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Research Article

Pioneer settlement of U.S. immigrants: Characteristics of pioneer migrants and places

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Table of Contents

1	Introduction	706
2	Research insights into pioneer settlement	708
3	Data, measurement, and analytic strategy	710
4	Overview of immigrant group dispersion	715
5	Macro characteristics of pioneer labor markets settled in the 1990s	718
6	Characteristics of immigrants who settled pioneer labor markets by 2000	722
7	Conclusion and discussion	729
8	Acknowledgments	732
	References	733
	Appendix	739

Pioneer settlement of U.S. immigrants: Characteristics of pioneer migrants and places

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Abstract

BACKGROUND

Research on immigrant dispersion to new U.S. destinations has not addressed the question of how place and individual characteristics influence pioneer settlement. While origin-group social networks influence immigrants' settlement choices upon U.S. arrival and secondary destination decisions within the USA, other factors must be important when immigrants move to places where they have no compatriots.

OBJECTIVE

By examining national origin differences in pioneer migration for ten Asian and Latin American national origin groups, our goal was to determine whether and how they differed in their pioneer settlement responses to economic, demographic, social, and pan-ethnic labor markets conditions.

METHODS

We used 1990 and 2000 confidential decennial census data because they have sufficient sample cases and geographic detail to study national origin differences. We estimated two types of model for each origin group: a zero-inflated Poisson model that identifies the place characteristics associated with higher pioneer settlement counts in the 1990s and a logistic regression model that identifies the individual characteristics of immigrants who settled pioneer places.

RESULTS

The major context correlates of pioneer settlement were 1990 population size, the pan-ethnic presence of foreign-born from each group's origin region (Asia or Latin America), and the lack of a significant agricultural presence in the labor force. The logistic models indicated that pioneers were likely to be internal migrants rather than recent immigrants, fluent English speakers, and residents of relatively dispersed places prior to moving to pioneer labor markets.

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CONCLUSIONS

The analyses showed the importance of secondary migration and prior dispersion from gateways for pioneer settlement. They also revealed considerable national origin heterogeneity in pioneer settlement dynamics and indicated that national origin differences merit further attention.

1. Introduction

The foreign-born resettlement process now underway in the United States involves the increasing dispersion of immigrants to mid- and small-sized metropolitan and non-metropolitan areas throughout the country that had few immigrants before the 1980s. Several studies document the spread of immigrants to new destinations as well as the determinants and consequences of this settlement shift (Goździak and Martin 2005; Iceland 2009; Kandel and Parrado 2005; Lichter and Johnson 2009; Marrow 2011; Massey 2008; Odem and Lacy 2009; Singer 2004; 2008; Zúñiga and Hernández-León 2005). Most of what we know about the dispersion process stems from analyses of the total foreign-born population or Hispanics to macro-geographic units such as states and metropolitan areas that have relatively large foreign-born populations. However, with the exception of case studies of specific communities, we know very little about foreign-born dispersion to smaller-sized places where few immigrants live. National origin differences in dispersion to new destinations have received some attention (Hall 2013; Kritz and Gurak 2015) but, in general, little is known about group differences and their determinants. Given that the dispersion process likely starts at different points in time for national origin groups and initially involves pioneer settlement in places where immigrants have no settled compatriots, it is important to study group differences. Although pioneer settlement is an important part of the dispersion process, we are unaware of studies that examine the correlates of that process for today's immigrants. The pioneer settlement process should differ across national origin groups, given their differences in population size, skills profile, legal status, and settlement patterns. To provide insight into that process, we focus on pioneer settlement processes for immigrants from ten Asian and Latin American origins, including the Chinese, Indians, Filipinos, Koreans, Vietnamese, Mexicans, Cubans, Colombians, Dominicans, and Salvadorans.

The study of pioneer settlement requires a large foreign-born sample as well as detailed geographic and national origin data for a large number of places that have standardized boundaries at two or more points in time. PUMS files, which are widely used to document settlement patterns, do not meet these requirements, especially for

immigrants living in micro-geographic areas. States do have standardized boundaries but they span large territories, and traditional states, including California, Florida, and New York, have new destination places within them (Henrie and Plane 2008; Pfeffer and Parra 2009). In addition, in 1990 all 50 states already had immigrants from most of the study groups, which means they could not be considered pioneer places.³ The metropolitan places identified by Singer (2004; 2008) and Fischer and Tienda (2006) as new and emerging foreign-born destinations also had immigrants from most of our study groups in 1990. Due to the need to protect individual privacy, no settlement data by national origin are available in PUMS files for small metropolitan and non-metropolitan areas, even though those are the areas with the most rapid growth in immigrant numbers.

The only data files that do have sufficient sample size and detailed national origin and geographic data for all metropolitan and non-metropolitan places are the Confidential Use Micro-Data Samples (CUMS) from the 1990 and 2000 decennial censuses. We draw on those data to examine the characteristics of pioneer places and migrants in the 1990s for ten immigrant groups. For each immigrant group, pioneer places are defined as geographic areas that had no immigrants in 1990 but did have one or more in 2000.⁴ Since this definition is group-specific, pioneer places for a given group may have had foreign-born from another origin in 1990 but not their own. In addition, a place could have been a pioneer destination for more than one of the ten origin groups in the 1990s. Pioneer migrants, in turn, are immigrants from each of the ten origins who settled their group's pioneer places in the 1990s. Although many immigrants have social networks that they draw on for housing and employment assistance when they arrive in the USA (Gurak and Caces 1992; Massey 1990; Massey et al. 1987), basically all we know about pioneer settlement is that pioneers did not receive similar assistance when they settled pioneer places because by definition they had no group members in those places.

We limited the study to the ten largest Asian and Latin American origins because most immigrants have come from those regions since passage of the 1965 U.S. Immigration and Naturalization Act and, even with CUMS files, the numbers of immigrants from most other countries are too small to study pioneer migration. The focus on ten groups represents an effort to balance comparisons of how the pioneer

³ In 1990 all the Asian study groups except the Vietnamese had nationals in all 50 states and the District of Columbia. Vietnamese lived in all those places except Wyoming. The five Latin American groups had nationals in 37 states (including DC). By 2000, all the Asian and Latin American groups except Dominicans had nationals in all 50 states and DC. Dominicans were absent from North Dakota, South Dakota, Vermont, and Wyoming (source: IPUMS 5% 1990 and 2000 Decennial Census samples).

⁴ Given that the number of immigrants in a locale changes over time, the choice of none present in 1990 is arbitrary but useful because of its simplicity. We examined alternate cut points (25 and 50) and they produced consistent results.

settlement process varies by national origin with the competing need for parsimony. The ten groups constituted 56.4% of the U.S. foreign-born population in 2000 and differ markedly in characteristics that correlate with internal migration and settlement, including educational attainment, occupation, family structure, and legal status (Bartel and Koch 1991; Frey and Liaw 1999; Kritz and Nogle 1994). While Latin American and Asian immigrants are often aggregated into Hispanic or Asian categories (Fischer and Tienda 2006; Lichter 2012; Massey and Capoferro 2008; Parrado and Kandel 2011), findings based on heterogeneous regional groupings can be biased if groups have divergent socio-economic and residence patterns. Mexicans, for instance, account for about 60% of all Hispanic immigrants and are more highly dispersed than other Hispanics, which means their characteristics largely account for the national Hispanic settlement profile. Their socio-economic profile, however, differs sharply from most other Hispanic groups. No Asian group dominates that region's immigrant profile but there are sharp differences between Asian immigrants from different countries in cultural, socio-economic, and settlement characteristics.

We address four questions in the paper. First, what types of labor market attracted pioneer migrants in the 1990s and how did they differ from places immigrants did not settle? Second, what were the characteristics of individual migrants who settled pioneer places in the 1990s and how did they differ from their compatriots living elsewhere? Third, were there commonalities in the pioneer settlement process for immigrants of different national origins or did origin groups respond differently to economic, demographic, social, and pan-ethnic contexts? Fourth, to the extent that the pioneer settlement process differed by national origin, what insights does this provide into integration processes? Although our analysis is primarily descriptive, we touch on several issues that are central to understanding immigrants' integration and settlement processes. One issue is the role of social networks in migration and settlement processes, which we examine by exploring the presence of immigrants from other origins and native pan-ethnics in pioneer places. We also focus on where pioneers came from – elsewhere in the USA or abroad – because that sheds light on the migration stage at which immigrants venture out to unsettled places. Finally, we consider the implications of group differences in the pioneer settlement process for generalized claims about the total foreign-born population.

2. Research insights into pioneer settlement

By 1990, immigrants from several Latin American and Asian countries were dispersing to new U.S. destinations, although the extent to which that was occurring varied by national origin and tended to be unrecognized at that time, except by a few scholars

(Durand, Massey, and Parrado 1999; Funkhouser 2000). The shifting state and metropolitan distribution of immigrants is well documented (Fischer and Tienda 2006; Massey and Capoferro 2008; Singer 2008) but most of what we know about the characteristics of immigrants in new destinations comes from case studies. In general, those studies indicate that most new-destination immigrants are Hispanics, have relatively low education levels, work in low-paying jobs, and are recent arrivers from abroad. To account for new destination settlement, studies usually point to the economic restructuring of food processing, manufacturing, agriculture, and other industries that led to the relocation of those industries to the South where wages are lower (Goździak and Martin 2005; Grey and Woodrick 2002; Griffiths 2005; Hernández-León and Zúñiga 2000; Jefferds and Millard 2004; Johnson-Webb 2002; Marrow 2011; Millard and Chapa 2004; Odem and Lacy 2009; Zúñiga and Hernández-León 2005). Employers, in turn, hire immigrant workers because they view them as hard working and cooperative employees who work for lower wages and help keep labor costs down (Donato et al. 2008). It is also argued that native workers are unavailable for jobs that immigrants take, either because they are unwilling to accept the low wages offered or because too few of them live in the new destinations that attract immigrants (Donato et al. 2007; Johnson and Fuguitt 2000; Piore 1979).

While this profile of new-destination settlers undoubtedly fits the case study places, the national profile of new-destination settlers suggests a different portrait. Census data analyses, for instance, show that immigrants living in new destinations have higher levels of human capital than those in traditional destinations (Bump, Lowell and Pettersen 2005; Kritz and Gurak 2015). Other research shows that immigrants who move internally have more education and job skills and are more acculturated than non-migrants (Bartel and Koch 1991; Frey and Liaw 1999; Gurak and Kritz 2000). These findings are consistent with neoclassical economic theories, which hold that migrants move to take advantage of wage and employment opportunities in different locales and have the human capital and resources that migration requires. While some criticize economic theory for interjecting more rationality into a decision-making process than is reasonable based on information available to potential migrants (Goodwin-White 2012; Greenwood 1981; 1997; Parrado and Kandel 2011; Ritchey 1976), economic context remains an important element in migration decisions, although it is not the only reason that people move (Clark and Maas 2015; Ihrke 2014).

Speculating on why U.S. immigrants move internally, Brown and colleagues (2007) argued that there are three factors beyond wages and robust economies that influence migration decisions: migration chains, distance decay, and intermediary actors. Given our focus on pioneer migration to places where immigrants from a given origin had no settled compatriots in 1990, by definition pioneers could not have received support from compatriots at destination. However, immigrants may have social

ties to non-compatriots and natives that serve similar functions. Out-group ties may develop in communities where immigrants live or in work places, churches, and schools. Distance decay occurs because travel costs, social ties, and lack of information about opportunities elsewhere discourage immigrants from moving long distances (Eldridge and Jones 1991; Olson and Olson 2000). A host of intermediary actors, including labor recruiters, refugee resettlement agencies, government agencies, churches, and NGOs, often play a role in channeling immigrants to new destinations. Several studies show the role of labor recruiters in flows of low-wage workers to non-metropolitan areas (Donato, Stainbeck, and Blankson 2005; Hernández-León and Zúñiga 2000; Johnson-Webb 2002; Piore 1979). Some argue that the seasonal migrations of Mexican and Caribbean agricultural workers, which initially were stimulated and managed by labor recruiters, evolved into permanent settlements in non-metropolitan areas as immigrants developed ties to natives in those areas that allowed them to find year-round employment (Lichter 2012; Villatoro 1998). Brown and colleagues (2007) looked at how refugee resettlement agencies dispersed immigrants throughout the country and found that refugees often retain ties to their initial settlement places that influence subsequent settlement patterns.

To address these issues and identify the correlates of pioneer places and migrants, we estimate two sets of models. The first set draws on aggregated CUMS data to identify the characteristics of places that attracted Asian and Latin American pioneers in the 1990s. The second set of models draws on individual CUMS data from the 2000 Census to estimate the demographic, socio-economic, and acculturation characteristics of migrants who settled pioneer places in the 1990s. For the aggregate analysis, we estimated zero-inflated Poisson (ZIP) models for each group that regressed the number of immigrants that settled pioneer places between 1990 and 2000 on context demographic, economic, and pan-ethnic conditions. The ZIP models simultaneously estimated the structural characteristics of labor markets that remained empty or unsettled by each group in 2000. For the individual analysis, we estimated logistic regression models for each origin group that compared the characteristics of pioneer migrants to their compatriots settled elsewhere.

3. Data, measurement, and analytic strategy

We use Confidential Use Microdata Samples (CUMS) from the 1990 and 2000 censuses because they are the only national-level data that have both a large number of sample cases for immigrants from several national origins, and sufficient geographic detail to study pioneer places throughout the country. CUMS decennial data are a 16% sample of the U.S. population and are available for analysis at Census Bureau Research

Data Centers.⁵ Our geo-units consist of 741 labor markets that Tolbert and colleagues (2006; 1996) constructed from 1990 census data by using cluster analysis to identify contiguous counties that had close economic and social linkages and commuting patterns. The 741 units cover the entire country and have standardized boundaries in 1990 and 2000. The units that have large populations approximate standard metropolitan statistical areas (SMSAs), while those with small populations span larger territories in non-metropolitan areas. The large number of geographic units combined with detailed data on immigrants' national origins, individual characteristics, and settlement places permit study of the aggregate- and individual-level correlates of pioneer settlement. Table 1 shows the settlement distributions of immigrants from each origin across the 741 places in 1990 and 2000. There are four settlement categories: settled, unsettled, pioneer, and turnover. Columns A and B show the number and percentage of labor markets settled by each group in 1990. Pioneer labor markets had no group members in 1990 but did in 2000 (column C). Unsettled areas had no group members in 2000 (column D). Turnover labor markets are a subset of 1990 settled labor markets (column A) that had no group members in 2000 (column E). The settled, pioneer, and unsettled labor markets sum to 741.

The zero-inflated Poisson (ZIP) group models predict the determinants of two outcomes for 1990 unsettled labor markets: (a) the count of immigrants in settled pioneer places and (b) the differences between the characteristics of places settled during the 1990s and those that remained empty or unsettled in 2000 (column C versus D). While standard Poisson models are useful for count outcomes that range from zero to some not very large number and that have a relatively small number of zero counts, those conditions do not hold for our samples because most of the groups, except Mexicans, had a large number of unsettled labor markets in 2000. When zero counts are relatively numerous, standard Poisson models reduce the impact of non-zero counts, the outcome of interest, which increases standard errors and biases coefficient estimates (Long and Freese 2006). ZIP models overcome this problem by simultaneously estimating separate models for the zero and non-zero units. In our ZIP models the first equation estimates the non-zero count for labor markets that were settled in the 1990s, and the second equation estimates a binary outcome model that predicts differences between the zero (unsettled) and non-zero (settled) units.

The sample sizes for the ZIP models vary depending on each group's number of settled and unsettled labor markets in 1990 and 2000. Mexicans, for instance, had 78 unsettled labor markets in 1990 and settled 58 of them during the 1990s. While 78 is the Poisson ZIP sample size for Mexicans, the non-zero count part of the model is limited

⁵ We did our research at the Cornell University Research Data Center. All data and analyses done at Census RDCs have to undergo a disclosure avoidance process to assure protection of respondents' privacy. The Census Bureau's Disclosure Review Board reviewed and approved the statistics used in this paper.

to the 58 settled places. Dominicans, on the other hand, had 521 unsettled labor markets in 1990 and settled 139 of them by 2000, which means their ZIP sample was 521 but the non-zero count part of the model was 139.

Table 1: Labor market settlement patterns in 1990 and 2000 and change between 1990 and 2000 by national origin^a

	1990 Settled Labor Markets ^b		2000 Pioneer Labor Markets ^b	2000 Unsettled Labor Markets ^b	1990-2000 Turnover Labor Markets ^b
	N	%	N	N	N
	[A]	[B]	[C]	[D]	[E]
Mexico	663	89.5	58	20	5
Cuba	392	52.9	121	228	48
Colombia	381	51.4	146	214	55
Salvador	302	40.8	194	245	27
Dominican Republic	220	29.7	139	382	43
Philippines	612	82.6	84	45	19
Korea	594	80.2	88	59	29
India	506	68.3	134	101	23
China	462	62.3	157	122	23
Vietnam	457	61.7	133	151	25

^a Sources: Confidential long-form files of the 1990 and 2000 Decennial Censuses.

^b Columns A, C and D sum to 741 or the total number of geographic areas or labor markets. Turnover labor markets (column E) are a subset of areas in column D that had group settlers in 1990 but that had none in 2000.

To compile the aggregate database needed to estimate the ZIP models, we calculated demographic, economic, spatial, and pan-ethnic indicators for the total populations of the 741 labor markets using 1990 and 2000 CUMS data. Because gravity models show that internal migration decreases with distance (Boyle et al. 2003; Lee 1966; Stouffer 1940; Tolnay et al. 2005), one model indicator is the distance between each origin group's potential settlement places and the nearest of its top five gateways. Distance decay occurs because distance increases travel costs, reduces migrant's access to reliable information about opportunities in alternative destinations, and makes it difficult for migrants to draw support from compatriots and friends left behind (Olson and Olson 2000). For the aggregate analysis it is not possible to measure distances actually moved by individual immigrants, but the measure of the proximity of pioneer places to the nearest of each group's top five gateways captures potential access to co-ethnic community resources.

Other indicators include each labor market's 1990 total population size (native- and foreign-born), which we expect to be positively correlated with pioneer settlement. Given the preferences of Asian and Latin American immigrants for large metropolitan areas, it is reasonable to expect that pioneers will prefer places with relatively large populations because they likely have resources that immigrants find attractive, including bilingual and immigrant services and labor markets with a range of skilled and unskilled job opportunities. Those places are also more likely to have larger foreign-born populations, which can ease the incorporation process for pioneers in places where they have no compatriots. Given that the ZIP models estimate pioneer counts in 1990 unsettled labor markets, the presence of compatriots in 1990 could not have been a factor that attracted pioneers. However, pioneer settlers may have been attracted to places with larger foreign-born populations from other origins. An underlying mechanism for this process would be pan-ethnic links between pioneers and immigrants from other origins that serve similar functions as social ties between compatriots.

To explore that possibility, the models include two context indicators that tap the presence of immigrants from other national origins in 1990. The first measure is the size of the total foreign-born population in each labor market. This measure by definition excludes immigrants from the index group, given that the model is limited to labor markets with no group members in 1990. The second measure is the number of foreign-born from each group's pan-ethnic origin (Hispanic or Asian) that resided in 1990 unsettled places. These two measures partition a labor market's foreign-born population into immigrants from the same pan-ethnic origin and those from other places. For Mexicans, Cubans, Salvadorans, Dominicans, and Colombians the second measure is a count of foreign-born persons who indicated that they were Hispanic on the census Hispanic identity question, and for the Asian groups it is a count of foreign-born persons who indicated that they were Asian on the census ancestry question. This measure produces a different pan-ethnic population for each group. For Filipinos, for instance, the pan-ethnic measure includes all non-Filipino Asians while the total foreign-born measure includes non-Asian foreign-born. For the Hispanic groups, the pan-ethnic measure specifies the count of Hispanics from origins other than the index group, and the total foreign-born measure consists of non-Hispanic foreign-born. There is also an ethnic composition measure that specifies the number of native-born persons from each group's pan-ethnic origin that resided in each labor market. For that measure, we used census ancestry data and the same definitions that we used for the foreign-born pan-ethnic measure. This measure is not ideal because there are large composition differences between the Hispanic and Asian foreign- and native-born populations. In general, the measure for the native-born Hispanic population is a better fit for Mexicans than other Hispanic groups because that group dominates the native-born category. The

native-born Asian population, by contrast, includes more people of Japanese heritage than are present in the Asian immigrant population along with small numbers of Asians from several other origins.

The ZIP models have five 1990 economic indicators: wages, housing rent, college-educated population, employment change, and agricultural employment. We calculated these indicators for the total labor market populations, native- and foreign-born. The mean wage is for workers employed 45 or more weeks in 1989. According to neoclassical economics, higher wages attract migrants, and previous research supports that tenet (Frey and Liaw 2005; Gurak and Kritz 2000). To control for housing costs, we used census statistics on rental costs in the past month and annualized them for consistency with other measures. We expected higher rental costs to discourage pioneer settlement. For adults 25 and older, we calculated the percentage of adults that had four or more years of college. Given that occupation and education structures in different labor markets are highly correlated (Moretti 2012), we reasoned that the Asian groups might be attracted to places where educational levels were higher while Hispanic groups that have lower educational levels might seek opportunity in other places. Employment change is another measure and we expected to find that labor markets with increased employment change would attract pioneers. Since employment in agriculture is often singled out as an attractant for new destination migrants (Kandel and Cromartie 2004; Zúñiga and Hernandez-León 2005), the percentage of the employed population working in agriculture is another measure. We explored the importance of other industrial measures but did not include them in the final models because most were insignificant, possibly because the industries that attract immigrants vary considerably by national origin and the numbers of pioneers employed in different sectors in unsettled areas is small. While the share employed in agriculture is also small, that measure also serves as a proxy for vast regions of the country characterized by ruralism.

The distance, economic, and social indicators described above are factors that may attract immigrants but, as Brown and colleagues (2007) noted, labor markets differ in subtle ways. To explore whether there are other context attractants, we included an indicator of native-born population change, based on the reasoning that immigrants and natives would be attracted to places with similar amenities. While Donato and colleagues (2007) found that some immigrants, particularly unskilled ones, moved to places that lost natives, for immigrants as a whole it is more likely that they move to places that have opportunities and amenities that also attract natives.⁶ For instance, both natives and immigrants might take climate, state and local taxes, crime, and social services into account when they move. Although we do not discuss the findings for the logistic part of the ZIP models, we should point out that the context measures included

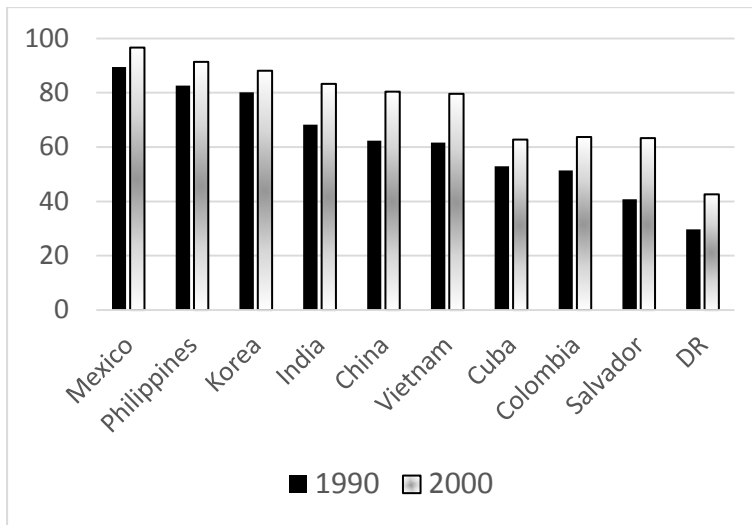
⁶ Donato found that 59 out of 2,285 non-metropolitan counties gained foreign-born but lost native-born in the 1990s.

in those models can be the same as or different from those employed in the zero-count model. If the same covariates are in both models, the expectation is that factors that are positively associated with higher pioneer counts will be negatively associated with zero-count status. Our logistic models included all covariates in the first equation plus three other measures: the percentage of adults with less than a high school degree, the percentage of the labor market that consists of native-born whites, and the percentage ratio of the annual mean wage to housing rent. Because the number of unsettled places that received no group members was large and diverse for all groups except Mexicans, the logistic part of the ZIP models had limited predictive ability (the logistic model findings are available from the authors).

4. Overview of immigrant group dispersion

Group dispersion across space differs from concentration in space. 'Spatial dispersion' refers to the percentage of geographic areas settled by members of a given group, while 'spatial concentration' refers to the percentage of group members living in specific areas. Figure 1 shows the spatial dispersion percentages for the ten groups in 1990 and 2000. Mexicans were the most spatially dispersed of the ten groups – 89% of the labor markets already had some Mexicans in 1990. Over half of the 741 labor markets also had some Filipinos (82.6%), Koreans (80.2%), Indians (68.3%), Chinese (62.3%), Vietnamese (61.7), Cubans (52.9), and Colombians (51.4) in 1990. Spatial dispersion gained momentum during the 1990s: by 2000, nine groups had nationals in over 60% of the areas. Only Dominicans lived in fewer than half of the labor markets. Spatial dispersion and concentration, however, are not inconsistent, and in 2000 concentration levels were high, even for spatially dispersed groups. The percentage of immigrants from each origin living in their group's top five settlement places ranged from a high of 87% for Dominicans to a low of 38.5% for Indians (not shown). Cubans and Salvadorans also had high spatial concentrations, 81% and 71% respectively, while Mexicans (45%) and Vietnamese (46%) had the lowest concentration levels. All the groups were less spatially concentrated in 2000 than in 1990. Mexicans and Salvadorans had the biggest drop in concentration in the 1990s (13 and 11 percentage points) and Cubans had the smallest drop (3 points).

Figure 1: Spatial dispersion of Asian and Latin American national origin groups in 1990 and 2000 (percentage of 741 areas settled)



The ten groups also differed in the number of pioneer places they settled in the 1990s. Salvadorans settled the largest number of places (194), followed by the Chinese (157), Colombians (146), Dominicans (139), Indians (134), and Vietnamese (133) (Table 1, column C). Mexicans, Filipinos, and Koreans settled fewer labor markets, partly because there were fewer places left for them to settle, given that they had already settled over 80% of the labor markets by 1990. Nonetheless, those groups too continued to disperse and by 2000 only 25 of the 741 labor markets had no Mexicans (Table 1, col D + col E). Immigrant groups not only settled new areas but also disappeared from places that had some group members in 1990. This pattern occurred in five labor markets for Mexicans but was a more common event for other groups: over 40 places that had some Colombians, Cubans, and Dominicans in 1990 had none in 2000 (col E, Table 1). While some other areas had fewer group members in 2000 than they did in 1990, population growth was the norm for most settled areas. These patterns indicate that there is considerable churning in the pioneer settlement process.

Table 2: Population characteristics of pioneer Labor Markets (LMs) in 1990 and 2000 by national origin (weighted population statistics)^a

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
	Total National Population, 1990	Total Number of Group Members Settled in All Pioneer LMs, 2000	% of Group's National Population in All Pioneer LMs, 2000	Largest Number of Group Members Who Settled a Single Pioneer LM, 2000	Total National Population, 2000	Number of Internal Migrants 1990-1994 ^b	Number of Internal Migrants 1995-2000 ^b	Number of Arrivers from Abroad 1990-1994 ^b	Number of Arrivers from Abroad, 1995-2000 ^b
Mexico	4,262,900	4,980	0.05	587	9,960,000	652	1,803	702	1,823
Philippines	914,419	1,187	0.09	78	1,318,889	366	464	197	160
Cuba	737,934	1,459	0.17	79	858,235	772	496	57	134
China	680,233	3,481	0.29	164	1,200,345	1,271	1,347	240	623
Korea	564,355	1,278	0.15	74	852,000	686	285	130	176
Vietnam	538,604	3,308	0.34	389	972,941	1,001	1,154	686	466
Salvador	465,289	8,022	0.99	598	810,303	2,078	3,353	1,035	1,556
India	454,893	3,309	0.33	181	1,002,727	1,257	1,082	222	748
DR	344,046	2,212	0.33	203	670,303	608	991	179	434
Colombia	286,530	2,065	0.41	138	503,659	727	613	130	595
Total	9,249,203	31,301	na	na	18,149,402	9,418	11,589	3,578	6,716

^a Sources: Confidential long-form files of the 1990 and 2000 Decennial Censuses.

^b Internal migration status for the 1995-2000 period derives from census data on where people lived in 1995 and 2000. For the 1990-1994 period, internal migrants are nationals already present in the pioneer place in 1995. If they were not present in 1995, logically they had to have migrated in the 1990-1994 period because the pioneer places had no group members in 1990. The census question on "year of U.S. arrival" identifies all recent immigrants from abroad in the 1990-2000 period. Whether they were 1990-1994 or 1995-2000 arrivals in the pioneer labor market depended on where they lived in 1995, abroad or in the pioneer labor market.

There were 31,301 pioneers from the 10 groups (population weighted N) in 2000, ranging from a low of 1,187 for Filipinos to a high of 8,022 for Salvadorans (Table 2, col. B), but the pioneers constituted less than 1% of each group's total population (Table 2, col. C). The pioneers who settled unoccupied places could have come from other U.S. places or abroad but, for all groups except Mexicans, 65% to 87% moved from elsewhere in the USA (Table 2, columns F to I). Only Mexican pioneers were as likely to come from abroad as from elsewhere in the USA. Given that the total number of pioneer migrants from each origin is relatively small (Table 2, col. B), it is not surprising that the numbers who settled a single pioneer place were also small – 74 for Koreans, 78 for Cubans, 79 for Filipinos, up to a high of 587 for Mexicans and 598 for Salvadorans (Table 2, col. D).

5. Macro characteristics of pioneer labor markets settled in the 1990s

Table 3 shows the ZIP model findings that identify the structural correlates of the counts of pioneers that settled additional labor markets in the 1990s. Model Vuong tests indicate that the ZIP models significantly improved model fit over standard Poisson models (see bottom 2 rows of Table 3). Except for Mexicans, those tests were significant at the .001 level. The Mexican Vuong test was also significant but at the .01 level, which indicates that the ZIP model was appropriate even for the group that had the smallest number of 1990 unsettled labor markets. Several measures in the models were transformed into the natural log to correct for skewness (Table 3 identifies which). All model covariates were significant for several groups, albeit the direction of the relationships and significance levels often varied.

Only three place characteristics were robust and operated similarly for most groups: total population size, foreign-born pan-ethnic population size, and percentage of the labor force employed in agriculture. Both population size measures were positive and significant for nine of the ten groups. Except for Cubans, places with larger 1990 total populations attracted more pioneer settlers and, except for Filipinos, places with larger 1990 pan-ethnic, foreign-born populations attracted more pioneers. Although census data do not allow us to determine whether the pan-ethnic finding is due to cross-national networks or other processes, it is likely that knowledge about the characteristics of places that influence settlement decisions spreads through social ties that immigrants develop with immigrants from other origins or with natives after U.S. arrival. By contrast, pioneers avoided places that had more agricultural employment, which, of course, are also more rural. Only Filipino pioneers were significantly more likely to settle places that had higher agricultural employment. That finding, however,

is not likely due to any tendency on the part of Filipinos to work in agriculture, because they have almost no presence in that sector outside of Hawaii. Many Filipinos do work as nurses or health technicians in non-metropolitan and small urban places because of native worker shortages. In addition, growing numbers of rural American men are marrying mail-order brides from the Philippines (Scholes 1997). While the dispersion of immigrants to new destinations has been linked to changes in agriculture and food processing industries, that factor was unimportant for pioneers from most groups in the 1990s, including for Mexicans and Salvadorans, which have larger shares of their populations working in agriculture than other groups.

The associations between other economic conditions and pioneer settlement are more mixed. The most dramatic case of heterogeneity occurs in the mean wage of full-time workers. Pioneers from four Asian groups (Indians, Koreans, Filipinos, and Vietnamese) had significantly larger pioneer counts in higher-wage labor markets, while four Hispanic groups (Colombians, Dominicans, Mexicans, and Salvadorans) had significantly lower counts in those labor markets. The different skill profiles of Asians and Latin Americans could underlie these findings. While groups with higher skill profiles, such as the Asians, may be able to compete for jobs in places with higher wages, those with lower skill profiles may find it easier to find work in labor markets that have more manual labor jobs. Mexicans and Salvadorans, for instance, have lower average education levels, and research indicates that they often take jobs in food processing, services, and other manual-labor industries in new destinations (Griffiths 2005; Zúñiga and Hernández-León 2005). To assess the wage effects fully it would be necessary to look at wages in specific sectors that employ immigrants from different origins.

Previous studies have found that change in the size of the employed population correlates positively with immigrant settlement and retention (Gurak and Kritz 2000; Kritz and Gurak 2001) and destination choice (Kritz and Gurak 2015), but that pattern did not hold for pioneers. That relationship was only positive and significant for two groups (Salvadorans and Vietnamese) and was negative and significant for six others (Chinese, Colombians, Dominicans, Indians, Koreans, and Mexicans). Given the small numbers of pioneers in most places and the wide variation in population size of pioneer places, we considered the possibility that the relationship of employment change to destination choice was non-linear. Exploratory models provided some support for the non-linear expectation but not enough to counter the conclusion that, for most groups, employment growth deterred pioneer settlement. Since employment growth correlates positively with population growth, which was controlled for and positively associated with pioneer settlement of most groups, it is possible that there was insufficient remaining variance to detect whether employment change shapes pioneer settlement independently. The relationship between college-educated population and pioneer

migration is more difficult to explain, given that it was positive and significant for both groups that have relatively high education levels (Indians, Filipinos, Colombians, and Vietnamese) and ones with lower education levels (Mexicans and Salvadorans). Cubans had a significantly negative relationship. Labor markets with more college-educated populations usually have higher concentrations of governance, education, cultural, and other institutions. The education findings suggest that the relationship does not stem from a fit between group profiles and place educational levels, but rather from opportunities available in different labor markets that open up economic niches for different immigrant groups.

Although we expected that pioneer settlers would be attracted to labor markets with lower housing costs, we found no support for that thesis. All five Hispanic groups and the Chinese had larger pioneer counts in places with higher housing rents, but that relationship was not significant for the other four Asian groups. These findings suggest different possibilities. The Asian findings suggest that housing costs are not an important factor for groups that have more economic resources. In addition, Asians may move to a more diverse set of pioneer places. Hispanics, on the other hand, may not be deterred by higher rental costs because they rely on other mechanisms, such as shared housing, to manage costs. Another possibility is that rents were higher in places settled by Hispanics because they moved to places that grew rapidly prior to 1990 and that continued growing in the 1990s. That dynamic would drive up rental costs and put pressure on rental markets.

This pattern of a dominant trend accompanied by noteworthy exceptions occurred for several other place characteristics. Another example of group heterogeneity in the mechanisms that attracted pioneer settlers occurred for native-born population change. Nine groups had significant relationships and six of those were positive – the expected direction – but three others were negative (Mexicans, Filipinos, and Vietnamese). While the positive relationships support the conclusion that, in general, places that attract natives also attract pioneer settlers, the exceptions indicate that more was going on. In this case, two of the groups (Mexicans and Filipinos) with negative relationships had the highest spatial dispersion in 1990, which means they had fewer unsettled places. Those places may have been less attractive to them previously because they had negative or lower population growth. While Vietnamese are less dispersed than Mexicans and Filipinos, their settlement profile differs from other Asian groups because of their initial settlement as refugees (Brown et al. 2007). The six groups that had positive and significant relationships to population change included Salvadorans, Dominicans, Colombians, Chinese, Indians, and Koreans.

Table 3: Aggregate Zero-Inflated Poisson (ZIP) models of counts of pioneer settlers in 2000 labor markets that had no same-origin group members in 1990 for ten Asian and Latin American groups^a

	Mexico	Cuba	El Salvador	Dominican Republic	Colombia	Philippines	China	India	Vietnam	Korea
Distance from group's nearest top 5 gateway, log ^b	.200***	[-0.103]	-.407***	-.143***	.063	[.281]	-.327***	-.208***	.042	-.552***
1990 Total population of labor market, log ^b	.704***	.080	1.265***	.873***	.804***	.624***	.774***	.606***	.158***	.138*
1990 Mean wage of full-time workers, log ^b	-.368**	.177	-4.278***	[-.461]	-1.666***	.455*	.005	.546***	.407**	.554*
1990 Mean annualized housing rent, log	.407***	.836***	2.592***	.915***	.868***	-.162	.403***	-.132	.006	.129
% of adult population with college degrees	.011**	-.017*	.054***	.001	.019***	.015*	.004	[.007]	.010*	-.001
% change of employed labor force, 1990 to 2000	[-.131]	-.177	.264**	-1.472***	-.651***	.136	-.397***	-.209*	.973***	-.620***
% of labor force in Agriculture	-.131***	-.038***	-.003	-.027**	-.025***	.012*	-.012**	-.014***	-.011***	-.018***
% change of native-born population, 1990-00	[-.003]	-.003	.003*	.037***	.015***	-.012***	.011***	.006***	-.017***	.011***
1990 Foreign-born population, non-pan-ethnic, log ^b	-1.015***	-.019	-1.219***	-.619***	-.026	.175***	-.144***	-.035	-.047	.035
1990 Foreign-born pan-ethnics, log ^{b,c}	.316***	.191***	.658***	.513***	.214***	.020	.118***	.164***	.392***	.214***
1990 Total native-born pan-ethnics, log ^{b,d}	[.012]	-.087***	-.008	-.202***	-.137***	.008	.005	-.025**	-.163***	-.008
N LMs empty in 1990	78	349	439	521	360	129	279	235	284	147
N LMs newly settled in 2000	58	121	194	139	146	84	157	134	133	88
Model significance (standard Poisson)	***	***	***	***	***	***	***	***	***	***
ZIP Vuong test	**	***	***	***	***	***	***	***	***	***

^a Levels of statistical significance: *** .000, ** .01, * .05, and [] .10 level.
^b Along with the distance and wage variables, all independent variables that are counts are logged (natural log).
^c For Mexicans, Cubans, Salvadorans, Dominicans, and Colombians this measure is the count of foreign-born Hispanics in a labor market in 1990. For Asian-origin groups it is the count of foreign-born persons of Asian ancestry. By definition, these totals cannot include foreign-born persons from the same national origin as the index group.
^d For Mexicans, Cubans, Salvadorans, Dominicans, and Colombians this is the count of all native-born Hispanics in a labor market in 1990. For Asian-origin groups it is the count of all native-born persons of Asian ancestry. These totals can include native-born persons of the same national origin as the index group.

The findings for the three ethnic composition measures suggest that pioneers have social ties to somebody in pioneer places. As previously mentioned, the findings for the foreign-born pan-ethnic measure were robust. Pioneer settlers from nine origins were significantly more likely to settle places that had larger numbers of foreign-born persons of their pan-ethnic origin (i.e., of other Hispanic or Asian origins) in 1990. Filipinos were again the exception (not significant). On the other hand, there was only a weak relationship between 1990 total foreign-born population and pioneer settlement. That measure taps the size of the population of immigrants from origins other than pioneers' pan-ethnic origins. Only one group (Filipinos) had a significant and positive relationship to the presence of immigrants from non-pan-ethnic origins, but four others (Mexicans, Salvadorans, Dominicans, and Chinese) had negative and significant relationships. Findings from these two measures suggest that there are social ties between immigrants from the same region that shape settlement choices, but ties are less common between immigrants from other world regions.

The models also had a native-born pan-ethnic measure but it was only significant and positive for Mexicans. Five other groups – Cubans, Dominicans, Colombians, Indians, and Vietnamese – were significantly less likely to settle in places that had more native-born Hispanics or Asians. Since the native-born Hispanic measure includes all Hispanics, the Mexican finding is not surprising because most native-born Hispanics are Mexicans and some of them undoubtedly did live in pioneer places that attracted Mexican pioneers in the 1990s. However, that measure has less meaning for Dominicans, Cubans, and Colombians who live mainly along the Atlantic Coast and have few native-born ancestors. The native-born Asian population is also not an ideal measure because it includes large numbers of Japanese and only small numbers of ancestors from the same origins as the study groups. We explored whether the use of a more focused native-born pan-ethnic measure would produce different results and found that for all origins except Mexico the number of native-born persons from the same origin in pioneer places was too small to permit reliable model estimation.

6. Characteristics of immigrants who settled pioneer labor markets by 2000

We next look at how the demographic and socio-economic characteristics of pioneers compare to those of their compatriots settled elsewhere in the country. To do so, we estimated ten logistic regression models predicting residence in a pioneer labor market in 2000. A key indicator in these models is migration status in the 1995–2000 period (recent immigrant from abroad, internal migrant, and non-immigrant [reference]). This measure allows us to assess the importance of internal and recent migration for pioneer

settlement. Other dummy variables control for demographic status (male; never married), education (no high school degree [reference], high school degree/some college, college degree, and advanced degree), current activity (attending school; employment status), and acculturation (English only or very well, and citizenship). The models have two integer variables, age at U.S. arrival and years in USA. For each group the logistic models include all immigrants aged 19 and older and predict settlement in a pioneer labor market between 1995 and 2000.

The logistic models focus on the second half of the 1990s because the 2000 census only has complete internal migration data for that period. Although we know the internal migration status of pioneers in the first half of the 1990s as well as the second half (see Table 2), the internal migration status is unknown for immigrants already residing in their 2000 place in 1995. Therefore all immigrants from each origin, including pioneer settlers who were internal migrants or recent immigrants in the 1990-95 period, are in the reference category. This has the effect of underestimating the impact of internal migration relative to recent immigration, given that the descriptive statistics in Table 2 (columns F to I) indicate that internal migrants were more numerous relative to recent immigrants in the pre-1995 period than they were in the post-1995 period, except for Mexicans. In spite of the underestimation of internal migrants that this causes, the logistic models show robust findings for the migration indicators: pioneer settlers were significantly more likely to be internal migrants than recent immigrants (see Table 4), indicating that internal migration, not recent immigration, was the driving force behind pioneer settlement in the 1990s. The internal migration odds ratios were positive and significant for all ten groups and ranged from 2.0 (Koreans) to 11.5 (Dominicans) and those for recent immigration were positive and significant for eight groups (all but Filipinos and Koreans). Wald tests of differences between the internal migration and recent immigrant coefficients were significant for all groups except Colombians and Koreans (see RI-IM Significance row at bottom of Table 4).

Table 4: Logistic regressions of residence in a pioneer Labor Market (LM) in 2000 on migration, demographic, education, and acculturation status for ten national origin groups, immigrants 19 and older in 2000 (based on probability weights; odds ratios)

	Mexico	Cuba	El Salvador	Dominican Republic	Colombia	Philippines	China	India	Vietnam	Korea
Recent Immigrant (RI) ^a	4.088***	2.918***	2.617***	6.494***	3.792***	1.657	2.194***	1.539**	2.265***	1.580
Internal Migrant (IM) ^a	10.926***	7.806***	11.577***	11.474***	5.406***	6.079***	6.611***	3.598***	5.607***	1.972**
Male (=1)	1.424***	1.410*	1.238**	0.882	0.852	0.637**	1.104	0.957	1.220	0.689*
Never Married (=1)	0.862	1.115	0.783**	0.631*	1.237	0.839	0.610**	1.315	0.956	0.599
No High School degree	---	---	---	---	---	---	---	---	---	---
High School degree/some college	0.873	0.880	1.031	1.527*	1.457	0.977	1.019	0.811	0.973	0.628
College Degree (4 year)	0.946	0.955	0.957	2.499***	1.553	0.749	0.606*	0.462***	0.562**	0.334***
Advanced Degree	0.971	0.910	1.272	3.572***	2.243***	1.712	0.670*	0.636**	0.429*	0.514*
Attending School	0.772	0.634	0.628**	0.589*	1.247	0.944	1.099	0.826	0.630**	1.365
Currently Employed English Only, Very Well or Well	1.311*	1.540*	1.169*	1.222	0.779	1.135	1.328*	1.047	1.120	1.198
Citizen (=1)	1.060	1.824**	0.860	2.072***	2.590***	5.243**	0.999	1.518*	1.025	2.446**
Age Arrived in USA	1.373*	0.720	1.129	1.077	1.610*	0.870	0.882	1.209	0.739*	0.842
Years in USA	1.010*	0.993	0.991*	0.994	1.010	0.995	0.987**	1.018***	0.999	1.002
Model Significance	0.971***	1.035***	0.966***	1.020*	1.016	0.976	1.015*	1.023***	1.001	1.021
Wald Test: RI-IM	***	***	***	***	***	***	***	***	***	***
Sample N (rounded, unweighted Ns)	1,046,300	99,333	94,900	73,100	54,100	165,100	139,300	119,000	117,000	94,500

Levels of statistical significance: *** .001, ** .01, * .05

The findings for the demographic, education, and acculturation indicators reveal more group differences than similarities between pioneers and non-pioneers. Only English language fluency was positive and significant for several groups (Cubans, Dominicans, Colombians, Filipinos, Indians, and Koreans). However, that relationship was not significant for other groups, including Mexicans and Salvadorans. Since many of the latter work as manual laborers in food processing, service, and other industries that often have Spanish-speaking mid-level managers, English fluency may not be a requirement for them. Pioneers from all origins except Colombians were likely to be currently employed, but that relationship was only significant at the .05 level for the Chinese, Cubans, Mexicans, and Salvadorans. The relationships between pioneer settlement and years since U.S. arrival also differed. Assimilation tenets would lead us to expect dispersion to increase with years in the USA because immigrants have had more time to acculturate and learn about employment and other opportunities beyond traditional gateways. That pattern held for Cuban, Dominican, Chinese, and Indian pioneers but not for Mexican and Salvadoran pioneers. Since Mexicans and Salvadorans are the two Hispanic groups with the highest rates of dispersion to new destinations, this finding is consistent with case studies that show that many Hispanics in new destinations came directly from abroad (Marrow 2011; Millard and Chapa 2004; Odem and Lacy 2009). There were also divergent findings for gender and marital status. While Cuban, Mexican, and Salvadoran pioneers were more likely to be men, Filipino and Korean pioneers were more likely to be women. Never-married Chinese, Dominicans, and Salvadorans were significantly less likely to be pioneers, but marital status was unimportant for other groups.

The education measures also produced divergent group findings. Dominican and Colombian pioneers, for instance, were significantly more likely to have advanced degrees than were their compatriots living elsewhere. For Dominican pioneers there is even a positive and significant difference between nationals with a high school degree/some college and those with no high school degree. A different pattern emerges for four Asian groups. Although the Chinese, Indians, Koreans, and Vietnamese have higher average levels of educational attainment than the Hispanic groups, members of those groups who had college or advanced degrees were significantly less likely to be pioneers than their lesser-educated compatriots. Education levels, by contrast, were not significant for Mexican, Cuban, and Salvadoran pioneers. School attendance was negative and significant for Salvadoran, Dominican, and Vietnamese pioneers but not significant for other groups.

The models summarized in Table 4 predict an outcome that contrasts pioneers from each origin with all group members living elsewhere in 2000. Because most immigrant groups remain spatially concentrated in a handful of metropolitan areas, this strategy is open to the criticism that the important cleavage may be between immigrants

in traditional and dispersed places rather than between pioneers and compatriots living elsewhere. We explored this possibility by estimating a parallel set of models that changed the reference group to immigrants living beyond their group's top five gateways, i.e., to more dispersed immigrants. Even though this approach greatly reduced sample sizes, the findings for these models (Appendix A) are consistent with those in Table 4. The internal migrant coefficients remain positive and significant, except for Koreans, and they are larger than the recent immigration coefficients. Fewer coefficients are statistically significant for other measures than in Table 4 models, but the dominant pattern remains. The findings reported for education and English ability are similar for both sets of models. While highly educated Dominicans and Colombians are significantly more likely to be pioneers than their lesser-educated compatriots, highly educated Chinese, Indians, and Vietnamese are less likely to be pioneers. For five groups, those with a better command of English have higher odds of pioneer settlement.

We next explored whether there were significant differences between immigrants that had different dispersion levels in 1995. For this comparison we had to drop 1995-2000 recent immigrants because they did not have a U.S. residence in 1995. We also dropped persons already living in pioneer places in 1995, given that the outcome is pioneer settlement between 1995 and 2000. Immigrants' 1995 labor market were classified as "dispersed" if they had less than 1% of the group's national population in 1995, "emerging" if they had between 1% and 4% of that population, and "gateway" if they had more than 4%. We estimated two sets of models with these dispersion measures and other covariates used in Table 4 models: the first model estimated pioneer destination choice for all immigrants in the USA in 1995, and the second model estimated the same outcome for immigrants in non-gateways in 1995. Table 5 shows the odds ratios for the dispersion contexts. The results are consistent with a stage migration process in which people move to emerging places and then a subset moves on to more dispersed or pioneer places. For the models that included gateway residents (Table 5: Model A), residence in dispersed labor markets in 1995 correlated positively and significantly with 2000 settlement in a pioneer place for nine groups (all but Indians). Moreover, Colombians, Filipinos, Vietnamese, and Koreans residing in emerging labor markets in 1995 were significantly more likely to live in pioneer places in 2000. In the second set of models (Model B), which drops the gateway residents, immigrants from nine groups (all but Koreans) were significantly more likely to live in pioneer places if they lived in dispersed rather than emerging places in 1995.

Table 5: Logistic regressions of residence in a pioneer Labor Market (LM) in 2000 on 1995 dispersion level for ten national origin groups (probability weights, odds ratios)^a

	Mexico	Cuba	El Salvador	Dominican Republic	Colombia	Philippines	China	India	Vietnam	Korea
Model A: All immigrants residing in the USA in 1995, persons 19 or older in 2000										
Gateway 1995 (ref)	---	---	---	---	---	---	---	---	---	---
Emerging LM 1995	1.125	0.537	0.965	1.124	2.930**	11.049**	0.926	1.262	3.506***	5.095***
Dispersed LM 1995	4.425***	5.189***	3.919***	8.661***	7.339***	23.474**	7.866***	3.596	7.721***	8.084***
Model B: Same as Model A with those living in 1995 gateway labor markets (LMs) dropped										
Emerging LM 1995 (ref)	---	---	---	---	---	---	---	---	---	---
Dispersed LM 1995	3.879***	9.961***	3.955***	7.896***	2.511**	2.175*	8.692***	2.940**	2.218***	1.611

Levels of statistical significance: ***, .001, **, .01, *, .05
^a In addition to the 1995 settlement indicators, Models A and B had the same measures as Table 4 models did. They also had the same exclusions of immigrants not residing in the U.S. in 1995 and pre-1995 internal migrants. The full models are available from the authors.

Because we used restricted-access census data for this analysis, the locations of the settled and unsettled labor markets cannot be identified. Federal laws that protect individual privacy prevent the Census Bureau and other federal agencies from releasing data that would allow identification of individuals. Our data are particularly sensitive, given that they are for immigrants from different national origins who settled pioneer places where few of their compatriots live. However, we did obtain disclosure for some highly aggregated summary statistics for the pioneer places (see Appendix B). Column A indicates that 100% of Mexican and Filipino pioneers settled in non-metropolitan areas and that, in general, Asian pioneers were more likely than Hispanics pioneers to move to non-metropolitan areas (col. B). Dominican pioneers were the least likely to settle in non-metropolitan areas, but still more than half of them made that move (55%). The average size of the total populations of the pioneer labor markets also varied.⁷ Filipino, Mexican, and Korean pioneers settled non-metropolitan places with the smallest populations (47,000 – 51,000) and Salvadoran and Dominican pioneers settled places with larger populations (124,000 – 176,000). Not surprisingly, the population sizes of the metropolitan places settled by pioneers were relatively large, especially for Salvadorans (397,000), Dominicans (358,000), and Colombians (293,000) (col. C). Asians, by contrast, tended to move to smaller-sized metropolitan areas. Column E shows that the average size of foreign-born populations in the pioneer places was relatively small, ranging from 200 in places settled by Mexicans to 5,000 in places settled by Dominicans. Except for Mexicans, the Hispanic groups selected pioneer places with larger foreign-born populations than the Asian groups did. Another issue we examined was whether pioneers of different origin were going to the same pioneer places. While the information shown in Column F suggests that many pioneers did move to the same states, particularly Georgia, Kentucky, and Texas, when we looked at the actual labor markets settled by pioneers we found no areas that had received pioneers from all ten origins. In total, there were 1,254 origin-specific pioneer places (Table 1, col. C), but the top number of groups that went to a single labor market was seven. At the other end of the distribution, 170 pioneer places received pioneers from only one origin.

⁷ While the statistics are for 741 geo-units, the non-metropolitan labor markets may include more than one urban area, several towns, and hamlets as well as rural areas. The population figures are for the geo-units, not the place within the unit where immigrants actually live. Foreign- and native-born of all ages are included in the population statistics.

7. Conclusion and discussion

This analysis provides basic descriptive information about the nature of immigrant dispersal to pioneer places in the United States. By drawing on underutilized databases, the Confidential Use Micro-Data samples from the 1990 and 2000 censuses, we were able to examine the associations between the characteristics of both pioneer places and pioneer migrants for immigrants from ten Asian and Latin American origins. The aggregate analysis identified three characteristics of pioneer places that were robust for most of the groups: most pioneers settled places that had larger populations, larger pan-ethnic populations from their origin region (Asia or Latin America), and smaller shares of agriculture employment. The analysis also revealed that Asian and Hispanic pioneers settled different types of labor market. While all the Asian pioneers except the Chinese settled places with higher wages, all the Hispanic pioneers except the Cubans settled places with lower wages. This finding is consistent with the different skill profiles of Asians and Hispanics. Similar logic might be expected to hold for measures such as the college-educated share of the adult population, but that was not what we found. Pioneers from six groups were attracted to places with larger college-educated populations, but that set included both Asian and Hispanic groups. That relationship was significantly negative for Cubans. This finding, along with others, suggests that group profile alone is not the only factor that shapes pioneer settlement. Moreover, groups do have distinctive settlement profiles, and that comes through the clearest for Mexicans. All eleven covariates in the ZIP model were significant for Mexican pioneers, which gives us a full profile of that group's pioneers. The places most Mexican pioneers settled were located far from their five largest 1990 gateways (Los Angeles, Chicago, Houston, San Diego, and McAllen/Brownsville), had larger total populations, higher housing rents, adult populations with more education, larger foreign-born pan-ethnic populations, and more native-born pan-ethnics. They were less likely to settle places that had high wages, employment growth, agricultural employment, large non-Hispanic foreign-born populations, and native-born population growth. For other groups, the number of significant covariates for other groups varied as well as the type of pioneer places they preferred.

In addition to underscoring the importance of origin heterogeneity in pioneer migration, our findings for pioneer places underscore the importance of social networks in pioneer settlement and are consistent with Brown and colleagues' (2007) argument that social networks are an important factor in foreign-born resettlement within the USA. They also highlight the importance of national origin and geographic selectivity in the pioneer settlement and dispersion process. Recognizing that national origin groups were settled in very different parts of the country in 1990 and that pioneers from most origins tended to select pioneer places located at relatively short distances from

one of their traditional gateways, a dispersion process emerges that is more regionalized than commonly depicted in national-level studies of the total foreign-born population. That finding is consistent with the pattern observed by Lieberman (1987; 1988) for European immigrant groups in the past century, namely that regions where groups settled initially still had large shares of descendants from the same origins decades later.

A similar pattern of some homogenous but mainly differing associations emerged from the analysis of the individual characteristics of immigrants who settled pioneer places in the 1990s. The most consistent association was for migration status. For all ten groups, internal migration was more important than recent immigration. The analysis showed clearly that the dominant pattern was for immigrants to move to pioneer places from elsewhere in the USA rather than from abroad. If immigrants already lived in a dispersed place in 1995, they were more likely to be pioneers by 2000. For all ten groups, residing in a dispersed place in 1995 was strongly associated with pioneer settlement. This finding (with only one insignificant coefficient) held when we re-estimated a model that dropped those living in gateways in 1995 and limited the reference category to “moderately dispersed places”. Consistent with this pattern of multi-stage migration to pioneer places was the finding that for most groups the association between strong English fluency and pioneer settlement is positive.

Despite the high level of similarity across the origin groups in the migration dynamics of pioneer settlement, strong evidence of heterogeneous group processes also emerged from the individual analysis, particularly for educational attainment. For two Hispanic groups (Dominicans and Colombians) we found a significant relationship between higher educational attainment and pioneer settlement, but the opposite was true for four Asian groups (all but Filipinos): higher educational attainment for them was associated with the avoidance of pioneer settlement. The Dominican and Colombian pattern suggests that for the highly educated (a small share of their groups) educational attainment opens up opportunities that are mostly available in dispersed places, including pioneer places. The Asian pattern may occur because metropolitan areas have more opportunities for immigrants and others who have higher educational levels. The underlying dynamics require a more thorough examination, but it is clear that educational attainment had markedly different outcomes for Hispanic and Asian pioneers. A less dramatic example of heterogeneity occurred for gender. Half of the coefficients were significant but in different directions. While Mexican, Cuban, and Salvadoran pioneers were more likely to be men, Filipino and Korean pioneers were more likely to be women. Those patterns likely occur because of the factors underlying pioneer settlement. In the case of Filipinos those may be rooted in two different sources: the presence of large numbers of nurses and medical technicians and the increasing numbers of mail-order brides.

Our findings underscore the need to be sensitive to national origin heterogeneity when examining settlement and dispersion patterns. In contrast to studies based on the total foreign-born or pan-ethnic groupings of Asians and Hispanics, a more nuanced picture of immigrant heterogeneity emerges by drawing on CUMS data that have large sample sizes and detailed settlement data for national-origin groups. Not only does CUMS data make it clear that there are sharp differences between Mexicans and Caribbean Hispanic groups (Cubans, Dominicans, and Colombians) but sharp differences also emerge among Asian groups in their settlement and dispersion trends. Our findings provide strong support for the idea that immigrants decide where to live based on their social ties to friends and relatives. At the same time, the analysis showed that there is a great deal of churning in pioneer places and that many immigrants move on over the course of a decade.

Further study is needed on a host of issues, but an important issue that needs continued monitoring is whether immigrants will stay in the dispersed communities that they are now settling and how their presence in places that have had few immigrants until recent decades will change those places. It is clear that the national population is already changing, as immigrants bring diverse cultures and ethno-racial backgrounds to the USA. While we did not focus on assimilation we did look at indicators commonly used in assimilation studies and found that English language fluency was positively associated with pioneer settlement. That finding suggests that immigrants from most origins who venture out to places where they have no compatriots have communication skills that allow them to interact with natives in those places. Another finding, namely that the immigrants from most origins who move to pioneer places tend to be internal migrants and to have resided in the country longer, is consistent with the idea that the knowledge that immigrants acquire about economic and other opportunities in potential pioneer places gives them the opportunity to explore places beyond the gateways.

It would be informative to extend this analysis beyond 2000 by drawing on American Community Survey (ACS) data, but that extension would not be straightforward due to sample design and measurement differences between the decennial census and the ACS (Grieco and Rytina 2011). Data reliability becomes more of an issue in the ACS because the five-year samples, which are the largest available, have less than half the number of foreign-born cases as the 2000 decennial census does. That case loss would complicate the study of pioneer settlement. Although some research suggests that internal migration may have declined since 2000 (Molloy, Smith, and Wozniak 2011) and that foreign- and native-born migration flows may now be diverging (Ellis, Wright, and Townley 2014), we think our findings for pioneer places and migrants would be similar in a study focused on patterns since 2000 because immigrant dispersion is continuing (Kritz and Gurak 2015).

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Appendix A: Logistic regressions of residence in a pioneer Labor Market (LM) in 2000 on migration, demographic, education, and acculturation status for ten national origin groups, immigrants 19 and older who resided beyond the Top 5 Gateways in 2000 (based on probability weights; odds ratios)

	Mexico	Cuba	El Salvador	Dominican Republic	Colombia	Philippines	China	India	Vietnam	Korea
Recent Immigrant (RI) ^a	3.204***	1.534	1.787***	2.922***	2.463***	1.427	1.513*	1.193	1.958**	1.120
Internal Migrant (IM) ^b	6.757***	2.372***	4.025***	2.743***	2.660***	4.065***	3.545***	2.449***	3.865***	1.328
Male (=1)	1.355**	1.324	1.156	0.866	0.873	0.684*	1.117	0.956	1.191	0.758
Never Married (=1)	0.884	1.163	0.828*	0.784	1.341	0.922	0.733	1.362*	0.998	0.719
No High School degree	---	---	---	---	---	---	---	---	---	---
High School degree/some college	0.877	0.846	0.993	1.233	1.421	1.040	0.947	0.812	1.045	0.772
College Degree (4 year)	0.948	0.778	0.942	1.881*	1.338	0.745	0.554**	0.465***	0.684	0.516*
Advanced Degree	0.966	0.682	1.227	2.518***	1.871*	1.490	0.525***	0.597**	0.494*	0.695
Attending School Currently	0.836	0.744	0.736*	0.639	1.128	1.015	1.011	0.788	0.698*	1.277
Employed	1.250*	1.447*	1.063	1.070	0.720*	1.093	1.261	1.040	1.071	1.177
English Only, Very Well or Well	1.056	1.194	0.834*	1.455*	2.026***	4.808**	0.798	1.481	0.992	1.804
Citizen (=1)	1.306	0.865	1.043	1.021	1.502*	0.913*	0.945	1.205	0.831	0.778
Age Arrived in USA	1.011**	0.997	0.993	0.992	1.009	0.998	0.989*	1.019***	1.004	1.007
Years in USA	.979**	1.027**	0.970**	1.008	1.013	0.978	1.013*	1.021**	1.005	1.017
Model Significance	***	***	***	***	***	***	***	***	***	***
R-LIM	***	ns	***	ns	ns	***	***	***	**	ns
Sample N (rounded, unweighted Ns)	602,600	19,400	27,400	9,700	19,400	84,600	58,800	74,200	62,800	47,700

Levels of statistical significance: *** .001, ** .01, * .05.

Appendix B: Summary statistics for pioneer places in the 1990s by national origin

	% of Pioneer migrants who settled non-metropolitan areas	1990 Average size of non-metro places settled	1990 Average size of metro places settled	% of pioneers who settled places that NO other groups settled	1990 Average size of FB populations in ZCs that pioneers settled	2000 top two pioneer settlement states
	col A	col B	col C	col D	col E	col F
Mexico	100	50,000	na	4.0	200	Georgia, Kentucky
Cuba	80	82,000	195,000	7.0	2000	Texas, Georgia
Salvador	75	124,000	397,000	30.0	2500	Virginia, Georgia
Dominican Republic	55	176,000	358,000	44.0	5000	Georgia, Virginia
Colombia	80	94,000	293,000	10.0	2000	Georgia, South Carolina
Philippines	100	47,000	na	9.0	900	Texas, Mississippi
China	89	80,000	176,000	5.0	900	Kentucky, Georgia
India	99	72,000	113,000	5.0	1100	Kentucky, Texas
Vietnam	90	70,000	142,000	15.0	900	Kentucky, Nebraska
Korea	94	51,000	145,000	2.0	500	Kentucky, Tennessee

Note: The table shows rounded weighted statistics, which the Census Bureau Disclosure Review Board requires to protect individual privacy. The "na" in column C means not applicable because all pioneers in the two groups settled in nonmetropolitan places.