MIGRATION AND DISPERSAL OF HISPANIC AND ASIAN GROUPS:
AN ANALYSIS OF THE 2006-2008 MULTIYEAR AMERICAN COMMUNITY SURVEY

by

William H. Frey*
University of Michigan and The Brookings Institution

and

Julie Park*
University of Maryland, College Park

CES 11-33 October, 2011

The research program of the Center for Economic Studies (CES) produces a wide range of economic analyses to improve the statistical programs of the U.S. Census Bureau. Many of these analyses take the form of CES research papers. The papers have not undergone the review accorded Census Bureau publications and no endorsement should be inferred. Any opinions and conclusions expressed herein are those of the author(s) and do not necessarily represent the views of the U.S. Census Bureau. All results have been reviewed to ensure that no confidential information is disclosed. Republication in whole or part must be cleared with the authors.

To obtain information about the series, see www.census.gov/ces or contact Cheryl Grim, Editor, Discussion Papers, U.S. Census Bureau, Center for Economic Studies 2K130B, 4600 Silver Hill Road, Washington, DC 20233, CES.Papers.List@census.gov.
Abstract

This report seeks to evaluate selective migration processes of Hispanic and Asian nationality groups in the US from established settlement areas, using recent migration data from the American Community Survey. The underlying goal is to detect migration tendencies leading toward an increased dispersion of these groups associated with their migration processes. Using descriptive statistics, maps, and migration models, we assess how migration processes in the 2006-8 period are leading to the dispersal of Hispanic and Asian race ethnic groups across metropolitan areas, with special attention to the roles of co-ethnic communities and spatial assimilation.

These analyses employ migration data available from the 3-year 2006-8 American Community Survey using restricted data from the US Census Bureau’s Research Data Centers. This use of the restricted ACS files permitted the first post 2000 analysis of inter-metropolitan migration for Hispanic groups (Mexicans, Puerto Ricans, Cubans, Salvadorans, Dominicans) and Asian groups (Chinese, Indians, Filipinos, Vietnamese, Koreans) using the detailed demographic and geographic attributes available with these files. The data and analysis presented here provide a benchmark for further research of this kind with the American Community Survey in light of the fact that migration data will no longer be available from the US decennial census. The study examines migration from these groups’ major settlement areas to other metropolitan area destinations as they are affected by the attraction of co-ethnic communities and by a migrant selectivity pattern consistent with the perspective of spatial assimilation. The migration processes themselves were evaluated in terms of two components: the out--migration rates of residents, and the destination selection of movers.

From the perspective of co-ethnic community attraction, it was hypothesized that the outmigration rates from high co-ethnic settlement areas would be lower than those from areas where the group had a smaller overall presence and that the destination selections of out-migrants would be positively affected by the presence of high co-ethnic population shares in destination areas.

From the spatial assimilation perspective, it was hypothesized that out-migration from high coethnic areas would least likely occur for group members with lowest education, poor facility with English, and recently arrived in the US; whereas the selection of destinations with large coethnic population shares would be most likely to occur for these same population categories.

The results strongly confirm that co-ethnic community attraction continues to reduce outmigration of groups from major settlement origins and positively influences their destination selections. A series of multivariate migrant destination selection models confirm a consistent draw of ethnically similar destinations across individual Hispanic and Asian groups when other economic, demographic and structural metropolitan attributes are taken into account.
In contrast, results regarding spatial assimilation are typically mixed or nonexistent in characterizing both out-migration and mover destination selectivity patterns. In fact, we find contrary evidence for some Asian groups for whom it is the most educated, and native born migrants who show a penchant for selecting destinations with greater co-ethnic population shares. Among the greatest destinations for Indians, for example, are Philadelphia, Seattle, Dallas, Boston and Atlanta- areas with higher than average Indian population shares, and areas that also house knowledge-based industries.

The selection of co-ethnic destinations among Hispanic group migrants appears somewhat impervious to education attainment and Hispanic and Mexican group movers, who are foreign born and who arrived since 2000, are least, rather than most, prone to select co-ethnic destinations. The mover destination models make plain that employment growth at destination provides a strong draw for all Hispanic groups., This suggests that recent growth in low skilled jobs in parts of the country with small Hispanic populations are nonetheless attracting newly arrived, and less skilled Mexicans and other Hispanics who might have previously been especially lured to destinations with large co-ethnic population shares.

* This research is supported by NIH, NICHD project No. R01-HD045421 and an administrative supplement. It was conducted while the authors were Special Sworn Status researchers of the U.S. Census Bureau at the University of Michigan Census Research Data Center. Any opinions and conclusions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Census Bureau. All results have been reviewed to ensure that no confidential information is disclosed. Special thanks go to J. Clint Carter, administrator of the Michigan RDC, and to cooperating RDC colleagues at the US Census Bureau and Center for Economic Studies. The authors are grateful to Megan J. Benetsky and Lori Reeder, of the University of Maryland Department of Sociology for their extensive efforts and support in all phases of data preparation and analysis. John P DeWitt and Jane Shim of the University of Michigan Population Studies Center assisted with preparation of maps. Professor Ge Lin of the University of Nebraska Medical Center provided statistical advice and Cathy Sun of the University of Michigan Population Studies Center provided programming expertise. Finally we are indebted to Professor Kao-Lee Liaw of McMaster University for the perspective and expertise he has provided in framing a series of papers in the larger project which have greatly influenced this report. Of course, any errors or omissions in the report are solely the responsibility of the authors.
Table of Contents

A. Introduction. 7

B. Co-Ethnic Community Attraction and Spatial Assimilation 7

- Attraction of Co-Ethnic Communities 7
- Spatial Assimilation 9
- Prior Migration Research 9

C. Hypotheses 10

D. Analysis Strategy and Data 14

- American Community Survey Data 14
- Race-Ethnicity and Metropolitan Settlement Classification 15

E. Out-Migration from Origin Metropolitan Areas 26

- Out-Migration from Settlement Categories 26
- Out-Migration from Major Settlement Areas by Education, Language and Nativity/Immigration 27

F. Destination Selection of Movers from Major Settlement Areas 36

- Out-Migrant Destinations by Co-Ethnic Concentration 36
- Mapping Out-migrant Destinations 38
- Destination Selections by Education, Language and Nativity/Immigration 46

G. Modeling Mover Destination Selections 53

- Model Specification 54
- Destination and Personal Attributes 54
- Multivariate Results 56

H. Concluding Discussion 62

References 66

Endnotes 68
List of Tables, Figures and Maps

Tables

1  Largest Hispanic and Asian Nationality Groups, 2006-2008

2a  Shares of Hispanic Nationality Groups in Major Settlement Areas, Other High Concentration and Low Concentration Metros

2b  Shares of Asian Nationality Groups in Major Settlement Areas, Other High Concentration and Low Concentration Metros

3  Out-Migration Rates from Metro Origin Classes: Hispanic and Asian Nationality Groups, 2006-2008


Figures

1a  Selected Attributes of Hispanic Nationality Groups, 2006-2008

1b  Selected Attributes of Asian Nationality Groups, 2006-2008

2a  Hispanic Nationality Groups: Out-Migration Rates from Major Settlement Areas by Education Attainment

2b  Hispanic Nationality Groups: Out-Migration Rates from Major Settlement Areas by English Proficiency

2c  Hispanic Nationality Groups: Out-Migration Rates from Major Settlement Areas by Nativity and Year of Arrival

3a  Asian Nationality Groups: Out-Migration Rates from Major Settlement Areas by Education Attainment

3b  Asian Nationality Groups: Out-Migration Rates from Major Settlement Areas by English Proficiency

3c  Asian Nationality Groups: Out-Migration Rates from Major Settlement Areas by Nativity and Year of Arrival

4a  Hispanic Movers from Major Settlement Areas: Destination Metro Concentration Classes

4b  Asian Movers from Major Settlement Areas: Destination Metro Concentration Classes
Figures (continued)

5a                Hispanic Group Out-Migrants from Major Settlement Areas
                  by Education Attainment
5b                Hispanic Group Out-Migrants from Major Settlement Areas
                  by English Proficiency
5c                Hispanic Group Out-Migrants from Major Settlement Areas
                  By Nativity and Year of Arrival

6a                Asian Group Out-Migrants from Major Settlement Areas
                  by Education Attainment
6b                Asian Group Out-Migrants from Major Settlement Areas
                  by English Proficiency
6c                Asian Group Out-Migrants from Major Settlement Areas
                  By Nativity and Year of Arrival

Maps

1a-b               Metros Classed by Settlement and Concentration:
                  Hispanics and Asians
2a-e               Metros Classed by Settlement and Concentration:
                  Hispanic Nationality Groups
3a-e               Metros Classed by Settlement and Concentration:
                  Asian Nationality Groups
4a-b               Migration Destinations from Major Settlement Areas:
                  Hispanics and Asians
5a-e               Migration Destinations from Major Settlement Areas:
                  Hispanic Nationality Groups
6a-e               Migration Destinations from Major Settlement Areas:
                  Asian Nationality Groups
MIGRATION AND DISPER SAL OF HISPANIC AND ASIAN GROUPS: AN ANALYSIS OF THE 2006-2008 MULTIYEAR AMERICAN COMMUNITY SURVEY

A. INTRODUCTION

This report seeks to evaluate selective migration processes of Hispanic and Asian nationality groups from established settlement areas, using recent migration data from the American Community Survey. The underlying goal is to detect migration tendencies leading toward the increased dispersion of these groups. The last two decades have shown a dramatic rise in the size and diversity of the nation’s race and ethnic minority populations, but they have also shown these populations to be quite unevenly distributed across metropolitan areas (Frey, 2010b).

The traditional concentration of Hispanic and Asian populations in New York, Los Angeles, and a few other large metropolitan areas is related to their longstanding immigrant status and attachments to co-ethnic communities in those areas (Waldinger, 2001). Yet, recent census estimates suggest their greater geographic dispersal (Frey, 2006; Massey and Capoferro, 2008). While these redistribution patterns, observed from census snapshots over time, provide some sense that dispersal is occurring, a more rigorous analysis of the migration processes is necessary to understand these redistribution shifts. Using descriptive statistics, maps, and migration models, we will assess how migration processes in the 2006-8 period are leading to the dispersal of new immigrant Hispanic and Asian national groups across metropolitan areas, with special attention to the roles of co-ethnic communities and spatial assimilation.

We conduct these analyses based on recent migration data available with the 3-year 2006-8 American Community Survey using restricted data from the US Census Bureau (discussed below). We examine the migration of Hispanics and Asians, as identified by respondents of the race-ethnic questions of the American Community Survey as well as the largest detailed groups within each category. For Hispanics, these include Mexicans, Puerto Ricans, Cubans, Salvadorans, and Dominicans. For Asians, these include Chinese (except Taiwanese), Indians, Filipinos, Vietnamese, and Koreans (see Table 1).

B. CO-ETHNIC COMMUNITY ATTRACTION AND SPATIAL ASSIMILATION

The dispersion of Hispanic and Asian groups beyond traditional settlement areas needs to take into account the attraction of both old and newer destinations. In this research, we are cognizant of two specific kinds of attractions, the roles of co-ethnic communities and more general spatial assimilation.

Attraction of Co-Ethnic Communities

The roles of co-ethnic communities have long been seen as attractions for minority groups with substantial numbers of recent immigrants. Previous research has shown that even native-born and longer term residents among immigrant minority groups follow “channelized” migration patterns, shaped by racial and ethnic attachments and well-worn migration networks. These “traditional” group migration patterns are motivated by employment information and support provided by social networks as these groups were assimilating and faced new destinations (Farley and Allen, 1987; Bean and Tienda, 1987; Barringer, Gardner, and Levin, 1993).
Research in the 1980s and 1990s found that a few port-of-entry areas which attracted most initial immigrants of a given Hispanic group (Los Angeles for Mexicans; New York for Puerto Ricans; Miami for Cubans) also served as “spatial redistributors” of longer term immigrants and the native-born population over time (McHugh, 1989; McHugh et al., 1997; Bean and Tienda, 1987). There is similar evidence of a dispersal of Puerto Ricans from New York to other parts of the Northeast region. Still, the migration streams away from these core areas follow fairly channelized paths (for example, between New York and Florida for Puerto Ricans and Cubans, and between Chicago and Texas for Mexicans) to and from areas with relatively large Hispanic populations.

Saenz and his collaborators (Saenz, 1991; Saenz and Davila, 1992; Saenz and Cready, 1997) identify five core states that represent the homeland for Mexican Americans. These findings for Mexican Americans are consistent with Tienda and Wilson’s (1992) finding that living in an ethnically concentrated metropolitan area significantly inhibits the out-migration of Mexican, Puerto Rican, and Cuban men after taking into account other relevant attributes. In examining 2005-6 migration patterns of Hispanics, Lichter and Johnson (2009) confirm the tendency for Hispanic immigrants to continue to concentrate in traditional settlement areas, but also to contribute to the secondary migration patterns of Hispanics to other more dispersed parts of the country.

Table 1: Largest Hispanic and Asian Nationality Groups, 2006-2008

<table>
<thead>
<tr>
<th>Hispanic Nationality Group</th>
<th>Population total</th>
<th>Share of All Hispanics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mexican</td>
<td>29,318,971</td>
<td>64.5%</td>
</tr>
<tr>
<td>2 Puerto Rican</td>
<td>4,127,728</td>
<td>9.1%</td>
</tr>
<tr>
<td>3 Cuban</td>
<td>1,572,138</td>
<td>3.5%</td>
</tr>
<tr>
<td>4 Salvadoran</td>
<td>1,477,210</td>
<td>3.3%</td>
</tr>
<tr>
<td>5 Dominican</td>
<td>1,249,471</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>All Hispanics</strong></td>
<td><strong>45,432,158</strong></td>
<td><strong>83.1%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asian Nationality Group</th>
<th>Population total</th>
<th>Share of All Asians</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Chinese</td>
<td>2,964,034</td>
<td>19.9%</td>
</tr>
<tr>
<td>2 Asian Indian</td>
<td>2,503,921</td>
<td>16.8%</td>
</tr>
<tr>
<td>3 Filipino</td>
<td>2,366,501</td>
<td>15.9%</td>
</tr>
<tr>
<td>4 Vietnamese</td>
<td>1,464,611</td>
<td>9.9%</td>
</tr>
<tr>
<td>5 Korean</td>
<td>1,329,342</td>
<td>8.9%</td>
</tr>
<tr>
<td><strong>All Asians in U.S.</strong></td>
<td><strong>14,863,151</strong></td>
<td><strong>71.5%</strong></td>
</tr>
</tbody>
</table>

Source: American Community Survey 2006-2008 3-year Estimates
Spatial Assimilation

The dispersal of recent immigrant minorities away from highly concentrated ethnic locations can be viewed through the general theoretical framework of spatial assimilation. It stems from Gordon’s (1964) assimilation theory as it is applied to a spatial context (Massey, 1985). As such, spatial assimilation envisions a minority member’s move to a new destination as an outcome of individual assimilation involving relocation to a higher status or economically more advantaged area, and also to an area that is removed from the residential concentration of his/her minority group. Spatial assimilation has two components: structural assimilation measured by socioeconomic attributes such as education; and cultural assimilation using indicators such as English language proficiency and nativity/length of residence in the US (for immigrants). Spatial assimilation was first used primarily as a framework for examining local movement or population shifts away from concentrated race-ethnic ethnic enclaves within a single metropolitan area (Alba and Logan, 1991).

As in earlier work (Frey and Liaw, 2005), this research utilizes the concept of spatial assimilation as a framework for examining inter-metropolitan migration of race-ethnic groups in their dispersal from major metropolitan area settlements. In so doing, we assume that structural assimilation will be achieved with a move out of a metropolitan area that has a large same-minority concentration and into a metropolitan area with a lesser minority concentration with better prospects for economic or quality of life improvement.

For inter-metropolitan migration, education represents a dimension of human capital. Persons with higher education, especially college graduates are more responsive to migration “pulls” in other metropolitan areas, irrespective of co-ethnic attractions. Similarly, cultural assimilation is attributed to moves in similar directions that are associated with indicators such as English language ability, or greater length of residency in the US (for foreign born). In this context, movement away from a metropolitan area with a large co-ethnic population again reflects less reliance on the social and economic support or the more general social capital that a large co-ethnic community may provide.

Prior Migration Research

Previous research using migration data from the 1990 and 2000 censuses provides some support for both perspectives just presented. The attraction of co-ethnic communities does, in fact, exert a strong independent impact on minority migration processes, especially those with substantial recent immigrant members. The impact of same-race residents as an inhibitor to out-migration and as an attraction for destination selection among Hispanics and Asians is supported in Frey and Liaw’s (1998; 2005) analyses of interstate migration in the late 1980s and late 1990s. Frey and Liaw’s (2005) study refers to these impacts as “cultural constraints” associated with ethnic similarity. That is, the effect of same-race residents toward reducing out-migration, and attracting in-migration significantly adds to the explanation of both processes above and beyond the battery of area specific labor market attributes, quality of life indicators, and geographic controls such as distance, which were included in the model. Studies by Ellis and Goodwin-White (2006) and Kritz and Gurak (2009) show reduced out-migration from areas with high concentrations of same race or co-national groups, among inter-state and inter-labor market migrants, respectively.
The spatial assimilation perspective is supported in Frey and Liaw’s (1995; 2005) analyses which show movers’ selection of co-ethnic destinations is especially strong for less well educated Hispanics (Frey and Liaw, 1998 2005) In studying the destinations of recent foreign-born migrants (Liaw and Frey, 2007; 2008) found that the percentage of same-race residents in the potential state of destination was a more important factor than conventional labor market attributes toward explaining immigrants’ destination selections and that this was especially the case for those with a high school education or less.

Yet, this prior research does not consistently support the spatial assimilation perspective of the spatial assimilation process. Frey and Liaw’s (2005) study showed that among interstate movers, those who were recent foreign born were least likely to select co-ethnic destinations. And in their comparison of immigrant destination determinants, Frey and Liaw (2007) find a reduced tendency for less skilled Hispanics to select co-ethnic destinations in 1995-2000 than in 1985-2000. At the same time the attraction of service employment opportunities for low skilled Hispanics increased over time This leads to the suggestion that low skilled and recent immigrant members of Hispanic groups, in particular, are participating in a dual labor market--attracting them to areas where a co-ethnic presence is relatively small and where wages are relatively low (Parrado and Kandel, 2008).

The most detailed previous studies that focus on migration destination selections tend to examine periods that end no later than 2000, and either look at broad categories of all Hispanics and all Asians or focus only on recent immigrants by country of origin. The present study examines migration dispersal patterns for detailed Hispanic and Asian nationality groups for one year intervals over the 2006-8 timeframe, a period which, for the most part, experienced a robust economy. In so doing, we wish to update earlier work in order to determine for which groups and how well a framework that emphasizes co-ethnic community attractions and spatial assimilation applies in explaining migration at a time when there is an increasing dispersal of Hispanic and Asian nationality groups.

C. HYPOTHESES

The migration processes that we examine are those that have a direct impact on dispersal of Hispanic and Asian nationality groups: the out-migration from established settlement areas, and the selection of a destination metropolitan area among these out-migrants. The hypotheses presented below are predicated on the co-ethnic community attraction and spatial assimilation perspectives. Using the percentage of residents which are of the same race-ethnicity as an indicator of co-ethnic community attraction, educational attainment as an indicator of structural assimilation which also reflects the human capital potential of the migrants, and English language proficiency and nativity/duration of residence (for immigrants) as indicators of cultural assimilation, the hypotheses are:

**Hypothesis A1:** A race-ethnic group’s out-migration rate from an origin metropolitan area is negatively related to that group’s share of the metropolitan area’s population.
Hypothesis A2: A race-ethnic group’s selection of a destination metropolitan area is positively related to that group’s share of the metropolitan area population.

Hypothesis A3: Hypothesis A1 and A2 are most likely to hold for minority members who are less well educated, and those who do not speak English well and immigrants, especially those who recently arrived.

We will examine these hypotheses separately for all Hispanics and all Asians as well as for the five largest nationality groups shown in Table 1. Each of these groups differ with respect to the aforementioned indicators of structural and cultural assimilation and, should the hypotheses hold true, will impact the degree to which migration processes affect their overall dispersal.

As shown in Figures 1a and 1b, for primary working age persons age 20-59, all Hispanics fare lower on educational attainment, are less likely to speak English well, but are less likely to be recent arrivals than is the case for all Asians. Yet within each group there are differences.

Among the Hispanic groups, Salvadorans and Mexicans stand out as having the highest shares not graduating from high school (50 and 41 percent) and lowest among college graduates (8 and 9 percent), whereas Cubans are most likely to have graduated from college (28 percent) and least likely to be high school dropouts (14 percent). Puerto Ricans and Dominicans lie in between.

English proficiency can be ascertained on the basis of questions regarding language spoken at home and English ability among those who do not speak English at home. The measure “does not speak English well” is the percentage of a group’s ages 20-59 population that speaks a language other then English at home and does not speak English well. Among Hispanic groups, Salvadorans stand out with the highest share (44 percent) not speaking English well, though both Dominicans (35 percent) and Mexicans (33 percent) score higher than all Hispanics (29 percent) on this measure. As mostly American citizens, only 8 percent of Puerto Ricans do not speak English well.

Recent foreign born is measured as the percentage of all persons age 20-59 (both native and foreign born) who immigrated since 2000. The recent foreign-born share of Mexicans, Dominicans and Cubans lie in the range of 13-15 percent. It is noticeably higher for Salvadorans (21 percent). Puerto Ricans are not considered immigrants.

Similar variations occur among Asian groups despite their “model minority” image. On measures of educational attainment, bachelor’s degrees or higher have been obtained by 70 percent of all Indians, ages 20-59, and between 47-55 percent of Chinese, Koreans, and Filipinos. And while only 29 percent of Vietnamese have achieved at least a bachelor’s degree, this exceeds the measure for Cubans, the most highly ranked Hispanic group.

On English proficiency, 28 percent of Vietnamese working age adults do not speak English well as is the case with roughly 22 percent of Chinese and Koreans. Because English is widely spoken in India and the Philippines, it is not surprising that US residents identifying as Indians and Filipinos have high English proficiency.
Figure 1a. Selected Attributes of Hispanic Nationality Groups, 2006-2008

Source: American Community Survey 2006-2008 3-year estimates
* Figures include persons aged 20-59 only.
Figure 1b. Selected Attributes of Asian Nationality Groups, 2006-2008

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Because substantial immigration from Asian countries tends to be fairly recent, the share of working aged adults who are immigrants since 2000 is relatively high for most Asian groups: nearly three out of ten among Indians, and at least 16 percent for all others except Vietnamese. About one out of eight working aged Vietnamese immigrated since 2000.

These statistics suggest that if spatial assimilation were a driving force toward dispersed migration, most Asian groups should lead the way in light of their relatively high levels of human capital. And among individual groups, Mexicans and Salvadorans would be least well poised to locate away from co-ethnic communities while Indians, in light of superior educational attainment and facility with English should be most likely to move beyond major settlement areas. Of course, the attraction of co-ethnic communities may have different impacts on each of these groups. These impacts will be examined below.

D. ANALYSIS STRATEGY AND DATA

The hypotheses above will be investigated with migration analyses using the “residence one year ago” question drawn from the internal files of the 2006-8 American Community Survey 3-year multiyear file to be discussed below. Most of our analyses will focus on the out-migration rates and mover destination flow patterns emanating from metropolitan areas that we identify as “major settlement areas.” Some part of our analyses will make use of a metropolitan area classification for each nationality group that distinguishes between high and low concentration metro areas. This, along with associated maps, will be used in analyses that examine the out-migration of residents from different classes of origins to assess hypotheses 1 and 3 (Section E) and to identify classes of destinations for out-migrants from each group for an initial assessment of hypothesis 2 and 3 (Section F).

Our analysis of destination selections of movers for each group from its major settlement metropolitan area(s) will also utilize a conditional logit model that incorporates destination area demographic, geographic, economic, and ethnic similarity attributes as well as interactions between the latter and personal measures of educational attainment, English language proficiency and recent immigration. These will form the basis for further assessment of hypotheses 2 and 3 and will be discussed in greater detail in Section G.

American Community Survey Data

The primary data source for this research will be the internal files for the 2006-8 American Community Survey (ACS) 3-year multiyear estimates (US Census Bureau, 2008) conducted primarily at the University of Michigan Census Research Data Center (RDC) and US Census Bureau RDC in Suitland, Maryland in cooperation with the University of Michigan Center.

These centers tied to the US Census Bureau, provide a controlled, secure environment in which researchers can perform analyses using restricted census data. All of the coefficients, statistical summary measures, and attributes of areas that become available to the public from this study are subject to the confidentiality protocols prescribed by the Census Bureau for this Center. Working within the RDC afforded us the opportunity to conduct statistical analyses, migration modeling, and early exploration of different coding and classification schemes that would not be possible with the publicly released migration data. The files available to us are the
full sample files rather than the smaller sample in the ACS Public Use Micro Samples (PUMS) with much more fine-grained geography and population subgroup detail.

The 2006-8 ACS multiyear sample permits measurement of out-migration rates and migration destination selections required for the migration models. This full unweighted multiyear sample represents approximately 4.5 percent of US households. In all parts of this study, we restrict migrants to persons age 20-59 to include members of the adult labor force, as consistent with earlier work (Liaw and Frey, 2008). The general form of migration rate can be estimated from these data are

\[
\frac{M_{ij}(k)}{M_i+(k)}
\]

where \(M_{ij}(k)\) equals residents with characteristic \(k\) that resided in area \(j\) at time of the survey and resided in area \(i\) one year prior to the survey (+ denotes summation across all areas). The use of these data in the conditional logit models will be discussed in section G.

It should be borne in mind that any measurements from the 3 year multiyear ACS data represent the aggregate experience of three years weighted as if they pertained to a single year. Thus point estimates for measures of educational attainment, English proficiency and recent immigration status, shown in Figures 2a and 2b, reflect a single point estimate based on the experience of the three year interval 2006-8.

Similarly the one year migration rates and flows estimated from the ACS multiyear estimates represent a single one year migration rate or flow based on the experience of the three years of migration for 2005-6, 2006-7 and 2007-8 as reported by respondents on the “one year ago” migration questions in the 2006-8 ACS surveys. (Specifically the number of moves shown in later tables does not represent the sum of three years of moves but one year of moves derived approximately from the average experience of the three years.) One should bear in mind that the three years, on which this estimated is based, showed a shift in-migration levels and experiences in the United States (Frey, 2009) such that the estimates probably understate the high migration rates to fast growing “housing bubble” metro areas in 2005-6 and the more muted rates and patterns of 2007-8.

**Race-Ethnicity and Metropolitan Settlement Classification**

This study focuses on the one year migration experiences of Hispanics, Asians and detailed Hispanic and Asian groups (sometimes referred to as nationality groups) based on ACS responses to questions on “Hispanic, Latino or Spanish” origin, and “race.” Hispanic groups include those with largest national numbers: Mexican, Puerto Rican, Cuban, Salvadoran and Dominican. Asian groups pertain to non-Hispanic members of: Chinese, Indian, Filipino, Vietnamese and Korean. Because these are race and ethnic groups (as opposed to country of birth groups) they pertain to both native- and foreign-born populations who identify themselves as such.

Most of this study focuses on inter-metropolitan migration of these groups with specific attention to one or more areas we define as “major settlement areas.” These are defined separately for all Hispanics and all Asians as well as for each detailed group. Following the metropolitan CBSAs (Core Based Statistical Areas) utilized by the Census Bureau in 2008, a race ethnic group’s major settlement area is defined as one or more metropolitan areas that hold
the largest populations of a race-ethnic group in the US and where the race-ethnic group’s share of each metropolitan area is higher than the total race ethnic group’s share of the U.S. population.

A list of these major settlement areas is shown in Table 2a for Hispanic groups and Table 2b for Asian groups. Not surprisingly, Los Angeles and New York are prominent for several groups. For all Hispanic groups except Salvadorans, we identify only one metropolitan area as the major settlement area. In contrast, major settlement areas for Asian groups range from three to five metropolitan areas.

For some portions of this analyses we classify metropolitan areas outside of major settlement areas, as either “high concentration” or “low concentration” metropolitan areas. These designations differ for each group. They are defined as a high concentration area if the race-ethnic group’s share of the metropolitan area is higher than the total race-ethnic group’s share of the U.S. population. They are defined as a low concentration area if the race-ethnic group’s share is lower than the national average. Not all metropolitan areas are classed according to these categories. Metropolitan areas that do not have any persons of the particular race-ethnic group reported in the American Community Survey are omitted from the classification.

Tables 2a and 2b show, for each group, how its adult labor force population (ages 20-59) is distributed across major settlement, high concentration, and low concentration metropolitan areas. Among Hispanic groups there is variation in how much of the metropolitan population is located in the major settlement area(s). Only 17 percent of the Mexican population in these metro areas resides in its major settlement area (Los Angeles) whereas more than half of the populations of Cubans, Salvadorans and Dominicans reside in their major settlements. Among Asians, their major settlement area population shares range from 35 percent for Indians to 49 percent for Filipinos. For most groups the share residing in low concentration metro areas is in the neighborhood of 20 percent or less.

These tables also show the number of metropolitan areas which are associated with each classification. The locations of these groups are depicted in Maps 1a and 1b for all Hispanics and all Asians, and for specific Hispanic groups in Maps 2a -2e and for specific Asian groups in Maps 3a-3e.

Map 1a shows where Hispanics are concentrated across the U.S. with Los Angeles being the one major settlement area. Most of the high-concentration metropolitan areas are in the southwest as would be expected as well in Florida and New York. In contrast, Map 1b shows that Asians are in fewer high concentration areas with Los Angeles, New York, and San Francisco serving as major settlement areas. High concentration areas for Asians are predominantly on the west coast with fewer in the Midwest and east coast.

Los Angeles is the major settlement area for Mexicans and most of the high concentration metropolitan areas are in the southwest (see Map 2a). With the exception of a few metropolitan areas in the Midwest and South, most metropolitan areas have a lower than national average share of Mexicans. New York serves as the major settlement area for Puerto Ricans and they are clearly concentrated in New York and Florida (see Map 2b). Cubans are almost entirely concentrated in Florida with Miami as the major settlement area (see Map 2c). Salvadorans have major settlements in Los Angeles, Washington DC have large concentrations mostly in the eastern and western states. Like the Puerto Ricans, Dominicans are also heavily concentrated in New York and Florida (see Map 2e).
<table>
<thead>
<tr>
<th>Nationality Group</th>
<th>Major Settlement Metros</th>
<th>Share of Group's population in:</th>
<th>Major Settlement Metros</th>
<th>High Concentration Metros</th>
<th>Low Concentration Metros</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Hispanics</td>
<td>Los Angeles</td>
<td>13.6%</td>
<td>65.3%</td>
<td>21.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( 1 metro)</td>
<td>( 71 metros)</td>
<td>( 291 metros)</td>
<td></td>
</tr>
<tr>
<td>Mexican</td>
<td>Los Angeles</td>
<td>17.0%</td>
<td>65.3%</td>
<td>17.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( 1 metro)</td>
<td>( 73 metros)</td>
<td>( 289 metros)</td>
<td></td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>New York</td>
<td>31.4%</td>
<td>49.4%</td>
<td>19.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( 1 metro)</td>
<td>( 51 metros)</td>
<td>( 311 metros)</td>
<td></td>
</tr>
<tr>
<td>Cuban</td>
<td>Miami</td>
<td>57.2%</td>
<td>21.6%</td>
<td>21.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( 1 metro)</td>
<td>( 18 metros)</td>
<td>( 301 metros)</td>
<td></td>
</tr>
<tr>
<td>Salvadoran</td>
<td>Los Angeles, New York, Washington, D.C.</td>
<td>52.1%</td>
<td>32.2%</td>
<td>15.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( 3 metros)</td>
<td>( 36 metros)</td>
<td>( 241 metros)</td>
<td></td>
</tr>
<tr>
<td>Dominican</td>
<td>New York</td>
<td>65.2%</td>
<td>23.9%</td>
<td>10.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( 1 metros)</td>
<td>( 23 metros)</td>
<td>( 191 metros)</td>
<td></td>
</tr>
</tbody>
</table>

* All residents age 20-59 in location one year prior to survey
Source: American Community Survey 2006-2008 3-year estimates
### Table 2b: Shares of Asian Nationality Groups in Major Settlement Areas, Other High Concentration and Low Concentration Metros*

<table>
<thead>
<tr>
<th>Nationality Group</th>
<th>Major Settlement Metros</th>
<th>Major Settlement Metros</th>
<th>High Concentration Metros</th>
<th>Low Concentration Metros</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Asians</td>
<td>Los Angeles, New York, San Francisco</td>
<td>35.5% (3 metros)</td>
<td>42.3% (48 metros)</td>
<td>22.2% (312 metros)</td>
</tr>
<tr>
<td>Chinese</td>
<td>Los Angeles, New York, San Francisco</td>
<td>36.2% (3 metros)</td>
<td>45.3% (39 metros)</td>
<td>18.5% (307 metros)</td>
</tr>
<tr>
<td>Asian Indian</td>
<td>Chicago, San Jose, New York, San Francisco</td>
<td>35.5% (4 metros)</td>
<td>42.3% (59 metros)</td>
<td>22.2% (289 metros)</td>
</tr>
<tr>
<td>Filipino</td>
<td>Los Angeles, New York, Chicago, San Diego</td>
<td>48.8% (3 metros)</td>
<td>30.8% (40 metros)</td>
<td>20.4% (319 metros)</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>Los Angeles, New York, Washington, D.C., San Jose, Houston, Dallas</td>
<td>46.7% (5 metros)</td>
<td>34.4% (54 metros)</td>
<td>18.9% (282 metros)</td>
</tr>
<tr>
<td>Korean</td>
<td>Los Angeles, New York, Chicago, Washington, D.C.</td>
<td>41.8% (4 metros)</td>
<td>38.3% (58 metros)</td>
<td>19.9% (278 metros)</td>
</tr>
</tbody>
</table>

* All residents age 20-59 in location one year prior to survey

Source: American Community Survey 2006-2008 3-year estimates
Map 1: Metros Classed by Settlement and Concentration: Hispanics and Asians

A. Hispanics

B. Asians
Map 2: Metros Classed by Settlement and Concentration: Hispanic Nationality Groups

A. Mexicans

B. Puerto Ricans
Map 2: Metros Classed by Settlement and Concentration: Hispanic Nationality Groups

C. Cubans

D. Salvadorans
Map 2: Metros Classed by Settlement and Concentration: Hispanic Nationality Groups

E. Dominicans
Map 3: Metros Classed by Settlement and Concentration: Asian Nationality Groups

A. Chinese

B. Asian Indians
Map 3: Metros Classed by Settlement and Concentration:
Asian Nationality Groups

C. Filipinos

D. Vietnamese
Map 3: Metros Classed by Settlement and Concentration: Asian Nationality Groups

E. Koreans
Chinese have major settlement areas in Los Angeles, San Francisco and New York with strongest concentrations in nearby states as well as in the Midwest (Map 3a), to some degree paralleling those for Indians, whose major settlement areas are New York, San Francisco, San Jose and Chicago (Map 3b). Filipino settlement areas are the California metros (San Francisco, Los Angeles, San Diego) and New York, with largest concentrations located in the Golden state (Map 3c). Vietnamese are more dispersed generally as are their settlement areas, Los Angeles, San Jose, Houston, Dallas, and Washington (Map 2d). Koreans, with settlements of Los Angeles, Chicago, New York, and Washington DC, show concentrations spread along the eastern, Midwest and west coast states (Map 3e).

E. OUT-MIGRATION FROM ORIGIN METROPOLITAN AREAS

Our hypotheses regarding the role of co-ethnic community attraction and spatial assimilation with respect to the out-migration from origins will be examined from tabulations that form the basis of Table 3 and Figures 2a-c and 3a-c below.

Out-Migration from Settlement Categories

Table 3 presents each group’s out-migration rates for origin areas, classed by the categories of the settlement classification scheme. As in other parts of this report, these rates pertain to persons aged 20-59. The results here give consistent support for hypothesis 1, showing that a group’s out-migration rate is lowest in their major settlement areas, and highest in their low concentration areas. For all Hispanics, for example, out-migration from major settlement areas is 3.3 percent compared with a rate of 5.9 percent from low concentration areas. For all Asians, the corresponding out-migration rates were 3.1 percent and 7.6 percent.

Yet there are some group differences in the gradation of out-migration rate patterns across settlement types. Hispanic out-migration rates only tick up modestly (from 3.3 to 3.4 percent) between major settlement areas and high concentration areas, though there is a more substantial uptick in out-migration from low settlement areas. This reflects largely the pattern for Mexicans who display a similar pattern. For Dominicans, in contrast, relative rates of out-migration increase from 1.8 percent to 4 percent, then to 8.2 percent across the three concentration groups. Cubans also show sharp increases across each of the three categories. Thus while Mexicans show the highest out-migration rates of all Hispanic groups from their major settlement area (Los Angeles), their out-migration falls below all other Hispanic groups from low concentration areas. From these areas, out-migration rates are highest for Dominicans, Puerto Ricans, and Cubans—three groups whose primary concentrations in New York, Miami, and New York respectively comprise a large substantial share of their populations.

Among all of the Asian groups considered here, there is a progression in out-migration rate levels when transitioning from major settlement to high concentrations, then low concentration areas. The case of Indians, though, is especially noteworthy as they stand out as the group with highest out-migration rates for all three settlement types: 4 percent for major settlement areas, 6.8 percent out of high concentration areas, and 11.2 percent out of low concentration areas. This is consistent with the high educational attainment of Indians (discussed further below). At the other extreme are Vietnamese, who show the lowest rates of out-migration across the three categories of settlement areas. Overall, the out-migration rates of each Hispanic and Asian group conforms to the expectations of hypothesis 1.
Table 3: Out Migration Rates from Metro Origin Classes: Hispanic and Asian Nationality Groups, 2006-2008

<table>
<thead>
<tr>
<th>Nationality Group</th>
<th>Major Settlement Metros</th>
<th>High Concentration Metros</th>
<th>Low Concentration Metros</th>
<th>Ratio Low Concentration to Major Settlement Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Hispanics</td>
<td>3.3%</td>
<td>3.4%</td>
<td>5.9%</td>
<td>1.8</td>
</tr>
<tr>
<td>Mexican</td>
<td>3.3%</td>
<td>3.4%</td>
<td>5.8%</td>
<td>1.8</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>3.2%</td>
<td>4.7%</td>
<td>8.1%</td>
<td>2.5</td>
</tr>
<tr>
<td>Cuban</td>
<td>2.2%</td>
<td>4.5%</td>
<td>7.1%</td>
<td>3.3</td>
</tr>
<tr>
<td>Salvadoran</td>
<td>2.4%</td>
<td>2.8%</td>
<td>6.0%</td>
<td>2.5</td>
</tr>
<tr>
<td>Dominican</td>
<td>1.8%</td>
<td>4.0%</td>
<td>8.1%</td>
<td>4.6</td>
</tr>
<tr>
<td>All Asians</td>
<td>3.1%</td>
<td>4.5%</td>
<td>7.6%</td>
<td>2.5</td>
</tr>
<tr>
<td>Chinese</td>
<td>2.6%</td>
<td>4.7%</td>
<td>7.4%</td>
<td>2.9</td>
</tr>
<tr>
<td>Asian Indian</td>
<td>4.0%</td>
<td>6.8%</td>
<td>11.2%</td>
<td>2.8</td>
</tr>
<tr>
<td>Filipino</td>
<td>3.2%</td>
<td>4.0%</td>
<td>6.4%</td>
<td>2.0</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>2.4%</td>
<td>3.8%</td>
<td>5.2%</td>
<td>2.2</td>
</tr>
<tr>
<td>Korean</td>
<td>3.3%</td>
<td>6.1%</td>
<td>9.9%</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Source: Authors’ analysis of restricted data from the American Community Survey, 2006-2008 3 year estimates

* Figures include persons aged 20-59 only.

Out-Migration from Major Settlement Areas by Education, Language and Nativity/Immigration

Having established that each group’s out-migration is lowest from major settlement areas, we now turn to hypothesis 3 which asserts that out-migration from major settlement areas is lowest for those group members who are least prone to spatial assimilation: non high school graduates, those who do not speak English well, native-born or recently arrived foreign born. This information is presented in a series of figures again pertaining to persons age 20-59.

Education Selectivity. Figure 2a and 3a, display the out-migration rates by education for each Hispanic group, and Asian group, respectively. There seems to be a clear distinction between the out-migration selections of these two groups.

Among all Hispanics, there is no noticeable pattern of out-migration by education, such that those with college degrees are not appreciably more likely to out-migrate than those of other categories. Similarly, those who have not received high school diplomas are not noticeably less likely to move. Out-migration rates range narrowly between 3.2 -3.4 percent among the four educational attainment categories shown in Figure 2a. These patterns mirror the Mexicans, the largest Hispanic group for whom the major settlement area is Los Angeles. In fact among Hispanic groups, only Salvadorans display an education-selective out-migration pattern consistent with the spatial assimilation hypothesis. Salvadorans with a college education display an out-migration rate of 2.9 percent compared with rates in the 2.1-2.2 percent range for lower educated residents.
Figure 2a. Hispanic Nationality Groups: Out Migration Rates from Major Settlement Areas by Educational Attainment

Source: American Community Survey 2006-2008 3-year Estimates

* Figures include persons aged 20-59 only.
Figure 2b. Hispanic Nationality Groups: Out Migration Rates from Major Settlement Areas by English Proficiency

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Figure 2c. Hispanic Nationality Groups: Out Migration Rates from Major Settlement Areas by Nativity and Year of Arrival

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Figure 3a. Asian Nationality Groups: Out Migration Rates from Major Settlement Areas by Educational Attainment

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Figure 3b. Asian Nationality Groups: Out Migration Rates from Major Settlement Areas by English Proficiency

- **Asians**
  - Well: 3.5
  - Not Well: 2.0

- **Chinese**
  - Well: 3.0
  - Not Well: 1.5

- **Vietnamese**
  - Well: 3.5
  - Not Well: 2.0

- **Koreans**
  - Well: 3.0
  - Not Well: 1.5

Source: American Community Survey 2006-2008 3-year Estimates

* Figures include persons aged 20-59 only.
Figure 3c. Asian Nationality Groups: Out Migration Rates from Major Settlement Areas by Nativity and Year of Arrival

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
In contrast to Salvadorans, Cubans, Dominicans, and Puerto Ricans show a tendency toward greater major settlement out-migration among those with lesser educations. Cuban college graduates are least likely to out-migrate from their major settlement area of Miami at 1.7 percent. Those who only graduated from high school display the highest rate of out-migration at 2.6 percent. The Dominican pattern is somewhat less distinct, but as with Cubans, “high school only” graduates are more likely to out-migrate than those with college degrees. For Puerto Ricans, the two lowest education categories are somewhat more likely to out-migrate from their major settlement area (New York) than those of higher education categories.

The Asian education selectivity pattern of out-migration from major settlements is quite different from the Hispanic pattern, and more consistent with the spatial similarity hypothesis (see Figure 3a). For all Asians there is a gradual progression in out-migration ranging from 1.5 percent for those with less than a high school diploma to 3.3 percent for college graduates. This kind of progression holds up for Indians, Chinese, and Koreans as well (Note: rates are not shown for “less than high school” for Indians, Filipinos, and Koreans due to lack of sufficient data). Filipinos show a higher out-migration for persons with only a high school diploma than for more highly educated groups. Vietnamese out-migration does not conform to an education pattern.

This review of education-based selective out-migration from major origin areas shows that the spatial assimilation model is confirmed mostly for well educated Asian groups but not for most Hispanic groups. The absence of this pattern for Hispanic, especially Mexicans, is consistent with earlier research that shows the rise in employment opportunities for low skilled members of those groups away from major origin areas (Liaw and Frey, 2007, 2008) as well as the potential impacts of competition with low skilled new immigrants and middle class flight away from Los Angeles and other Hispanic group settlement areas.

**English Language Proficiency.** The spatial assimilation hypothesis also suggests that out-migration rates from major settlement areas will be lower for those who do not speak English well than for those who speak English well or at home. The information in Figures 2b and 3b show that this pattern holds for all individual Hispanic and Asian groups, respectively.

For all Hispanic groups combined, Figure 2b indicates that persons who do not speak English well out-migrate at the rate of 2.8 percent compared 3.5 percent for those who speak English at home or well. Differences are especially pronounced for Mexicans and Dominicans. Sharp differences are also evident for all individual Asian groups, shown in Figure 3b. (Note: Puerto Ricans, Indians and Filipinos are omitted from this analysis since English proficiency is high for these groups).

**Nativity and Recent Immigrant Status.** The third attribute associated with the spatial assimilation hypothesis is nativity and recent immigration status. The hypothesis holds that the greatest major settlement out-migration rates should hold for native-born and long term immigrant residents and lowest out-migration should be associated with recent immigrants.
This can be assessed from Figures 2c and 3c which show, for Hispanic and Asian groups respectively, the out-migration rates for native born, and foreign born by year of entry categories.

The evidence tends to show only partial support for this hypothesis. For all Hispanics, all Asians and most Hispanic groups, native-born residents show greater out-migration than longer term foreign born residents of the same group. Yet, for most groups, recent immigrants (those arriving since 2000) have higher out-migration rates than long term immigrants, and in many cases, higher rates than for native born.

For all Hispanics combined as well as for Mexicans, post-2000 immigrants and native-born residents show highest rates of out-migration followed by 1990s immigrants and pre-1990s immigrants. For Cubans and Dominicans, native born show higher out-migration rates than other categories and, for Salvadorans, there were only modest out-migration distinctions across categories. (Puerto Ricans are not shown because they are mostly US citizens, and these categories are not relevant.)

The Asian groups display similar patterns as the all Hispanic group. Indians show highest out-migration among native-born and post-2000 immigrants. For Filipinos, Koreans, and Vietnamese, native-born residents show greatest out-migration from their major settlements. (Note: Sufficient data for post-2000 immigrants are not available for Vietnamese). Yet for Chinese, post-2000 immigrants display the greatest out-migration rates.

These findings regarding nativity- and duration-selective out-migration show that for both Hispanics and Asians, native-born residents tend to have higher out-migration rates than for all foreign born. Yet within the foreign-born portions of the population, recent immigrants are more prone to out-migrate. The latter tendency, while seeming to be counter to the spatial assimilation hypothesis, may also reflect the fact that recent immigrants are younger and less settled down, even when they first land in major settlement areas.

Out-Migration and Spatial Assimilation. Overall, the evidence presented suggests that major settlement out-migration of Asian groups, especially those with high educational attainment, conform more strongly to the spatial assimilation theory (hypothesis 3) than is the case for most Hispanic groups, especially Mexicans. This conclusion draws largely from our findings with respect to education-selective out-migration. Chinese, Indians, and Koreans follow overall Asian patterns showing greatest out-migration among the most educated. In contrast, all Hispanics and Mexicans in particular show out-migration among less skilled residents to be about the same as other education categories.

Out-migration patterns with respect to English language ability conform to the spatial assimilation hypothesis for most individual Hispanic and Asian groups such that those with the least English ability show lowest out-migration from major settlements. Spatial assimilation expectations with regard to nativity and immigration status are generally supported in the sense
that native-born residents are more apt to out-migrate than all immigrants. However, recent immigrants to major settlement areas are more prone to out-migrate than long term residents.

While these analyses tend to suggest a spatial assimilation of highly educated Asian groups with respect to their out-migration from major settlement origins, the character of the broader dispersion of these groups, as well as movers from all Hispanic and Asian groups, requires an assessment of the roles of co-ethnic community attractions and spatial assimilation in the destination selections of these movers. This will be the subject of the following two sections.

F. DESTINATION SELECTION OF MOVERS FROM MAJOR SETTLEMENT AREAS

This section is the first of two that examines the destination selections of movers from major settlement areas for specific Hispanic and Asian groups. The framework for the analysis will be to evaluate the roles of co-ethnic community attractions along with spatial assimilation, as set forth in hypotheses 2 and 3. The present section will evaluate figures and maps drawn from tabulations of out-movers, while the section that follows will present multivariate models which assess these movers’ destination selections. As in other parts of this report these movers are restricted to ages 20-59.

Out-Migrant Destinations by Co-Ethnic Concentration

To get a feel for the destinations of out-migrants from each group’s major settlement areas, we examine the overall concentrations of destinations as well as the geographic locations of the largest destinations. Figures 4a and 4b class each group’s out-migrant destinations by that group’s concentration categories as defined earlier.1

Figure 4a shows that there is a sharp disparity between the relatively high concentration of all Hispanics and Mexicans on the one hand, and each of the other groups. Nearly 85 percent of all Mexican out-migrants from their major settlement area (Los Angeles) locate in other high concentration areas. This substantially exceeds the shares of other Hispanic group out-migrants locating in high concentration areas – ranging from 56 percent for Dominicans to 65 percent for Puerto Ricans.

Similar comparisons are shown for Asian groups in Figure 4b. The share of major settlement out-migrants going to high concentration destinations range from the 55-57 percent for Chinese and Vietnamese to 71 percent for Filipinos and Koreans (with Indians showing a 64 percent share). Overall, a substantial portion of out-migrants from each group’s major settlement areas locate in high concentration destinations.
Figure 4a. Hispanic Movers from Major Settlement Areas: Destination Metro Concentration Classes

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.

Figure 4b. Asian Movers from Major Settlement Areas: Destination Metro Concentration Classes

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Mapping Out-Migrant Destinations

A series of maps allows us to examine the greatest destination locations for each group (e.g. those receiving more than 250 migrants). Maps 4a and 4b provide for a comparison of all Hispanic out movers and all Asian out movers from their respective major settlement areas.

Map 4a clearly shows that the primary destinations for all Hispanic out-migrants from the major settlement area, Los Angeles, are in close proximity. The largest metropolitan destinations, in the following order, are: Riverside, Bakersfield, Las Vegas, Phoenix, and San Diego; though farther afield metros, Dallas and Houston, are among the top ten. The remaining metros depicted in Map 4a include a larger number of high concentration than low concentration metros. Among the latter are Atlanta, Portland, OR and Seattle.

Map 4b shows the primary destinations for all Asian out-migrants from the major settlement areas, Los Angeles, New York, and San Francisco. Again, the largest destinations are in close proximity to one of these: Riverside, San Jose, San Diego, Philadelphia, and Sacramento. Among the top ten are a few metro areas that are less proximate including Washington DC, Dallas, and Boston, often with substantial knowledge-based industries. More so than with Hispanics, the remaining destinations reflect a mix of high and low concentration metros. The latter include Phoenix, Allentown PA, Baltimore, and Miami.

The remaining Maps 5a-e and Maps 6a-e display the primary destinations of major settlement out-movers for individual Hispanic and Asian groups, respectively. These maps make plain that the out-migrant destinations differ sharply by group, often related to proximity from major settlements. The primary Mexican destinations from Los Angeles mirror those for all Hispanics. However, for Salvadorans whose major settlement areas are Los Angeles, Washington DC, and New York, the top seven destinations include Riverside, Houston, Dallas, and Atlanta. Major out-migrant destinations for two groups with major settlements in New York, Puerto Ricans, and Dominicans, tend to envelope Florida and other northeast locations. Primary destinations for Cuban out-migrants from Miami are primarily in Florida and the rest of the South.

There is a similar divergence of destinations among Asian groups’ major settlement out-migrants. Primary destinations for Indians and Koreans tend to overlap somewhat including high tech or “eds and meds” centers like Seattle, Atlanta and Boston. While Riverside is a top destination for all groups with Los Angeles as one of the major settlements (including Koreans, Chinese, Filipino, and Vietnamese), each of these groups’ major destinations reflect proximity to other of their major settlements.
Map 4: Migration Destinations from Major Settlement Areas: Hispanics and Asians

A. Hispanics

B. Asians
Map 5: Migration Destinations from Major Settlement Areas: Hispanic Nationality Groups

A. Mexicans

B. Puerto Ricans
Map 5: Migration Destinations from Major Settlement Areas: Hispanic Nationality Groups

C. Cubans

D. Salvadorans
Map 5: Migration Destinations from Major Settlement Areas: Hispanic Nationality Groups

E. Dominicans
Map 6: Migration Destinations from Major Settlement Areas: Asian Nationality Groups

A. Chinese

B. Asian Indians
Map 6: Migration Destinations from Major Settlement Areas: Asian Nationality Groups

C. Filipinos

D. Vietnamese
Map 6: Migration Destinations from Major Settlement Areas: Asian Nationality Groups

E. Koreans
Destination Selections by Education, Language and Nativity/Immigration

The spatial assimilation hypothesis regarding destination selections of major settlement area out-migrants holds that the attraction of co-ethnic communities will be strongest for those with the least education, low English proficiency, and recent immigrants. We will analyze this more thoroughly in the multivariate models in the following section. However, to get an initial sense of how these expectations play out, we examine the high concentration and low concentration areas of destinations for movers, aged 20-59, by education, English ability, and nativity/immigration status. These analyses for specific Hispanic and Asian groups are shown in Figures 5a-c and Figures 6a-c.

Education Selectivity. Figures 5a and 6a show the metropolitan concentration destinations by educational attainment categories. (Note: omitted categories reflect insufficient sample sizes.) The destinations for Hispanics and Mexicans show at most minimal support for the spatial assimilation hypothesis. Differences in destinations by ethnic concentration across education groups are modest. The highest and lowest educated Hispanic and Mexicans are somewhat less prone to select high concentration areas than intermediate groups. This pattern is shown more sharply for Dominicans, suggesting a draw for low skilled movers to less concentrated metros. In contrast there is modest support for the spatial assimilation hypothesis shown for Puerto Ricans and Cubans whose less educated movers are somewhat more prone to select high concentration metros. The pattern is less distinct for Salvadorans.

Among all Asians, Chinese, and to a lesser extent Indians and Koreans, it is the more educated out-migrants who select most concentrated destinations. Many of these areas, observed earlier, not only have high concentrations of co-ethnics but also substantial knowledge economy jobs. More educated Filipinos, in contrast, tend to move to less concentrated areas, as spatial assimilation would predict. Among Vietnamese there is no clear pattern.

English Language Proficiency. The spatial assimilation perspective suggests that persons speaking English less than well are most likely to locate to co-ethnic communities. This can be assessed for each group in Figures 5b for Hispanic groups and Figure 6b for Asian groups with a substantial share of non English speakers. The destinations of all Hispanic and Mexican out-movers are inconsistent with this expectation in that those who speak English less than well (or another language at home) are less likely to locate in high concentration destinations than those who speak English at home or speak English well. For other Hispanic groups the relationship is not evident (for Salvadorans) or barely discernible (for Cubans and Dominicans).

Among Asian groups, the spatial assimilation hypothesis is either not discernible (Koreans, Vietnamese) or negated by groups whose most English proficient members are more prone to locate in destinations with high co-ethnic concentrations (Chinese, all Asians). In sum, the expected spatial assimilation relationship between destination concentration and low English proficiency is not widely supported, especially for Asian groups.
Figure 5a. Hispanic Group Out Migrants from Major Settlement Areas: Destinations by Educational Attainment

Source: American Community Survey 2006-2008 3-year Estimates

* Figures include persons aged 20-59 only.
Figure 5b. Hispanic Group Out Migrants from Major Settlement Areas: Destinations by English Proficiency

Source: American Community Survey 2006-2008 3-year Estimates

* Figures include persons aged 20-59 only.
Figure 5c. Hispanic Group Out Migrants from Major Settlement Areas: Destinations by Nativity and Year of Arrival

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Figure 6a. Asian Group Out Migrants from Major Settlement Areas: Destinations by Educational Attainment

Source: American Community Survey 2006-2008 3-year Estimates

* Figures include persons aged 20-59 only.
Figure 6b. Asian Group Out Migrants from Major Settlement Areas: Destinations by English Proficiency

Source: American Community Survey 2006-2008 3-year Estimates
* Figures include persons aged 20-59 only.
Figure 6c. Asian Group Out Migrants from Major Settlement Areas: Destinations by Nativity and Year of Arrival

Source: American Community Survey 2006-2008 3-year Estimates

* Figures include persons aged 20-59 only.
Nativity and Recent Immigrant Status. According to the spatial assimilation perspective, the foreign born and especially recently arrived foreign-born movers will be most likely to select co-ethnic communities. This can be assessed from Figures 5c for Hispanic groups and from Figure 6c for Asian groups.

The destination selections of all Hispanic and Mexican movers show the opposite of what is expected. That is, native-born Hispanic and Mexican major settlement out-movers are more likely to select destinations with co-ethnics than is the case for all foreign born or recent foreign-born movers. For Cubans and Salvadorans, movers who are recent foreign born are most likely to select low concentration destinations, but native-born movers are also more prone than earlier foreign-born to do so. Dominican destination selections do not vary greatly across nativity/immigration categories.

For Asians the patterns are more consistent. Among all Asians, Chinese, Filipinos, Vietnamese, and Koreans there is a progression wherein native-born movers are most prone to select high concentration destinations and recently arrived foreign born are most prone to select low concentration metros. Only Indians show a less discernable pattern.

Destination Selection and Spatial Assimilation. This examination of mover destination selections by group for categories of education, English language ability, and nativity/immigration status provides even less support for the spatial assimilation perspective than did our earlier examination of residents’ out-migration patterns. Hispanic groups showed modest or no patterns expected for education, English language ability or recent immigration status. Asians showed patterns that countered spatial assimilation expectations especially with respect to education and recent immigration status.

It would appear that many new immigrant Hispanic and Mexican movers with low education and/or English proficiency are selecting destinations with low Hispanic concentrations. At the same time high co-ethnic concentration metros appear to be attracting highly educated, longer term resident, and English proficient out movers among several Asian groups.

G. MODELING MOVER DESTINATION SELECTIONS

This section will present multivariate models which are designed to examine the roles of co-ethnic community attraction and spatial assimilation in the destination selections of out-migrants for each group from their major settlement areas. As in the earlier sections, the focus will be on persons aged 20-59 and employ the one year migration data compiled from internal files of the 2006-8 American Community Survey. The model we utilize is a conditional logit model to evaluate demographic, economic and co-ethnic attributes of destinations as migrant “pulls” and how the latter interacts with movers’ personal attributes which are associated with the spatial assimilation perspective.

A separate model is specified for each group’s out-migrants from major settlement area(s) in their selection of destination metros which are among the 150 largest in the US. These 150 metros are home to the vast majority of each group’s metropolitan population: 92 percent for Hispanics and 95 percent for Asians.
Model Specification

Our multivariate statistical model is a conditional logit model specified as follows. For a migrant with personal attributes $s$ who resided in major settlement area $i$, we specify that the migration behaviour depends on a set of destination choice probabilities, $P(j | s, i)$ for all potential destinations $j$. These probabilities are specified to be functions of observable explanatory variables in the following form

$$P(j | s, i) = \frac{\exp(b' x[j, s, i])}{\sum_k \exp(b' x[k, s, i])}$$

where $x[j, s, i]$ is a column-vector of observable explanatory variables; $b'$ is a row-vector of unknown coefficients and the summation in the denominator is across all potential destinations. In applying this model, we assume that the choices of destinations made by the migrants were affected by both the personal attributes of the migrants and the place attributes of the alternatives in the choice set.

In this analysis personal attributes are represented by a set of dummy variables and are entered into the model as interactions with the variables representing place attributes. An interaction between two variables is the product of the two variables. For example, to test the hypothesis that co-ethnic similarity (a place attribute) has a significant drawing power on persons with less than high school diplomas, the model includes an interaction that is the product of the destination area’s race-ethnic composition (share of the population which is the same race-ethnic group as the mover) and a dummy variable representing less than high school graduation. If the estimated coefficient of this interaction turns out to be positive, and if the probability associated t-ratio is .05 or greater, there is support for this hypothesis.

The goodness of fit measure shown for a given specification of the model is McFadden’s Likelihood Ratio Index (LRI) (McFadden, 1974). In practice, MRI values of 0.2 or higher can indicate a good fit.

Destination and Personal Attributes

The models for each group incorporate a set of place attributes, associated with potential destinations, and personal variables ascribed to the mover. Destination place attributes for each model include those associated with the place’s economic attractiveness (employment growth, per capita income), and a measure of the place’s co-ethnic similarity to the potential mover (ethnic similarity). Their measurements, data sources, and rationale are as follows:

Employment Growth is measured as the rate of increase in the metropolitan area’s total employment over the period 2003-6 using data from the Bureau of Economic Analysis REIS (Regional Economic Information System) (http://www.bea.gov/bea/regional/reis/). It is expected that a metropolitan area’s employment growth will positively affect its selection as a destination for potential movers.
**Per Capita Income** is the 2006 per capita income of a metropolitan area using data from the Bureau of Economic Analysis REIS (http://www.bea.gov/bea/regional/reis/). It is expected that a metropolitan area’s per capita income will positively affect its selection as a destination for potential movers.

**Ethnic Similarity** is calculated separately for each Hispanic and Asian group. It is that group’s percent of the metropolitan area’s total population the year before the move. It is calculated from the restricted file of the 2006-8 3-year American Community Survey. Drawing from this study’s hypothesis 2, and the perspective of co-ethnic community attraction, it is expected that the ethnic similarity of a metropolitan area’s population (to the mover’s ethnic group) will positively affect its selection as a destination.

Two additional destination related attributes are included as properties of demographic and geographic structure. The **Population Size at Destination (ln)** is the natural log of the size of the metropolitan area’s population the year before the move, as calculated from the restricted file of the 2006-8 American Community Survey. The **Distance to Destination (ln)** is the natural log of the distance from the mover group’s major settlement (origin) metropolitan area and the destination metropolitan area using information from the Missouri Census Data Center http://mcdc2.missouri.edu/websas/geocorr2k.html. Both of these factors are included to account for “gravity model” effects on destination selections (Speare, Goldstein and Frey, 1975, Chapter 5) such that the population size at destination is expected to positively affect potential mover’s selection of a destination metropolitan area, and the distance to destination should negatively affect its selection.

A unique part of these models is the incorporation of personal characteristics of movers, available with the 2006-8 3 year American Community Survey. As indicated above, these personal attributes will appear in the model as dummy variables to interact with the place attribute, Ethnic Similarity, in order to assess the spatial assimilation hypotheses regarding the expected influence a mover’s education, English language ability and immigration status in directing them to more ethnically similar destinations.

More specifically, models for each Hispanic group will interact the mover characteristic, **Less than High School Graduate** with the destination attribute Ethnic Similarity. Models for each Asian group will interact the mover characteristic, **Less than Bachelor’s Degree** with the destination attribute, Ethnic Similarity. In each case hypothesis 3 will be supported by a positive effect on destination selection, consistent with the spatial assimilation perspective.

With regard to English language ability, most models for Hispanic and Asian groups will interact the mover characteristic, **English Not Well** (persons who do not speak English well or at home) with the destination attribute Ethnic Similarity. A positive effect on destination selection for this term, would also support the spatial assimilation perspective and hypothesis 3 (Note: this term is not included in models for Puerto Ricans, Indians and Filipinos due to their general fluency in English)

The third personal characteristic to be interacted with the destination attribute, Ethnic Similarity is **Recent Immigration** (persons who are foreign born and arrived since 2000). It will be included in the models for all groups except Puerto Ricans, who are mostly US citizens. Hypothesis 3 and the spatial assimilation perspective would be supported if this term exhibits a positive effect on mover destination selection.
Multivariate Results

The models just described are intended to assess the impacts of co-ethnic community attraction as mediated by spatial assimilation on mover destinations, and put forth in hypotheses 2 and 3. While each model incorporates destination economic, demographic and geographic structural attributes that are standard in-migration models, the main focus will be on the impact of destination ethnic similarity and its interactions with the personal education, English ability and immigration attributes just elaborated. We will evaluate the models for Hispanic and Asian groups in the next two sections.

Hispanic Destination Selectivity. Results for the analysis of all Hispanics appear on the left hand two columns of Table 4a. These models examine the destination selections of Hispanic out-migrants from the major settlement area for Hispanics, Los Angeles. The first model only includes the economic, demographic and geographic structural factors. All factors are significant. The “gravity model” factors, destination population size (ln) and distance (ln) to destination show expected relationships to destination selections. Destination employment growth, as expected, is positively related to destination selection. Only destination per capita income behaves in a manner contrary to expectations, exhibiting a negative relationship to destination selection. This might be explained by the tendency for many Hispanics to locate in lower income areas, where employment is more available.

The second model adds the destination attributes, ethnic similarity, as well as interactions between ethnic similarity and the personal characteristics discussed above. It is clear that destination ethnic similarity exerts an important positive draw for Hispanic out-migrants, even when the other economic and demographic and geographic structural attributes are taken into account. This provides strong support for hypothesis 2 and the importance of co-ethnic community attraction. Moreover, when destination ethnic similarity is entered into the model, the unexpected negative effect of destination per capita income becomes reduced, although remaining significant. This suggests that movers select some destinations to the draw of co-ethnics, even if per capita incomes are lower than in other places.

With respect to the interaction of destination ethnic similarity and personal attributes, the results show little support for the hypotheses 3 expectations. There is the expected positive effect associated with the interaction of destination ethnic similarity and movers with less than high school education. However, this effect is not significant at the .05 level. The interaction term between ethnic similarity and movers who speak English less than well has an unanticipated negative value, and is also not significant. The only significant interaction term is also in an unexpected direction: negative toward the selection of co-ethnic destinations for Hispanic movers who recently arrived in the US.

These interaction effects, which are generally unsupportive of the spatial assimilation perspective, were strongly hinted at, in our descriptive analyses in the previous section. Thus while Hispanic out-migrants from Los Angeles are strongly attracted by a destination’ co-ethnic composition, this draw is not significantly stronger for migrants with less than a high school education and, in fact, tends to be weaker for migrants who are recent arrivals to the US.
Table 4a  Models - Metro Destination Selections for Migrants from Major Settlement Area Origins: Hispanics and Asians, 2006-2008

<table>
<thead>
<tr>
<th>Explanatory Factors</th>
<th>All Hispanics w/o Ethnic Similarity</th>
<th>All Hispanics w Ethnic Similarity</th>
<th>All Asians w/o Ethnic Similarity</th>
<th>All Asians w Ethnic Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>t-ratio</td>
<td>Coef.</td>
<td>t-ratio</td>
</tr>
<tr>
<td>Demographic/Geographic Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Size of Destination (Ln)</td>
<td>1.2793</td>
<td>52.76 ***</td>
<td>1.0940</td>
<td>42.47 ***</td>
</tr>
<tr>
<td>Distance to Destination (Ln)</td>
<td>-0.0548</td>
<td>-11.36 ***</td>
<td>-0.0336</td>
<td>-6.91 ***</td>
</tr>
<tr>
<td>Economic Attributes of Destination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Growth</td>
<td>0.1338</td>
<td>34.31 ***</td>
<td>0.1303</td>
<td>33.45 ***</td>
</tr>
<tr>
<td>Per capita Income</td>
<td>-0.1114</td>
<td>-31.86 ***</td>
<td>-0.0553</td>
<td>-12.66 ***</td>
</tr>
<tr>
<td>Ethnic Similarity of Destination Metro and Interaction with Personal Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic Similarity</td>
<td>xx</td>
<td>xx</td>
<td>2.2196</td>
<td>16.81 ***</td>
</tr>
<tr>
<td>with Less than HS graduate (Hispanic)/less than Bachelor's (Asian)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic Similarity with Recent Immigration</td>
<td>xx</td>
<td>xx</td>
<td>-0.3396</td>
<td>-1.77</td>
</tr>
<tr>
<td>Ethnic Similarity with English Not Well</td>
<td>xx</td>
<td>xx</td>
<td>-1.1009</td>
<td>-4.15 ***</td>
</tr>
<tr>
<td>Goodness of Fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McFadden's LRI</td>
<td>0.2222</td>
<td></td>
<td>0.2340</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>3,032</td>
<td></td>
<td>3,032</td>
<td></td>
</tr>
</tbody>
</table>

Note: The choice set includes 150 largest metropolitan areas as potential destinations.
Significance Levels: *** p < .001, ** p < .01, * p < .05

Source: American Community Survey 2006-2008 3 Year Estimates
Hispanic Nationality Groups. The full model just discussed has also been estimated for each Hispanic nationality group with results shown in Table 4b. These models estimate the destination selections of each group’s out-migrants from their respective major settlement areas (listed in Table 2a). Each of these models shares some common features. One is that the demographic and geographic structure attributes follow expected directions and are statistically significant for four of the five groups. Salvadoran’s distance effect is in the expected direction but not significant. (In a model not shown, distance is significant for Salvadorans before destination ethnic similarity was added—suggesting that the availability of ethnic attachments in a destination, reduces the role of distance.) Each group’s model also shows a positive and significant relationship for destination employment growth.

There are mixed results for destination per capita income, however. The models for Mexicans and Salvadorans, follow the model for all Hispanics by showing a significant negative relationship for destination per capita income. Both of these groups have large low skilled populations and may be attracted to places with available jobs but relatively low incomes. The models for the remaining Hispanic groups show positive but insignificant relationships with destination per capita income.

Turning to the effect of destination ethnic similarity, there is again fairly strong evidence supporting the influence of co-ethnic community attraction across Hispanic groups. For each group, destination ethnic similarity exerts a positive effect on mover destination selection and with the exception of one group (Dominicans) is statistically significant. Thus, hypothesis 2 receives support for individual Hispanic nationality groups, as well as all Hispanics.

The interaction terms in for different Hispanic nationality groups show either tepid or no support for the spatial assimilation hypothesis. The expected positive relationship for movers with less than high school education and the selection of an ethnically similar destination occurs but not at statistical significance for Mexicans, Puerto Ricans, Cubans and Salvadorans. Dominicans display a negative but also insignificant relationship.

There are, in fact, only two significant interaction terms with destination ethnic similarity among the different group models. Salvadorans movers who are recent arrivals are significantly more likely to select an ethnically similar destination than longer term or native born residents. However, as with the total Hispanic population, Mexican recent movers are significantly less likely to select ethnically similar destinations. Dominicans and Cubans show respectively, positive and negative insignificant values for the interaction between recent immigrant status and destination ethnic similarity.

Finally none of the groups show significant effects when interacting destination ethnic similarity with the mover’s inability to speak English well, though the insignificant effects are in the expected positive direction for Cubans, Salvadorans and Dominicans. A nearly significant negative effect is shown Mexicans on this interaction.

Overall these Hispanic nationality groups tend to mirror the overall Hispanic model that supports the power of co-ethnic communities in attracting migrants, but gives little support to the spatial assimilation hypothesis.
Table 4b Models - Metro Destination Selections for Migrants from Major Settlement Area Origins: Hispanic Nationality Groups, 2006-2008

<table>
<thead>
<tr>
<th>Explanatory Factors</th>
<th>Mexican</th>
<th>Puerto Rican</th>
<th>Cuban</th>
<th>Salvadoran</th>
<th>Dominican</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic/Geographic Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Size of Destination (Ln)</td>
<td>1.1408 38.39 ***</td>
<td>0.3597 7.91 ***</td>
<td>0.9034 11.39 ***</td>
<td>0.8614 11.37 ***</td>
<td>0.2304 2.91 **</td>
</tr>
<tr>
<td>Distance to Destination (Ln)</td>
<td>-0.0365 -6.38 ***</td>
<td>-0.0753 -2.43 *</td>
<td>-1.0792 -9.89 ***</td>
<td>-0.0014 -0.07</td>
<td>-0.1832 -2.27 *</td>
</tr>
<tr>
<td>Economic Attributes of Destination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Growth</td>
<td>0.1370 30.45 ***</td>
<td>0.0429 4.53 ***</td>
<td>0.1334 9.12 ***</td>
<td>0.1134 8.92 ***</td>
<td>0.0548 3.60 ***</td>
</tr>
<tr>
<td>Per capita Income</td>
<td>-0.0557 -10.16 ***</td>
<td>0.0065 1.03</td>
<td>0.0046 0.41</td>
<td>-0.0388 -3.38 ***</td>
<td>0.0112 1.21</td>
</tr>
<tr>
<td>Ethnic Similarity of Destination Metro</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic Similarity</td>
<td>2.5142 15.75 ***</td>
<td>25.4984 17.70 ***</td>
<td>-49.3891 -7.99 ***</td>
<td>37.9729 3.45 ***</td>
<td>28.8532 1.92</td>
</tr>
<tr>
<td>Ethnic Similarity with Less than HS graduate</td>
<td>0.2085 1.23</td>
<td>1.9377 0.74</td>
<td>6.4736 1.01</td>
<td>16.0720 1.37</td>
<td>-6.4131 -0.57</td>
</tr>
<tr>
<td>Ethnic Similarity with English Not Well</td>
<td>-0.3835 -1.89</td>
<td>x</td>
<td>x</td>
<td>6.0756 0.93</td>
<td>9.1416 0.73</td>
</tr>
<tr>
<td>Ethnic Similarity with Recent Immigration</td>
<td>-0.8889 -2.97 **</td>
<td>x</td>
<td>x</td>
<td>-3.8846 -0.50</td>
<td>31.7086 2.34 *</td>
</tr>
<tr>
<td>Goodness of Fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McFadden's LRI</td>
<td>0.2583 0.1168</td>
<td>0.1692 0.1722</td>
<td>0.0726 0.0726</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>2311 554 238 259</td>
<td>234</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The choice set includes 150 largest metropolitan areas as potential destinations. Significance Levels: *** p < .001, ** p < .01, * p < .05

Source: American Community Survey 2006-2008 3 Year Estimates
Asian Destination Selectivity. Results for the analysis of all Asians appear on the right hand two columns of Table 4a. These models examine the destination selections of Asian out-migrants from the major Asian settlement areas. As with our Hispanic analyses, the first model only includes the economic, demographic and geographic structural factors and all are significant in expected directions. This includes a positive effect for destination per capita income.

The full model shows strong affects for destination ethnic similarity, thereby supporting hypothesis 2 for Asians. Yet the interactions between ethnic similarity and each of the personal attributes show opposite, to what is expected by hypothesis 3 and the spatial assimilation model. That is, movers with less than a bachelors degree, who do not speak English well and who are recent migrants are less likely to select co-ethnic destinations. These findings were suggested in the descriptive results presented earlier which showed a tendency for more educated, fluent in English, native born Asian migrants to locate to more highly Asian concentrated areas than Asian movers with other attributes. This is confirmed in this model, which controls for other economic and demographic features affecting the migration process.

Asian Nationality Groups. Table 4c presents the full model for each Asian nationality group’s out-movers from their respective major settlement areas (listed in Figure 2b). Some interesting findings can be seen by viewing only the demographic and geographic structure attributes. While each group’s model shows destination population size with significant expected effects, only two groups (Indians and Filipinos) show significant and expected effects for distance.

Four of the five groups of movers (all but Indians) respond positively and significantly to destination employment growth, and three groups (Chinese, Indians and Koreans) respond similarly to destination per capita income. Indians are the only group to respond more strongly to a destination area’s per capita income than its employment growth. For Filipinos and Vietnamese, the effect of destination per capita income on migrants’ destination selection is negative but only significantly so for the former group. For both of these groups, destination employment growth is positive and significant.

It is clear that as with most Hispanic groups, all Asian groups of movers respond strongly and positively to a destination’s ethnic similarity. This supports hypothesis 2 and the role of co-ethnic community attractions almost unanimously among the groups examined in this study.

However, Asian groups largely differ from Hispanics in how destination ethnic similarity interacts with their personal attributes. For most groups, these interactions either counter the expectation of the spatial assimilation perspective (hypothesis 3) or are insignificant. Chinese out–movers with less than a bachelors degree are significantly less likely to select co-ethnic destinations than those with higher educations. Although not significant, similar interaction effects are shown for Indians, Vietnamese or Koreans. Only Filipinos, of the Asian groups show the expected positive relationship between lower education and ethnic similarity at destinations.

Most of the other destination ethnic similarity interactions with personal attributes, speak English less than well, and recent immigrants, are not significant, though largely in the opposite direction expected in hypothesis 3. The one significant interaction among these is the tendency for Chinese movers, who do not speak English well, to avoid ethnically similar destinations.
### Table 4c Models - Metro Destination Selections for Migrants from Major Settlement Area Origins: Asian Nationality Groups, 2006-2008

<table>
<thead>
<tr>
<th>Explanatory Factors</th>
<th>Coef. t-ratio</th>
<th>Coef. t-ratio</th>
<th>Coef. t-ratio</th>
<th>Coef. t-ratio</th>
<th>Coef. t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic/Geographic Structure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Size of Destination (Ln)</td>
<td>0.771 19.74 ***</td>
<td>0.7014 19.87 ***</td>
<td>1.0806 22.34 ***</td>
<td>1.1545 15.22 ***</td>
<td>0.8943 16.52 ***</td>
</tr>
<tr>
<td>Distance to Destination (Ln)</td>
<td>-0.0002 -0.02</td>
<td>-0.0854 -4.77 ***</td>
<td>-0.0317 -2.44 *</td>
<td>-0.0088 -0.47</td>
<td>0.0183 1.13</td>
</tr>
<tr>
<td><strong>Economic Attributes of Destination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Growth</td>
<td>0.0324 3.30 **</td>
<td>0.0111 1.14</td>
<td>0.1052 12.78 ***</td>
<td>0.0575 3.59 ***</td>
<td>0.0514 4.03 ***</td>
</tr>
<tr>
<td>Per capita Income</td>
<td>0.0244 3.66 ***</td>
<td>0.0272 4.75 ***</td>
<td>-0.0252 -3.38 ***</td>
<td>-0.0209 -1.56</td>
<td>0.0324 4.34 ***</td>
</tr>
<tr>
<td><strong>Ethnic Similarity of Destination Metro</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Interaction with Personal Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic Similarity</td>
<td>30.8070 14.58 ***</td>
<td>38.1578 8.02 ***</td>
<td>28.5949 15.78 ***</td>
<td>48.3402 6.01 ***</td>
<td>70.5437 6.21 ***</td>
</tr>
<tr>
<td>Ethnic Similarity with Less than Bachelor's degree</td>
<td>-7.8239 -2.74 **</td>
<td>-10.7371 -1.32</td>
<td>5.8540 2.65 **</td>
<td>-8.9892 -0.84</td>
<td>-28.0440 -1.62</td>
</tr>
<tr>
<td>Ethnic Similarity with English Not Well</td>
<td>-11.6335 -2.29 *</td>
<td>x x</td>
<td>x x</td>
<td>-5.6218 -0.30</td>
<td>22.1535 1.00</td>
</tr>
<tr>
<td>Ethnic Similarity with Recent Immigration</td>
<td>-4.5494 -1.39</td>
<td>2.2461 0.40</td>
<td>-6.1183 -1.82</td>
<td>-15.5103 -0.59</td>
<td>-17.0482 -0.89</td>
</tr>
<tr>
<td><strong>Goodness of Fit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McFadden's LRI</td>
<td>0.1925 1.556 0.2022 0.1777 0.1761</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>708 691 606</td>
<td>220</td>
<td>373</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The choice set includes 150 largest metropolitan areas as potential destinations.
Significance Levels: *** p < .001, ** p < .01, * p < .05

Source: American Community Survey 2006-2008 3 Year Estimates
Overall the analysis of Asian out movers from major settlement areas conforms to the expectations of hypothesis 2, and the view that these movers will be attracted to destinations with co-ethnic populations when other factors are taken into account. However for Asians as a whole and some Asian ethnic groups, there is a tendency to counter the spatial assimilation perspective put forth in hypothesis 3. That is, for these groups, movers with lower educations, poorer English facility and recent arrivals are least likely to select co-ethnic destinations.

**H. CONCLUDING DISCUSSION**

The purpose of this research was to assess the nature of migration dispersal of Hispanic and Asian nationality groups of adults (working ages 20-59) away from their major settlement areas using recent data. The data are drawn from restricted American Community Survey (ACS) multiyear files for the period 2006-8. The groups include the five largest Hispanic groups (Mexicans, Puerto Ricans, Cubans, Salvadorans, Dominicans) and non-Hispanic members of the five largest Asian groups (Chinese, Indians, Filipinos, Vietnamese, Koreans) based on respondent self-identification in the ACS questions on Hispanic origin and race.

This use of the restricted ACS files permitted a first post-2000 analysis of inter-metropolitan migration for these Hispanic and Asian groups along with detailed demographic and geographic attributes available with these files. The descriptive statistics, maps and models regarding these mover groups, presented here, provide a benchmark for further analyses of this kind with the American Community Survey in light of the fact that migration data will no longer be available from the US decennial census.

This research focused on understanding migration from these groups’ major settlement areas to other metropolitan areas as they are affected by the attraction of co-ethnic communities and by a migrant selectivity pattern consistent with the perspective of spatial assimilation. The migration processes themselves were evaluated in terms of two components: the out-migration rates of residents, and the destination selection of movers.

From the co-ethnic community attraction perspective, it was hypothesized that the out-migration rates from high co-ethnic settlement areas would be lower than those from areas where the group had a smaller overall presence, and that the destination selections of out-migrants would be positively affected by the presence of high co-ethnic population shares in destination areas.

From the spatial assimilation perspective, it was hypothesized that out-migration from each group’s major settlement area would be least likely to occur for group members with the lowest education, poor facility with English, and those who recently arrived to the US. The selection of destinations with large co-ethnic shares, it was hypothesized, would be most likely to occur for these same population categories.

**Co-ethnic Community Attraction**

Our findings from the analysis of out-migration rates of residents gave strong support for the hypotheses associated with co-ethnic community attraction. For all Hispanics, all Asians and each detailed group, we found lower out-migration rates from major settlement metropolitan areas...
areas than for other areas with high concentrations of the group. Out-migration rates from both of these area types were also lower than each group’s out-migration from areas we classified as low concentration areas. With regard to destination selections, our conditional logit models of migrant destination selections (among out-migrants from a group’s major settlement area) showed for all Hispanics, all Asians and all individual groups except one, that a destination’s co-ethnic similarity (with the group) had a positive, significant effect on selecting that destination.

**Spatial Assimilation: Out-Migration Rates**

Findings regarding the spatial assimilation hypotheses about migrant selectivity were at best mixed in accounting for movers’ out-migration rates, and not generally supported in our analyses of movers’ destination selections. The most clear support for this perspective shows up for the out-migration rates of all Asians combined, Chinese, Indians and Koreans: whose most educated members exhibited the highest out-migration from major settlement areas, and whose least educated members showed the lowest. For Hispanics, the relationship between education and out-migration from settlement areas was close to flat or uneven, consistent with views of their competition with recent low skilled immigrant workers or “middle class flight” from high cost settlement metro areas like Los Angeles (Frey, 2005, Frey and Liaw, 2005).

Most groups, both Asian and Hispanic, showed the expected lower out-migration rates for persons who were not fluent in English. Yet, while the foreign-born population generally showed lower out-migration than the native-born, the recent foreign-born residents among many groups, including Mexicans, exhibited relatively high out-migration. Thus there is mixed support for the view that the least educated, recently arrived members of each group are least likely to out-migrate. The greatest deviation from expectations is shown for Hispanics.

**Spatial Assimilation: Destination Selection**

Spatial assimilation hypotheses pertaining to the destination selections of out-movers are supported even less than those pertaining to out-migration rates. While Asian groups were somewhat prone to follow spatial assimilation hypotheses regarding residents’ out-migration rates, they are decidedly not prone to follow them with respect to movers’ destination choices. Among most Asian groups, there is a general tendency for highly educated movers to select more ethnically concentrated destinations than less educated movers. These patterns are sharpest for Chinese but are modestly apparent for Indians, Vietnamese and Koreans when looking at descriptive data.

Asian groups also tend to show a progression where native born movers are most likely to select the more ethnically concentrated destinations while recent immigrants move to the least concentrated areas. The distinctions are not sharp enough to show up significantly in each group’s multivariate models but they are apparent in the model for all Asians and for Chinese. At a minimum, it can be said that there is no support for the idea that the least educated, least facile in English and most recently arrived out movers from major settlement areas will select the most ethnically concentrated destinations. The evidence suggests almost the opposite.

For Hispanic movers, the support is at best spotty for the spatial assimilation hypotheses as they apply to destination selection. With respect to education, descriptive data show that for
all Hispanics and Mexicans there is a tendency for least educated and most educated movers to locate in slightly less concentrated destinations, but not the expected sharp tendency for less educated movers to locate in highly concentrated destinations. Patterns are mixed and for other Hispanic groups with none showing a significant effect relating mover education to a dispersed destination. Contrary to expectations, most show a tendency for recently arrived foreign-born Hispanic movers to select less ethnically concentrated destinations. This effect is significant for all Hispanic movers and for Mexicans, the largest group.

Thus for Hispanics we find no solid support for the suggestion that the least educated and recently arrived members of each group are most prone to relocate in highly concentrated areas. In fact, the destination selection models show that employment growth, of the economic factors, provides a consistently strong pull across each Hispanic group, often to destinations that have relatively low per capita income. This suggests that low skilled and recently arrived Hispanic movers away from major settlement areas are not more heavily reliant on co-ethnic connections than more well educated or native born members of their nationality group, in their quest for employment opportunities elsewhere.

New Destinations for Low Skilled Hispanics

The results shown here for Hispanic destination selections, especially, seem to differ from earlier studies of interstate Hispanic migration (Frey and Liaw, 1995; 2005) or the destination selection of immigrants (Liaw and Frey, 2007; Liaw and Frey, 2008) which show that Hispanic movers and Hispanic or Mexican immigrants with the least education were most likely to select co-ethnic destinations. We point out first, unlike those earlier studies, the current study’s focus on the migration of dispersal is restricted to the out-migration of residents away from the group’s major settlement areas. Because of this focus, moves directed into these settlement areas are not included in the study and many of these moves may involve the attraction of lower skilled members of these ethnic groups.

Second, the previous studies were conducted over the period 1995-2000 at the latest. There is some suggestion within them that the draw of co-ethnic communities for newly arrived and less skilled movers has diminished as such movers became increasingly attracted to employment opportunities irrespective of the destination’s ethnic makeup. This is suggested in Liaw and Frey’s (2007) analysis of state level destination choices of Hispanic movers over two periods, 1985-90 and 1995-2000. They find that while there is still a positive interactive effect pulling low skilled Hispanics to more ethnically similar destinations in the latter period, this draw became weaker at the same time as low skilled Hispanics were increasingly drawn to destinations experiencing service employment growth. In their analysis of Mexican immigrant metropolitan destination selections in 1995-2000, Liaw and Frey (2008) find strong and significant effects for the draw of less educated movers to areas experiencing growth in low skilled jobs.

The middle part of the last decade saw a huge growth in population and housing in parts of the US that did not house substantial Hispanic populations (Frey, 2010a; 2010b). This created jobs in construction and services which certainly provided a draw for low skilled Mexicans, and other groups away from major settlement areas. This more dispersed low skilled Hispanic migration appears to have been picked up in the analyses presented here.
Spatial Assimilation in Reverse?

Early in the report we speculated about what could be predicted if the spatial assimilation hypotheses were confirmed for each group’s migration out of major settlement areas. We offered that, on the basis of their higher educational attainment and human capital, we would expect Asian groups such as Indians, Koreans and Chinese to lead the way toward dispersal.

While our results do not suggest exactly the opposite, it is the case that the most educated, native born residents of several Asian groups showed a penchant for locating into areas that have high co-ethnic concentrations. The greatest metropolitan destinations among out-migrating Indians include Philadelphia, Seattle, Dallas, Boston and Atlanta – large areas with higher than average Indian concentrations – and areas that also happen to favor knowledge-based industries. It is clear from our migration models that most Asian groups, especially Indians, are responding to high destination wage levels. The movement of well educated Indians and other Asian groups to high wage areas, with co-ethnic populations, paints a somewhat different picture than the spatial assimilation idea that upward mobility will lead to greater spatial dispersion.

In the case of Mexican and other Hispanic groups, we see a pattern where the migration dispersal that exists, does not seem to select only on the “best and brightest”. As more low-skilled employment opportunities in service, construction and meatpacking industries arise in nontraditional settlement areas, Mexicans and other Hispanics at all education levels, and new arrivals in particular, are dispersing to areas where this employment is available. Because these groups tend to have lower skills, less fluency in English and are more likely to be recent immigrants than the population at large, their more broad based dispersal also does not fit the “upward and outward” spatial assimilation model.

This analysis represents a snapshot of the migration processes during a single period – one where the forces affecting migration, both long and short distance, shifted fairly dramatically (Frey, 2009). We acknowledge that our assessment of spatial assimilation, while grounded in measures of the assimilation literature (Gordon, 1964), lifts to the inter-metropolitan scale a concept that was most proven in the analysis of local intra-urban residential shifts (Alba and Logan, 1991). While our spatial measures are not as nuanced as they might be for the context of long distance migration, they are the best we could apply, given the nature of available data. Having said that, we have shown that the migration processes leading to the dispersal of Hispanic and Asian nationality groups from their major settlement areas in the 2006-8 period continue to respond strongly to co-ethnic attractions in other metropolitan areas, irrespective of other economic and demographic structural factors. However the selective nature of this attraction according to attributes such as education, English proficiency and nativity and immigration status differs across groups and does not, in the main, conform to the spatial assimilation perspective.
REFERENCES


ENDNOTES

1 For some groups the “low concentrated area” category includes a small number of movers (less than 10 unweighted cases) who located outside of metropolitan areas. This applies to comparisons presented in Figures 4a-b, 5a-e, and 6a-e.

2 For example, migrants to low concentration metropolitan destinations by our measures, may still wind up living in neighborhoods within that area that have a high concentration of their national group. Unlike the case with more conventional long distance migration models which focus on metropolitan-wide labor market variables (Long, 1988: Speare Goldstein and Frey, 1975), long distance migration decisions for many of these race ethnic groups, rely on informal networks to obtain information about the existence local neighborhood communities and support mechanisms that exist within these metropolitan areas.