RECENT MEXICAN MIGRATION TO U. S. LABOR MARKETS: CUMULATIVE CAUSATION DYNAMICS AT METROPOLITAN DESTINATIONS

James D. Bachmeier

and

Frank D. Bean

Department of Sociology
Center for Research on Immigration, Population and Public Policy
University of California, Irvine

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Abstract

This paper examines the size and nature of Mexican migration flows to U.S. labor markets from 1995 to 2000 and from 2000 to 2005-2006. We apply and extend the tenets of cumulative causation theory – which invokes network-based social capital factors to explain place-specific variation in the probability of Mexican out-migration to the United States – to the development of hypotheses about migration to destinations instead of from origins. Focusing on recent Mexican flows to metropolitan areas throughout the United States, and generally consistent with the hypotheses implied by destination-oriented theory, we find that the prevalence of recent origin-country migrants and the maturity of the co-ethnic settlement community – measured here by information on prior migration and on the resident Mexican-origin population respectively – independently accounts for a substantial portion of inter-metropolitan variation in the size and gender composition of migration flows compared to other labor market and industrial structural factors. Moreover, prior migration positively relates to the volume of such flows, meaning that greater migration induces additional exogenous numbers of labor migrants. The results also indicate that this in turn eventually generates Mexican out-migration from metropolitan destinations. The findings carry relevance for existing theory and public policy on Mexican migration to the United States.

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Research seeking to understand international migration increasingly relies on complex explanatory models (Massey et al. 1998). As outlined by Fussell and Massey (2004), these include several factors from numerous theoretical perspectives of multiple disciplines. Neo-classical economics (Todaro 1989), the new economics of migration (Stark and Bloom 1985), segmented labor-market theory (Piore 1979), world systems theory (Portes and Walton 1981; Sassen 1988), social capital theory (Coleman 1988; Taylor 1986, 1987) and cumulative causation theory (Massey 1990) each contributes to accounting for international migration, although none provides a comprehensive explanation. Cumulative causation theory, by emphasizing that new out-migration from origin is facilitated by the development and expansion of social networks connecting potential migrants at origin with family and friends with prior migration experience, underscores the sociological tendency for out-migration itself to set in motion and put in place forces and structures begetting further migration (Myrdal 1957; Massey et al. 1987; Massey 1990). It has thus proven especially useful in explaining why migration persists and grows after it starts. The present paper applies and extends the tenets of cumulative causation theory to migration at destination, arguing that social networks in the metropolitan contexts to which international migrants primarily move to find work and to reunite with or form families involve implications both similar to and different from those at origin.

We focus empirically on the particularly interesting case of recent Mexican migration to the United States. The past fifteen years have witnessed unprecedented geographic dispersion of the country’s Mexican-born population. Between 1900 and 1990, about 10 percent of all Mexican-born residents lived outside the five traditional receiving states of Arizona, California, Illinois, New Mexico and Texas (Durand, Massey and Capoferro 2005). By 2000, this figure more than doubled to 21 percent, and by 2006 it had reached 30 percent (Current Population Survey 2006), tripling in just fifteen years. Moreover, new migrants have rapidly spread, although to varying degrees, to almost all parts of the country, resulting in newcomers with limited English proficiency and Mexican cultural outlooks living in places with little or no prior experience with such immigration (Massey 2008). This has created opportunities for social scientists to conduct rich case studies of migration's impact on individual communities (Hernández-León 2008; Waters and Jimenez 2005). It has also produced for the first time a sufficiently large number of areas with substantial Mexican in-flows to allow analyses of the demographic, economic, political and social consequences of such migration across labor markets.

Because different kinds and degrees of flows often exert dissimilar social and economic effects (Bean, Gonzalez-Baker and Capps 2001), it is particularly important – for both sociological and public policy reasons – to gauge the degree to which cumulative causation factors independently affect migration. Sociologically, it is useful in part to examine cumulative causation factors at destination because such dynamics, which theoretically involve social networks operating independently to generate migration beyond the influence of other factors, have heretofore been assessed primarily in terms of out-migration dynamics at origin, at least in the Mexican case (Fussell and Massey 2004; Massey, Alarcon, Durand, and Gonzalez 1987). Beyond this, the possibility exists that cumulative causation processes at destination may entail the likelihood of more Mexican labor migrants going to local labor markets than are needed. Thus, studying cumulative causation at destination could facilitate understanding how and why both positive and negative labor market outcomes appear to occur at the same time as a result of such migration, thus helping to reconcile the seemingly contradictory findings. For example, the finding that Mexican workers perform jobs other workers are unwilling or unavailable to do does not square with the result that greater numbers of unskilled immigrants in local labor markets tend consistently to exert negative labor market effects mainly on other unskilled immigrants, not similar natives (Smith and Edmonston 1997; Bean and Stevens 2003). The latter is not the result one would expect if unskilled immigrant labor were either in short supply or exactly meeting labor demand. Thus, uncovering evidence of cumulative causation at destination would suggest that labor migrants are both needed and, perhaps in certain instances, also in excess supply.

From a public policy point of view, empirical confirmation of the operation of cumulative causation factors, together with evidence suggesting the need for unskilled immigrant workers, would strongly imply on a national level that neither laissez-faire nor highly restrictive policies for the admission of unauthorized workers are likely to be very successful in coping with labor force exigencies in post-industrial economies. The kinds of laissez-faire policies the United States has largely relied on over the past several decades, which for the most part involve making symbolic but not very effective shows of enforcement at the border while looking the other way as unskilled workers come and go (Bean and Lowell 2007; Massey, Durand and Malone 2002), provide for a constant and convenient source of inexpensive labor but encourage the entry of more workers than may be needed. Alternatively, more restrictive policies entail numerous risks – human rights violations (Ngai 2005), the relocation of border crossing patterns to more hazardous areas where death rates among crossers rise (Cornelius 2001; Eschbach et al. 1999), and the failure to provide for what increasingly appears to be a very real need for unskilled labor in the country (Meissner et al. 2006). Neither of the two most often currently proposed and debated policy options reflects the complex reality of migration, but rather the more simplistic assumptions embraced by advocates on either side about migration's determinants and consequences.

CUMULATIVE CAUSATION THEORY AND MIGRANT SOCIAL NETWORKS

The Case of Mexican Migration Dynamics at Origin

How does cumulative causation theory offer an explanation for how and why labor migration grows and changes its nature once it starts? For the most part, its logic has been developed with respect to the out-migration of Mexican migrants to the United States (Massey 1999). Consistent with the multiple complementary theoretical perspectives on international migration, cumulative causation ideas do not gainsay that labor migration flows initially may result from labor recruitment or be given impetus by historical factors, disequilibria in factors of labor supply and demand, or structural disparities in wages and standards of living between sending and receiving societies. However, the key insight of the theory is that as greater numbers of social network ties develop over time that connect potential migrants in the origin community with others with prior migration experience, new migration flows occur because such networks constitute social capital that reduces the risks associated with migration (Coleman 1988), thus perpetuating further migration largely independently of the conditions that initially triggered departures (Massey et al. 1987; Massey, Goldring and Durand 1994; Massey and Espinosa 1997). In other words, while specific circumstances may be required to initiate the early stages of a migration flow, once a certain stage of progression is reached, migration may beget more migration, independently of initial and ongoing other factors.

The forces highlighted in origin cumulative causation carry two key implications for migration flows that are of interest here, one for the volume of migration and one for its nature. First, the size of the migration flow out of a particular sending community can grow exponentially as a result of the process. As more people from a given locale participate in the migration stream, the likelihood that non-migrants in the sending area have family or social ties to persons with migration experience increases, as does the probability that such non-migrants eventually migrate as well. Second, as the prevalence of migration in a sending community rises, that is, as the proportion of persons with migration experience grows, different types of migrants may be induced to join the flow. In the early stages of migration, "pioneer" migrants tend to be single, sojourning males of working age (Reichert 1981). As the migration flow develops, and as information passed through migrant networks reduces the monetary, physical, and psychological costs associated with migration, such knowledge boosts the probability that women, children, and the elderly will also participate in the flows, either to work themselves or to be reunited with family members (Massey et al. 1987; Massey et al. 1994; Massey and Espinosa 1997).

The Case of Mexican Migration Dynamics at Destination

Cumulative causation ideas about origin dynamics have been applied in a limited way to migration dynamics at destination in the case of states (Leach and Bean 2008). Insofar as some states in the country are receiving, on average, relatively larger migration flows compared to others, then cumulative causation implies that the size of recent migrant flows will increase with the volume of previous flows. Just as rising migration prevalence in a source community increases the size of a migration flow, we would thus expect relatively larger current flows to destinations that have previously received more migrants compared with other labor markets. Because such migrations involve primarily labor migrants, especially in their early stages, such dynamics should more closely align with features of labor markets than states (Beggs and Villemez 2001). Here we approximate labor markets with metropolitan areas, which better fit the ideas in the theory than states. Thus, we would expect greater migration to metropolitan areas in proportion to their degrees of past migration. With respect to the nature of migrant flows, early-stage metro-area migration flows should be comprised of higher proportions of single, sojourning males compared with later flows, which we would expect in turn to consist of relatively more women and children who are more likely involved in permanent-settler migration.

Beyond this, we also extend cumulative causation theory to destination dynamics in three important ways. The first involves introducing a distinction between two complementary kinds of flows, each of which has implications for subsequent migration. One involves flows of low-skilled labor migrants (which are usually mostly male) and the other flows of other persons (which are usually mostly family members). The latter should be less influenced by the job-search social network dynamics driving labor migration (i.e., less affected by the prevalence of prior migration in the labor market) than by other factors. We thus hypothesize that the migration of women and children will not vary as strongly with the prevalence of such earlier flows as will the migration of labor migrants. However, the proportion of women and children should vary directly with the maturity of settlement areas receiving migration (i.e., with the extent to which an area consists of a settled co-ethnic population that includes women and children and provides the social support families as opposed to single male labor migrants need).

A second key difference between origin and destination dynamics is that, while origin forces may theoretically proceed indefinitely (even to the point of depleting a sending village's entire population), destination flows will start to taper off after an area's influx reaches the point that the need for unskilled workers becomes saturated. Such a situation appears to have characterized Los Angeles by the early 1990s (Heer 2002; Light 2006; Marcelli and Heer 1997).

Thus, we hypothesize the relationship between the degree of prior labor-based flows and current flows into destinations will not exhibit a convex upward quality as might be the case with migration from origin, but rather a concave downward quality as it tapers off in labor markets with higher rates of flow.

A third related prediction builds on the idea that Mexican migration at destination, to the degree that it is based on cumulative causation that operates independently of other factors, leads to excess exogenous flows and generates out-migration. Thus, because cumulative causation labor migration is likely to continue even after the need for unskilled Mexican workers in a given destination has been met, and because such build-ups may lead to stagnant earnings and higher rents (Light 2006), pressures for out-migration to other destinations in the United States will arise. This possibility is consistent with the labor market impact literature that unskilled migrants exert the greatest adverse impact on other unskilled immigrants, a result congruent with exogenous migration eventually fostering labor market saturation. Such results and considerations imply the hypothesis that as cumulatively caused migration continues and generates migration beyond a labor market's absorption point, it leads to Mexican out-migration from that market to other areas in the United States. This tendency will also contribute to the downward concave relationship between prior and current flows.

Factors Suggested By Other Theories

Additional theoretical perspectives predict that other forces will also affect flows. Here we do not concentrate on examining the nature of these effects per se, but rather on ascertaining the extent to which cumulative causation factors influence flows independently of these other factors. To assess their degree of overall quantitative if not directional influence, we include variables in our statistical analyses that are indicators of the kinds of forces other theories suggest will affect flows. Because of space constraints, we can only list the other types of variables we include in the models, not discuss the rationale for their inclusion. These variables, defined below, measure a number of characteristics of local metropolitan areas that are likely to influence the volume and nature of Mexican migration flows. These characteristics include size and demographic make-up, prevailing labor market and economic conditions, and industry mix.

DATA AND METHODS

Data

To assess the cumulative causation hypotheses, we utilize micro-data from the five percent samples of the 1990 and 2000 Census IPUMS (Ruggles et al. 2004) and the 2005 and 2006 American Community Surveys (ACS). The ACS is an annual representative survey sampling approximately one percent of households in the United States. Pooling the 2005 and 2006 samples yields a representative data set of two percent of American households.

We use micro-data to create aggregate data sets consisting of all metropolitan statistical areas (MSAs) as these are defined by the Census Bureau. Each contains estimates of the size and characteristics of recent international and internal Mexican migration flows and other metro-level characteristics. In 1990 and 2000, recent *international* Mexican migrants are Mexican-born persons of foreign-parentage who either first immigrated to the U.S. during the five years leading up to the Census, or who had first immigrated from Mexico six or more years prior to the Census but reported residing in Mexico five years before the survey. In 2005-2006, recent international migrants are those who either first immigrated *one* year prior to answering the ACS or who first immigrated more than one year prior to the survey, but were living in Mexico the year before the survey was taken.[1] Recent Mexican *internal* migrants are those persons who are not recent

[1] The variation in the definitions of recent international migrants from Mexico between 1990/2000 and 2005-2006 is necessitated by the designs of the respective surveys. The long-forms of the decennial census in 1990 and 2000

international migrants, and who migrated within the United States during the five year period leading up to the 1990 or 2000 Census, or the year prior to the 2005 or 2006 ACS. A recent internal move is any move into or out of a given MSA during a specified time period.

We limit the analyses to those U.S. metropolitan areas that were represented in all three survey periods – 1990, 2000, and 2005-2006. Because the analysis entails the examination of the gender and age structure of recent Mexican migration flows in 2000, we restrict the sample to only those MSAs receiving at least 1,500 migrants from Mexico between 1995 and 2000. Because the 2000 Census long-form survey sampled one in every 20 Americans, this means our estimates of the demographic nature of recent international flows are based, at minimum, on the MSA containing data on 75 individual recent migrants, therefore ensuring relatively reliable estimates. Placing these restrictions on the data yields a final aggregated data file of 115 MSAs containing information on the size and characteristics of Mexican international and internal migration flows, as well as a host of other local characteristics, measured in 1990, 2000, and 2005-2006. A list of the MSAs included in the analyses can be found in Appendix Table B.1.

Measures

Dependent Variables. We examine four destination-specific migration outcomes related to the flow of Mexican migrants to and within metro areas in the United States in 2000 and 2005-2006. In 2000 we model three outcomes (a) the rate of immigration from Mexico to U.S. metropolitan areas between 1995 and 2000; (b) the gender and age composition of recent international flows; and (c) the rate of Mexican internal migration into and out of MSAs between 1995 and 2000. In 2005-2006, we examine (d) the rate of in-flow from Mexico in the year prior to the 2005 or 2006 ACS.

asked respondents where they were living five years prior to the Census. The annual ACS migration question probes place of residence one year prior to the survey.

In 2000, the rate of migration from Mexico during the previous five years is measured as the number of migrants arriving during this period divided by the total MSA population in 2000. This quantity is then multiplied by 1,000, to yield the number of recent migrants from Mexico per 1,000 residents in the overall MSA population. In 2005-2006 the rate of migration from Mexico is measured as the number of migrants arriving from Mexico in 2004 and 2005 divided by the 2005 MSA population. This quantity is also multiplied by 1,000.

In 2000, the rate of internal migration in a given MSA is measured by the ratio of out-to-in migrants during the period 1995-2000, among Mexican-born individuals who were not recent international migrants. In 2005-2006, the rate of migration among non-recent Mexican immigrants is the ratio of out-to-in migrants during the year prior to the 2005 and 2006 ACS. As a ratio, a value of 1.0 for this measure indicates that a given MSA lost as many internal Mexican migrants as it received during the period specified in the data.[2]

Finally, we examine two aspects of the composition of in-flows from Mexico between 1995 and 2000. Gender composition is measured as the percentage of recent adult (ages 16 and above) in-flows consisting of women. And the age composition is represented by the percentage of recent Mexican migrants under the age of 16.[3]

Cumulative Causation Variables

We expect cumulative causation processes to play a significant role in shaping patterns of Mexican migration across metropolitan areas. We distinguish between two aspects of cumulative causation– the volume of prior Mexican labor migration flows and the maturity of the migration settlement resulting from these flows. In models of the size of the 2000 in-flow from

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[2] Naturally, we are unable to migrants who left the country entirely.

[3] Research suggests that Mexican migrants arriving in the U.S. between the ages of 16 and 18 are more likely to reside outside of their parental home and are substantially more likely to not enroll in school and to participate in the workforce compared to their younger migrant peers. Thus, we consider migrants over the age of 15 to be adult migrants.

Mexico across MSAs, we include the size of the migration flow arriving between 1985 and 1990, measured as the number migrants per 1,000 residents in the 1990 population. This variable was estimated using the 1990 5 percent IPUMS and determines the effect of the size dimension of cumulative causation on subsequent flows. We also include a squared term for this variable to allow for the possibility that any positive effect of the size of the 1985-1990 flow on the size of flows the subsequent decade may diminish at higher levels of prior flow. Subsequently, in models of the size of the 2005-2006 flow, we include the size of the 1995-2000 flow as a predictor, as well as its square.

In addition to this aspect of cumulative causation, we use four indicators of the Mexican-origin population to measure Mexican "migration settlement maturity" for MSAs. The assumption is that these indicators approximate not only the length of time that a particular MSA has been receiving flows of migrants from Mexico, but also, to some degree, the characteristics of the coethnic receiving society and the institutional arrangements therein that are likely to shape the size and characteristics of newly arriving flows from Mexico. The four indicators are (1) the percentage of the MSA consisting of persons of Mexican-origin (native- and foreign-born); (2) the percentage of the local Mexican-origin population born in Mexico; (3) the percentage of the Mexican-born population residing in the U.S. for 21 or more years; and (4) the percentage of the Mexican-born population in the U.S. five or fewer years. For reasons discussed below, Principal Components Analysis is applied these four items which reduces them to a single factor measure of Mexican migration maturity.

<u>MSA Demographic, Socioeconomic, and Industrial Structure Variables</u>

We control for a number of aspects of local metro areas that may be associated with Mexican migration patterns independently of cumulative causation. One is the overall size of the

MSA population. This variable is logged in our regression models. In models of 2000 Mexican migration outcomes we include the logged 1990 population, and in modeling the 2005-2006 outcomes, we include the total logged 2000 population as a control. We also adjust for the racial composition of the area by including the percentage of the local working-age population (25-64) that is U.S.-born African American. This variable is also lagged in regression models.

We include four variables that gauge prevailing economic and labor market conditions in the area. Cost of living is approximated by the median rent paid by all renting householders (i.e., non-homeowners). Native, low-skilled labor supply is proxied by the percentage of the working-age population (25-64) that is U.S.-born and has completed 12 or fewer years of schooling. We also account for the potential influence of labor unions on the local labor market by including state-level estimates of the percentage of all workers that are union members as estimated by the Bureau of Labor Statistics (Hirsch and Macpherson 2003). These three variables are lagged in regression models; for migration outcomes in 2000, the 1990 variables are used, and for the period 2005-2006, the 2000 figures are used. We approximate overall labor demand using the total working age internal migration ratio in a given MSA. This measure is simply the ratio of in-to-out migrants among *all* internal migrants of working age. In models of 2000 Mexican migration flows the ratio is of internal migrants between 1995 and 2000, estimated using the 2000 five percent IPUMS. In models for 2005-2006 the in-to-out ratio is for those migrating internally during 2004 and 2005.

[TABLE 1 ABOUT HERE]

Finally, we account for inter-metropolitan variation in local industrial structures by including variables for the relative size of four industrial sectors that tend to rely heavily on immigrant labor. We control for the percentage of the local area workforce employed in agriculture, construction, non-durable goods manufacturing, and services[4], respectively. These variables are also lagged in regression models. Descriptive statistics for all of the variables used in the analysis are reported in Table 1.

Measuring Mexican Migration Maturity in U.S. Destinations

The few large-scale quantitative studies of the recent dispersion of Mexican migration have typically distinguished between migrant receiving destinations as either "traditional" or "new," based on the state in which migrants reside (Durand et al. 2005; Leach and Bean 2008). Especially in a local labor market-level analysis such as the one undertaken here for metropolitan areas, such dichotomization does not fully capture all of the information about migration maturity that may affect flows. First, not all destination areas in the so-called non-traditional destination states are necessarily "new." In several of these states one can find examples of places that have been receiving Mexican migrants for decades, usually to supply labor for a specific industrial niche, such as agriculture in Yakima, Washington or manufacturing in post-WWII Detroit. Also, some new destination places (e.g., Raleigh-Durham, NC or Atlanta) are certainly "newer" than other places in non-traditional receiving states (e.g., Denver or Las Vegas). The new/traditional dichotomy, however, treats all places the same. Similarly, in the traditional receiving states, not all places have the same settlement history. San Antonio has been highly Mexican-American for well over a century, while substantial flows of Mexican migrants into other places in traditional states, such as Dallas, Phoenix, San Francisco, or even Los Angeles, are relatively recent phenomena by comparison. Insofar as co-ethnic receiving contexts change over time, there is the potential for variation in the institutional characteristics of

[4] The industrial categories included in the service sector variable are personal services, entertainment and recreation services, and retail services.

the settlement community that are associated with maturity, and thus the size and composition of migrant networks in those places, even across local areas in traditional receiving states.

Because a new destination dichotomy glosses over inter-metropolitan variation in the extent to which local areas have been receiving migrants over time, it does not serve as the best indicator of the "maturity" of the migration networks bringing new migrants into MSAs. Any one of the four maturity indicators listed in Table 1 would serve as a better approximation than a state-level dichotomy. For example, the percentage of the total population that is of Mexican-origin may approximate metropolitan settlement maturity more precisely than a dichotomy. However, single-indicator approximations do not carry as much information about the Mexican-origin population and thus may not provide as refined a proxy for settlement maturity as would a multi-indicator measure. In an effort to overcome these potential limitations, principal components analysis (PCA) is used to estimate a unitary but multi-indicator measure of Mexican migration maturity, and we use PCA factor scores as our measure. The development of the measure and its rationale is further described in Appendix A.

Model

Our general model for a given migration outcome in the i^{th} metropolitan area at time t is

$$MO_{it} = \alpha + \beta_1 FLOW_{it-1} + \beta_2 FLOW^2{}_{it-1} + \beta_3 MATURITY_{it} + \vec{\beta}_4 \vec{Z}_{it-1}$$

where MO_{it} denotes the migration outcome of the i^{th} metropolitan area at time t; $FLOW_{it-1}$ is the rate of in-flow from Mexico in the i^{th} MSA observed at the time prior to t and $FLOW^2{}_{it-1}$ is the prior flow, squared; $MATURITY_{it}$ is the maturity factor score of the i^{th} MSA at time t; and $\vec{Z}_{it-1}$ is a vector of the socioeconomic and industrial structure variables described earlier. When t represents the 1995-2000 period, t-1 refers to values reported in 1990; when t is referring to the

2005-2006 period, *t – 1* is 2000. β_1, β_2, β_3, and $\vec{\beta}_4$ are the regression coefficients estimated using Ordinary Least Squares representing the effect of the corresponding variables on a given migration outcome.

FINDINGS

Explaining Variation in the Rate of Mexican Migration Flows: 1995-2000 and 2005-2006

Before focusing on the nature of cumulative causation effects on the various migration outcomes in our regression models, we turn first to an analysis of the variance components from a series of nested models, reported in Table 2, designed to separate the unique and overlapping influence of cumulative causation and other variables. Each row of the table represents the particular dependent variable being modeled. The first column reports the percentage of the observed variance in a given dependent variable explained by the full model for that outcome. The second, third and fourth columns report the percentage of the total variance that is uniquely explained by the prior labor migration flow, migration maturity, and the set of other structural factors, respectively. The final four columns report the percentage of variance explained jointly by different combinations of sets of variables, with column eight presenting the percentage of variance explained by the combined influence of all three sets of variables.

Concentrating on the two dimensions of cumulative causation – (1) labor-related cumulative causation, approximated by the size of the previously arriving flow and (2) the maturity of migration flow, proxied by the maturity factor score – we observe three key results. First, in terms of the volume of Mexican migration between 1995 and 2000 and in 2005 - 2006, the size of the previous flow uniquely accounts for the greatest share of the overall variance explained. As hypothesized, the 25 percent of variance uniquely accounted for in 2000 by the prior decade’s flow is more sizeable than that uniquely explained by the set of other structural factors (more than three times as big). During the same period, the maturity factor score also uniquely explains, as hypothesized, only a small amount of the variance (about one percent). Considerable shares of variation are also explained by the joint influence of the prior flow and other structural variables (15.8 percent), and by the shared influence of prior flow, maturity, and the structural factors (29.8 percent, see column 8).

In the latter period, 2005-2006, the previous labor migration flow arriving between 1995 and 2000 plays an even greater role in accounting for the volume of migration flows across the 115 MSAs in our sample. The prior flow uniquely accounts for a full 30 percent of the variance explained by our model of the migration volume arriving during the middle of the decade. Both the maturity factor and the set of other structural variables essentially play no unique role in explaining variation in the size of the Mexican migration in-flow in the year prior to 2005 and 2006. The variation uniquely accounted for by the prior flow is even larger that the percentage of variation explained by the shared influence of all three sets of variables reported in column 8 (26.8 percent).

The second key finding from Table 2 is that, in terms of accounting for variation in the <u>percentage</u> of recent Mexican migration flows that are comprised of adult women and children, the maturity factor, as predicted, plays a greater role than the size of previous flow does, uniquely explaining nearly 13 percent of the total observed variation in the female-share outcome and six percent in the child-share dependent variable. By contrast, for both of these outcomes, prior flow does not uniquely account for any variance, and the other structural factors uniquely explain about 4 percent and 1 percent respectively. Most of the variance explained in these two outcomes is through the joint influence of flow, maturity and the other structural factors, 36 percent for the female-share and 25 percent for children.

Third, when it comes to explaining internal migration ratios (out-to-in) among previously arrived Mexican migrants between 1995 and 2000, prior migration flows arriving the previous decade play a more substantial independent role compared to the role of maturity in explaining out-flow, again as predicted. As reflected in the third row of Table 2, the previous flow uniquely accounts for 4 percent of the variation observed in the internal out-migration ratio across metro areas between 1995 and 2000, whereas maturity explains virtually no variation. Not surprisingly, internal migration is largely a function of other structural factors, which uniquely explain nearly 15 percent of the variation, and the greatest source of explained variance is that shared by all three sets of variables in tandem (21.8 percent). But consistent with the cumulative causation hypotheses for destinations, greater prior in-flows explain variation in out-migration.

<u>Cumulative Causation Effects on and the Rate of Mexican Migration: 1995-2000 and 2005-2006</u>

The theory of cumulative causation postulates that the size of labor migrant flows from Mexico are positively related to the size of migration networks. Furthermore, the theory as extended to destinations suggests that cumulative causation leads to the saturation of migrant labor markets receiving the largest and most mature migration flows, which, in turn, induces new Mexican in-flows to migrate away from traditional areas of settlement to newer destinations. However, existing research has not empirically examined across labor markets the extent to which such factors positively relate to secondary, internal migrations away from the traditional, and presumably relatively more saturated receiving areas. In this section we examine the coefficients of regression models for the 1995 to 2000 period and for 2005-2006.

[TABLE 3 ABOUT HERE]

Table 3 reports coefficients from OLS models of the rate of migration from Mexico to U.S. metropolitan areas between 1995 and 2000 (Model 1a through Model 3a) and 2005 - 2006

(Model 1b through Model 3b). Due to our emphasis on testing the tenets of cumulative causation theory, we focus primarily on the coefficients for the cumulative causation variables—prior flow and maturity. In regard to 1995-2000 in-flow, Model 1a includes only the cumulative causation variables. As expected, this model shows that the size of the migration flow arriving to a given MSA between 1995 and 2000 is positively and significantly related to the size of the flow arriving between 1985 and 1990. A one-migrant increase in the rate per 1,000 residents in 1990 is associated with an increase in a migration rate of about 1.4 recent migrants per 1,000 persons in 2000. The negative and statistically significant squared term for prior flow indicates that this positive effect diminishes with increases in the size of the previous flow, as hypothesized above. Also, net of the size of the previous decade's flow, Model 1a estimates that the volume of migration from Mexico decreases as the migration maturity of a given MSA increases. A one unit increase in the settlement maturity factor is associated with decrease in the migration rate of about 2.3 migrants per 1,000 persons.

Model 2a adds to the equation our set of socioeconomic and industrial structure variables in order to examine whether and how the effects observed in Model 1a change when inter-metropolitan variation in these variables is taken into account. Adjusting for these factors, the general pattern observed in Model 1a is strengthened, not weakened. The curvilinear relationship between prior flow and subsequent flow takes on a steeper convex shape and remains statistically significant. Moreover, the change in flow associated a unit-increase in maturity changes from -2.3 in Model 1a to -3.1 in Model 2a. Thus, adjusting for other relevant processes operating in metropolitan receiving areas magnifies the cumulative causation pattern observed in the first model.

Examinations of residual plots from Model 2a (not shown), revealed that four metropolitan receiving areas located along or near the Texas-Mexico border – El Paso, Brownsville, McAllen and San Antonio – received far more migrants between 1995 and 2000 than Model 2A predicts. This might suggests that given their long historical proximity to Mexico, migration flows into these places may be governed by unique dynamics beyond the cumulative causation processes guiding flows into other metropolitan areas (Spener and Bean 1996). Thus, in Model 3a, we include a dummy variable in which these four cities are coded '1', in order to partial this potentially unique process out of the cumulative causation effects reported in Model 2a. Doing so further amplifies the curvilinear shape of the prior flow variables, and increases the magnitude (and significance-level) of the maturity factor from -3.1 in Model 2a to -3.6 in Model 3a. The final three columns in Table 3 repeat the same set of models for the rate of in-flow during the 2005-2006 period. Model 1b indicates, once again, that prior flow is a significant determinant of subsequent flow, but unlike 1995-2000, the rate of increase in the 2005-2006 flow associated with the size of the prior in-flow increases at higher rates of flow, as suggested by the positive coefficient for the squared term.

In sum, the models of Mexican migration in-flow rates reported in Table 3 are generally supportive of the hypotheses regarding the nature of cumulative causation dynamics in destination MSAs. In 2000, all else equal, the volume of Mexican migration arriving in MSAs during the previous five years is significantly related to both cumulative causation aspects introduced here – positively to the size of the prior labor migration flow and negatively to the maturity of the migration settlement community. Also, the rate of increase in subsequent flow associated with the prior flow diminishes with higher previous volume. And, metropolitan areas that have been receiving Mexican migrants for a longer duration and that have more settled

Mexican-origin communities receive significantly *fewer* new arrivals from Mexico, net of other factors. These patterns changed somewhat, however, between 2000 and 2005-2006. While there is still a significant positive effect of prior flow on subsequent flow, we find no diminishing effect in the latter period. And, net of other factors, we do not find that the migration maturity of a given MSA is significantly associated with volume of new arrivals from Mexico.

<u>Cumulative Causation and Gender and Child: 1995-2000</u>

In Table 4, we turn to our models of the gender and child composition of flows of Mexican migrants arriving in metro areas between 1995 and 2000. The first set of models (Models 1a-3a) report the effects of the independent variables on the percentage of the adult in-flow during this period that is female. The second set of models (Models 1b-3b) reports the coefficients for these variables as they relate to the percentage of children under the age of 16.

[TABLE 4 ABOUT HERE]

Model 1a includes only the cumulative causation variables. As predicted, the share of women participating in recent migration flows does not vary as a function of the size of the prior flow, but rather is significantly positively related to the maturity of the migration flow into a given MSA. Net of prior flow size, a one unit increase in the maturity factor score is associated with a five percentage point increase in the share of recent adult flows comprised of women. Model 2a adds additional structural variables, whose inclusion diminishes the magnitude of the maturity effect somewhat to about 4.3 percentage points per unit-increase in the maturity factor. To control for the possibility of the unique dynamics along the Texas border area in the gender composition of recent adult flows, we add a dummy variable to the equation for Model 3a, but this bears little impact on the maturity effect, which remains statistically significant and virtually unchanged in magnitude.

The second set of models in Table 4 for the share of recent flows consisting of children generally mirrors the coefficients reported for women. While Model 1b indicates that the size of the prior flow is positively and significantly related to the prevalence of child migrants, this effect is rendered insignificant when including structural variables in the equation for Model 2b. With respect to the maturity factor, however, and as expected given the results for the female share of flows, Model 2b indicates that net of all other factors, a one unit increase in the maturity factor score is associated with a 3.3 percentage point increase in the share of recent migrants under the age of 16. Children are relatively less prevalent in the four MSAs in our sample that are located along the Mexican border, and including this dummy variable in Model 3b, increases the maturity effect somewhat to about 3.6 percentage points per unit-increase in the maturity factor. In sum, the results show that the gender and child structure of recent migration flows from Mexico to U.S. metropolitan areas is largely shaped by the maturity of migration flows rather than by the sheer volume of previously arriving flows.

<u>Cumulative Causation and the Internal Migration of Mexican-born Persons</u>

We hypothesized above that because cumulatively caused migration sustains itself through social networks independently of other structural forces affecting migration in local receiving areas, it may saturate the market for low-skilled immigrant labor, thus generating out-migration of previously arrived immigrants. This hypothesis is assessed in Table 5 where we present a set of regression models of the ratio of internal out-to-in migrants, between 1995 and 2000, among Mexican immigrants arriving in the U.S. prior to 1995. Because we found a curvilinear relationship between the 1985-1990 flow and the 1995-2000 flow, implying the rate of increase in migration during the latter period diminishes as the volume during the former period increases (see Table 3, Model 3a), we do not include a squared prior-flow term in the models presented in Table 5. We expect here a positive linear relationship between prior flow and the rate of internal out-migration during the subsequent period.

[TABLE 5 ABOUT HERE]

Model 1 includes only the cumulative causation variables and, as predicted, we find a positive relationship between the volume of prior Mexican migration, and net out-migration among previously arrived Mexican immigrants. Including other independent variables in Models 2 and 3 does little to reduce the magnitude or statistical significance of this effect. It is noteworthy that even when adjusting for the total net internal migration ratio experienced between 1995 and 2000 in a given MSA, that is, the extent to which other persons in general are leaving or entering an area, the effect of the prior flow on the out-migration of previously arrived Mexican migrants still holds. Moreover, given that the Census data are unable to capture those previously-arrived Mexican migrants who subsequently emigrated back to Mexico, the saturation effect reported in Table 5 is almost certainly understated.

DISCUSSION AND CONCLUSIONS

We have applied the theory of cumulative causation (Massey 1990; Myrdal 1957) to account for Mexican migration outcomes at U.S. metropolitan destinations. Doing so has involved extending the theory in four important ways. First, cumulative causation posits that migration networks in sending communities expand to the point that a migration can eventually sustain itself through social network dynamics, independently of structural conditions in the sending society. Even after the original conditions that trigger out-migration are no longer present, a dense network of migrant social ties can continue to foster increased out-migration. We apply this logic to the case of migrants' urban destinations in the United States, and find that a substantial share of recent Mexican migration volume can be explained uniquely by cumulative causation processes. That is, when accounting for the role of urban destinations' demographic and industrial structures that are associated with labor migration rates, cumulative causation generates Mexican migration flows that are exogenous to these factors.

The second and third extensions of cumulative causation theory derive from a distinction we introduce between two conceptually distinct aspects of migrant social networks: their density or size and their maturity. With respect to the former, our extension stems from the expected finding that the volume of prior flows to a destination labor market largely shapes the size of the subsequent flow. However, unlike at the point of origin, where research has shown cumulatively caused migration to persist to the point of emptying sending communities of virtually all eligible migrants (Massey et al. 1987), our analysis suggests that the ability of labor markets to absorb cumulatively caused migration flows has limits. Thus, in contrast to the exponential (concave) growth pattern of migrant out-flows resulting from the expansion of migrant social networks, we find that the net relationship between prior and subsequent flow is convex; the rate of increase in subsequent flow diminishes as a function of prior flow.

Our third extension of the origin-based theory is with respect to the migration or network maturity dimension of cumulative causation. We find that the nature of Mexican in-flows, that, is their age and gender structure, is not determined by the volume of previously arriving flows, but rather by the maturity of the migration networks connecting sending societies to the Mexican-origin receiving communities at destination. As these networks mature, and as the co-ethnic receiving community establishes institutions and social structures necessary to support family settlement, the volume of inflow decreases and flows are increasingly comprised of women and children, who are more likely to undertake long-term or permanent settlement.

A fourth extension of cumulative causation theory is introduced by the finding that an increase in the prior labor migrant flow into a given metro area subsequently generates a larger internal out-migration ratio among previously-arrived Mexican migrants. This result is consistent with the notion that cumulatively caused migration, operating independently of other structural dynamics in the local receiving area, eventually produces an unskilled labor supply in excess of local demand, and consequently triggers internal out-migration (or emigration) to other labor markets. This process of labor market saturation and subsequent out-migration is consistent with Light's (2006) general explanation for the recent diffusion of Mexican immigrants to non-traditional destinations.

The theoretical extension and findings serve as a basis from which to reassess the often contradictory results from the labor market impacts literature and carry implications for policy. In reevaluating the results from the literature, it is critical to distinguish between flows of labor migrants, typically males sojourning without a spouse, and family migrants. Also, our finding of a labor migrant flow that is exogenous to other socioeconomic and industrial structure factors provides a basis for understanding how the arrival of new migrants to certain labor markets can negatively impact the labor market outcomes of other migrants, even though across labor markets, the demand for unskilled immigrant labor remains strong. Finally, the results suggest that any reformation of immigration policy must be more nuanced than existing debates presently suggest. While there is evidence that local urban labor markets are generating considerable demand for low-skilled immigrant labor, we also find that cumulative causation processes eventually may funnel migrants into these labor markets in excess of labor demand. Policies that do not deal with both of these facts are likely to be unsuccessful.

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APPENDIX A

[TABLE A.1 ABOUT HERE]

Principal Components Analysis (PCA) provides two measurement advantages. First, it reduces a set of measured items into a smaller number of latent factors, each of which generates a factor score for each case. In the analyses discussed below, reducing the number of regression parameters that need to be estimated is a concern give that the analytical sample contains only 115 metropolitan areas. PCA also eases the discussion of the results, allowing concentration on the effects of the latent dimension rather than the separate effects of all the indicators measuring the factor. Second, PCA also helps to assess whether the specific items indeed measure the latent dimension – in this case migrant network maturity – that they are intended to measure. We use PCA to create separate maturity factors for 2000 and 2005-2006, and the results are reported in Table A.1. As anticipated all of the indicators load onto a single factor that accounts for about 76 percent of the shared variance across the indicators, in both years. PCA provides a basis for assigning each metro area in the analysis with a separate factor score for each year indicating the degree of migrant network maturity. These scores are distributed in such a way that they have a mean of zero and a standard deviation of one. MSAs with scores close to zero are considered to have average settlement maturity. Negative scores are below average and positive, above. The 2000 and 2005-2006 maturity scores for each metro area are reported in Appendix Table B.1.

[TABLE A.2 ABOUT HERE]

Table A.2 illustrates the logic of the maturity factor analyses by reporting the average values of the four indicators used in the analysis and corresponding factor scores in 2000 and 2005-2006 in four of the 115 MSAs: San Antonio, Los Angeles, Dallas-Ft. Worth, and Atlanta. San Antonio has a factor score nearly two standard deviations above the mean in 2000, and 1.7

in 2005-2006. In both years San Antonio had the 6th highest maturity score of all MSAs in the sample. Los Angeles ranks 16th and 13th with scores of 1.3 and 1.4 in 2000 and 2005-2006 respectively. Dallas-Ft. Worth has near close to an average settlement maturity in 2000 and ranks 48th with a score of 0.02; its maturity score increases to 0.2 in 2005-2006, which ranks 44th. And Mexican migration flows into Atlanta are among the least mature of all MSAs in both 2000 and 2005-2006. Its scores of -1.50 in 2000 and -1.24 in 2005 rank 111th and 104th, respectively.

Table A.2 indicates that Mexican migration maturity is determined in part by the relative size of the Mexican-origin population in an MSA, and the share of that population that is born in Mexico. It is also influenced by the average duration of residence in the U.S. reported by the Mexican immigrant generation. For example, San Antonio, the most mature of the four destinations reported in Table A.2, has the largest Mexican-origin population share during both years. Also, in both years, nearly 80 percent of its Mexican-origin population is U.S.-born, figures that far exceed those reported in the other three metros. Moreover, in 2000 and 2005-2006, only about 22 percent of San Antonio's Mexican-born population immigrated to the U.S. within the previous five years, and between 37 and 38 percent immigrated more than 20 years prior. Atlanta stands in stark contrast to San Antonio on all of the maturity items with Los Angeles and Dallas, in that order, falling in between.

Finally, with the exception of San Antonio, migration flows into all four of the areas "mature" between 2000 and 2005-2006 with respect to all four of the maturity indicators. While the Mexican-origin share of San Antonio's population increases from 38 percent to 43 percent, the percentage of the Mexican-origin population born in the U.S. does not change. Moreover, there is a slight increase in the share of the Mexican-born population that has lived in the U.S. for five or fewer years, and a corresponding small decrease in the share of Mexican-born residents that are long-term residents. The decreases in these items account for the drop in San Antonio's maturity factor score between 2000 and 2005-2006, a period during which Los Angeles, Dallas-Ft. Worth, and Atlanta all experience increases.

<u>APPENDIX B</u>

[TABLE B.1 ABOUT HERE]

Table 1. Cumulative Causation and Demographic/Socioeconomic/Industrial Characteristics of U.S. Metropolitan Areas Receiving Substantial Flows of Migrants from Mexico, 1990-2005 (n=115)

	1990		*2000*		*2005-06*	
	Mean	S.D	Mean	S.D	Mean	S.D
Cumulative Causation Indicators						
Overall Migration Rate per 1,000 Population	8.9	12.7	15.7	12.5	7.9	6.5
Flow Squared	239.3	502.9	401.2	588.4	106.4	200.1
% Mexican-Origin	--	--	12.9	15.6	15.6	17.5
% of Mexican-Origin born in Mexico	--	--	47.1	12.8	45.9	11.9
% of Mexican-Born in U.S. < 6 Years	--	--	38.1	13.7	31.0	12.2
% of Mexican-born in U.S. > 20 Years	--	--	16.6	9.8	19.7	11.4
Out/In Mexican-born Internal Migration Ratio	--	--	0.9	0.7	0.9	0.9
Demographic Composition of Flows						
% Female[a]	--	--	38.0	8.0	--	--
% Under Age 16	--	--	21.1	6.1	--	--
Demographic / Economic Structure						
Total MSA Population (logged)	13.3	1.1	13.5	1.1	13.6	1.1
% Non-Latino Black	9.4	8.0	9.7	8.3	5.3	4.7
Median Rent (logged)	5.9	0.3	6.2	0.2	6.4	0.3
Overall Internal Migration Ratio (In-to-Out)	--	--	1.1	0.3	1.1	0.3
% Low-Skilled in U.S.-Born Workforce	36.7	8.9	29.5	8.1	27.2	7.3
% of Workforce in Unions (State)	16.2	6.7	11.8	5.5	8.0	5.7
% Agriculture	3.4	3.8	2.8	3.2	3.1	3.4
% Construction	6.5	1.4	7.1	1.4	8.4	2.0
% Non-Durable Goods Manufacturing	6.3	3.3	5.1	2.4	4.0	2.0
% Services	23.9	4.1	23.3	3.7	23.7	3.3

[a] Of recent adult Mexican-born flow

Table 2. Decomposition of Variance Explained by Models of Recent Mexican Migration Flows to U.S. Metropolitan Areas, 2000 and 2005-06 (N=115)

		Unique Components			Shared Components			
	1	2	3	4	5	6	7	8
Year	% Total	% Prior Flow	% Maturity	% Other Factors	% Flow & Maturity	% Flow & Other	% Maturity & Other	% Flow & Maturity & Other
Size of Mexican In-Flow, 1995-2000	81.7	24.9	1.3	7.4	2.7	15.8	-0.2[a]	29.8
Size of Mexican In-Flow, 2004-2006	70.6	30.2	-0.3[a]	0.1	3.8	9.7	0.3	26.8
% Female in Recent Adult Flow	55.6	-0.5[a]	12.7	3.9	0.5	0.5	2.6	35.9
% Children in Recent Flow	42.4	-0.7[a]	6.3	0.8	6.8	1.3	2.8	25.1
Internal Out-to-In Migration Ratio	48.4	4.4	-0.5[a]	14.4	1.6	6.2	0.5	21.6

[a] based on adjusted R-squared values, meaning that some components can be less than zero

Table 3. OLS Regression Coefficents for the Number of Migrants from Mexico between 1995 and 2000, per 1,000 Population in U.S. Metropolitan Areas, 2000 (N=115)[a]

	Mexican In-Flow 1995-2000						*Mexican In-Flow 2004-2005*					
	Model 1a		Model 2a		Model 3a		Model 1b		Model 2b		Model 3b	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Constant	5.745 ***	(1.055)	11.162	(21.73)	5.721	(21.48)	2.564 **	(0.87)	26.515 +	(18.271)	12.340	(17.741)
Prior Flow	1.437 ***	(0.197)	1.758 ***	(0.204)	1.833 ***	(0.203)	0.230 **	(0.091)	0.281 **	(0.104)	0.362 ***	(0.101)
Prior Flow, Squared	-0.012 **	(0.004)	-0.017 ***	(0.004)	-0.020 ***	(0.004)	0.004 *	(0.002)	0.003 +	(0.002)	0.000	(0.002)
Maturity[b]	-2.335 **	(0.946)	-3.078 **	(1.078)	-3.596 ***	(1.085)	0.379	(0.436)	-0.144	(0.576)	-0.542	(0.556)
Population (log)			0.823 +	(0.630)	0.711	(0.621)			0.091	(0.420)	0.058	(0.397)
% Black			-0.224 **	(0.093)	-0.201 *	(0.092)			-0.003	(0.059)	0.020	(0.056)
Median Rent			-0.980	(3.402)	0.060	(3.374)			-4.350 +	(2.653)	-2.289	(2.576)
In-Migration Ratio[c]			5.485 *	(2.653)	6.043 **	(2.617)			-0.195	(1.416)	0.506	(1.354)
% US-Born Low-Skilled			0.200 *	(0.106)	0.199 *	(0.104)			-0.052	(0.075)	-0.040	(0.071)
% Union			-0.388 **	(0.124)	-0.350 **	(0.123)			0.051	(0.093)	0.066	(0.088)
% Agriculture			-0.067	(0.243)	0.036	(0.243)			0.010	(0.160)	0.222 +	(0.162)
% Construction			-1.657 ***	(0.483)	-1.620 ***	(0.475)			0.598 *	(0.329)	0.522 *	(0.312)
% Non-Durable Mfg.			-0.191	(0.209)	-0.226	(0.206)			-0.272 *	(0.187)	-0.294 *	(0.177)
% Services			-0.202	(0.164)	-0.254 +	(0.163)			-0.009	(0.109)	-0.014	(0.103)
Texas Border MSA					7.894 *	(3.613)					8.444 ***	(2.363)
Adjusted R-Squared	0.743		74.000		0.824		0.705		0.706		0.737	

*** p < .001; ** p < .01; * p < .05; + p < .10 (one-tailed test)

[a] Unless otherwise noted, all independent variables are lagged, measured in 1990 for the 2000 Migration Rage and in 2000 for the 2005-06 rate

[b] For the 2000 Migration Rate, the Maturity factor is based on 2000 data; for the 2005-2006 model, the maturity is estimated using the 2005-2006 data

[c] This reflects the internal migration rate in the period leading up to the respective survey year; 1995-2000 for 2000; and 2004-2005 for 2005-2006

Table 4. OLS Coefficients for the Demographic Composition of Recent Mexican Migration Flows to U.S. Metropolitan Areas, 2000 (N=115)[a]

	% Female in Recent Adult Flows						% Children in Recent Flows					
	Model 1a		Model 2a		Model 3a		Model 1b		Model 2b		Model 3b	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Constant	37.117 ***	(0.924)	45.635 *	(21.599)	44.290 *	(21.823)	19.944 ***	(0.781)	32.389 *	(18.917)	36.209 *	(18.854)
Prior Flow	0.145	(0.173)	0.138	(0.203)	0.157	(0.206)	0.217 +	(0.146)	0.168	(0.178)	0.116	(0.178)
Prior Flow, Squared	-0.002	(0.004)	-0.001	(0.004)	-0.002	(0.004)	-0.003	(0.003)	-0.003	(0.004)	-0.001	(0.004)
Maturity	5.000 ***	(0.829)	4.278 ***	(1.071)	4.150 ***	(1.102)	3.013 ***	(0.700)	3.281 ***	(0.938)	3.645 ***	(0.952)
Population (log)			-0.417	(0.626)	-0.445	(0.631)			-0.857 +	(0.549)	-0.779 +	(0.545)
% Black			-0.203 *	(0.092)	-0.197 *	(0.093)			-0.026	(0.081)	-0.042	(0.080)
Median Rent			0.160	(3.381)	0.417	(3.427)			-0.822	(2.961)	-1.552	(2.961)
In-Migration Ratio, 1995-2000			-2.293	(2.636)	-2.155	(2.659)			0.933	(2.309)	0.541	(2.297)
% US-Born Low-Skilled			-0.062	(0.105)	-0.062	(0.105)			-0.014	(0.092)	-0.013	(0.091)
% Union			-0.055	(0.123)	-0.045	(0.125)			0.065	(0.108)	0.038	(0.108)
% Agriculture			-0.229	(0.242)	-0.204	(0.247)			0.085	(0.212)	0.012	(0.214)
% Construction			-0.678 +	(0.480)	-0.669 +	(0.482)			-0.164	(0.421)	-0.190	(0.417)
% Non-Durable Mfg.			0.065	(0.208)	0.057	(0.209)			0.200	(0.182)	0.225	(0.181)
% Services			0.345 *	(0.163)	0.333 *	(0.165)			0.099	(0.143)	0.136	(0.143)
Texas Border MSA					1.952	(3.670)					-5.542 *	(3.171)
Adjusted R-Squared	0.517		0.556		0.553		0.416		0.424		0.436	

*** p < .001; ** p < .01; * p < .05; + p < .10 (one-tailed test)

[a] Unless otherwise noted, all independent variables are measured in 1990

Table 5. OLS Coefficients for the Ratio of Mexican-born Internal Out-to-In-Migrants in U.S. Metropolitan Areas, 2000 (N=115)[a]

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Constant	0.605 ***	(0.077)	-3.562 +	(2.037)	-3.443 *	(2.053)
Prior Flow	0.028 ***	(0.006)	0.027 **	(0.008)	0.028 **	(0.009)
Maturity, 2000	0.080	(0.080)	-0.011	(0.095)	-0.004	(0.096)
Population (log)			0.051	(0.058)	0.056	(0.059)
% Black			-0.009	(0.009)	-0.009	(0.009)
Median Rent			0.768 **	(0.319)	0.741 *	(0.323)
In-Migration Ratio, 1995-2000			-1.004 ***	(0.243)	-1.028 ***	(0.247)
% US-Born Low-Skilled			0.004	(0.010)	0.004	(0.010)
% Union			-0.031 **	(0.011)	-0.032 **	(0.012)
% Agriculture			-0.007	(0.023)	-0.009	(0.023)
% Construction			0.068 +	(0.044)	0.066 +	(0.045)
% Non-Durable Mfg.			-0.002	(0.020)	-0.002	(0.020)
% Services			0.004	(0.015)	0.005	(0.016)
Texas Border MSA					-0.202	(0.543)
Adjusted R-Squared	0.340		0.484		0.489	

*** p < .001; ** p < .01; * p < .05; + p < .10 (one-tailed test)

[a] Unless otherwise noted, all independent variables are measured in 1990

Table A.1. Principal Components Loadings for Mexican Migration Maturity in U.S. Metropolitan Areas, 2000 and 2005-2006 (N=115)

	Factor Loadings	
Item	2000	2005-06
% Mexican-Origin	0.848	0.832
% of Mexican-Origin born in Mexico	-0.726	-0.814
% of Mexican-Born in U.S. < 6 Years	-0.923	-0.888
% of Mexican-born in U.S. > 20 Years	0.969	0.954

Table A.2. Mean Score for Variables in Migration Maturity Principal Component (and Factor Score) for San Antonio, Los Angeles, Dallas Ft. Worth, and Atlanta, 2000 and 2005-2006

	San Antonio		*Los Angeles*		*Dallas-Ft. Worth*		*Atlanta*	
	2000	2005-06	2000	2005-06	2000	2005-06	2000	2005-06
% Mexican-Origin	37.7	43.0	31.7	36.4	18.2	22.5	4.0	5.9
% of Mexican-Origin born in Mexico	19.6	19.6	48.7	41.6	49.5	46.7	73.6	66.1
% of Mexican-Born in U.S. < 5 Years	21.9	21.6	19.6	13.3	37.4	26.9	58.6	43.8
% of Mexican-born in U.S. > 20 Years	37.9	37.0	29.5	40.7	15.6	20.9	4.5	7.1
Migration Maturity (factor score)	1.986	1.730	1.251	1.438	0.016	0.235	-1.510	-1.238

Table B.1. Mexican Settlement Maturity Factor Scores and Ranks in MSA's Included in the Analyses (N=115)

	2000		*2005-06*	
Metro Area	Score	Rank	Score	Rank
El Paso, TX	2.565	1	2.362	1
Brownsville-Harlingen-San Benito, TX	2.556	2	2.333	3
McAllen-Edinburg-Pharr-Mission, TX	2.439	3	2.057	4
Odessa, TX	2.224	4	2.335	2
Las Cruces, NM	2.142	5	1.880	5
San Antonio, TX	2.012	6	1.716	6
Merced, CA	1.558	7	1.433	12
Visalia-Tulare-Porterville, CA	1.480	8	1.614	8
Yuma, AZ	1.465	9	1.709	7
Tucson, AZ	1.459	10	1.092	20
Riverside-San Bernadino, CA	1.437	11	1.451	11
Bakersfield, CA	1.411	12	1.351	14
Fresno, CA	1.312	13	1.537	9
Ventura-Oxnard-Simi Valley, CA	1.305	14	1.206	15
Modesto, CA	1.300	15	1.098	19
Los Angeles-Long Beach, CA	1.277	16	1.419	13
Kileen-Temple, TX	1.118	17	0.899	23
Amarillo, TX	1.088	18	1.119	18
San Diego, CA	1.075	19	0.967	22
Stockton, CA	1.032	20	1.069	21
Santa Cruz, CA	0.968	21	1.133	16
Salinas-Sea Side-Monterey, CA	0.961	22	0.724	28
Waco, TX	0.889	23	0.647	32
Sacramento, CA	0.889	24	0.451	37
Yakima, WA	0.881	25	0.823	25
Albuquerque, NM	0.817	26	0.569	34
Santa Barbara-Santa Maria-Lompoc, CA	0.796	27	0.859	24
Yuba City, CA	0.774	28	0.819	26
Galveston-Texas City, TX	0.735	29	1.123	17
Beaumont-Port Arthur-Orange,TX	0.679	30	-0.159	63
San Jose, CA	0.640	31	0.652	31
Orange County, CA	0.593	32	0.748	27
Houston-Brazoria, TX	0.583	33	0.715	29
Boise City, ID	0.537	34	0.178	46
Richland-Kennewick-Pasco, WA	0.533	35	0.427	38
Bryan-College Station, TX	0.446	36	0.180	45
Chicago, IL	0.418	37	0.527	36
San Francisco-Oakland-Vallejo, CA	0.375	38	0.362	39
Greeley, CO	0.367	39	0.300	41
Colorado Springs, CO	0.341	40	0.164	48
Austin, TX	0.271	41	0.348	40
Cleveland, OH	0.139	42	0.065	54
Santa Rosa-Petaluma, CA	0.113	43	0.289	42
Las Vegas, NV	0.097	44	0.133	50
Phoenix, AZ	0.096	45	0.171	47
Tyler, TX	0.053	46	0.532	35
St. Louis, MO-IL	0.036	47	-0.386	74
Dallas-Fort Worth, TX	0.030	48	0.220	44
Detroit, MI	0.028	49	-0.030	55
Boston, MA-NH	0.028	50	-0.478	76

(continued)

Table B.1.(continued). Mexican Settlement Maturity Factor Scores and Ranks in MSA's Included in the Analyses (N=115)

	2000		*2005-06*	
Metro Area	Score	Rank	Score	Rank
Reno, NV	0.010	51	0.233	43
Medford, OR	-0.024	52	1.492	10
Tacoma, WA	-0.026	53	-0.101	61
Wichita, KS	-0.042	54	0.597	33
Lakeland-Winterhaven, FL	-0.091	55	-0.898	90
Santa Fe, NM	-0.092	56	-0.341	71
Fort Collins-Loveland, CO	-0.096	57	-0.072	57
Milwaukee, WI	-0.134	58	-0.106	62
Fort Wayne, IN	-0.138	59	0.126	51
Oklahoma City, OK	-0.154	60	-0.066	56
Salem, OR	-0.200	61	-0.471	75
Rockford, IL	-0.206	62	0.107	52
Tampa-St. Petersburg-Clearwater, FL	-0.248	63	-0.788	86
Kansas City, MO-KS	-0.259	64	-0.280	66
Denver-Boulder, CO	-0.305	65	0.150	49
Baltimore, MD	-0.319	66	-1.807	115
Salt Lake City-Ogden, UT	-0.350	67	-0.092	59
Kenosha, WI	-0.367	68	0.706	30
Seattle-Everett, WA	-0.393	69	-0.623	78
Miami-Hialeah, FL	-0.402	70	-0.098	60
Daytona Beach, FL	-0.402	71	-0.381	73
Omaha, NE/IA	-0.435	72	-0.087	58
Grand Rapids, MI	-0.442	73	0.083	53
Longview-Marshall, TX	-0.496	74	-0.191	64
Fort Pierce, FL	-0.505	75	-0.281	67
Orlando, FL	-0.514	76	-0.702	81
Fort Lauderdale-Hollywood-Pompano Beach, FL	-0.558	77	-1.081	96
West Palm Beach-Boca Raton-Delray Beach, FL	-0.599	78	-0.842	87
Washington, DC/MD/VA	-0.605	79	-0.696	79
Fort Myers-Cape Coral, FL	-0.630	80	-0.873	88
Louisville, KY/IN	-0.660	81	-1.231	103
Provo-Orem, UT	-0.662	82	-0.297	68
Portland, OR-WA	-0.665	83	-0.373	72
Richmond-Petersburg, VA	-0.668	84	-1.545	112
Philadelphia, PA/NJ	-0.731	85	-1.345	108
Tulsa, OK	-0.738	86	-0.266	65
Sarasota, FL	-0.746	87	-0.759	83
Minneapolis-St. Paul, MN	-0.760	88	-0.709	82
Fayetteville-Springdale, AR	-0.777	89	-0.316	69
Des Moines, IA	-0.786	90	-0.321	70
Lafayette-W. Lafayette, IN	-0.811	91	-0.902	91
Green Bay, WI	-0.847	92	-0.894	89
Memphis, TN/AR/MS	-0.872	93	-1.185	101
Columbus, OH	-0.873	94	-1.197	102
New York-Northeastern NJ	-0.922	95	-0.777	85
Atlantic City, NJ	-0.940	96	-0.766	84
Madison, WI	-0.990	97	-0.923	92
Indianapolis, IN	-1.044	98	-1.110	98
Greenville-Spartanburg-Anderson SC	-1.074	99	-1.346	109

(continued)

Table B.1 (continued). Mexican Settlement Maturity Factor Scores and Ranks in MSA's Included in the Analyses (N=115)

	2000		*2005-06*	
Metro Area	Score	Rank	Score	Rank
Columbia, SC	-1.211	106	-1.542	111
Monmouth-Ocean, NJ	-1.222	107	-1.545	113
Lexington-Fayette, KY	-1.366	108	-1.667	114
New Haven-Meriden, CT	-1.382	109	-1.102	97
Greensboro-Winston Salem-High Point, NC	-1.416	110	-1.156	100
Atlanta, GA	-1.505	111	-1.255	104
Birmingham, AL	-1.540	112	-1.495	110
Charlotte-Gastonia-Rock Hill, NC-SC	-1.657	113	-1.271	106
Raleigh-Durham, NC	-1.765	114	-1.256	105
Hickory-Morgantown, NC	-1.785	115	-1.039	94