19.5 percent of the immigrant households in this cohort owned their homes. By

1990, the cohort's ownership rate had increased to 45.7 percent, and by 2000 it had increased further to 56.4 percent. It is evident, therefore, that homeownership rates rise substantially over time for specific immigrant cohorts. Of course, this increase must be contrasted with the rise in homeownership experienced by comparably aged native households in order to determine if there is rapid assimilation into homeownership. Nevertheless, the data seem to suggest that there may well be a great deal of assimilation.

Second, more recent immigrant waves have lower homeownership rates than earlier groups. This finding is consistent with earlier research (Borjas, 1985) that found that more recent immigrant waves are less educated and have lower wages than earlier entrants, holding constant the number of years the worker has resided in the United States. To illustrate, the 1980 Census indicates that 35.9 percent of the immigrants who had been in the country between 5 and 10 years as of that time (i.e., the 1970–74 arrivals) owned their homes. In contrast, the 1990 Census reveals that only 30.6 percent of the immigrants who had been in the country between 5 and 10 years owned their homes, and the 2000 CPS reveals that 26.4 percent of those who have been in the country between 5 and 10 years owned their homes.

Data Comparability between the Census and the CPS

As noted above, the homeownership gap between immigrants and natives widened considerably between 1990 and 2000. While the concepts and definitions used in the two sources of data are comparable, some of the observed widening possibly could be attributed to the fact that the 1990 homeownership rates are calculated using Census data while the 2000 rates are based on CPS data. To test for such potential empirical problems, a second look was taken using only the CPS data source.

It turns out, however, that there is a significant widening of the homeownership gap even when one considers only the trend contained in the CPS files. Prior to the mid-1990s, the CPS conducted occasional surveys that reported the immigration status of households. Overall, the homeownership rates reported in the June 1988 CPS Supplement are quite similar to those reported by the 1990 Census. In 1988, the homeownership rate for native households was 63.6 percent, while the homeownership rate for immigrant households was 50.3 percent (as compared to 64.2 and 49.9 percent in the 1990 Census, respectively). The difference

in the homeownership rate between these two data sets is not statistically significant for either native or immigrant households. The comparison of the CPS data between 1988 and 2000, therefore, confirms that much of the widening in the homeownership gap occurred during the 1990s.

Two related comparability issues are worth noting. First, are immigrant cohorts defined equivalently in the two data sets? Second, are the homeownership rates similar for the cohorts that can be matched between the two data sets? There are, in fact, slight differences in the classification of immigrant cohorts between the two data sets. For those immigrants who arrived prior to 1980, both data sets often code the year of entry in five-year intervals—for example, immigrants who arrived in 1960–64 or 1965–69. For the immigrants who arrived after 1980, the data sets code the year of entry in narrower two- or three-year groupings, but use slightly different time intervals. For example, the Census identifies immigrants who arrived in 1980–81, 1982–84, and 1985–86, while the CPS identifies immigrants who arrived in 1980–81, 1982–83, and 1984–85. The Census breakdown was utilized to group observations into the five-year intervals reported in Table 1, with the cohorts in the CPS data adjusted so that they would match as closely as possible the cohorts identifiable in the Census.

Data drawn from the June 1988 CPS were used to address the question of whether the CPS and Census data provide similar estimates of the homeownership rates for particular cohorts. These data indicated that the homeownership rate for the cohort that arrived between 1975 and 1979 was 41.8 percent, as compared to the 45.7 percent rate revealed by the 1990 Census. Similarly, the homeownership rate for the cohort that arrived between 1960 and 1964 was 71.1 percent in the 1988 CPS, but 66.5 percent in the 1990 Census. Although these within-cohort differences seem numerically large, they are not statistically significant. In fact, the numerical difference in the homeownership rates estimated from the June 1988 CPS and the 1990 Census is not statistically significant for any of the immigrant cohorts that can be matched.

All of the within-cohort variation between the two data sets, therefore, can be attributed to the sampling error, probably due to relatively small sample size available in any single CPS cross-section. For instance, there are only 373 observations in the June 1988 CPS for foreign-born household that arrived between 1975 and 1979. The small sample size for specific immigrant

cohorts in a single CPS cross-section suggests that more reliable estimates can be obtained by pooling several cross-sections; that rationale suggested measuring the year 2000 from the pooled 1998, 1999, and 2000 Current Population Surveys.

Measuring Cohort Effects and Assimilation

The intercensal tracking of immigrant cohorts conducted in Table 1 does not provide a complete description of the extent of assimilation into homeownership that actually takes place in the immigrant population. As first noted by Friedberg (1992), the intercensal comparison of a sample of immigrants who are aged 18 or above is contaminated by the fact that later Censuses include a number of persons who migrated as children. It is likely that immigrant children do not experience the same process of assimilation into homeownership as immigrants who entered the country as adults. Therefore, a better description of the assimilation experience

of an immigrant cohort requires that the analysis also control for age-at-migration. In effect, one can then compare how an age-adjusted immigrant cohort performs relative to natives who are at the same stage of the life cycle. Myers and Lee (1996) introduced this notion into the housing literature by conducting a “double-cohort” analysis of homeownership rates in the immigrant and native populations, which accounts for both calendar year of arrival and age-at-migration when tracking immigrant cohorts across Censuses.

Table 2 summarizes the descriptive evidence on assimilation for these narrowly defined immigrant cohorts over the 1980–2000 period, using both the Census and the CPS data that report the current age of the household head as well as the year he or she arrived in the United States. Tracking specific age groups over time reveals the existence of sizable assimilation effects into homeownership in the immigrant population. Consider, for example, the sample of immigrant households that

Table 2. Assimilation and cohort effect in homeownership rates

<i>Cohort</i>	<i>Age Group</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
Natives:	25–34 in 1980	49.8	67.0	76.8
	35–44 in 1980	71.0	76.2	80.8
	45–54 in 1980	76.9	80.4	—
	25–34 in 1990	—	44.8	68.0
	25–34 in 2000	—	—	46.7
Immigrants: 1970–74 Arrivals:	25–34 in 1980	31.9	58.4	70.9
	35–44 in 1980	46.1	65.4	72.3
	45–54 in 1980	46.6	61.6	—
Immigrants: 1975–79 Arrivals:	25–34 in 1980	16.5	53.1	68.3
	35–44 in 1980	28.2	58.0	62.7
	45–54 in 1980	30.4	54.8	—
Immigrants: 1980–84 Arrivals:	25–34 in 1990	—	24.4	48.1
	35–44 in 1990	—	38.9	56.8
	45–54 in 1990	—	42.6	47.8
Immigrants: 1985–89 Arrivals:	25–34 in 1990	—	12.2	43.0
	35–44 in 1990	—	21.1	39.4
	45–54 in 1990	—	25.4	40.5
Immigrants: 1990–94 Arrivals:	25–34 in 2000	—	—	22.3
	35–44 in 2000	—	—	33.7
	45–54 in 2000	—	—	38.2
Immigrants: 1995–99 Arrivals:	25–34 in 2000	—	—	10.0
	35–44 in 2000	—	—	19.3
	45–54 in 2000	—	—	25.2

Source: Public Use Micro Data Samples of the US Census, 1980, 1990; Annual Demographic Files of the *Current Population Surveys*, 1998–2000.

arrived in the United States between 1975 and 1979 and who were 25–34 years old in 1980 (so that most household heads in this sample migrated as young adults). In 1980, just after entry, the homeownership rate of this group of immigrant households was 16.5 percent. By 1990, the homeownership rate of this cohort had risen to 53.1 percent, a remarkable rise during the first ten years in the country, and increased further to 68.3 percent by 2000. In contrast to the 52-point rise in homeownership rates experienced by this immigrant cohort, the homeownership rate of natives who were aged 25–34 in 1980 increased from 49.8 percent in 1980 to 76.8 percent in 2000, a 27-point increase. In short, the young immigrants who arrived in the late 1970s experienced a remarkable degree of assimilation into homeownership. It seems as if homeownership is an important part of the “offer” of political, cultural, and economic benefits that draws immigrants to the United States.

The remaining rows of Table 2 show the same type of rapid assimilation into homeownership for most immigrant cohorts, particularly those who arrived in the country in their 20s and 30s. Not surprisingly, the rate of assimilation is not as fast—although it is still quite sizable—for household heads who entered the country at an older age. Consider, for instance, the experience of immigrants who entered the country between 1985 and 1989 and who were 45–54 years old at the time of arrival. The homeownership rate of these entrants “only” increased from 25.4 to 40.5 percent between 1990 and 2000. Nevertheless, this 15-point rise in homeownership rates is substantial when compared with the 4.6 percentage point rise exhibited by comparably aged native households over the same time period, from 76.2 to 80.8 percent.

Finally, the descriptive data in Table 2 show that cohort effects, with more recent cohorts having lower homeownership rates, remain important even after controlling for age-at-migration. Consider, for example, the experience of the immigrant households who have been in the United States fewer than five years and who are relatively young (25 to 34 years old) at the time of entry. The homeownership rate of this group of young arrivals was 16.5 percent in 1980, 12.2 percent in 1990, and 10.0 percent in 2000, a drop of 6.5 percentage points.⁸ In contrast, the group of native households aged 25–34 had a homeownership rate of 49.8 percent in 1980 and 46.7 percent in 2000, a much slower decline than that observed among comparably aged immigrant cohorts. In short there is a persistent decline in home-

ownership rates across successive immigrant cohorts, both in absolute terms and relative to the trends in homeownership observed in the native population.

It is important to note that there is one crucial difference between the homeownership trends revealed by Table 2 and the assimilation and cohort effects that have been measured in studies of immigrant skills or labor market performance. Although both sets of results indicate that more recent waves are relatively worse off than earlier waves along some basic economic dimension, the two sets of findings differ in one fundamental way. There is a significant amount of assimilation into homeownership, but there is relatively little assimilation in wages or in skill accumulation. It would be of great interest to determine why this important difference in the assimilation experience arises. Unfortunately, relatively little study of the factors that promote wage convergence between immigrants and natives have been undertaken in the labor economics literature.

National Origin Differences in Homeownership Rates

The literature that analyzes the trends in immigrant economic performance in the United States has stressed the importance of national origin in generating many of these trends (Borjas, 1992; LaLonde and Topel, 1992). The national origin mix of the immigrant population is an important part of any attempt to understand aggregate trends for two reasons. First, there are huge differences in skills and economic performance across national origin groups in the United States, with groups that originate in the industrialized countries performing better in the U.S. labor market than groups originating in less-developed countries. Second, there has been a substantial “redistribution” of admissions, away from the European countries and towards countries in Asia and Latin America. In view of these trends, therefore, it is not surprising that the changing national origin mix of immigrants can “explain” a large part of the decline in relative wages across successive immigrant waves.

To illustrate the importance of national origin differentials, the first four columns of Table 3 document the marked differences in educational attainment and log of household income across national origin groups in 1990. Mean years of schooling (obtained either in the US or in the country of origin) range from 8 years for immigrants originating in Mexico or Portugal, to about 15 years for immigrants originating in such diverse countries as India and the United Kingdom. Similarly, immigrants

Table 3. Differences across national origin groups in 1990

Country of birth	Educational attainment		Percent gap in household income between immigrants and natives		Homeownership rate	
	All	Pre-1980	All	Pre-1980	All	Pre-1980
	immigrants	arrivals	immigrants	arrivals	immigrants	arrivals
Canada	13.8	13.6	-2.6	-5.5	67.9	70.6
China	12.8	13.2	-6.3	11.2	56.5	71.0
Colombia	12.0	12.3	-12.1	-3.3	41.7	46.2
Cuba	11.7	12.3	-21.7	-13.5	52.0	57.7
Dominican Republic	10.3	10.5	-54.6	-50.9	14.2	18.4
El Salvador	8.6	9.6	-29.7	-23.1	17.3	28.5
Germany	13.9	13.7	-1.2	-1.8	70.5	72.9
Greece	11.8	11.6	-0.4	2.2	70.2	74.1
Haiti	11.2	12.2	-24.8	-7.2	32.4	45.8
India	15.9	16.6	38.4	66.4	58.3	79.9
Iran	15.5	15.9	9.3	27.1	50.0	59.7
Italy	10.9	10.7	-12.6	-13.6	78.8	80.3
Jamaica	12.0	12.4	-8.1	-4.4	46.7	55.1
Korea	14.3	14.9	-7.7	15.9	43.8	62.1
Mexico	7.6	7.6	-35.4	-29.6	38.4	49.5
Philippines	14.1	14.1	32.5	40.1	60.9	72.5
Poland	12.8	12.4	-18.7	-19.9	62.7	70.1
Portugal	8.3	8.4	3.2	3.9	62.1	68.7
U.S.S.R.	14.2	14.2	-36.9	-28.3	50.2	60.3
United Kingdom	14.6	14.4	6.2	-0.6	64.6	68.8
Vietnam	12.3	13.3	-15.4	9.9	43.8	61.9

Source: The data on educational attainment refers to completed years of schooling among male workers aged 25-64, and is drawn from Borjas (1994, p. 1686). The percent gap in household income between the immigrant group and native households is defined as the difference in household log income between the two groups times 100.

from El Salvador or Mexico have household income that is 30 percent lower than that of native households. In contrast, immigrants from the United Kingdom and India have household incomes that are six and 38 percent higher respectively than the native population. Moreover, these differences cannot be attributed to the fact that some national origin groups have lived in the United States for longer periods. The data reported in Table 3 also show that there is substantial dispersion in both educational attainment and household income even among immigrants who have been in the country more than 10 years.

In view of these huge differences in skills and household income among immigrant groups, it is not surprising that there are also sizable differences in homeownership rates among national origin groups. The last two columns of Table 3 summarize some of these differences. In 1990 the homeownership rate was 78.8 percent for Italian immigrants, 70.5 percent for German immigrants, 56.5 percent for Chinese immigrants, 38.4 percent for Mexican immigrants, 17.3 percent for Salvadoran immigrants, and 14.2 percent for immigrants from the Dominican Republic. Moreover, as the last column of

the table shows, these differences are not attributable to some groups having spent a longer time in the United States and hence have had more time to assimilate. The national origin differences in homeownership rates remain strong and significant even among immigrants who have been in the United States at least 10 years. For instance, even after 10 years in the United States, the homeownership rate of households originating in Canada (70.6 percent) is more than 50 percentage points larger than the homeownership rate of households originating in the Dominican Republic (18.4 percent).

These sizable national origin differentials in homeownership rates introduce a number of interesting issues that will be explored in what follows. What factors explain these sizable national origin differences in tenure choice? To what extent does the changing national origin mix of the immigrant population account for the aggregate decline in homeownership rates observed between 1980 and 2000?

Geographic Clustering of Immigrants

It is well known that immigrants tend to cluster in particular metropolitan areas (see Table 4.) In 1990 almost

Table 4. Metropolitan area differences in homeownership rates
(Ranked by size of immigrant population in each year)

	Homeownership rate		Percent of metropolitan area's population that is foreign-born	Percent of total native population living in the metropolitan area	Percent of total immigrant population living in the metropolitan area
	Native	Immigrant			
1980					
New York, NY	34.0	30.5	22.0	5.6	17.2
Los Angeles-Long Beach, CA	53.9	39.4	19.4	4.6	12.0
Chicago, IL	60.6	54.0	11.6	4.3	6.1
Miami, FL	61.5	46.8	34.4	0.7	4.3
San Francisco, CA	56.3	54.4	13.8	2.3	4.0
Detroit, MI	73.1	74.4	8.2	2.7	2.6
Boston, MA-NH	54.6	47.5	12.0	1.5	2.3
Philadelphia, PA-NJ	70.3	68.5	6.2	3.0	2.1
Newark, NJ	60.4	55.4	12.8	1.2	1.9
Nassau-Suffolk, NY	82.3	79.9	9.9	1.6	1.9
1990					
Los Angeles-Long Beach, CA	55.3	39.1	26.9	4.1	13.8
New York, NY	37.9	31.5	25.6	4.3	13.6
Miami, FL	62.7	50.2	43.7	0.7	5.1
Chicago, IL	63.2	55.5	13.6	3.2	4.7
Washington, DC-MD-VA-WV	64.7	51.0	10.9	2.3	2.6
Orange County, CA	66.2	50.5	17.8	1.3	2.5
Houston, TX	58.2	41.8	12.5	1.8	2.4
San Francisco, CA	52.3	48.1	20.1	1.0	2.3
San Diego, CA	57.8	46.6	13.9	1.4	2.1
Boston, MA-NH	58.9	46.4	12.1	1.6	2.0
2000					
Los Angeles-Long Beach, CA	56.5	37.5	41.6	2.7	12.8
New York, NY	37.9	27.1	38.6	3.0	12.6
Miami, FL	58.2	50.8	61.6	0.4	4.5
Chicago, IL	66.5	55.8	15.3	3.5	4.2
Washington, DC-MD-VA-WV	68.1	49.9	17.1	2.0	2.8
Orange County, CA	70.2	40.1	28.0	1.0	2.7
Houston, TX	59.7	45.4	17.9	1.7	2.5
San Diego, CA	57.6	49.8	23.3	1.1	2.2
San Jose, CA	71.3	50.1	34.5	0.6	2.2
San Francisco, CA	49.8	39.2	26.6	0.8	1.9

Source: Public Use Micro Data Samples of the US Census, 1980, 1990; Annual Demographic Files of the *Current Population Surveys*.

a third of the immigrant population lived in only three metropolitan areas (Los Angeles, New York, and Miami). In contrast, only 11.6 percent of the native population was clustered in the three largest metropolitan areas housing natives (New York, Los Angeles, and Chicago). Not surprisingly, there are sizable differences in homeownership rates across metropolitan areas, for both immigrant and native households. For example, in 1990

the homeownership rate for immigrant households in Los Angeles was only 39.1 percent, while the ownership rate for immigrant households in Chicago was 55.5 percent. In contrast, the ownership rate for native households in Los Angeles was 55.3 percent, while the ownership rate for native households in Chicago was 63.2 percent.

The geographic clustering of immigrants—and the fact that homeownership rates vary dramatically across

metropolitan areas—may be a particularly important determinant of the homeownership gap between immigrant and native households. In particular, even a superficial look at the data reported in Table 4 suggests that a relatively large number of immigrants tend to live in metropolitan areas where *even* native households have low homeownership rates. For example, the two metropolitan areas with the largest immigrant populations in 1990 were Los Angeles and New York (accounting for 27.4 percent of all immigrant households). It turns out, however, that the homeownership rate in these two metropolitan areas for native households is relatively low—55.3 percent in Los Angeles and 37.9 percent in New York—far lower than the nationwide average of 64.2 percent.

Not only are immigrants—as a group—clustered in a few geographic areas, but also, as will be shown below, different types of immigrants tend to be clustered in different places. A disproportionately large number of Mexican immigrants, for instance, reside in Los Angeles; a disproportionately large number of Cuban immigrants reside in Miami, and a disproportionately large number of immigrants from the Dominican Republic reside in New York. This geographic sorting of the immigrant population has given rise to the large ethnic enclaves that are a prominent characteristic of major American cities.

How do these geographic concentrations of immigrants affect the entry into homeownership of fellow countrymen who follow them? It is likely that the presence of large numbers of fellow countrymen eases the path to homeownership for immigrants. After all, the enclave changes economic opportunities, provides a clustering of persons who share the same preferences and attitudes as the immigrants, and provides for the imparting of knowledge needed for assimilation. To the extent that clustering also is concentrated within—as well as among—metropolitan areas, it will likely affect local home values and neighborhood amenities. Section V will examine the empirical impact of the ethnic enclave on homeownership rates in the immigrant population.

IV. Determinants of the Homeownership Gap

A voluminous literature exists on tenure choice in the United States (Gyourko and Linneman, 1996; Ihlanfeldt, 1981; Rosenthal, Duca, and Gabriel, 1991). This literature has shown that household income, credit constraints, labor market conditions, and housing prices

play a crucial role in determining the household's tenure choice. In addition, the literature documents that many socioeconomic variables, such as educational attainment, household composition, race, and ethnicity, are important determinants of homeownership rates. The research reported in this paper adopted the basic model from this literature to examine the determinants of the homeownership gap between immigrants and native-born households. In particular, the following linear probability model was utilized *separately* for the cross-section data set in each year (t):

$$(1) \quad H_i = X_i\beta + \delta I_i + \varepsilon_i$$

where H_i indicates the homeownership status of household i at time t (set to one if the household lives in owner-occupied housing, and zero otherwise); X_i (described in more detail below) gives a vector describing the socioeconomic background of the household. As documented earlier, the rate of homeownership varies systematically across cities (e.g., homeownership rates are low in New York City and high in San Jose). These metropolitan area differences probably have little to do with immigration and may be attributable to differences in the structure of the housing market or to regional differences in housing costs. One can easily control for these differences in homeownership across metropolitan areas, *regardless of their source*, by simply including a vector of metropolitan area fixed effects in the vector X_i . Finally, I_i equals one if the household is an immigrant household, and zero otherwise.

A linear probability model was utilized to estimate equation (1) because of the large numbers of observations in the data and because the regression often contained many (in fact, sometimes hundreds of) standardizing variables. (Similar regression models were tested using a logistic specification in smaller, randomly drawn samples; numerically similar results were obtained.) The linear probability model implies that the coefficient δ_i gives the difference in homeownership rates between immigrants and natives after adjusting for differences in the characteristics and location between the two groups. Since the regression in (1) is estimated separately in each cross-section, the trend in the parameter δ will indicate if the adjusted homeownership gap is narrowing or widening.

Table 5 presents summary statistics describing key differences in the background socioeconomic characteristics between immigrants and natives in the

Table 5. Descriptive statistics

	1980		1990		2000	
	Native	Immigrant	Native	Immigrant	Native	Immigrant
Own home (%)	63.2	51.2	64.2	49.9	67.2	47.4
Age (%):						
18–24	8.3	5.4	5.3	4.5	5.4	5.5
25–34	23.8	20.1	22.5	23.1	18.3	23.5
35–44	18.0	18.3	22.6	24.3	23.2	26.3
45–54	16.5	14.8	15.9	17.2	19.7	18.5
55–64	16.2	12.6	13.6	12.0	12.8	11.6
At least 65	17.1	28.8	20.2	19.0	20.7	14.7
Educational attainment (%):						
Less than 9 years	13.6	33.9	6.8	24.2	4.2	20.5
9–11	14.9	11.6	9.7	8.7	8.9	11.0
12	32.5	22.4	29.7	23.8	30.7	23.2
13–15	18.3	13.8	27.8	19.7	28.0	17.3
16	10.3	7.5	16.2	12.3	18.8	16.6
At least 16	10.3	10.8	9.7	11.3	9.5	11.4
Female-headed household (%)	27.7	28.1	32.0	28.4	55.8	60.5
Log household income	10.5	10.3	10.6	10.5	10.6	10.4
Number of persons in household	2.8	2.9	2.7	3.3	2.5	3.2
Number of persons under 18	1.0	1.0	.9	1.2	.7	1.0
Married, spouse present (%)	62.1	61.8	56.7	59.2	50.6	57.9
Married, spouse absent (%)	3.6	3.4	0.9	3.1	1.4	3.4
Years in the United States	—	22.1	—	21.1	—	21.3
Sample size	572,125	261,472	593,552	318,307	94,056	16,788

Source: Public Use Micro Data Samples of the US Census, 1980, 1990; Annual Demographic Files of the *Current Population Surveys*, 1998–2000.

1980–2000 period. Immigrants and native households differ in fundamental ways: immigrant households, for instance, have lower household income (about 18 percent lower in 2000), are larger (by about 0.7 persons per household), have more children (0.3 more children per household), and are more likely to contain both spouses (51 percent of native household heads are married, spouse present, as compared to 58 percent of immigrant households).

To illustrate the determinants of homeownership rates in the population, Table 6 reports the regression coefficients obtained from the complete specification of the model in equation (1). The standardizing variables include a vector of dummy variables indicating the age, educational attainment, marital status, and gender of the household head, variables indicating the number of persons and children in the household, the logarithm of household income, and a variable indicating the number of years that the household head has resided in the United States (this variable is set to zero if the household head is native-born). In addition, the regression specification reported in Table 6 also includes a vector of up to 272 dummy variables indicating the metropolitan area where the household resides, but due to space

constraints the coefficients for these variables are not shown.

The regression coefficients reported in Table 6 suggest that the standardizing variables have a significant, and the expected, impact. Homeownership rates are higher in high-income households or in households where the head is highly educated, and are lower in households headed by a woman or a by relatively young person.⁹ For example, a 10 percent increase in household income increase the homeownership rate by about 1 percentage point in all years. Similarly, in 2000 the homeownership rate is 11.7 percentage points lower for households headed by high-school dropouts than for households headed by someone with a post-college education. Finally, homeownership rates rise systematically with age. In 2000, the homeownership rate in households where the head is at least 65 years old is 40.8 percentage points higher than in households where the head is 25 to 34 years old.

Of course, the key parameter of interest is the coefficient of the immigrant dummy variable, indicating what happens to the homeownership gap between immigrants and natives after controlling for the various socioeconomic characteristics.¹⁰ One important insight

Table 6. Determinants of homeownership probability
(Full regression specification, controlling for metropolitan area fixed effects)

<i>Independent variable</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
Intercept	-0.473 (0.006)	-0.600 (0.006)	-0.264 (0.017)
Immigrant	-0.057 (0.002)	-0.066 (0.002)	-0.103 (0.004)
Years since migration	0.022 (0.001)	0.019 (0.000)	0.015 (0.001)
Years since migration squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Gender of head of household (1 if male; 0 if female)	0.020 (0.001)	0.007 (0.001)	0.013 (0.003)
Household head aged 18–24	-0.513 (0.002)	-0.552 (0.002)	-0.570 (0.006)
Household head aged 25–34	-0.314 (0.002)	-0.384 (0.001)	-0.408 (0.004)
Household head aged 35–44	-0.165 (0.002)	-0.221 (0.002)	-0.249 (0.004)
Household head aged 45–54	-0.094 (0.002)	-0.137 (0.002)	-0.169 (0.004)
Household head aged 55–64	-0.037 (0.002)	-0.058 (0.002)	-0.091 (0.004)
Omitted group: Household head aged 65 or older			
Household head has fewer than 9 years of schooling	-0.072 (0.002)	-0.069 (0.002)	-0.117 (0.007)
Household head has 9–11 years of schooling	-0.061 (0.002)	-0.059 (0.002)	-0.097 (0.006)
Household head has 12 years of schooling	-0.025 (0.002)	-0.022 (0.002)	-0.034 (0.005)
Household head has 13–15 years of schooling	-0.015 (0.002)	-0.014 (0.002)	-0.019 (0.005)
Household head has 16 years of schooling	-0.001 (0.002)	0.002 (0.002)	-0.003 (0.005)
Omitted group: Household head has more than 16 years of schooling			
Household head married, spouse present	0.214 (0.001)	0.191 (0.001)	0.199 (0.003)
Household head married, spouse absent	-0.087 (0.003)	-0.003 (0.004)	0.009 (0.010)
Omitted group: household head not married			
Log of household income	0.115 (0.001)	0.128 (0.001)	0.098 (0.002)
Number of persons in household	0.011 (0.001)	0.006 (0.001)	0.017 (0.002)
Number of persons under age 18 in household	0.016 (0.001)	0.004 (0.001)	-0.002 (0.002)
R-squared	0.310	0.310	0.320

Note: Standard errors are reported in parentheses. The regression for 1980 has 833,597 observations; the regression for 1990 has 911,839 observations; and the regression for 2000 has 110,844 observations. The list of socioeconomic characteristics includes the gender of the household head; the age of the household head (defined as a vector of dummy variables indicating if the head is 18–24, 25–34, 35–44, 45–54, 55–64, or older than 65 years of age); the educational attainment of the household head (defined as a vector of dummy variables indicating if the head has less than 9 years of schooling, 9–11 years, 12 years, 13–15 years, or at least 16 years); the log of household income; dummy variables indicating if the head is married spouse present, or married spouse absent; the number of persons in the household; the number of children (under age 18) in the household; and the number of years that the household has resided in the United States (and its square). In the last three rows of the table, the homeownership gap between immigrants and natives is evaluated at the mean number of years that the household has resided in the United States in each cross-section. The metropolitan area fixed effects adds a dummy variable for each metropolitan area observed in the data.

provided by Table 6 is that the standardized homeownership gap is lower than the “raw” differences in homeownership rates between immigrants and natives. In 1980, the raw differential was 12.0 percentage points, while in 2000 it was 19.7 percentage points. In contrast, the standardized gap was 5.7 percentage points in 1980 and 10.3 percentage points in 2000. Therefore, the socioeconomic and demographic variables included in the regression model do explain a sizable part of the homeownership gap between immigrants and natives.

To determine *which* socioeconomic variables are most responsible for generating the gap, it is instructive to re-estimate the regression model in “stepwise” fashion, introducing a few of the socioeconomic and demographic variables at a time. The impact of this stepwise regressions specification on the magnitude of the coefficient of the immigrant dummy variable is reported in Table 7. The first row of Table 7 reports the unadjusted differences in homeownership rates, while the remaining rows report the coefficient of the immigrant dummy variable using alternative specifications of the regression model in equation (1).¹¹ In particular, the second row reports the coefficient d after the regression controls for the detailed vector of socioeconomic variables summarized in Table 5, including the age, sex, and educational attainment of the household head; the household’s log income; the number of persons and children in the household; dummy variables indicating if the head is married spouse present, or married spouse absent; and the number of years the household has resided in the United States (if immigrant). The regression results reveal a surprising fact: differences in these socioeconomic variables between immigrants and natives explain relatively little of the gap in homeownership rates. In 2000, for example, the unadjusted gap is 19.7 percentage points, and falls to only 16.4 percentage points even after controlling for this extensive set of differences in socioeconomic background between the two populations.¹²

However, the third row of Table 7 shows that there is one important variable—which has not been widely stressed in earlier studies—that does explain a larger fraction of the homeownership gap: the difference in the residential location choices made by immigrant and native households. Table 7 shows that including a vector of dummy variables indicating the metropolitan area where the household resides in the regression model narrows the homeownership gap in each cross-section: from 12.0 percent to 6.0 percent in 1980, and from 19.7 percent to 13.5 percent in 2000.¹³

Table 7. Homeownership gap between immigrants and natives

Homeownership gap	Year		
	1980	1990	2000
Unadjusted difference	−0.120 (0.002)	−0.144 (0.002)	−0.197 (0.004)
Controls for socioeconomic characteristics	−0.121 (0.002)	−0.126 (0.002)	−0.164 (0.004)
Controls for metropolitan area fixed effects	−0.060 (0.002)	−0.092 (0.002)	−0.135 (0.004)
Controls for socioeconomic characteristics and metropolitan area fixed effects	−0.057 (0.002)	−0.066 (0.002)	−0.103 (0.004)

Note: Standard errors are reported in parentheses. The regression for 1980 has 833,597 observations; the regression for 1990 has 911,839 observations; and the regression for 2000 has 110,844 observations. The list of socioeconomic characteristics includes the gender of the household head; the age of the household head (defined as a vector of dummy variables indicating if the head is 18–24, 25–34, 35–44, 45–54, 55–64, or older than 65 years of age); the educational attainment of the household head (defined as a vector of dummy variables indicating if the head has less than 9 years of schooling, 9–11 years, 12 years, 13–15 years, or at least 16 years); the log of household income; dummy variables indicating if the head is married spouse present, or married spouse absent; the number of persons in the household; the number of children (under age 18) in the household; and the number of years that the household has resided in the United States (and its square). In the last three rows of the table, the homeownership gap between immigrants and natives is evaluated at the mean number of years that the household has resided in the United States in each cross-section. The metropolitan area fixed effects adds a dummy variable for each metropolitan area observed in the data.

Therefore, the evidence summarized in Table 7 provides one important insight into how the homeownership gap between immigrants and natives is determined: The different location decisions made by the two groups play an important role in creating the immigrant-native homeownership gap. In fact, the comparison of rows 2 and 3 of the table suggest that locational differences between the immigrant and native populations explain a far larger part of the homeownership gap than do differences in background characteristics. The table, however, also indicates that the relative importance of locational differences declined somewhat between 1980 and 2000. In 1980, differences in location between the two populations explain almost one-half of the homeownership gap; by 2000, differences in location account for only about a third of the homeownership gap. The available evidence suggests that immigration began to “spread” from the traditional

gateway cities to many other locations in the United States during the 1990s (Camarota, 2001). As a result, the location decision of the two populations could have become a somewhat less important determinant of the homeownership gap during this period. Note, however, that despite their declining importance, the differences in location decisions made by the two populations still play a crucial role in determining the homeownership gap, generating a 6-point gap in homeownership rates in 2000.

Finally, the fourth row of the table includes both the socioeconomic variables and the vector of metropolitan area fixed effects (and is the regression specification reported in Table 6).¹⁴ As noted above, it is evident that there remains a great deal of unexplained variation in homeownership rates between immigrant and native households. More importantly, this unexplained gap is growing rapidly over time, from 5.7 percentage points in 1980 to 10.3 percentage points in 2000.

National Origin

Some of the aggregate trend in the homeownership gap likely was linked to the substantial differences in homeownership rates among national origin groups and the substantial changes in national the origin mix of immigrants. Before proceeding to examine this relationship, it is instructive to examine the extent to which the differences in homeownership rates across national origin groups simply proxy for differences in socioeconomic or demographic characteristics. Therefore, the following regression model was estimated separately using the data for each cross-section survey year:

$$(2) \quad H_i = X_i\beta + \phi\eta_i + \varepsilon_i$$

where η_i denotes a national origin fixed effect captured by a set of dummy variables for country of origin. This vector of national origin fixed effects was constructed so that the dummy variable was not included if the household was a native-born. The coefficients of the fixed effects, therefore, give the adjusted difference in homeownership rates between a particular national origin group and the native population. The analysis was restricted to the 90 largest national origin groups, containing more than 90 percent of the immigrants who entered the United States between 1960 and 1990.¹⁵

The top panel of Table 8 summarizes some of the results of the analysis. To simplify the presentation of the evidence—and because the qualitative nature of the results was quite similar across the various cross-sections—Table 8 only reports the results obtained with the 1990 Census

Table 8. Determinants of national origin differentials in homeownership rates, 1990

	Regression specification	
	(1)	(2)
Country of origin:		
Canada	0.036	-0.004
China	-0.078	-0.038
Cuba	-0.123	-0.095
Dominican Republic	-0.501	-0.165
Germany	0.062	0.030
India	-0.060	-0.082
Korea	-0.205	-0.120
Mexico	-0.259	-0.111
Philippines	-0.034	-0.035
Poland	-0.016	-0.007
Selected coefficients of socioeconomic characteristics:		
Male head of household	—	0.008 (0.001)
Household head 25–34	—	-0.387 (0.002)
Household head has 12 years of schooling	—	-0.017 (0.002)
Log of household income	—	0.129 (0.001)
Summary statistics for national origin fixed effects:		
Standard deviation (across 90 national origin groups)		
1980	0.144	0.091
1990	0.157	0.085
2000	0.146	0.077
90–10 Differential:		
1980	0.350	0.200
1990	0.371	0.207
2000	0.381	0.176
R-squared	0.017	0.308
F-statistic testing for significance of effects national origin fixed	—	37.5
Includes socioeconomic characteristics	No	Yes
Includes metropolitan area fixed effects	No	Yes

Note: Standard errors in parentheses. The regression has 592,459 observations. The list of “socioeconomic characteristics” includes the gender of the household head; the age of the household head (defined as a vector of dummy variables indicating if the head is 18–24, 25–34, 35–44, 45–54, 55–64, or older than 65 years of age); the educational attainment of the household head (defined as a vector of dummy variables indicating if the head has less than 9 years of schooling, 9–11 years, 12 years, 13–15 years, or at least 16 years); the log of household income; dummy variables indicating if the head is married spouse present, or married spouse absent; the number of persons in the household; the number of children (under age 18) in the household, and the number of years that the household has resided in the United States (and its square). The metropolitan area fixed effects adds a dummy variable for each metropolitan area observed in the data.

data. The coefficients reported in the first column come from a regression that do not contain any explanatory variables in the vector X , so that the reported coefficients give simply the unadjusted difference in homeownership rates between the immigrant group and the native population. The second column includes the detailed vector of socioeconomic variables described earlier as well as the vector of metropolitan area fixed effects.

It is evident that the inclusion of the background variables and metropolitan area fixed effects explain part of the differences in homeownership rates across national origin groups. For example, the unadjusted gap between Mexicans and natives is 25.9 percentage points. This narrows down to 15.2 percentage points when the regression adjusts for differences in background characteristics and area of residence.

It is also evident, however, that these explanatory variables do not account for most of the differences in homeownership rates across national origin groups. Even after controlling for background characteristics and metropolitan area fixed effects, for example, the homeownership gap (relative to natives) was 16.5 percentage points for immigrants from the Dominican Republic, 8.2 percentage points for immigrants from India, and 12.0 percentage points for immigrants from Korea.

The inclusion of the national origin fixed effects into the regression model did not alter the coefficients of most of the socioeconomic background variables. To illustrate, Table 8 reports some of the selected coefficients. In 1990, for example, the coefficient of log of household income is 0.128 in the absence of national origin fixed effects (as reported in Table 6), and is still 0.129 when the national origin fixed effects are introduced. Similarly, the homeownership gap between households that have high school diplomas and households that have more than a college degree is 2.2 percentage points in the absence of the national origin fixed effects, but becomes 1.7 percentage points when the national origin fixed effects are introduced. This stability suggests differences among these groups in homeownership behavior that are only partly captured by the traditional socioeconomic variables.

The middle panel of the table presents some statistics that further describe the dispersion in the vector of the national origin fixed effects estimated from the regression model in equation (2). In particular, I present the standard deviation of the coefficients in this vector (weighted by the sample size of the national origin group in each particular Census year). The standard deviation

in the unadjusted homeownership gap across the 90 national origin groups in 1990 is 0.157, and declines to 0.085 when all the explanatory variables are included in the regression model. In other words, an extensive set of observable characteristics describing the determinants of the homeownership decision explains only about half of the observable differences across national origin groups.

As noted earlier, the labor economics literature has documented the existence of national origin differences in many economic outcomes, and has stressed that, as a result of these differences, the changing national origin mix of immigrants can help explain aggregate trends in the immigrant population. The available evidence, however, does not help us understand the source of much of the national origin differentials. Evidently, these differences persist even after controlling for a detailed set of background characteristics. It is plausible that such factors as discrimination against particular national origin groups, or differences in the way that the immigrant population is self-selected from the source country's population could be responsible for the remaining differences. The importance of national origin in determining tenure choice for the immigrant population suggests that the continuing study of these differences is an important area for further research.

National Origin and the Widening Homeownership Gap

The evidence reported in Table 6 suggests that differences in location decisions or background variables between the immigrant and native populations cannot account for the widening gap in homeownership rates between the two populations. To more directly ascertain the source of this increasing disparity, consider the following empirical exercise. Suppose we pool two of the cross-sections, such as the 1980 Census and the 2000 CPS, and consider the linear probability regression model:

$$(3) \quad H_{it} = X_{it} \beta + \pi R_{it} + \delta I_{it} + \theta (I_{it} \times R_{it}) + \varepsilon_{it}$$

where R_{it} is a dummy variable set to unity if the observation is drawn from the 2000 CPS, and zero otherwise.

The key feature of the regression specification in equation (3) is that it includes the immigrant dummy variable, a dummy variable indicating whether the observation was drawn from the 2000 CPS, and an interaction between these two variables. In the absence of any

explanatory variables in the vector X , the coefficient of this interaction term (θ) measures how much faster the homeownership rate changed in the immigrant population relative to the change observed in the native population (over the 1980–2000 period).

To give an example, the descriptive statistics presented earlier showed that the homeownership rate rose by 4.0 percentage points in the native population between 1980 and 2000. The data indicate that the homeownership rate of immigrants (in the restricted sample of 90 national origin groups) was 51.6 percent in 1980 and 47.7 percent in 2000, for a decline of 3.9 percentage points over the period. The coefficient θ would then give the “difference-in-differences” estimate of the widening in the homeownership gap, which equals -7.9 percentage points (-3.9 vs. 4.0). In other words, the parameter θ measures the rate of change in the homeownership rate of the immigrant population relative to what was happening in the native population. The inclusion of socioeconomic variables in equation (3) does not change the basic interpretation of the coefficient θ ; the coefficient now simply gives the relative rate of change in homeownership rate in the immigrant population after controlling for differences in background characteristics.

Table 9 reports the coefficient θ estimated from a number of alternative specifications of the regression

model in (3) for the 1980–90 and 1980–2000 periods, respectively. The first row indicates the value of the coefficient θ in the absence of any controls in the regression model. As we saw from the numerical exercise in the previous paragraph, the coefficient θ takes on a value of -7.9 percent for the 1980–2000 period, indicating that the homeownership gap between immigrants and natives widened by 7.9 percentage points over the two decades.

The second row of the tables adds the detailed vector of background variables described earlier to the regression specification (including the age, sex, educational attainment, and marital status of the household head, the income of the household, the number of persons and children in the household; and the number of years that immigrants households have resided in the United States). The coefficient θ now takes on a value of -5.1 percentage points, so that the homeownership gap widened substantially even after controlling for differences in background characteristics between the two populations.¹⁶ The third row includes only a vector of metropolitan area fixed effects in the vector X , and shows that the different location decisions of immigrants and natives do not help explain the widening of the homeownership gap *at all*. Put differently, the evidence indicates that the homeownership gap between immigrants and natives widened even within metropolitan areas.

Table 9. Explaining the widening homeownership gap between immigrants and natives

<i>Regression specification</i>	<i>1980–90</i>	<i>1980–2000</i>
1. Unadjusted rate of widening	–0.029 (0.004)	–0.079 (0.011)
2. Adjusted rate, controls for socioeconomic characteristics	–0.009 (0.003)	–0.051 (0.009)
3. Adjusted rate, controls for metropolitan area fixed effects	–0.027 (0.004)	–0.080 (0.011)
4. Adjusted rate, controls for metropolitan area fixed effects and interacts metropolitan area fixed effects with dummy variable indicating census year	–0.036 (0.004)	–0.077 (0.011)
5. Adjusted rate, controls for immigrant’s country of birth	0.025 (0.004)	0.003 (0.011)
6. Adjusted rate, controls for immigrant’s country of birth, socioeconomic characteristics, metropolitan area fixed effects and interacts metropolitan area fixed effects with dummy variable indicating census year	–0.003 (0.003)	–0.030 (0.010)

Note: Standard errors are reported in parentheses. Because of the large sample size and the large number of regressors, the 1980 and 1990 native samples used in the regressions summarized in this table form a 33% random sample of the native extract used throughout the paper. The regression for 1980–90 has 878,725 observations; the regression for 1980–2000 has 509,622 observations. The list of “socioeconomic characteristics” includes the gender of the household head; the age of the household head (defined as a vector of dummy variables indicating if the head is 18–24, 25–34, 35–44, 45–54, 55–64, or older than 65 years of age); the educational attainment of the household head (defined as a vector of dummy variables indicating if the head has less than 9 years of schooling, 9–11 years, 12 years, 13–15 years, or at least 16 years); the log of household income; dummy variables indicating if the head is married spouse present, or married spouse absent; the number of persons in the household; and the number of children (under age 18) in the household, and the number of years that the household has resided in the United States (and its square). The metropolitan area fixed effects add a dummy variable for each metropolitan area observed in the data, and the national origin fixed effects add a dummy variable for each of the 90 national origin groups in the immigrant population.

The specification of the regression model in (3) implies that the metropolitan area fixed effects control for factors that are specific to the metropolitan area *and* that did not change over the 1980–2000 period. It is likely, however, that there were factors that changed within a metropolitan area, and that the rate of change varied across areas (e.g., housing prices). In other words, there are likely to be trends in homeownership rates that are specific to metropolitan areas. To account for these varying trends across metropolitan areas, consider the expanded regression model:

$$(3')H_{it} = X_{it}\beta + \pi R_{it} + \delta I_{it} + \theta(I_{it} \times R_{it}) + \rho_{it} + (\rho_{it} \times R_{it}) + \varepsilon_{it}$$

where ρ_{it} denotes a separate vector of fixed effects for different metropolitan areas and $(\rho_{it} \times R_{it})$ is the interaction of this vector with the dummy variable indicating if the observation was drawn from the 2000 CPS. The coefficients of these interaction variables are fixed effects giving the adjusted rate of change in homeownership rates within a metropolitan area. The expanded specification in equation (3'), therefore, controls both for the fact that metropolitan areas are different at the beginning of the period and that the growth rate in homeownership varies across metropolitan areas. The fourth row of Table 9 reports the coefficients obtained from this more general specification. The verdict is clear: controlling for the varying trends in homeownership rates across metropolitan areas does not help explain the widening gap in homeownership rates between immigrants and natives. We still have a 7.7 percentage point unexplained widening of this gap over the period.¹⁷

It turns out, however, that there is an additional vector of variables that can be included in the regression model in (3) that can *completely* account for the widening homeownership gap. The fifth row of the table includes a vector indicating the country of birth of the immigrant household, so that the coefficient θ now estimates what happened to the homeownership gap between immigrants and natives *within* national origin groups.¹⁸ The coefficient reported in row 5 of the table for the 1980–2000 period is zero, both numerically and statistically. In other words, the homeownership gap was constant between 1980 and 2000 *within* national origin groups. It is evident, therefore, that the changing national origin mix of the immigrant population is the key variable that explains the widening homeownership gap between immigrants and natives. Put differently, we would not have observed an increase in the homeown-

ership gap over these two decades had the national origin mix of immigrants remained constant over the period.

Since there are significant differences in homeownership rates across national origin groups and there has been a sizable shift in the national origin composition of the immigrant population, the evidence summarized in Table 9 implies that the “newer” national origin groups tend to have relatively lower homeownership rates than “earlier” national origin groups. It is this difference that helps explain why homeownership rates have declined in the immigrant population at a time when they were increasing in the native population. As with the literature that analyzes the labor market performance of immigrants, national origin plays a crucial role in the determination of the aggregate level of homeownership rates for the immigrant population.

The last row of Table 9 includes all of the explanatory variables in the regression in equation (3): background characteristics, metropolitan area fixed effects as well as fixed effects accounting for different trends in homeownership rates across metropolitan areas, and country of origin fixed effects. It is evident that the results of this most general specification do not change the key finding of the analysis. Much all of the increasing gap in homeownership rates between immigrants and natives can be attributed to the fact that there are substantial differences in homeownership rates across national origin groups, and that the changing national origin mix of the immigrant population over the past two decades has led to a situation where the “average” immigrant now belongs to a national origin group that tends to have a lower homeownership rate.

V. Homeownership and Ethnic Enclaves

The evidence summarized in the previous sections illustrated the importance of the geographic sorting of immigrants as well as of national origin in generating differences in homeownership rates between immigrants and natives. There is an additional sense in which the interaction between these two variables might influence the demand for owner-occupied housing. Because particular immigrant groups tend to cluster in particular cities, the geographic sorting leads to the creation and growth of ethnic enclaves. It is likely that ethnic enclaves affect the structure of the housing market, the accessibility of new immigrants to housing markets and the mortgage finance system, and the amenities available in particular areas to different national origin groups.

How ethnic enclaves affect the economic well being of immigrants in the United States has been much debated. One could argue that the geographic clustering and the “warm embrace” of the enclave helps immigrants circumvent any discrimination that they might have otherwise encountered in the labor and housing markets outside the enclave. This argument would suggest that clustering improves economic opportunities for immigrant families within the enclave. Moreover, the presence of other immigrants with similar preferences and attitudes in the neighborhood may make the neighborhood much more welcoming and desirable. These improvements in housing amenities and in economic opportunities could increase the demand for owner-occupied housing in immigrant enclaves.

One can also argue, however, that the clustering can have adverse economic effects. The ethnic enclave creates incentives for immigrants *not* to leave and *not* to acquire the skills that might be useful in the larger national market. In other words, the clustering may effectively hinder the move to better-paying jobs by reducing the immigrants’ incentives to learn the culture and language of the American labor market. In a sense, immigrants who live and work in an ethnic enclave are the victims of a monopsony, a “one-company” town. These adverse economic effects would presumably reduce the income of immigrant families living in the enclaves, lowering their demand for owner-occupied housing.¹⁹

This section estimates the link between ethnic enclaves and the demand for owner-occupied housing. The empirical analysis exploits the information on national origin and metropolitan residence contained in the micro data sets used in the previous sections. However, because the sample size within a cell defined by metropolitan area and national origin is relatively small in the CPS data, the empirical study is restricted to the larger 1980 and 1990 Census extracts.

As documented earlier, different national origin groups in the United States tend to settle in different areas.²⁰ To measure the extent of geographic ethnic clustering for the 90 largest national origin groups in the United States, an “exposure” measure of ethnic clustering was constructed for each period, t , defined by:²¹

$$(4) \quad \text{Exposure Index} = S_i = \frac{N_{jk}}{N_k}$$

where N_{jk} gives the total number of persons who were born in country of origin j of the household in question and live in its metropolitan area k at a particular point in

time. N_k gives the total number of persons (including natives) who live in metropolitan area k at that time. The counts N_{jk} and N_k are calculated using the entire population of persons aged 18–64 who were enumerated by each Census in metropolitan area k , regardless of their work status or gender. The exposure index assigned to each household, therefore, simply gives the fraction of the metropolitan area’s adult-age population that belongs to the household’s particular national origin group. It is important to note that the exposure index does not pick up “fine-grained” geographic detail because it measures the representation of the ethnic group at the metropolitan area level. Ideally, the analysis would relate homeownership rates to measures of ethnic concentration at a narrower geographic level, but such data are not available.

Table 10 shows that there is a great deal of variation in the exposure index. For example, 16.9 percent of the population of Los Angeles is of Mexican origin, but only 5.3 percent of the population in Chicago and .6 percent of the population in New York are of Mexican origin. Similarly, 26.5 percent of the population of Miami is of Cuban origin, as compared to 0.5 percent of the population of Los Angeles and 0.7 percent of the population of New York. In short, different national origin groups tend to cluster in different metropolitan areas of the United States. It is this geographic variation that permits the type of empirical analysis that will be carried out below.

Regression Analysis

The empirical nature of the link between assimilation into homeownership and ethnic enclaves was investigated by estimating the following linear probability model *separately* in the 1980 and 1990 census cross-sections:

$$(5) \quad H_i = X_i\beta + \alpha S_i + \phi\eta_i + \varepsilon_i$$

where H_i is a dummy variable indicating if an household owns a home at time; X_i is the vector of standardizing variables (described below); S_i is the exposure index of ethnic clustering; and η_i denotes a vector of fixed effects indicating the household’s country of origin.²² Again, equation (5) was estimated using the sample of immigrant households that belong to one of the 90 largest national origin groups in the immigrant population.²³

The coefficient α measures the link between homeownership and ethnic clustering. As was the case in the results reported above, the X_i matrix included a set of vari-

Table 10. Exposure index of ethnic clustering in 1990, For selected national origin groups and metropolitan areas
(Exposure index × 100)

Metropolitan area	National origin group							
	Canada	China	Cuba	Dominican Republic	Haiti	Korea	Mexico	Philippines
Anaheim	0.789	0.385	0.208	0.017	0.006	1.475	11.863	0.996
Chicago	0.200	0.294	0.271	0.023	0.060	0.554	5.297	0.964
Dallas	0.206	0.147	0.117	0.016	0.010	0.308	5.599	0.230
Houston	0.190	0.294	0.212	0.026	0.014	0.214	7.242	0.407
Los Angeles	0.513	0.886	0.467	0.017	0.016	1.638	16.892	2.320
Miami	0.323	0.096	26.547	1.191	3.277	0.080	0.602	0.240
New York	0.238	1.769	0.682	3.617	1.238	0.948	0.623	0.651
Philadelphia	0.151	0.169	0.081	0.030	0.034	0.400	0.063	0.228
San Diego	0.668	0.216	0.086	0.028	0.009	0.250	9.884	3.432
San Francisco	0.530	4.359	0.128	0.020	0.028	0.628	3.586	4.333

ables capturing the fixed effects associated with each metropolitan area in the sample. Also included were dummy variables indicating the national origin of the particular household. Thus, the regression effectively isolates the impact of different levels of ethnic clustering on the *same* national origin group. Hence the impact of the ethnic enclave on homeownership is being identified from within-group variation, taking advantage of the fact that members of the same national origin group choose to reside in different metropolitan areas.

In other words, the regression model that tested equation (5) addresses the following type of question: what happens to the probability of homeownership when, say, a Mexican household lives in Los Angeles, where there is a large Mexican population, rather than in Miami, where there are relatively few Mexican immigrants? Of course, this methodological approach raises the obvious issue of endogeneity in the residential location of immigrants. After all, immigrants will likely move to metropolitan areas where they face better opportunities (and perhaps better conditions in the housing market). I will discuss the bias introduced by the endogeneity of residential location below.

The first row of Table 11 presents the coefficient a estimated from alternative specifications of the regression model in (5). The first column reports the coefficient estimated in the 1980 cross-section, while the second column reports the coefficients estimated in the 1990 cross-section. As before, the regressions control for a detailed vector of background variables, including the age, sex, educational attainment, and marital status of the household head, the log income of the household, and the number of persons and children in

the household. In both census years, there is a numerically strong and statistically significant positive relation between the probability of homeownership and the relative size of the ethnic enclave in the metropolitan area.

Moreover, the evidence suggests that ethnic enclaves remain important even when we look at the trend in homeownership within a particular metropolitan area. In particular, consider the following empirical exercise. Suppose we pool the 1980 and 1990 cross-sections and estimate the following regression model in these pooled data:

$$(6) \quad H_{it} = X_{it} \beta_t + \pi R_{it} + \alpha S_{it} + \phi \eta_{it} + \rho_{it} + (\rho_{it} \times R_{it}) + \varepsilon_{it}$$

where R_{it} is a dummy variable set to unity if the observation is drawn from the 1990 census, and zero otherwise. As before, the regression includes a vector of national origin fixed effects (η_{it}) and a separate vector of metropolitan area fixed effects (ρ_{it}). Note, however, that the specification in (6) also interacts the metropolitan area dummy variables with the dummy variable indicating the Census year ($\rho_{it} \times R_{it}$). These interaction terms help to control for the fact that conditions in the housing market may have changed differentially across metropolitan areas over the 1980–90 period. The coefficient a now measures the extent to which changes in the exposure index within a particular metropolitan area and national origin group affect homeownership in the immigrant population—after holding constant changes in the housing market within a metropolitan area that affect all persons living in that area equally.²⁴ The last column of Table 11 reports the coefficient estimated from the pooled data. The coefficient is positive and significant,

Table 11. Ethnic enclaves and homeownership
(Impact of exposure index on the probability of homeownership)

Group	Regression Specification		
	1980	1990	Pooled
All immigrant households	0.285 (0.061)	0.061 (0.047)	0.138 (0.045)
R-squared	0.320	0.352	0.334
Refugee households	0.342 (0.086)	0.067 (0.118)	0.266 (0.054)
R-squared	0.320	0.349	0.326

Note: Standard errors are reported in parentheses and are corrected for the clustering of immigrant cohorts within metropolitan areas. The exposure index is defined as the fraction of the metropolitan area's population that belongs to the household's national origin group. The regression estimated in the 1980 cross-section has 239,830 observations (44,956 observations in the refugee sample); the regression in the 1990 cross-section has 304,336 observations (51,734 observations in the refugee sample); and the pooled regression has 516,333 observations (92,261 observations in the refugee sample). The list of "socio-economic characteristics" includes: the gender of the household head; the age of the household head (defined as a vector of dummy variables indicating if the head is 18–24, 25–34, 35–44, 45–54, 55–64, or older than 65 years of age); the educational attainment of the household head (defined as a vector of dummy variables indicating if the head has less than 9 years of schooling, 9–11 years, 12 years, 13–15 years, or at least 16 years); the log of household income; dummy variables indicating if the head is married spouse present, or married spouse absent; the number of persons in the household; the number of persons under the age of 18 in the household, and the number of years that the household has resided in the United States (and its square). All regressions contain a vector of metropolitan area fixed effects, and a vector of national origin fixed effects. In addition, the pooled regression includes a dummy variable indicating the survey from which the observation is drawn, and interacts this period effect with the metropolitan area fixed effects.

indicating a strong positive correlation between the growth of ethnic enclaves over the 1980–2000 period and homeownership rates in the immigrant population. The significance of the coefficient θ implies that the geographic clustering of immigrants has an independent effect on homeownership rates, even within national origin groups and within metropolitan areas. In other words, controlling for enclave effects increases the explanatory power of the regression model.

To evaluate the numerical importance of ethnic enclaves, it is instructive to consider a simple simulation of the estimated regression model. In particular, consider the typical Mexican household living in Los Angeles, where the exposure index takes on a value of 0.169 (indicating that 16.9 percent of the population of the Los Angeles metropolitan area is of Mexican origin). This household's probability of homeownership would have

fallen by 2.3 percentage points, *ceteris paribus*, if this household had chosen to live in Philadelphia, where only 0.1 percent of the population is of Mexican origin.²⁵ Ethnic enclaves, therefore, seem to have an important impact on homeownership rates.

The results summarized in the first row of Table 11 might be biased because the residential choices of immigrants are likely to be endogenous. The measured impacts may simply reflect the fact that the same unobserved factors that lead to particular location choices also lead to particular socioeconomic outcomes. For example, Evans, Oates, and Schwab (1992) show that endogenizing the "peer group" effects greatly weakens the relationship between outcomes and neighborhood characteristics. The problem has been difficult to resolve because there are few valid instruments that can help identify the relevant parameters.

It is unlikely that immigrants randomly choose which metropolitan areas to reside in when they enter the United States. Most likely, their location decision will depend both on the presence of ethnic enclaves, which can transmit a great deal of information about job and housing opportunities, as well as on the economic and housing opportunities available in different areas. For example, suppose that immigrants have a strong desire to own their homes, and, as a result, tend to cluster in areas where it is relatively easy to enter the owner-occupied housing market. Ethnic enclaves would then form in areas that have relatively high homeownership rates, creating a spurious positive correlation between any measure of the size of the ethnic enclave and homeownership rates in the immigrant population. Put differently, the positive correlation could arise because immigrants choose to cluster in areas where households have a high probability of homeownership, rather than because the ethnic enclave itself creates an environment that raises the immigrant household's demand for owner-occupied housing.

The endogeneity issue can be addressed by focusing on the sample of immigrants who entered the country as refugees. Refugees typically have much less choice in deciding where to live in the United States (at least at the time of their initial entry). The State Department assigns individual refugees to "sponsoring" private voluntary agencies that provide a variety of social services, including initial resettlement in the United States (U.S. Department of State, 2000). The geographic location of the refugees' resettlement is determined by the sponsoring agencies, and depends partly on the match

between a refugee's socioeconomic background and the availability of jobs and services in particular localities—as perceived by the sponsoring agency. Unfortunately, the U.S. Census does not contain any information on the type of visa used by a particular person to enter the United States. To approximate the refugee population, therefore, I classify all immigrants who originate in the main refugee-sending countries as refugees (all other immigrants are classified as non-refugees).²⁶

The second row of Table 11 reports the estimate of the coefficient α when equation (6) is estimated in the subsample of refugees. Ethnic enclaves continue to have a positive impact on homeownership rates even in the refugee sample. If anything, the numerical impact of the ethnic enclave on homeownership rates is numerically larger in the refugee sample than in the entire immigrant population. The evidence, therefore, rejects the hypothesis that the strong positive correlation between ethnic enclaves and homeownership rates can be attributed to endogeneity bias.

VI. Summary

This paper has analyzed the determinants of homeownership in immigrant households. The empirical analysis used data drawn from the 1980 and 1990 Public Use Samples of the U.S. Census, and from the 1998–2000 Current Population Surveys. The study yields a number of interesting empirical findings:

1. Immigrant households have lower homeownership rates than native households and this “homeownership gap” has widened significantly in the past twenty years.
2. Only a relatively small part of the homeownership gap between immigrants and natives can be attributed to differences in such socioeconomic background variables as income and household composition between the two populations. A much more important factor that helps generate a sizable homeownership gap is the difference in the location decisions made by immigrants and natives.
3. The sizable differences in homeownership rates among the national origin groups that make up the immigrant population and its changing national origin mix help explain much of the increase in the homeownership gap between immigrants and natives.
4. The interaction between national origin and locational choices is perhaps most evident in the creation

and growth of ethnic enclaves in major American cities. The evidence suggests that ethnic enclaves increase the probability that immigrant households own their homes.

The analysis in this paper suggests that immigration will play an increasingly important role in determining the demand for owner-occupied housing in the United States. The role played by immigration, however, will not depend simply on the fact that more immigrants imply more households, which would then lead to an increase in housing demand. The impact of immigration on homeownership rates is much more subtle, depending on the national origin mix of the immigrant population and on the locational choices made by immigrants. In fact, the evidence presented in this paper suggests that the growth of ethnic enclaves in major American cities could become an important factor in determining the demand for owner-occupied housing in many metropolitan areas.

It is important to note, however, that the link between immigration and homeownership also depends on how immigrants affect housing prices. For instance, the increasing demand for owner-occupied housing in ethnic enclaves should lead to a rise in housing prices in the affected areas. While this effect will encourage homeownership as an “investment”, it also will discourage housing demand among both immigrant and native households by creating up front affordability problems. Surprisingly, the impact of immigration on housing prices has not yet been explored systematically.

Notes

1. Earlier studies of homeownership in the immigrant population include Alba and Logan (1992), Krivo (1995), Myers and Lee (1996, 1998), Myers, Megbolugbe, and Lee (1998), and Painter, Gabriel and Myers (2000).

2. These estimates of the illegal alien population do not include the nearly 3 million illegal aliens who received amnesty (and became permanent legal residents) in the late 1980s.

3. This literature is surveyed in Borjas (1994) and Friedberg and Hunt (1995).

4. An important exception is Saiz (2000), who investigates the impact of the 1980 Mariel flow of Cuban immigrants on rental housing prices in Miami.

5. I experimented with alternative definitions of the immigration status of the household. For example, I used a more stringent definition of an “immigrant household” as a

household where *all* persons are foreign-born. The results obtained using this alternative approach, however, are qualitatively very similar to those reported in the paper.

6. The restriction of the analysis to households residing in identifiable metropolitan areas affects relatively few households in the immigrant population. In 2000, for example, 94.2 percent of the immigrant households resided in these metropolitan areas, as compared to 75.2 percent for native households.

7. The three CPS extracts contain roughly the same number of observations. I constructed household weights for the pooled sample by assuming that the total number of weighted households in each of the CPS calendar years was exactly equal to one-third of the total number of weighted households in the pooled sample.

8. A potential data problem arises when one compares the homeownership rates of the “most” recent immigrants across data sets. Table 2 defines this cohort as immigrants who arrived between 1975 and 1979 in the 1980 Census; 1985 and 1989 in the 1990 Census; and 1995 and 2000 in the pooled 2000 CPS. Because the pooled 2000 CPS consists of the 1998, 1999, and 2000 surveys, these pooled data do not provide a representative sample of persons who migrated between 1995 and 2000. After all, the 1998 CPS cannot contain any observations on immigrants who entered the country in 1999 and 2000. To resolve this issue in the empirical work that follows, I use a “years-since-migration” variable to control for the amount of time that the immigrant has lived in the United States. By construction, this variable is perfectly comparable across surveys.

9. The regression introduces the age of the household head as a vector of dummy variables indicating if the head is 18 to 24 years old, 25 to 34 years old, and so on. This specification, and the respective use of dummy variables to indicate the head’s educational attainment, allows for the possibility that the effects of age and education on homeownership rates are highly nonlinear. Finally, I define household income in terms of its logarithm so that its coefficient can be easily interpreted as the impact of a percent change in household income on the probability of homeownership.

10. Coulson (1999) provides a related study that analyzes why homeownership rates are relatively low among Hispanic and Asian American households.

11. The unadjusted gap can be obtained by running the regression in (1) without any standardizing variables in the vector X .

12. These differences are evaluated at the point where the years-since-migration variable takes on the mean value in the immigrant population.

13. The F-statistic associated with the vector of metropolitan area fixed effects is 140.2 in 1980, 137.9 in 1990, and 18.7 in 2000, implying that the vector of metropolitan area fixed effects plays a very significant role in determining homeownership rates.

14. It is important to note that because the two vectors included in the regression (i.e., the vector of background socioeconomic characteristics and the vector of metropolitan area fixed effects) are not orthogonal, one cannot simply “add” the impact of each vector on the immigrant dummy variable to obtain the total reduction that would be observed when both vectors are included in the regression. The evidence in Table 7, therefore, should be interpreted as showing that even after controlling for background characteristics, the different location choices made by immigrants and natives still play a major role in generating the homeownership gap between the two groups.

15. The Appendix Table lists the 90 national origin groups used in the analysis.

16. It is worth noting that the vector of socioeconomic characteristics includes a variable indicating the length of time that immigrant households have resided in the United States. The evidence reported in Table 9 indicates that changes in the mean number of years-since-migration do not explain the widening homeownership gap. The main reason is that this variable was roughly constant over the 1980–2000 period. The typical immigrant in 1980 had been in the United States for 22.1 years, in 1990 for 21.1 years, and in 2000 for 21.3 years.

17. It is worth stressing that by interacting this variable with R in equation (3), I control for the possibility that the 1980–2000 trend in homeownership rates varies systematically across metropolitan areas. Note that it would be statistically impossible to include either a measure of the price level in the metropolitan area as of 1980 or the change in the price level in the metropolitan area over the 1980–2000 period into this regression model. After all, these price indices would be perfectly collinear with the two vectors of metropolitan area fixed effects (ρ_{it} and $\rho_{it} \times R_{it}$) included in the regression model. The regression specification in equation (3), therefore, already controls for any factors that are specific to the metropolitan area either in the cross-section or over time, *regardless of their source*.

18. This explains why I restricted the analysis to the 90 largest national origin groups. I wanted to ensure that there were sufficient observations in each of the groups to reliably estimate the national origin differentials in homeownership rates.

19. Although there has been a contentious debate over whether immigrant workers benefit from being hired by

immigrant entrepreneurs, a recent comprehensive study by Light and Gold (2000, p. 70) concludes that “ethnic economies pay lower wages than the general labor market.” A recent study by Borjas (2000) provides additional evidence that there is a strong negative correlation between the earnings of immigrants and the fraction of the metropolitan area’s population that belongs to the immigrant’s ethnic group.

20. Cutler, Glaeser, and Vigdor (1999) present a detailed analysis of the trends in residential clustering in the immigrant population.

21. See Cutler and Glaeser (1997) for a good discussion of the various measures of residential clustering.

22. The analysis also was conducted using an alternative measure of immigrant clustering that divides equation (5) by the fraction of the total U.S. population that belongs to the national origin group. This index of “relative clustering” would equal one when the fraction of type- j immigrants who live in metropolitan area k is the same as the fraction of type- j immigrants in the entire population of the United States. Immigrants and natives are, in effect, “balanced out” in metropolitan area k in equal proportions. The empirical findings obtained with this alternative measure of the relative size of the ethnic group were similar to those reported in this section.

23. In particular, note that the sample of native households is not used in estimating equation (5). It would be of great interest to investigate how the creation and growth of ethnic enclaves influenced homeownership rates among native households residing in those areas.

24. Note that because the pooled regression controls for metropolitan residence and national origin, the coefficient reported in Table 11 is identified exclusively from the fact that the segregation index changed *within* a particular metropolitan area and for a particular national origin group between 1980 and 1990. In a sense, the data are being differenced within a metropolitan area, so that the variation in the segregation index for a particular group and for a particular metropolitan area is the only source of variation that remains that could identify the coefficient. As a result, the absence of particular national origin groups from many cities (i.e., the existence of many empty cells) does not play any role in the estimation since they disappear in the implicit differencing.

25. The drop of 2.3 percentage points is obtained by multiplying the regression coefficient reported in column 3 (0.138) times the difference in the exposure index between Los Angeles and Philadelphia (0.168).

26. Thirteen countries account for 90 percent of the refugees awarded permanent residence status during the

1970s and 1980s: Afghanistan, Bulgaria, Cambodia, Cuba, Czechoslovakia, Ethiopia, Hungary, Laos, Poland, Romania, Thailand, the former U.S.S.R., and Vietnam.

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Appendix A. Countries used in the analysis

<i>Africa</i>	<i>Americas</i>	<i>Asia</i>	<i>Europe</i>
Cape Verde	Argentina	Afghanistan	Austria
Egypt	Barbados	Bangladesh	Azores Islands
Ethiopia	Belize	Cambodia	Belgium
Ghana	Bolivia	China	Czech
Kenya	Brazil	Hong Kong	Denmark
Liberia	Canada	India	Finland
Morocco	Chile	Indonesia	France
Nigeria	Colombia	Iran	Germany
Sierra Leone	Costa Rica	Iraq	Greece
South Africa	Cuba	Israel	Hungary
	Dominican Republic	Japan	Ireland
	Ecuador	Jordan	Italy
Other:	El Salvador	Korea	Netherlands
Australia	Grenada	Laos	Norway
Fiji	Guatemala	Lebanon	Poland
New Zealand	Guyana	Malaysia	Portugal
Tonga	Haiti	Myanmar	Romania
Western Samoa	Honduras	Pakistan	Spain
	Jamaica	Philippines	Sweden
	Mexico	Saudi Arabia	Switzerland
	Nicaragua	Sri Lanka	United Kingdom
	Panama	Syria	USSR
	Peru	Taiwan	Yugoslavia
	Trinidad	Thailand	
	Uruguay	Turkey	
	Venezuela	Vietnam	