Immigrant Residential Patterns in U.S. Metropolitan Areas, 1990-2000[*]

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Abstract

A number of recent studies have shown that residential segregation among various Asian and Hispanic groups has remained the same or increased in recent decades. High levels of immigration have likely affected patterns of segregation, as new immigrants often settle in ethnic enclaves even as longer-term residents may disperse into outlying areas. The purpose of this analysis is to directly test the applicability of the "spatial assimilation" model for understanding patterns of immigrant settlement by looking at patterns of segregation in 1990 and 2000 for various racial and ethnic groups by nativity, country of origin, and timing of immigration. Findings provide qualified moderate support for spatial assimilation. While the foreign-born as a whole became more segregated between 1990 and 2000, we see that more recent arrivals in a given census year have higher levels of segregation than those who immigrated earlier, and the segregation for approximate cohorts of immigrants also declined modestly from 1990 to 2000. The main reason for the overall increase in segregation for the foreign-born between the censuses is thus due to a compositional shift: many of the foreign-born are recent arrivals. Results also indicate that spatial assimilation is an uneven process, as segregation patterns of the foreign-born vary considerably by race/ethnicity and country of origin.

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A number of recent studies have shown that residential segregation among various Asian and Hispanic groups has remained the same or increased in recent decades, even as African American segregation has declined (Iceland et al. 2002; Lewis Mumford Center 2001). In an era when racial polarization is thought to be declining—as evidenced by the declines in African American segregation—the trends for Hispanics and Asians might seem both striking and puzzling. Some observers have posited that high levels of immigration likely affected these patterns, as new immigrants often settle in ethnic enclaves even as longer-term residents may disperse into outlying areas. The fact that segregation has not declined for Asians and Hispanics may be due to the concentration of new immigrants outweighing the residential dispersion of longer-term residents. This study therefore seeks to shed light on the effects of nativity and race in producing observed residential patterns.

Understanding these processes is important because they provide insight on how patterns of interaction between racial and ethnic groups have changed and the potential role of immigration in affecting these patterns. For example, if findings of this research provide support for the "spatial assimilation" model—that recent immigrants are highly segregated but that segregation declines the longer they are in the U.S.—then this would indicate that over time we should expect to see increasing interaction between these minority groups and Whites in shared neighborhoods. This could therefore lead to (and be a reflection of) lower social, economic, and political polarization between these groups. Just as White ethnic groups at one time occupied very different residential niches and were thought by themselves and others as comprising very different racial/ethnic groups, over time many of these differences diminished and more common identities were forged (Waters 1990).

On the other hand, if findings indicate that immigration is not explaining some of the changes, then it could indicate that racial and ethnic polarization is increasing. For example, the rapid growth of Hispanic and Asian populations could conceivably be producing a "backlash" among the native-born White population, which could be reflected either by the mass movement of Whites out of neighborhoods with growing minority populations or in an increase in discrimination in the housing market that would limit the residential mobility of minority group members into predominately White neighborhoods. This rapid population growth could also more simply produce a rise in the number and effectiveness of group communities and institutions that serve community member needs—institutions that would not be created without a critical mass of that group present in a particular area. Any of these mechanisms could produce increases in residential segregation between these groups and non-Hispanic Whites. The implication of this scenario is that we would not necessarily see greater inter-group interaction in the near future. Finally, results could provide mixed support for the spatial assimilation model, as we could see that the model helps explain residential patterns of Hispanics and Asians, but not African Americans.

In short, more detailed analyses are needed to provide insight on the role of nativity and timing of immigration in producing observed patterns. More specifically, this research is guided by the following questions: 1) How do levels of residential segregation vary by race, nativity (whether foreign-born or not), and country of origin? 2) Is residential segregation lower for immigrants who have been in the country longer than recent arrivals? 3) Are immigrants of various racial and ethnic groups more segregated from non-Hispanic Whites than the native-born of those groups, even after controlling various characteristics such as socioeconomic status? 4) Does nativity have a much larger effect on the residential patterns of some groups, such as

Hispanics and Asians, than others, such as Blacks? 5) Does race matter more for Black immigrants than Asian and Hispanic immigrants in determining their levels of residential segregation?

Using data from internal 1990 and 2000 decennial censuses, we produce residential segregation indexes for various racial/ethnic groups by nativity, country of origin, and, among the foreign-born, year of entry in the U.S. This will be followed by a multivariate analysis of the effect of nativity and year of entry on these residential patterns [the multivariate analysis has not been completed in time for this PAA paper presentation]. The analysis will contribute to the residential segregation literature in at least three ways. First, the use of restricted data from the Census Bureau allows a calculation of detailed segregation scores not previously tabulated. For example, we will produce segregation indexes by both country of birth and length of time in the U.S. that will permit explicit links between immigration and residential patterns to be drawn. Second, this study will examine and compare the roles of race *and* nativity in producing observed residential patterns. There are only a limited number of studies on these issues. Third, unlike most existing research, this study will go beyond producing only descriptive statistics of segregation by estimating multivariate models to test the effect of race and nativity on residential patterns, controlling for various socioeconomic factors.

Conceptual framework: causes of segregation

It is commonly thought that differences in residential patterns across racial and ethnic groups reflect social distance (Park 1926; White 1987). A number of theories have been offered to explain patterns of racial and ethnic residential segregation. Two broad theoretical perspectives that encompass many of these views have been termed spatial assimilation and

place stratification (Charles 2003). The spatial assimilation model emphasizes the role of socioeconomic differences between groups in producing racial and ethnic segregation, while the place stratification model focuses on the role prejudice and discrimination.

According to the spatial assimilation model, which has long been applied to the study of immigrant residential patterns, differences in acculturation and socioeconomic status across racial and ethnic groups help shape patterns of segregation (Taeuber and Taeuber 1965; Alba and Logan 1991; Logan and Alba 1995; Charles 2003). The model posits that new immigrants (or migrants) often first settle in fairly homogeneous racial/ethnic enclaves within a given metropolitan area. This may be due to migrants feeling more comfortable with (and welcomed by) fellow co-ethnics, and the fact that minority members may simply not be able to afford to live in the same neighborhoods as more affluent Whites (Pascal 1967; Clark 1988; Charles 2001). Immigrants often also differ in many respects from the host population, such as in language, education, and occupations.

As minority group members make gains in socio-economic status, such as through increases in income, education and, in the case of immigrants, English language ability, they translate these gains into improvement in their spatial location (Massey and Bitterman 1985; Massey and Denton 1985; Charles 2003; Denton and Massey 1988). These spatial improvements typically involve moves to neighborhoods populated more by the dominant majority group, which in the United States is native-born non-Hispanic Whites (see Massey and Denton 1985).

In contrast to the spatial assimilation model, the place stratification perspective emphasizes the role of prejudice and discrimination in shaping residential patterns. These forces often constrain the residential mobility of minority group members. Thus, a group's residential patterns and integration in society depends on the group's position in the social hierarchy

(Charles 2003; White and Glick 1999). The dominant group—non-Hispanic Whites—is at the top of the hierarchy, and other groups follow in some order, depending on prejudices and preferences of society at large. Negative stereotypes, for example, reduce openness to integration with certain groups. The effects of negative stereotypes are thought to be greatest for Blacks because they tend to be perceived in the most unfavorable terms (Bobo and Zubrinksky 1996; Farley et al. 1994; Charles 2000, 2001; Alba and Logan 1991; Zubrinksy and Bobo 1996). Working- and middle-class Blacks, even if somewhat segregated from poor Blacks, are even more segregated from Whites and face substantial barriers in their pursuit of economic and residential mobility (Fainstein 1993; Massey and Eggers 1990; Adelman 2004). Thus, one of the consequences is that African Americans are essentially not able to attain their locational preferences to the extent that Whites of similar SES backgrounds are.

In this vein, the "racial preferences" literature has provided some support for the place stratification model. In general, ethnic groups often show strong desires to live in neighborhoods where their own group is highly represented, and often avoid other ethnic neighborhoods. However, African Americans, Latinos, and Asians are more likely to express a preference to live in integrated neighborhoods than Whites (Farley 1977; Farley et al. 1994, 1997; Bobo and Zubrinsky 1996, Zubrinsky and Bobo 1996). Whites also tend to show the strongest avoidance behavior, especially of African Americans, even when controlling for the socioeconomic characteristics of the other groups in the neighborhood (Clark 1991, 1992; Krysan and Farley 2002; Emerson et al. 2001; Freeman 2000). In short, racial prejudice and discrimination are likely more important in determining segregation, especially Black-White segregation, than more benign ethnocentric preferences for same-race neighborhoods (Zubrinsky and Bobo 1996; Zubrinsky Charles 2000). Nevertheless, some research indicates an increased willingness over

the decades by Whites to remain in their neighborhoods as African Americans enter (Farley et al. 1994).

Similarly, discriminatory practices against African Americans and to a less extent Hispanics and Asians in the housing market have also been extensively documented, and these likely play a role in shaping residential patterns (Massey and Denton 1993; Turner et al. 2002; Ross and Turner 2005; Turner and Ross 2003). Over the years discriminatory practices have included the steering of racial groups to only certain neighborhoods by real estate agents, unequal access to mortgage credit, exclusionary zoning (groups restricted to particular neighborhoods), and neighbors' hostility (Massey and Denton 1993; Yinger 1995; Meyer 2000; Goering and Wienk 1996; Massey and Mullan 1984; Alba and Logan 1991, 1993; Galster 1988). For these reasons, minority members, and African Americans in particular, have historically been less likely to convert socioeconomic gains into advantageous residential outcomes, such as living in preferred neighborhoods (Alba and Logan 1991).

Formal barriers to integration have fallen with the passage of various laws, such as the Fair Housing Act of 1968. This act essentially made it unlawful to discriminate on the basis of race, color, religion, or national origin in most housing market transactions. Amendments to the act in 1988 strengthened its enforcement. Recent research has indicated that discrimination in rental and owner-occupied housing markets declined substantially in the 1990s, though some discrimination still persists (Ross and Turner 2005). Ross and Turner (2005) conclude declines in discrimination are probably a result of changing attitudes in society, increased contact with minority customers, the rising status economic status of minority customers, and the continuing effect of the Fair Housing Act and its enforcement on the real estate industry (Ross and Turner 2005).

On the other hand, Ross and Turner also emphasize that racial and ethnic stereotypes and statistical discrimination continue to play a role in the housing market. Other research finds that inequality in access to home mortgage lending still continues (Williams 2005), though some policies, such as the Community Reinvestment Act, have also helped minorities buy homes in predominately White neighborhoods (Friedman and Squires 2005). The implication of these findings is that discrimination probably still contributes to residential segregation, though less so than in the past.

Empirical findings

A very large number of studies have documented patterns of segregation by race and ethnicity, and a few have looked at segregation by nativity. In general, studies tend to find that racial segregation is greater than segregation by nativity (White 1987; Lewis Mumford Center 2001) and that race and ethnicity trumps the effect of nativity and SES (White and Sassler 2000; Iceland et al. 2005; Farley 1977), indicating that the spatial assimilation model has limitations for explaining residential patterns. Other research, however, has indicated that the spatial assimilation model helps explain some patterns, as members of ancestry groups that have been in the United States longer are generally less segregated than groups that have arrived more recently (White and Glick 1999). Thus, Asian and Hispanic segregation may not be declining in recent decades mainly because of continued high levels of recent immigration (Iceland 2004).

Studies have found that segregation within racial/ethnic groups also varies by country of origin. For example, among Hispanics, segregation from non-Hispanic Whites was much higher for Dominicans than Mexicans and Cubans in 2000 (Logan 2002). The same study found that people from Central America were less segregated than those from South America. While not

looking directly at residential segregation, White and Sassler (2000) also report that the process of assimilation varies within ethnic groups. This indicates that heterogeneity within broad groups along several dimensions may be driving different residential patterns. For example, the segregation scores of Hispanics by nation of origin above were not broken down by nativity, which could play a role in the differences observed across countries of origin. No studies of segregation by nation of origin have been done for Asian groups using recent data.

Issues of immigration do not apply only to Hispanics and Asians; the number of foreign-born Blacks from the Caribbean and sub-Saharan Africa grew rapidly in the 1990s. Logan and Deanne (2003) report how the social and economic profile of foreign-born blacks is far above that of native-born blacks and better than Hispanics as well. Both native and foreign-born Blacks are very highly segregated from Whites, though foreign-born Blacks, particularly Africans, are highly segregated from native-born Blacks as well. One study using 1990 data in two metropolitan areas (Miami and New York) found that foreign-born blacks who immigrated more recently had about the same level of segregation as less recent immigrants in one metropolitan area, and only slightly lower segregation in the other, providing little support for the spatial assimilation model for Blacks (Freeman 2002).

Unresolved issues and contributions of this study

There are a number of unresolved issues in the literature. First, from a descriptive standpoint, no residential segregation indexes have been computed for all race groups by nativity and country of origin (Iceland and Lake 2004 presented some preliminary findings using 2000 census data at last year's PAA). A number of researchers have produced various detailed indexes by race and Hispanic origin (e.g., Iceland et al. 2002; Farley 2001; Glaeser and Vigdor 2001;

Lewis Mumford Center 2001), but only the Lewis Mumford Center (2001) produced any indexes by country of origin, and even these are currently available only for Hispanic origin groups.

In a similar vein, segregation by length of time immigrants have been in the U.S. has rarely been examined directly. The one study mentioned above (Freeman 2002) examined processes for Blacks in 1990 in two metropolitan areas and did not analyze segregation by specific country of origin because the data on country of origin for African immigrants are simply not available in public-use files, such as in Census 2000 Summary File 3 or Summary File 4. To this end, the proposed analysis will use restricted data from all metropolitan areas in the 2000 decennial census to produce detailed segregation scores by country of origin for a broader array of groups and by year of entry into the U.S. These data will provide a direct way to test the spatial assimilation model. It will allow us to examine, for example, whether Mexican immigrants who have been in the U.S. longer are indeed less residentially segregated than more recent arrivals from Mexico, as the spatial assimilation perspective would predict.

Second, few studies have systematically compared the role of race and nativity in producing observed residential patterns. Some studies have focused on the role of nativity for a particular race group (e.g., Logan 2002; Freeman 2002), or have included an independent variable for race and/or foreign-born in a regression model (e.g., Logan et al. 2004; Wilkes and Iceland 2004) but have not focused on the interplay between the two. While this study is not the only one to look at the association between race, nativity, and residential patterns for a number of groups (e.g., White and Glick 1999; White and Sassler 2000; Alba et al. 1997), it will add to the somewhat small number of these studies and will use very detailed and recent data on all metropolitan areas in the U.S. A comparative study using information on several groups will allow us to see whether nativity does indeed have a larger effect on residential patterns among

some groups, such as Hispanics and Asians, while race matters more for others, such as African American immigrants.

Finally, this study will use a multivariate approach to look at the effect of nativity on residential patterns, controlling for education, income, and language proficiency on observed patterns. Many of the existing studies rely on descriptive statistics only (e.g., Logan 2002, Freeman 2002). In addition, the use of restricted files with detailed information on each subgroup of interest (for example, average income of recent Mexican immigrants) permits a detailed and more refined analysis.

Data and Methods

The data for this analysis were drawn from restricted (internal) 1990 and 2000 long-form Census files.[1] While residential segregation can occur at any geographic level, we have chosen to focus on metropolitan areas as reasonable approximations of housing markets. We present estimates for all metropolitan statistical areas (MSAs) and primary metropolitan statistical areas (PMSAs), together referred to hereafter as metropolitan areas (MAs). The building blocks for all MAs are generally counties except in New England, where MAs are based on city and town boundaries, as is done in most Census Bureau data products (U.S. Census Bureau 2003) prior to the most recent metropolitan and new micropolitan area guidelines issued in 2003. The data include information on population counts for all racial groups and for Hispanics by census tract in all metropolitan areas, as well as counts of these groups by income, occupation, education and other characteristics. When presenting comparable data for 1990 and 2000, we used the 2000 boundaries of metropolitan areas, as defined by the Office of Management and Budget (OMB)

[1]The Census Bureau granted permission for the use of these internal files and none of the statistics presented in this paper violate respondent confidentiality rules.

on June 30, 1999, to ensure comparability. Using this definition, there were 331 MAs in our analysis.[2] Census tracts are used as unit of analysis within metropolitan areas. Census tracts, which typically have between 2,500 and 8,000 people, are defined with local input, are intended to represent neighborhoods, and typically do not change much from census to census, except to subdivide. In addition, census tracts are by far the unit most often selected by other researchers (e.g., Logan et al. 2004; Massey and Denton 1993).[3]

The 1990 census collected information on four race groups: White; Black; American Indian, Eskimo, or Aleut; and Asian or Pacific Islander. There was an additional question on whether an individual was of Hispanic origin. In the 1990s, after much research and public comment, OMB revised the racial classification for Census 2000 to include five categories – White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or other Pacific Islander—and allowed individuals to report more than one race. Census 2000 figures indicate that 6.8 million, or 2.4 percent of the population, reported more than one race. This study focuses on the residential patterns of Black, Hispanic, and Asian and Pacific Islander immigrants, as well as non-Hispanic White immigrants in some analyses. In 2000, minority groups in this analysis include those who identified as being a member of that minority group either alone or in combination with another race. Non-Hispanic Whites consist of

[2] The segregation estimates presented in the descriptive tables (means across all metropolitan areas) are weighted by the population size of the minority group in question. This has the advantage of giving relatively little weight to metropolitan areas with small populations of the group in question, where index scores are sometimes highly variable and skewed by random factors (Iceland et al. 2002).

[3] Choosing a smaller unit of analysis increases segregation scores, as smaller units tend to be more homogenous. For example, the average metropolitan area dissimilarity score for Blacks was 0.640 when using census tracts, but moderately higher at 0.669 when using block groups (Iceland and Steinmetz 2003). Census tract and block-group based scores, however, are very highly correlated, so it is unlikely that using an alternative unit would affect conclusions.

those who marked only White and who indicated that they were not Hispanic. The reference group in all segregation calculations is native-born non-Hispanic Whites.[4]

This analysis uses the index of dissimilarity and the isolation index to measure residential patterns. These are the two most common indexes in the segregation literature. The dissimilarity index is a measure of evenness. It ranges from 0 (complete integration) to 1 (complete segregation), and indicates the percent of a group's population that would have to change residence for each neighborhood to have the same percent of that group as the metropolitan area overall. It is computed as:

$$D = .5 * \sum_{i=1}^{n} \left| x_i / X \; - \; y_i / Y \right|$$

where n is the number of tracts in a metropolitan area, x_i is the population size of the minority group of interest in tract i, X is the population of the minority group in the metropolitan area as a whole, y_i is the population of the reference group (native-born non-Hispanic Whites in this analysis) in tract i, and Y is the population of the reference group in the metropolitan area as a whole.

The isolation index, a measure of exposure, basically indicates the average percentage of a neighborhood that is of the minority group where the typical minority group member lives. For example, an isolation score of 0.75 for African Americans indicates that the typical African American lives in a neighborhood that is 75 percent Black.

[4] Our more inclusive racial definitions means that the minority group definitions are not mutually exclusive. Some of those who are Black may also, for example, be Asian. Other work has shown that adopting a race definition where a person is considered in a group if he or she chooses only that particular group has little effect on African American segregation calculations and a modest effect on Asian segregation calculations (Iceland et al. 2002, Appendix A). The similarity of scores across group definitions results, in large part, from the fact that the proportion of people who marked two or more race groups in the 2000 Census was small (2.4 percent). Hispanic indexes are not affected by this specific issue since Hispanic origin is asked in a separate question. Methodologically, the most important issue is to ensure that the two groups used in any given index calculation are mutually exclusive, which is indeed done in this analysis.

It is computed as the minority-weighted average of the minority proportion of the population in each area. The index varies from 0 to 1, with 1 indicating the highest level of isolation. It is computed as:

$$ {}_xP^*_x = \sum_{i=1}^{n} [x_i / X][x_i / ti] $$

where ${}_xP^*_x$ is the usual notation for the isolation index, the x terms are the same as above and t_i refers to the sum of the minority group in question and reference group populations in tract i.

When comparing the indexes, the dissimilarity index has the advantage of not being sensitive to the relative size of the groups in question. It merely provides information on how evenly the members of a particular group are distributed across neighborhoods—however many there may be in the metropolitan area as a whole. In contrast, the isolation index is sensitive to the relative size of the groups being studied. Holding other factors constant, the larger the group, the higher the levels of isolation. That is, a large group will likely share neighborhoods with other members of the same group simply due to the demographic composition of the metropolitan area as a whole, and will therefore be more isolated from other groups. It is important to note that this is not necessarily a negative feature of the index, depending on a researcher's interest. From a sociological point of view, for example it is certainly useful to know how much potential contact there is between groups, as this is a dimension of social interaction and an indicator of social distance.

We calculate segregation indexes: 1) by race and nativity (these replicate indexes already available); 2) for the foreign born by race and country of origin for larger sending countries—those with at least 100,000 members in the U.S. Indexes will only be computed in metropolitan areas where there are 1,000 or more group members, as segregation indexes for metropolitan

areas with small minority populations are less reliable than those with larger ones;[5] 3) for the foreign-born by combinations of race, country of origin, and length of time in the U.S., again as the data allow. The cutoffs used for length of time in the U.S. are: present less than 10 years, 10 to 20 years, 20 to 30 years, and 30 years or more. [6] Using 10-year categories permits us to see how segregation patterns for approximate cohorts in 1990 changed by 2000.

Results

Figures 1 and 2 indicate average levels of metropolitan residential segregation of the foreign-born by timing of immigration and census year, using the dissimilarity index and isolation index, respectively. The first two columns in Figure 1 shows that between 1990 and 2000, the overall dissimilarity score rose modestly from 0.407 to 0.440, suggesting increasing segregation of the foreign-born. However, subsequent columns illustrate two patterns: 1) more recent arrivals have higher levels of segregation than those who immigrated much earlier according to both 1990 and 2000 census data, and 2) segregation for approximate cohorts also declined modestly from 1990 to 2000. Both of these findings support the spatial assimilation model. Illustrating the first finding, we see that, according to 2000 census figures, the dissimilarity score for the foreign-born who arrived between 1990 and 2000 was 0.514, though it was only 0.309 for immigrants who arrived before 1970. Illustrating the second finding, we see that the dissimilarity score for those who arrived in the U.S. between 1980 and 1989 was 0.490

[5] Random factors and geocoding errors are more likely to play a large role in determining the settlement pattern of group members when fewer members are present, causing these indexes to contain greater volatility (Iceland et al. 2002; Massey and Denton 1988). The 1,000 group population cutoff, while inevitably somewhat arbitrary, is one chosen by some other studies (Frey and Myers 2002; Glaeser and Vigdor 2001).

[6] Different timing of immigration categories were tested using the 2000 census data to see whether patterns are sensitive to their specification. General patterns did not differ much, except that segregation for recent arrivals is highest when this category is defined more narrowly; in particular, segregation was higher for "recent" immigrants defined as arriving between 1995 and 2000 than the "recent" immigrants defined as those arriving from 1990 to 2000.

in 2000, down modestly from 0.512 in 1990, indicating declining segregation for a particular cohort over time. The one exception is for those immigrants who arrived before 1970, where the dissimilarity score rose slightly from 0.299 to 0.309. It should be noted, of course, that the cross-sectional data from 1990 and 2000 do not follow true cohorts, only approximate ones. That is, some of the immigrants who were counted in 1990 were no longer in the U.S. in 2000.[7] In both years there could of course be some misreporting about timing of immigration.

(Figure 1 here)

Figure 2 shows similar patterns when using the isolation index, which measures the average percentage of a neighborhood that is of the group in question where the typical group member lives. Unlike the dissimilarity index, it is sensitive to the size of the group in question, in that larger groups will tend to have higher levels of isolation, other factors being equal. The first two columns in the table show a rather sharp rise in the isolation of the foreign-born over the 1990s, likely reflecting, at least in part a significant growth in the foreign-born population in that decade. Like in Figure 1, however, we do see both lower levels of isolation for earlier arrivals than recent arrivals, and small declines in isolation for approximate cohorts from 1990 to 2000. While both of these figures are also potentially affected by differences in the size of the groups being compared over time, in tandem with the dissimilarity results we see general support for the spatial assimilation model.

(Figure 2 here)

Table 1 shows results not only for the foreign-born group as a whole (replicating the segregation scores in Figures 1 and 2), but also for the foreign-born of various racial and ethnic groups. The table includes metropolitan areas that contained at least 1,000 members of the group

[7] It could also be that those who were counted in 2000 but arrived in the 1980s were not counted in 1990 if, for example, they lived in a nonmetropolitan area in 1990 but moved to a metropolitan area sometime in the 1990s.

in question for all of the timing-of-immigration year intervals in both the 1990 and 2000 censuses. This method allows us to gauge patterns of change for a fixed set of metropolitan areas.[8] As mentioned earlier, metropolitan area segregation score averages are weighted by size of the group in question.

We in fact see considerable variation in patterns of segregation of the foreign-born by race and ethnicity over time. Among Hispanics and Asians as whole, and the native- and foreign-born of each group we see a pattern of little or small changes in dissimilarity from the 1990 census to 2000, but increases in isolation. Mirroring findings for the foreign-born as a whole, we see that that recent Hispanic and Asian immigrants have higher levels of segregation than Hispanics and Asians who have been in the U.S. longer according to both 1990 and 2000 census data. Again consistent with the spatial assimilation model, segregation declined for approximate cohorts between the 1990 and 2000 census, though this pattern is more discernable for Hispanics than Asians. For some cohorts of Asians, there was little change in segregation over the decade (e.g., isolation for the 1970-79 cohort). Hispanic segregation from native-born non-Hispanic Whites is generally higher than Asian segregation.

(Table 1 here)

The pattern for foreign-born Blacks differs in some respects from that of Hispanics and Asians. We see that the segregation of all Blacks, native-born Blacks, and foreign-born Blacks generally declined between the 1990 and 2000 censuses (though isolation for foreign-born Blacks changed little), in contrast to the trend for Hispanics and Asians where declines were not as universal. However, when we look at data from either census, we see that, contrary to the

[8] Results are remarkably similar whether one includes a fixed set of metropolitan areas that meet the population threshold in every single timing-of-immigration category versus if one includes all metropolitan areas that meet the population threshold in a given category (the latter method does not hold the number of metropolitan areas in all timing-of-immigration categories constant).

predictions of the spatial assimilation model, more recent arrivals do *not* have higher dissimilarity scores than earlier arrivals. Isolation scores, which are more sensitive to the overall size of each group, are higher for more recent arrivals, perhaps reflecting in part larger recent cohorts of Black immigrants. But contrary to the findings when looking at patterns of change within a given census, we see declines in dissimilarity for approximate cohorts from 1990 to 2000. For example, the dissimilarity score for foreign-born Blacks arriving between 1980 and 1989 was 0.772 in 1990, and then down to 0.747 in 2000. We see similar patterns when using the isolation index.

What might explain modest declines in the segregation of Black immigrant cohorts coupled with little difference in dissimilarity between recent arrivals vs. more distant arrivals? A possible explanation is that the segregation of Blacks from non-Hispanic Whites is so high in general that earlier cohorts of Black immigrants entered a very highly stratified residential context and have remained highly segregated, though with small declines in segregation across decades. More recent arrivals enter the U.S. in a context of moderately lower Black-White segregation, such that their levels of dissimilarity from non-Hispanic Whites upon arrival end up being no higher than immigrants who arrived in the U.S. earlier. Overall, it should also be emphasized that levels of segregation, particularly dissimilarity, between Black immigrants and non-Hispanic Whites is very high, such that even modest declines for given immigrant cohorts are to some extent overshadowed by the overall extremely high segregation levels.

Tables 2 through 5 show patterns of segregation for immigrants of various countries of origin by race/ethnicity. Table 2 focuses on Hispanic immigrants, Table 3 on Asian immigrants, Table 4 on Black immigrants, and Table 5 on non-Hispanic White immigrants. For Hispanic immigrants from various countries who have sufficient immigrants for various cohorts in 1990

and 2000, we see the following general pattern that are very much in line with what we saw in Table 1: 1) little overall change in dissimilarity from 1990 and 2000 for some groups (e.g., Mexicans), though declines for others (e.g., Nicaraguans) and increases in isolation for most groups; 2) higher levels of segregation for more recent arrivals than those who have been in the U.S. longer, though with a few exceptions when using the dissimilarity index; 3) declines in segregation from 1990 to 2000 for a majority of approximate cohorts, though changes are usually quite modest.

(Table 2 here)

We do see variation across nation-of-origin groups. For example, the patterns above are very consistent with the experience of Mexican immigrants—who, being the demographically dominant immigrant group—weigh heavily in the overall Hispanic calculations. Some groups defy the general pattern altogether: among immigrants from Argentina, for example, we do not see declines in segregation for particular cohorts from 1990 to 2000, though their overall levels of segregation are lower than those of Hispanic immigrants from other countries. Hispanic immigrants from Guatemala have high levels of segregation, and patterns of change do not fit particularly well with predictions of the spatial assimilation model. Hispanic immigrants from Cuba, in contrast, have relatively lower levels of segregation, and patterns of change are quite consistent with spatial assimilation.

When looking at the pattern for Asian country-of-origin groups (Table 3) we find many of the same general patterns as with Hispanics, though patterns of change for given approximate cohorts do not consistently indicate declining segregation from 1990 to 2000. We also see some variation in patterns across countries. For example, while recent immigrants from China

generally have higher levels of segregation than immigrants who have been in the U.S. longer, the opposite is true for Indian immigrants, where recent arrivals are less segregated.

(Table 3 here)

For Black immigrants, there were only two countries that met the population criteria for inclusion in the analysis in both 1990 and 2000—Haiti and Jamaica (see Table 4). Levels of segregation from non-Hispanic Whites are very high for Black immigrants from both of these countries. There are no consistent patterns of change for these groups either, with recent arrivals about as segregated as longer-term residents when using the dissimilarity index, though more segregated when using the isolation index (the latter is consistent with findings for all other immigrant groups). For approximate cohorts, we see mixed patterns by both country-origin and segregation index used. Overall, the findings for these two countries-of-origin are not particularly consistent with the predictions of the spatial assimilation model.

(Table 4 here)

Table 5 shows patterns of segregation of foreign-born non-Hispanic Whites from native-born non-Hispanic Whites. We see considerable variability in patterns across country-of-origin. For example, while patterns of change in segregation for Polish immigrants are consistent with the spatial assimilation model (e.g., lower dissimilarity and isolation for most approximate cohorts in 2000 than in 1990, plus lower segregation for those who have been in the U.S. longer), patterns for German immigrants are less so. From the data analyzed it is difficult to evaluate reasons for this variation, though certainly some variation is expected given the different historical and contextual factors that help shape immigration patterns for all immigrants groups in the U.S.

Multivariate Analysis

[These analyses were not completed in time for PAA, though below I include at least a description of the statistic model below.]

Specification of the statistical model

The multivariate analysis is designed to answer the final three questions posed in the introduction: 1) Are immigrants of various racial and ethnic groups more segregated from non-Hispanic Whites than the native-born of those groups, even after controlling various characteristics such as socioeconomic status? 2) Does nativity have a much larger effect on the residential patterns of some groups, such as Hispanics and Asians, than others, such as African Americans? 3) Does race matter more for Black immigrants than Asian and Hispanic immigrants in determining their levels of residential segregation?

To estimate the relationship between changes in segregation and immigration and other factors, we estimate a set of fixed-effects models. The models contain two observations per metropolitan area corresponding to metropolitan area characteristics in 1990 and 2000. The statistical model can be specified as:

$$Y_{jit} = B_0 + B_1 X_{jit} + B_2 Z_{it} + u_j + v_t + e_{jit} \qquad (1)$$

where Y_{jit} is the segregation score for metropolitan area j, group of interest i in census year t. The groups of interest (i) for the dependent variable include broad racial/ethnic groups—Black, Hispanic, and Asian and Pacific Islander, the foreign-born population of these groups, and the length of time in the U.S. To gauge how segregation scores systematically differ by race and ethnicity, nativity, and length of time in the U.S., we adopt the strategy of having separate observations (segregation scores) for each group, pooling the groups together, and including

dummy variables for each group comparison (e.g., Massey and Denton 1989; Wilkes and Iceland 2004).

For example, for each metropolitan area (where there is a sufficient number of group members present), there will be an observation indicating the segregation of: native-born Blacks, Asians, and Hispanics, and then foreign-born Blacks, Asians, and Hispanics by three year-of-entry categories described above. There will therefore be several observations (up to 12) per metropolitan area in a given year. Because the same metropolitan areas are included several times in the equation (each metropolitan area has an index for each group), I will produce corrected standard errors that account for the fact that the independent variables have a correlated error structure. For some subsequent models, the broad foreign-born scores will be replaced by detailed country-of-origin scores for groups. Thus, instead of observations indicating the number of Hispanics in the three year-of-entry categories, the model will contain segregation scores for Mexicans, Colombians, etc. in each of the three year-of-entry categories.

The coefficients for the dummy variables described above will indicate, for example, whether foreign-born Asians are less segregated across metropolitan areas than foreign-born Blacks, or whether recent Hispanic arrivals are more segregated than those who have been in the U.S. longer—holding other factors constant. Finally, some models will contain interaction terms between the race dummy variables and the nativity and length of time in the U.S. variables to gauge to what extent the effect of race and ethnicity varies by those two factors. Likewise, the interaction coefficients will also tell whether the effect of nativity varies by race and ethnicity. In short, these comparisons allow us to address the substantive issues raised in this proposal: whether foreign-born groups and recent arrivals in particular are systematically more segregated than native-born ones, whether Blacks and Black foreign-born groups are more segregated than

other racial and ethnic subgroups, and whether there is greater variation in segregation by nativity and length of time in the U.S. among Hispanics and Asians than Blacks. All of these comparisons speak to issues of spatial assimilation and whether this model better explains residential patterns of some groups more than others.

The other X-vector variables represent group i characteristics in metropolitan area j. These include: percentage of group i who are U.S. citizens, English language proficiency, median income, educational and occupational attainment, and housing tenure (percentage owning homes). Z is a vector of metropolitan area characteristics that have been shown to be associated with segregation (Frey and Farley 1996; Wilkes and Iceland 2004; Logan et al. 2004). This includes metropolitan area size, percentage of the population that is minority, percentage of the civilian labor force that is in manufacturing and government, percentage of the labor force that is in the military, percentage of the population that is over 65 years old, the proportion of the population 18+ that is enrolled in school, percentage of housing units built in the last 10 years, and the percentage of the metropolitan area population in the suburbs.

The u and v terms in the model represent dummy variables for metropolitan areas and year, respectively. The fixed effects component of the model comes from the inclusion of the metropolitan area dummy controls; they produce a separate intercept for each MA. They also remove all between-metropolitan area differences in Y, leaving only within-metropolitan area variation to be explained by the X variables. This provides unbiased estimates of the relationship between within-metropolitan area temporal changes in the independent variables and changes in segregation levels (Greene 1997; Reardon and Yun 2001). The coefficients obtained are therefore estimates of the relationship between 10-year changes in the independent variables and 10-year changes in residential segregation.

One of the most important advantages of fixed-effects models is that the coefficient estimates are not biased by the effect of all unobserved variables affecting Y that do not change over time. This is because the variables have been expressed only in terms of change within metropolitan areas once the fixed-effects component is introduced. For example, if a metropolitan area experienced a unique historical event that affected subsequent settlement patterns, then this is controlled for by having the metropolitan area dummy variable in the model. One disadvantage of this fixed-effects model is that it may result in some loss of statistical power. Because information about the covariation among the measures that occurs between metropolitan areas is discarded, the coefficients are estimated with a more limited amount of information and may therefore be less efficient (Johnson 1995; Allison 1994). But since the focus here is on within-metropolitan area factors that affect settlement patterns, the fixed-effects model is the most appropriate one.

Conclusion

Using data from the 1990 and 2000 decennial censuses, this paper examined patterns of segregation for the foreign-born by race/ethnicity, country-of-origin, and timing of immigration. The aim was to determine how well the "spatial assimilation" model explains settlement patterns of immigrants over time. According to the spatial assimilation model, we would expect that recent immigrants would be highly segregated from the dominant group in society—native-born non-Hispanic Whites—but over time, due to either the process of acculturation and/or rising socioeconomic status we would witness greater integration.

Findings of the analysis provide qualified moderate support for the spatial assimilation model. While the foreign-born as a whole became more segregated between 1990 and 2000 (as

indicated by the dissimilarity and isolation indexes), we also see that more recent arrivals in a given census year have higher levels of segregation than those who immigrated much earlier, and the segregation for approximate cohorts also declined modestly from 1990 to 2000. The main reason for the overall increase in segregation for the foreign-born between the censuses is therefore due to a compositional shift: an increasing proportion of the foreign-born are recent arrivals (Schmidley 2001).

There is also variation by race/ethnicity of the foreign-born. Mirroring findings for the foreign-born as a whole, we see that that recent Hispanic and Asian immigrants have higher levels of segregation than Hispanics and Asians who have been in the U.S. longer according to both 1990 and 2000 census data. Again consistent with the spatial assimilation model, segregation declined for approximate cohorts between the 1990 and 2000 census, though this pattern is more discernable for Hispanics than Asians.

Levels of segregation of Black immigrants from native-born non-Hispanic Whites, particularly dissimilarity, are very high. In addition, contrary to the predictions of the spatial assimilation model, in a given census year more recent arrivals do *not* have higher dissimilarity scores than earlier arrivals (though isolation scores are higher for more recent arrivals, perhaps reflecting in part larger recent cohorts of Black immigrants). However, we also see modest declines in dissimilarity for approximate cohorts from 1990 to 2000, and also overall declines in the dissimilarity of foreign-born Blacks in the 1990s. A possible explanation for these results is that the segregation of Blacks from non-Hispanic Whites is so high in general that earlier cohorts of Black immigrants entered a very highly stratified residential context and have remained highly segregated (with small declines in segregation across decades). More recent arrivals enter the U.S. in a context of moderately lower Black-White segregation, such that their levels of

dissimilarity from non-Hispanic Whites are no higher than immigrants who arrived in the U.S. earlier.

Results also indicate variation indicate a lot of variation in segregation patterns by country-of-origin, and this variation not limited to immigrants of a particular racial/ethnic group. For some country-of-origin groups we see patterns quite consistent with the spatial assimilation model, and for others not.

In conclusion, the analysis suggest that the absence of an overall decline in Hispanic and Asian segregation could be explained, at least in part, by continued immigration, as immigrants of these groups display higher levels of segregation than the native born, and recent arrivals are more segregated from native-born non-Hispanic Whites than immigrants who have been in the U.S. for longer periods of time. Thus, the spatial assimilation helps explain general patterns of segregation for Hispanics and Asians. The spatial assimilation model also has some applicability to the experience of Black immigrants, though less so. Finally, local contexts and the characteristics of particular immigrant groups also likely produce substantial variation in both the overall levels of segregation and patterns of change for immigrants from various countries.

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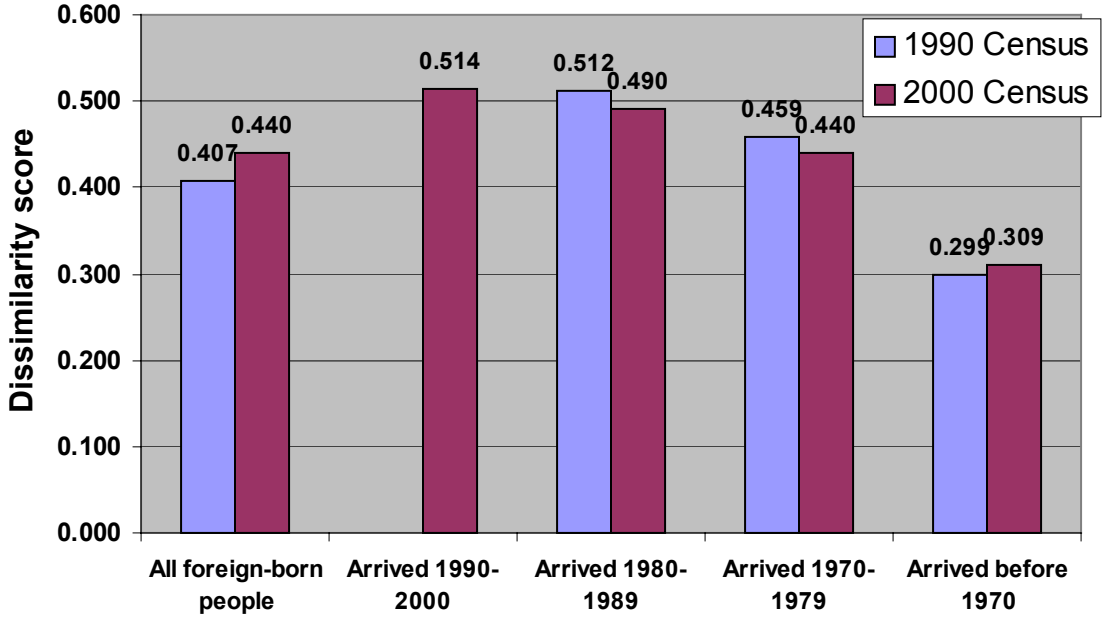
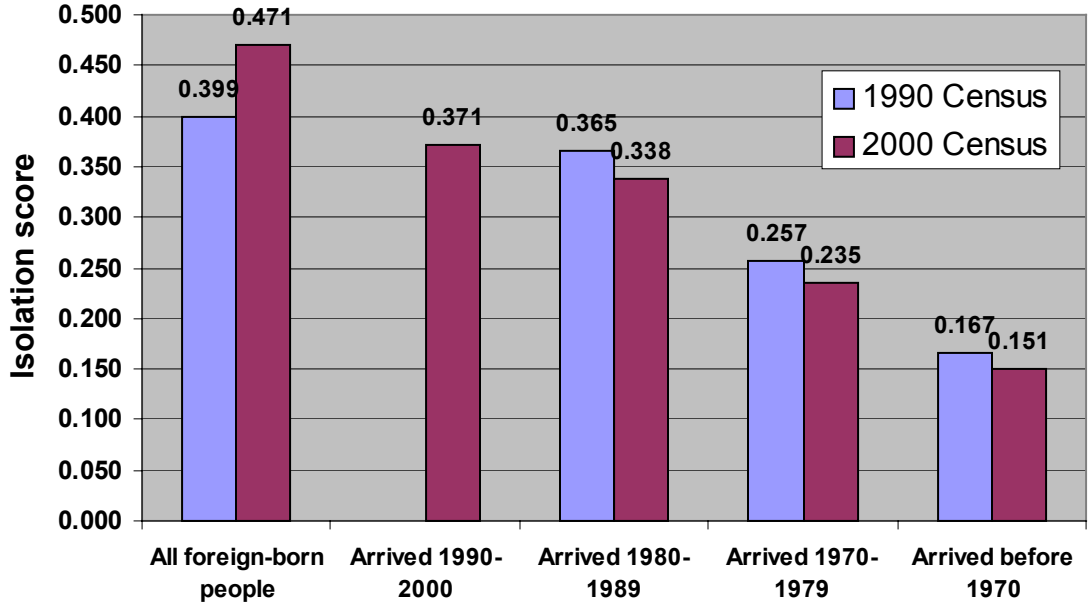
Figure 1. Dissimilarity Index for the Foreign-Born by Timing of Immigration and Year: 1990 and 2000



Source: 1990 and 2000 Census long-form data.

Figure 2. Isolation Index for the Foreign-Born by Timing of Immigration and Year: 1990 and 2000



Source: 1990 and 2000 Census long-form data.

Table 1. Residential Segregation by Race, Hispanic Origin, and Nativity, and Timing of Immigration: 1990 and 2000

	Number of Metropolitan Areas	Dissimilarity Index		Isolation Index	
		1990 Census	2000 Census	1990 Census	2000 Census
All foreign-born people	201	0.407	0.440	0.399	0.471
All foreign-born people 1990-2000	201	-	0.514	-	0.371
All foreign-born people 1980-1989	201	0.512	0.490	0.365	0.338
All foreign-born people 1970-1979	201	0.459	0.440	0.257	0.235
All foreign-born people < 1970	201	0.299	0.309	0.167	0.151
All Hispanics	292	0.509	0.515	0.523	0.568
Native-born Hispanics	273	0.476	0.475	0.425	0.463
Foreign-born Hispanics	88	0.597	0.600	0.498	0.543
Foreign-born Hispanics 1990-2000	88	-	0.648	-	0.433
Foreign-born Hispanics 1980-1989	88	0.647	0.621	0.431	0.389
Foreign-born Hispanics 1970-1979	88	0.626	0.597	0.341	0.305
Foreign-born Hispanics < 1970	88	0.527	0.512	0.276	0.251
All Asians and Pacific Islanders	253	0.433	0.430	0.284	0.331
Native-born Asians and Pacific Islanders	165	0.400	0.392	0.219	0.231
Foreign-born Asians and Pacific Islanders	63	0.473	0.481	0.250	0.310
Foreign-born Asians and Pacific Islanders 1990-2000	63	-	0.543	-	0.223
Foreign-born Asians and Pacific Islanders 1980-1989	63	0.532	0.519	0.215	0.198
Foreign-born Asians and Pacific Islanders 1970-1979	63	0.483	0.474	0.114	0.113
Foreign-born Asians and Pacific Islanders < 1970	63	0.496	0.504	0.085	0.077
All Blacks	305	0.683	0.643	0.623	0.598
Native-born Blacks	300	0.684	0.643	0.618	0.590
Foreign-born Blacks	23	0.752	0.735	0.511	0.508
Foreign-born Blacks 1990-2000	23	-	0.748	-	0.393
Foreign-born Blacks 1980-1989	23	0.772	0.747	0.439	0.401
Foreign-born Blacks 1970-1979	23	0.775	0.750	0.377	0.344
Foreign-born Blacks < 1970	23	0.781	0.768	0.357	0.319
Foreign-born non-Hispanic Whites	100	0.301	0.298	0.117	0.141
Foreign-born non-Hispanic Whites 1990-2000	100	-	0.467	-	0.112
Foreign-born non-Hispanic Whites 1980-1989	100	0.449	0.417	0.077	0.053
Foreign-born non-Hispanic Whites 1970-1979	100	0.405	0.399	0.042	0.034
Foreign-born non-Hispanic Whites < 1970	100	0.246	0.267	0.064	0.046

Note: Includes metropolitan areas with at least 1,000 members of the group in question (the weighted total) for all of the year intervals. Weighted means are weighted by the size of the group in question. Higher values indicate greater segregation. The reference group is native-born non-Hispanic Whites.

Source: 1990 and 2000 Census long-form data.

Table 2. Residential Segregation Indexes for Hispanics by Nativity, Country of Birth, and Timing of Immigration to the U.S.: 1990 and 2000

	# of Metropolitan Areas	Dissimilarity Index		Isolation Index	
		1990 Census	2000 Census	1990 Census	2000 Census
All Hispanics	292	0.509	0.515	0.523	0.568
Native-born Hispanics	273	0.476	0.475	0.425	0.463
Foreign-born Hispanics	88	0.597	0.600	0.498	0.543
Country of Birth					
Latin America	80	0.603	0.604	0.497	0.548
Central America	64	0.633	0.632	0.492	0.541
Mexico	**54**	**0.638**	**0.638**	**0.485**	**0.542**
Mexico 1990-2000	54	-	0.677	-	0.427
Mexico 1980-1989	54	0.672	0.649	0.396	0.372
Mexico 1970-1979	54	0.664	0.634	0.353	0.321
Mexico <1970	54	0.585	0.584	0.257	0.236
El Salvador	**4**	**0.752**	**0.717**	**0.406**	**0.413**
El Salvador 1990-2000	4	-	0.772	-	0.305
El Salvador 1980-1989	4	0.777	0.726	0.384	0.319
El Salvador 1970-1979	4	0.756	0.733	0.221	0.194
El Salvador <1970	4	0.761	0.772	0.058	0.065
Guatemala	**4**	**0.759**	**0.747**	**0.316**	**0.363**
Guatemala 1990-2000	4	-	0.819	-	0.306
Guatemala 1980-1989	4	0.796	0.767	0.317	0.268
Guatemala 1970-1979	4	0.795	0.789	0.136	0.138
Guatemala <1970	4	0.827	0.838	0.053	0.062
Honduras	**4**	**0.742**	**0.721**	**0.222**	**0.307**
Honduras 1990-2000	4	-	0.790	-	0.279
Honduras 1980-1989	4	0.795	0.776	0.223	0.211
Honduras 1970-1979	4	0.830	0.819	0.117	0.111
Honduras <1970	4	0.789	0.787	0.085	0.073
Nicaragua	**3**	**0.749**	**0.645**	**0.343**	**0.369**
Nicaragua 1990-2000	3	-	0.720	-	0.290
Nicaragua 1980-1989	3	0.717	0.664	0.363	0.305
Nicaragua 1970-1979	3	0.737	0.688	0.076	0.069
Nicaragua <1970	3	0.753	0.786	0.042	0.043
Caribbean	17	0.660	0.644	0.532	0.584
Cuba	**10**	**0.620**	**0.564**	**0.531**	**0.575**
Cuba 1990-2000	10	-	0.662	-	0.477
Cuba 1980-1989	10	0.726	0.638	0.435	0.390
Cuba 1970-1979	10	0.693	0.623	0.301	0.265

Cuba <1970	10	0.579	0.509	0.400	0.366
Dominican Republic	**6**	**0.807**	**0.793**	**0.539**	**0.601**
Dominican Republic 1990-2000	6	-	0.837	-	0.536
Dominican Republic 1980-1989	6	0.852	0.811	0.499	0.463
Dominican Republic 1970-1979	6	0.826	0.795	0.370	0.339
Dominican Republic <1970	6	0.776	0.759	0.264	0.256
South America	25	0.526	0.531	0.170	0.259
Colombia	**11**	**0.608**	**0.575**	**0.138**	**0.200**
Colombia 1990-2000	11	-	0.641	-	0.147
Colombia 1980-1989	11	0.691	0.652	0.111	0.102
Colombia 1970-1979	11	0.685	0.658	0.057	0.055
Colombia <1970	11	0.651	0.632	0.040	0.041
Argentina	**3**	**0.577**	**0.547**	**0.029**	**0.058**
Argentina 1990-2000	3	-	0.671	-	0.056
Argentina 1980-1989	3	0.737	0.724	0.025	0.030
Argentina 1970-1979	3	0.768	0.779	0.022	0.020
Argentina <1970	3	0.707	0.756	0.015	0.021
Ecuador	**5**	**0.722**	**0.728**	**0.194**	**0.327**
Ecuador 1990-2000	5	-	0.801	-	0.303
Ecuador 1980-1989	5	0.807	0.778	0.166	0.186
Ecuador 1970-1979	5	0.776	0.772	0.110	0.115
Ecuador <1970	5	0.758	0.756	0.073	0.076
Peru	**4**	**0.626**	**0.597**	**0.063**	**0.103**
Peru 1990-2000	4	-	0.682	-	0.076
Peru 1980-1989	4	0.694	0.672	0.055	0.055
Peru 1970-1979	4	0.764	0.776	0.035	0.038
Peru <1970	4	0.790	0.795	0.020	0.028

Note: Includes metropolitan areas with at least 1,000 members of the group in question (the weighted total) for all of the year intervals. Countries of birth included in the table are those with at least 100,000 immigrants (also weighted) as measured in the 1990 and 2000 Censuses. Weighted means are weighted by the size of the group in question. Higher values indicate more segregation. The reference group is native-born non-Hispanic Whites.

Source: 1990 and 2000 Census data.

Table 3. Residential Segregation Indexes for Asians and Pacific Islanders by Nativity, Country of Birth, and Timing of Immigration to the U.S.: 1990 and 2000

	# of Metropolitan Areas	Dissimilarity Index		Isolation Index	
		1990 Census	2000 Census	1990 Census	2000 Census
All Asians and Pacific Islanders	253	0.433	0.430	0.284	0.331
Native-born Asians and Pacific Islanders	165	0.400	0.392	0.219	0.231
Foreign-born Asians and Pacific Islanders	63	0.473	0.481	0.250	0.310
Country of Birth					
Asia	58	0.476	0.486	0.244	0.309
Southeast Asia	27	0.556	0.557	0.231	0.298
Philippines	**21**	**0.584**	**0.578**	**0.199**	**0.256**
Philippines 1990-2000	21	-	0.656	-	0.166
Philippines 1980-1989	21	0.630	0.619	0.145	0.151
Philippines 1970-1979	21	0.627	0.617	0.104	0.114
Philippines <1970	21	0.631	0.650	0.079	0.089
Thailand	**1**	**0.613**	**0.680**	**0.061**	**0.106**
Thailand 1990-2000	1	-	0.836	-	0.065
Thailand 1980-1989	1	0.783	0.789	0.064	0.097
Thailand 1970-1979	1	0.747	0.787	0.025	0.039
Thailand <1970	1	0.884	0.905	0.009	0.018
East Asia	32	0.519	0.532	0.201	0.260
China	**20**	**0.602**	**0.608**	**0.227**	**0.292**
China 1990-2000	20	-	0.676	-	0.226
China 1980-1989	20	0.668	0.656	0.192	0.181
China 1970-1979	20	0.647	0.642	0.110	0.102
China <1970	20	0.642	0.657	0.105	0.086
Korea	**6**	**0.599**	**0.609**	**0.173**	**0.232**
Korea 1990-2000	6	-	0.716	-	0.190
Korea 1980-1989	6	0.679	0.675	0.175	0.159
Korea 1970-1979	6	0.617	0.599	0.064	0.072
Korea <1970	6	0.761	0.768	0.014	0.019
Japan	**7**	**0.533**	**0.523**	**0.068**	**0.081**
Japan 1990-2000	7	-	0.658	-	0.057
Japan 1980-1989	7	0.665	0.674	0.042	0.027
Japan 1970-1979	7	0.661	0.674	0.023	0.024
Japan <1970	7	0.581	0.621	0.058	0.054
South Central Asia	12	0.569	0.566	0.072	0.124
India	**9**	**0.604**	**0.584**	**0.057**	**0.125**
India 1990-2000	9	-	0.665	-	0.114
India 1980-1989	9	0.686	0.644	0.056	0.052

India 1970-1979	9	0.677	0.669	0.021	0.025
India <1970	9	0.810	0.810	0.009	0.013

Note: Includes metropolitan areas with at least 1,000 members of the group in question (the weighted total) for all of the year intervals. Countries of birth included in the table are those with at least 100,000 immigrants (also weighted) as measured in the 1990 and 2000 Censuses. Weighted means are weighted by the size of the group in question. Higher values indicate more segregation. The reference group is native-born non-Hispanic Whites.

Source: 1990 and 2000 Census data.

Table 4. Residential Segregation Indexes for Blacks by Nativity, Country of Birth, and Timing of Immigration to the U.S.: 1990 and 2000

	# of Metro Areas	Dissimilarity Index 1990 Census	Dissimilarity Index 2000 Census	Isolation Index 1990 Census	Isolation Index 2000 Census
All Blacks	305	0.683	0.643	0.623	0.598
Native-born Blacks	300	0.684	0.643	0.618	0.590
Foreign-born Blacks	23	0.752	0.735	0.511	0.508
Country of Birth					
Africa	2	0.762	0.743	0.226	0.351
Latin America	20	0.767	0.743	0.526	0.544
Caribbean	19	0.768	0.749	0.506	0.536
Jamaica	**11**	**0.796**	**0.788**	**0.406**	**0.489**
Jamaica 1990-2000	11	-	0.833	-	0.386
Jamaica 1980-1989	11	0.823	0.812	0.338	0.373
Jamaica 1970-1979	11	0.817	0.806	0.268	0.288
Jamaica <1970	11	0.841	0.843	0.255	0.272
Haiti	**4**	**0.828**	**0.819**	**0.467**	**0.525**
Haiti 1990-2000	4	-	0.850	-	0.413
Haiti 1980-1989	4	0.860	0.843	0.435	0.391
Haiti 1970-1979	4	0.850	0.844	0.301	0.303
Haiti <1970	4	0.840	0.850	0.210	0.225

Notes: Includes metropolitan areas with at least 1,000 members of the group in question (the weighted total) for all of the year intervals. Countries of birth included in the table are those with at least 100,000 immigrants (also weighted) as measured in the 1990 and 2000 Census. Weighted means are weighted by the size of the group in question. Higher values indicate more segregation. The reference group is native-born non-Hispanic Whites.

Source: 1990 and 2000 Census data.

Table 5. Residential Segregation Indexes for Foreign-Born Non-Hispanic Whites by Country of Birth, and Timing of Immigration to the U.S.: 1990 and 2000

	# of Metro Areas	Dissimilarity Index		Isolation Index	
		1990 Census	2000 Census	1990 Census	2000 Census
Foreign-born non-Hispanic Whites	100	0.301	0.298	0.117	0.141
Country of Birth					
Europe	70	0.285	0.321	0.099	0.121
Eastern Europe	32	0.474	0.502	0.111	0.167
Poland	**6**	**0.576**	**0.604**	**0.104**	**0.164**
Poland 1990-2000	6	-	0.731	-	0.151
Poland 1980-1989	6	0.742	0.669	0.113	0.059
Poland 1970-1979	6	0.731	0.713	0.034	0.024
Poland <1970	6	0.552	0.579	0.036	0.027
Romania	**3**	**0.695**	**0.696**	**0.034**	**0.043**
Romania 1990-2000	3	-	0.837	-	0.034
Romania 1980-1989	3	0.864	0.857	0.034	0.027
Romania 1970-1979	3	0.861	0.886	0.015	0.015
Romania <1970	3	0.745	0.808	0.016	0.014
Russia/USSR	**3**	**0.665**	**0.682**	**0.159**	**0.138**
Russia/USSR 1990-2000	3	-	0.738	-	0.121
Russia/USSR 1980-1989	3	0.807	0.789	0.162	0.038
Russia/USSR 1970-1979	3	0.780	0.814	0.082	0.034
Russia/USSR <1970	3	0.605	0.771	0.028	0.013
Yugoslavia	**3**	**0.611**	**0.657**	**0.035**	**0.044**
Yugoslavia 1990-2000	3	-	0.847	-	0.046
Yugoslavia 1980-1989	3	0.848	0.861	0.028	0.023
Yugoslavia 1970-1979	3	0.797	0.835	0.019	0.014
Yugoslavia <1970	3	0.636	0.747	0.019	0.012
Northern Europe	23	0.322	0.338	0.024	0.024
United Kingdom	**17**	**0.339**	**0.372**	**0.014**	**0.016**
United Kingdom 1990-2000	17	-	0.645	-	0.012
United Kingdom 1980-1989	17	0.616	0.653	0.009	0.008
United Kingdom 1970-1979	17	0.675	0.712	0.007	0.006
United Kingdom <1970	17	0.376	0.462	0.010	0.009
Ireland	**1**	**0.538**	**0.539**	**0.060**	**0.060**
Ireland 1990-2000	1	-	0.779	-	0.043
Ireland 1980-1989	1	0.774	0.752	0.044	0.027
Ireland 1970-1979	1	0.862	0.854	0.011	0.012
Ireland <1970	1	0.541	0.584	0.038	0.028
Western Europe	15	0.307	0.333	0.025	0.024

France	**1**	**0.581**	**0.570**	**0.017**	**0.022**
France 1990-2000	1	-	0.736	-	0.021
France 1980-1989	1	0.818	0.837	0.014	0.008
France 1970-1979	1	0.893	0.887	0.008	0.008
France <1970	1	0.631	0.679	0.014	0.016
Germany	**4**	**0.347**	**0.375**	**0.023**	**0.020**
Germany 1990-2000	4	-	0.720	-	0.014
Germany 1980-1989	4	0.759	0.817	0.009	0.010
Germany 1970-1979	4	0.808	0.831	0.006	0.010
Germany <1970	4	0.364	0.415	0.022	0.016
Southern Europe	14	0.437	0.446	0.093	0.090
Greece	**2**	**0.640**	**0.652**	**0.065**	**0.063**
Greece 1990-2000	2	-	0.898	-	0.032
Greece 1980-1989	2	0.872	0.873	0.026	0.022
Greece 1970-1979	2	0.772	0.790	0.032	0.033
Greece <1970	2	0.645	0.675	0.036	0.031
Portugal	**5**	**0.656**	**0.632**	**0.190**	**0.177**
Portugal 1990-2000	5	-	0.834	-	0.107
Portugal 1980-1989	5	0.804	0.754	0.123	0.104
Portugal 1970-1979	5	0.705	0.656	0.107	0.069
Portugal <1970	5	0.607	0.579	0.072	0.056
Italy	**5**	**0.452**	**0.463**	**0.063**	**0.057**
Italy 1990-2000	5	-	0.768	-	0.016
Italy 1980-1989	5	0.772	0.778	0.016	0.015
Italy 1970-1979	5	0.589	0.650	0.028	0.021
Italy <1970	5	0.448	0.482	0.048	0.041
Asia	4	0.503	0.516	0.110	0.122
South Central Asia	3	0.601	0.630	0.092	0.146
Iran	**1**	**0.703**	**0.630**	**0.200**	**0.075**
Iran 1990-2000	1	-	0.744	-	0.137
Iran 1980-1989	1	0.815	0.683	0.229	0.107
Iran 1970-1979	1	0.767	0.631	0.052	0.041
Iran <1970	1	0.670	0.748	0.022	0.013

Note: Includes metropolitan areas with at least 1,000 members of the group in question (the weighted total) for all of the year intervals. Countries of birth included in the table are those with at least 100,000 immigrants (also weighted) as measured in the 1990 and 2000 Censuses. Weighted means are weighted by the size of the group in question. Higher values indicate more segregation. The reference group is native-born non-Hispanic Whites.

In 2000, Russia is representative of the USSR as its largest former state.

Source: 1990 and 2000 Census data.