Residential Integration in the New Frontier:
Immigrant Segregation in Established, New, and Nongateway Destinations

Matthew Hall
Institute of Government and Public Affairs and Department of Sociology
University of Illinois, Chicago

Background: The dispersion of immigrant groups out of traditional destinations and into smaller communities with little to no prior history of immigrant reception has been the source of great attention (McConnell 2008; Massey 2008a; Singer 2005, 2009; Zuñiga and Hernández-León 2005), prompting some to claim that a "contemporary diaspora" is underway (Reis 2004). Despite the volume and scope of previous research, relatively little is known about residential life for immigrants in these new destinations. A common refrain in this literature is that the geographic diffusion of the foreign born is symbolic of the successful spatial incorporation of immigrants (Frey and Liaw 2005; Hall 2009; but see Wright and Ellis 2000). Frey and Liaw (2005: 212), for example, argue that "minorities undergoing spatially-assimilating long-distance migration will be residing in more integrated neighborhoods locally." However, research testing this supposition has come to mixed conclusions. Park and Iceland (2009) find supportive evidence that immigrants in newer destinations are more residentially integrated with natives than their counterparts in established gateways. They find that for Hispanic and non-Hispanic white, black, and Asian immigrants, dissimilarity and isolation are lower (significantly so for all but Hispanics) in new than traditional immigrant destinations. Similarly, Alba and colleagues (2010) find that exposure of Hispanic children to non-Hispanic whites is considerably higher in new destinations than in established gateways, concluding that "neighborhood conditions in the new destination areas are considerably more favorable than are those in regions with a long-standing Hispanic presence" (p. 42). By contrast, Lichter et al. (2010) find that dissimilarity of Hispanics from native whites is significantly higher in new destinations than in established gateways, and that the difference cannot be explained by structural characteristics of metropolitan areas or by income inequality between whites and Hispanics living in these areas. Lichter and colleagues ultimately conclude that "the new spatial diffusion of Hispanics into emerging destinations has been accompanied by increasing spatial balkanization" (p. 226). Likewise, Fischer and Tienda (2006) find that Hispanic immigrants are more segregated from other groups in emerging Hispanic destinations than in traditional ones. Fischer and Tienda (2006) also find that Hispanic immigrant segregation is highest in "Other" metropolitan destinations, which the authors describe simply as areas with "relatively small Hispanic populations" (p. 103). These suggestions of higher segregation in new than traditional destinations by Lichter et al. (2010) and Fischer and Tienda (2006) are buttressed by ongoing mobility research showing that recent changes in local immigrant concentration positively affect natives' chances of out-migrating (Crowder, Hall, and Tolnay 2009; Hall, Crowder, and Tolnay 2010).

The purpose of this paper is to provide new evidence on the patterns and antecedents of immigrant segregation in traditional, new, and nongateway metro destinations. This work is guided by three main questions: (1) Are there differences in the levels of and changes in immigrant-group segregation between the three types of metropolitan destinations? (2) Can differences in segregation between destinations be explained by characteristics of immigrant groups and/or structural features of the metropolitan areas? And (3) Do the predictors of segregation vary by destination type? Moving the focus on broad, panethnic groups (e.g., Latino and Asian), I use data from Census 2000 and (soon to be released data) from the 2005-2009 American Community Survey to explore these questions for ten of the largest "new" immigrant groups - Chinese, Dominicans, Filipinos, Haitians, Indians, Jamaicans, Koreans, Mexicans, Salvadorans, and the Vietnamese – in the 100 largest MSAs.

A New Typology of Immigrant Destinations: Part of the reason for the unevenness of previous work stems from the way destination types have been defined. Most large scale, national studies of immigrant residential attainment in new destinations classify metropolitan areas as "new" or "traditional" based on the typology developed by Singer (2005) that considers destination type a function of the historical settlement of all immigrants in a city (e.g., Painter and Yu 2008, 2010; Park and Iceland 2009). The problem with this operationalization of destination type is that it ignores the fact that immigrant groups are attracted to different

metro areas. Even among the major destinations of immigrant groups, substantial heterogeneity exists. The differential magnetism of metropolitan areas for immigrant groups is due to a variety of factors, including differences in socioeconomic and linguistic resources (Gurak and Kritz 2000; McConnell 2008; Newbold 1999b; Nogle 1997), the strength of co-ethnic social networks (Bartel 1989; Ellis and Goodwin-White 2006; Kritz and Nogle 1994; McConnell 2008; Zavodny 1999), governmental and institutional generosity toward immigrants (Borjas 1999b; De Jong, Graefe, and Hall 2006), admission and legal status (Jaeger 2007; McConnell 2008), housing costs (Ley 2007; Saiz 2007), and characteristics of local labor markets (Fang and Brown 1999; Foulkes and Newbold 2000; Kritz and Gurak 2006; Kritz and Nogle 1994; Leach and Bean 2008).

Given the diversity in the sociodemographic profiles of new immigrant groups, not to mention historical and geographic conditions that attract immigrants to different regions of the U.S. (e.g., Mexicans to areas along the Southern border and Filipino immigrants to those in the Pacific Rim), it follows that what is a "traditional" destination for one immigrant group may well be a "new" destination for another. The point here is that in classifying metro areas by destination type, it is crucial to distinguish them based on the settlement history of individual immigrant groups rather than on that of total or panethnic immigrant populations. Toward this end, in this paper I use Census data from 1970 to 2000 to examine each immigrant group's history of reception in each of the top-100 metro areas and develop a group-specific destination typology that assigns groups in metro areas to one of three types: Established, New, or Nongateway.[1] Generally speaking, established destinations are areas where a group was heavily represented, in terms of both size and population share, by 1980; new destinations are those that experienced very rapid group population growth during the 1980s or 1990s; and nongateway destinations do not meet either condition, corresponding to "old" destinations with modestly sized group populations but little recent growth or to "developing" destinations with small group populations but signs of growth. As an example, New York is an established destination for Chinese, Dominican, Haitian, Indian, Jamaican, and Korean immigrants, but a new destination for Filipinos, Mexicans, and Salvadorans, and a nongateway for the Vietnamese. Likewise, Portland, often regarded as a major "emerging" immigrant gateway (Hartwick and Meacham 2008; Singer 2005;), is a new destination for Mexicans and Indians, but for Chinese, Korean, Salvadoran, and Vietnamese immigrants, it represents an established destination.

Data and Methods: This research draws on data from Summary Files 3 (SF3) and 4 (SF4) of the 2000 decennial census and the summary tables of the 5-year 2005-2009 American Community Survey. Using these files, I extract data for all 39,525 census tracts in the top-100 MSAs (as of 2000). To prevent small-population bias, I exclude 459 tracts with less than 250 residents. Also, to avoid the inclusion of institutional settings, 368 tracts with group-quarters populations that exceed 25% of the total tract population have been deleted. In total, my database comprises 38,719 census tracts.

I use the mainstay of segregation analysis – the Index of Dissimilarity (D) – to explore both the patterns of determinants of immigrant segregation, expressed as: [2]

$$D = \frac{1}{2}\sum_{t=1}^{T}\left|\frac{p_{tj}}{P_j} - \frac{p_{tk}}{P_k}\right|$$

where t refers to tracts within an MSA, j and k to population groups, p_{tj} to the population of group j in tract t, and P_j to the total population of group j in metropolitan area m. The index ranges from 0 (no segregation) to 1 (total segregation), and can be interpreted as the proportion of one group that would have to relocate in order to achieve an identical neighborhood distribution to that of the other group (e.g., total integration). In this analysis, and consistent with previous segregation research, the reference group is native-born non-Hispanic whites (i.e., white natives).

In order to alleviate bias due to geocoding and random error (which will influence small populations more than large ones), I limit the calculation of D scores to metropolitan areas containing an immigrant group population of 1,000 or more. Fortunately, my results are not especially sensitive to this size threshold, although increasing the threshold reduces the number of metropolitan areas included in the sample. The 1,000 size limit also has the virtue of precedent: it is commonly used in similar studies (e.g., Cutler et al. 2008a; Iceland and Scopilliti 2008; Park and Iceland 2009).

In the multivariate portion of this project, I following the framework outlined by Iceland and Scopilliti (2008) and Massey and Denton (1989), to devise an analytic model that combines segregation scores for all groups in a metropolitan area in which the 1,000 group member size threshold is met. To adjust for the non-independence of observations within metropolitan areas, I analyze these data using generalized linear models that follow the general form:[3]

$$Y_{jm} = \beta_0 + \beta_1 \mathbf{W}_{jm} + \beta_1 \mathbf{X}_{jm} + \beta_1 \mathbf{Z}_m + e_{jm}$$

where Y_{jm} is the dissimilarity score for immigrant group j in metropolitan area m; $\mathbf{W}_{jm}$ is a vector of group-specific characteristics (e.g., group size, percent of group that arrived in last five years, ratio of group income to native white income) of group j in metro m; $\mathbf{X}_{jm}$ is a set of group-specific destination types (with established areas serving as the referent) for group j in metro m; $\mathbf{Z}_m$ is a vector of structural characteristics (e.g., population size, vacancy rates, industrial mix) of metropolitan area m; β_0, β_1, β_2, and β_3 are coefficients; and e_{jm} is a random error term. All regression models are weighted by group population size. Supplemental unweighted models, available on request, are substantively similar. Dissimilarity scores in the multivariate portion of this analysis are multiplied by 100 to facilitate interpretation. Although these measures can take values anywhere between 0 and 100, their truncated range makes a linear model an inappropriate estimation procedure, technically speaking. However, an inspection of residual plots reveals no major violations of regression assumptions due to truncation. Also, both histograms and skewness/kurtosis statistics suggest that the *D* values approximate a normal distribution (s = .307, k = 2.776).

Descriptive Results from Census 2000: Immigrant dissimilarity from native whites is shown separately for established (left panel), new (middle panel), and nongateway (right panel) metropolitan destinations in Table 1 (also see Figure 1). The results indicate that for eight of the ten immigrant groups, segregation from native whites in new destinations is lower than in established ones. However, the difference between established and new destinations in the segregation of these groups from native whites is only significant (as indicated by the asterisks) for Chinese and Filipino immigrants, and even for these groups, the magnitude of the difference is modest. For example, Chinese dissimilarity from native whites in new destinations is 8 points lower than in established gateways, and for Filipino immigrants, the difference between the two destination types is only 7 points. It would be a mistake to ignore the lower segregation that members of these groups experience in new destinations, but it would be even more misleading to claim that the differences represent a major shift in these groups' residential circumstances as a result of their dispersal from traditional to new destinations.

The results also indicate that dissimilarity in nongateways areas is almost universally, and in four of the ten cases significantly, higher than in established destinations. Part of the explanation for heightened segregation in nongateway destinations may stem from the relatively small group populations that reside there. But even when places with less than 5,000 group members are excluded, segregation in nongateway destinations remains consistently higher than in established or new immigrant gateways.

Multivariate Results from Census 2000: Initial multivariate results, based on data from Census 2000, are shown in Tables 2 and 3 (see note 3). The first model in Table 2 shows unadjusted group differences in dissimilarity from white natives (with Chinese immigrant segregation serving as the referent) and the base effects of destination type. The results show a clear racial/ethnic hierarchy to segregation with the five Asian immigrant groups being less segregated from native whites than the five Latin American and Caribbean (LAC) groups. Perhaps surprisingly, Mexicans represent the exception to this pattern, being much less segregated than any of the other LAC groups. Most important for the purposes of this paper, the coefficients on destination type indicate that without controls for group or metropolitan characteristics, immigrants in new destination metros are slightly less (but not significantly so) segregated and immigrants in nongateways significantly more segregated from native whites than immigrants in established metro areas.

When characteristics of the groups living in these different destinations and structural features of the metropolitan areas are held constant (Models 2 and 3 of Table 2), immigrant segregation in new and nongateway destinations is significantly higher than in established metros. The differences are, in all fairness, relatively modest (2.4 and 5.3 points greater for new and nongateway destinations, respectively), but they are significant and stand in stark contrast to arguments that the spatial diffusion of immigrants outward from traditional ports of entry promotes residential integration at the local level. At a minimum, a conservative

interpretation of the destination type effects would maintain that segregation is being *reproduced* in new and nongateway destinations; and there are initial signs, certainly in the case of nongateways, of underlying processes that actually *amplify* immigrant segregation in these areas.

The preliminary results in Table 3 allow the effects of group and metropolitan characteristics to vary by destination type. Looking first at the net group differences, the same general patterns observed earlier hold, with segregation being highest for Jamaican and Haitian immigrants, regardless of destination type. Salvadoran, Dominican, Indian and Vietnamese immigrants form, in all three destination types, the next most segregated group, while Mexicans, Chinese and Koreans are the least segregated group (and generally indistinguishable from one another), after group and metro factors are held constant.

Differences in the impacts of group characteristics are evident. Group size has a small but positive effect on dissimilarity in established destinations, a larger positive effect in new destinations, and a very large negative effect in nongateway destinations. Income inequality also works differently across destinations. While group income (relative to native whites) carries a significant and negative sign in established destinations, it takes a positive sign in both new and nongateway areas. The positive effect is only significant in nongateway areas, but the null effect in new destinations may suggest difficulty among new immigrants in converting economic resources into residential proximity with native whites. English ability, by contrast, has the most consistent effect, significantly reducing dissimilarity in all three destination types.

Metropolitan percent black affects immigrant segregation in new destinations only – increasing dissimilarity by a quarter of a point for each 1 percentage point increase in the black population share. This supports the argument made by Lichter et al. (2010) that new immigrants "threaten" existing racial structures in emerging gateway destinations. In addition, differences across destinations in the influence of suburbanization are found. In particular, the percent of the metro population living in the suburbs has no effect on immigrant segregation in new destinations, but significantly reduces dissimilarity in established and nongateway areas.

Ongoing Research: Both the descriptive and multivariate sections of this analysis will be updated with the release of the tract-level 2005-2009 American Community Survey (which, according to officials at the Census Bureau, will be made available in mid-December). This new data will allow me to explore changes in these patterns of segregation having occurred during the 2000s, a period not only of great immigration but of considerable geographic dispersion of foreign-born persons. The additional time point will also strengthen the multivariate analysis through the incorporation of econometric techniques that can account for unmeasured stable characteristics of metropolitan areas (e.g., long history of racial exclusion, historical development patterns, topographical features) and better isolate the differences in segregation between destination types and differences in predictor variables. Exploring net destination-type differences in segregation (and changes during the 200s) between the ten immigrant groups will additionally be addressed with the new data.

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[1] In order to maintain geographic consistency in these units over time, GIS tools were used to overlay the 1999 metropolitan definitions on historical county-level census data between 1980 and 2000, provided by the Minnesota Population Center (2004). Counties falling within the boundaries of a metro are assigned to that area. Counties that cross metropolitan boundaries (i.e., have metro and nonmetro components or cross more than one metro areas) are assigned the metropolitan area for which their population centroid lies, which is based on a spatial analysis of block-level total population data. Fortunately, there were very few county changes between 1980 and 2000 that are affected by this allocation strategy (see U.S. Census Bureau 2002b). Since the 1970 summary tables do not include information on 8 of the 10 immigrants groups (all those but Chinese and Mexican immigrants), an alternative strategy, using the 1970 public-use microdata sample weighted (by persons) to the metropolitan level to generate counts of immigrant groups in each of the top-100 metro areas. This procedure presumably produces estimates more prone to sampling error; but for Chinese and Mexican immigrants, the correlation between this PUMS-based approach and the summary-table approach is very high (r = .98), and both methods produce the same set of destination types.

[2] Corresponding results based on residential isolation (${}_xP^*_x$) are available upon request.

[3] With the release of the 2005/2009, the main multivariate models will explore 2000 to 2005/2009 *changes* in segregation between destination types. My plan is to use hybrid random effects and fixed effects models that absorb stable, unmeasured characteristics of groups and metropolitan areas in this portion of the analysis. Results from an analysis of 2000 data with metropolitan fixed effects provides results strikingly similar to the GLM models shown here (e.g., *New destination*, b = 2.44, se = .93; *Nongateway*, b = 4.77, se = .95).

Table 1: Dissimilarity of New Immigrant Groups from White Natives, by Destination Type, 2000

	Established	New	Nongateway
Chinese	.63	.55 *	.60
Filipinos	.59	.52 *	.57
Indians	.58	.57	.65 *
Vietnamese	.66	.67	.74 *
Koreans	.59	.56	.62
Mexicans	.65	.66	.71 *
Salvadorans	.71	.72	.79 *
Dominicans	.82	.71	.83
Jamaicans	.78	.68	.81
Haitians	.82	.72	.86

Notes: * significantly (at $p < .05$) different from Established areas (based on two-tailed t-test)

Figure 1: Dissimilarity of new immigrant groups from white natives, by destination type

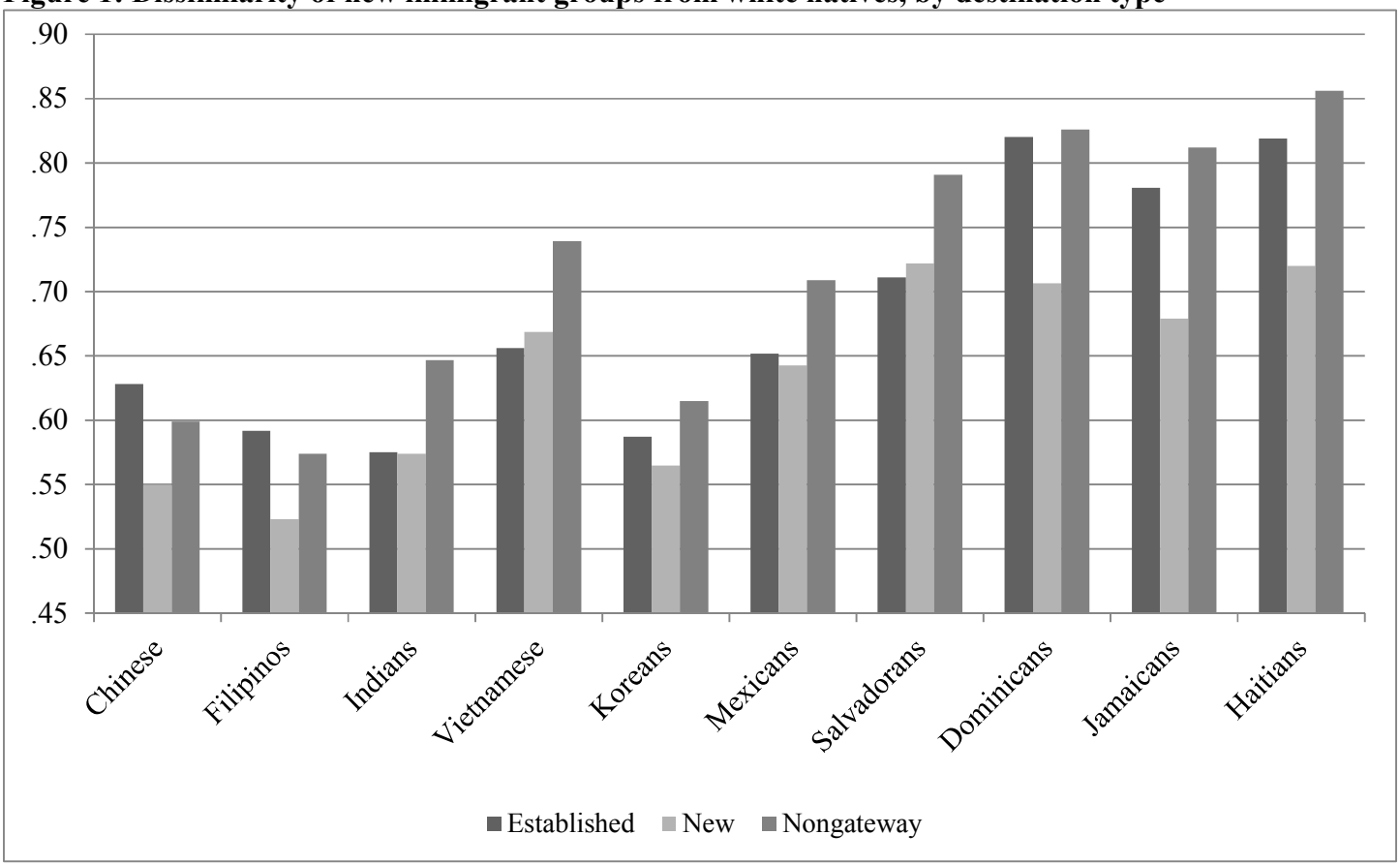

Table 2: Group and Metropolitan Predictors of Dissimilarity of Immigrant Groups from Native Whites

Variable	(1)		(2)		(3)	
Immigrant Groups						
Chinese (omitted)	--	--	--	--	--	--
Filipino	-3.36	(2.41)	3.69	(2.67)	5.97	(2.50) *
Indian	-2.05	(1.90)	.89	(2.40)	5.07	(2.05) *
Vietnamese	7.00	(1.77) ***	5.69	(1.66) ***	7.59	(1.44) ***
Korean	-1.89	(1.11)	-5.49	(1.73) ***	-1.76	(1.25)
Mexican	5.08	(1.94) **	-7.71	(4.55)	-1.80	(2.54)
Salvadoran	12.05	(2.11) ***	2.27	(2.70)	7.46	(2.26) ***
Dominican	18.71	(2.77) ***	4.39	(3.62)	10.50	(2.65) ***
Jamaican	16.17	(3.89) ***	23.50	(3.46) ***	27.00	(2.73) ***
Haitian	18.93	(2.44) ***	17.58	(3.47) ***	23.83	(2.11) ***
Group Characteristics						
Group size (in 10,000s)			.06	(.01) ***	.04	(.01) ***
Recent arrivals			.15	(.06) ***	.05	(.07)
English ability			-.27	(.06) ***	-.30	(.06) ***
White income parity[a]			.04	(.05)	.00	(.04)
Homeowners[a]			-.31	(.08) ***	-.08	(.05)
Destination Type						
Established (omitted)	--	--	--	--	--	--
New	-2.67	(1.47)	-1.00	(1.03)	2.40	(.74) ***
Nongateway	3.15	(1.51) *	5.74	(1.11) ***	5.32	(.95) ***
Region						
Northeast (omitted)					--	--
Midwest					-.18	(1.82)
West					-3.52	(1.53) *
South					-3.88	(1.70) *
Demographics						
Total population (ln)					2.00	(.63) ***
Percent immigrant (ln)					-5.53	(.85) ***
Percent black					.10	(.07)
Percent elderly					.00	(.23)
Housing Supply						
Suburbanization					-.07	(.02) ***
Vacancy rate					-.01	(.21)
New construction					-.46	(.10) ***
Economic Structure						
Science and technology					-.40	(.29)
Health					-2.42	(.75) ***
Low-skill service					.45	(.26)
Sales					-.19	(.59)
Construction					.20	(.42)
Manufacturing					-.70	(.23) **
Government					-.21	(.26)
Military					-.06	(.19)
Intercept	60.69	(2.54) ***	98.12	(11.10) ***	107.56	(17.90) ***
R-squared	.41		.48		.56	
AIC	6.74		6.22		5.84	
Deviance	48.67		28.99		19.97	

Notes: N=622 (N of metros=98); unstandardized coefficients; robust standard errors in parentheses; sample includes metropolitan areas with at least 1,000 group members; [a] refers to characteristics of foreign- and native-born members of ethnic origin group; models include control for proportion of ethnic group in MSA that is immigrant (not shown, see note 11); * $p < .05$; ** $p < .01$; *** $p < .001$

Table 3: Group and Metropolitan Predictors of Dissimilarity from Native Whites, by Destination Type

Variable	Established		New		Nongateway	
Immigrant Groups						
Chinese (omitted)	--	--	--	--	--	--
Filipino	11.98	(5.94) *	2.65	(2.02)	.74	(1.84)
Indian	9.74	(6.16)	5.71	(2.49) *	4.57	(1.99) *
Vietnamese	9.03	(2.29) ***	9.54	(2.68) ***	9.05	(2.60) ***
Korean	.70	(2.29)	1.09	(2.04)	-.77	(1.72)
Mexican	-2.17	(3.88)	-5.64	(5.03)	2.18	(4.67)
Salvadoran	9.31	(3.13) **	9.94	(4.01) *	14.13	(2.80) ***
Dominican	16.25	(4.83) ***	9.66	(4.43) *	16.61	(3.11) ***
Jamaican	36.00	(5.71) ***	17.66	(3.67) ***	20.42	(2.52) ***
Haitian	31.69	(3.64) ***	17.74	(3.94) ***	25.75	(2.78) ***
Group Characteristics						
Group size (in 10,000s)	.04	(.01) **	.29	(.08) ***	-2.85	(1.29) *
Recent arrivals	.24	(.19)	.02	(.12)	.08	(.07)
English ability	-.39	(.14) **	-.30	(.11) **	-.22	(.08) **
White income parity[a]	-.16	(.08) *	.05	(.05)	.07	(.03) *
Homeowners[a]	.13	(.13)	-.17	(.08) *	-.10	(.05)
Region						
Northeast (omitted)						
Midwest	2.32	(3.32)	-3.47	(2.78)	2.94	(1.82)
West	-1.48	(4.69)	-6.83	(1.53) ***	-2.08	(2.97)
South	-6.87	(4.13)	-6.67	(2.17) **	-1.29	(2.42)
Demographics						
Total population (ln)	1.14	(1.02)	2.25	(1.03) *	3.84	(.97) ***
Percent immigrant (ln)	-4.64	(1.77) **	-9.16	(1.02) ***	-.60	(.78)
Percent black	-.03	(.12)	.26	(.08) ***	.06	(.06)
Housing Supply						
Suburbanization	-.17	(.03) *	.03	(.03)	-.15	(.03) *
Vacancy rate	-.77	(.44)	.69	(.34) *	.12	(.37)
New construction	-.61	(.19) **	-.54	(.15) ***	-.18	(.09) *
Economic Structure						
Science and technology	-.11	(.66)	-.64	(.57)	.51	(.41)
Health	-.99	(1.78)	-3.70	(.98) ***	.13	(1.09)
Lowskill service	1.90	(1.44)	.24	(.43)	.10	(.62)
Sales	.68	(1.72)	-.89	(.85)	-.15	(1.09)
Construction	1.05	(.93)	-.11	(.69)	-.14	(.63)
Manufacturing	-.88	(.45) *	-1.03	(.40) **	.10	(.34)
Government	.26	(.60)	-.20	(.35)	-.38	(.41)
Military	-.67	(.51)	-.02	(.41)	-.29	(.19)
Retirement	-1.20	(.73) ^	.18	(.31)	.02	(.32)
Intercept	89.05	(35.68) *	112.68	(31.97) ***	30.63	(30.67)
N of observations (N of me	111 (48)		272 (87)		239 (86)	
R-squared	.72		.51		.76	
AIC	5.60		6.11		6.09	
Deviance	12.32		23.57		22.65	

Notes: [a] refers to characteristics of foreign- and native-born members of ethnic origin group; models include control for proportion of ethnic group in MSA that is immigrant (not shown); * p < .05; ** p < .01; *** p < .001.