An Empirical Note on the Social and Geographic Correlates of Mexican Migration to the Southern United States

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AN EMPIRICAL NOTE ON THE SOCIAL AND GEOGRAPHIC CORRELATES OF MEXICAN MIGRATION TO THE SOUTHERN UNITED STATES

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ABSTRACT

This research empirically examines differences in the socioeconomic correlates of Mexican migrants to the southern region of the United States. More specifically, the research considers differences between Mexican immigrants choosing the South and those choosing other U.S. destinations. Using general estimating equations, the study provides evidence that several characteristics distinguish the stream of recent migrants choosing southern destinations. Notably, rural origins as well as rural destinations have substantial explanatory power. The results also show that immigrants to the South are likely to be pioneers in the sense that they do not have strong family-specific migration capital and are likely to be from a community without a long history of sending migrants to the United States. Immigrants choosing the South are also more likely to be undocumented. Additionally, they are far more likely to have arrived following implementation of NAFTA. Ownership of houses is also a distinguishing feature of these migrants.

The purpose of this research is to examine empirically the differences in social and geographic correlates of Mexican migrants to non-traditional states in the southern region of the United States.1 Furthermore, the research explicitly considers the potential impacts of policy changes over time demonstrated elsewhere to have an impact on the patterns of migration to the United States (Farmer and Moon 2009; Flores, Massey, and Hernandez-León 2004; Furuseth and Smith 2006; Zúñiga and Hernández-León 2005).

1This research was partially funded by USDA-NIFA National Research Initiative and the Arkansas Agricultural Experiment Station. Please direct correspondence to Frank L. Farmer, School of Human Environmental Sciences, University of Arkansas, Fayetteville AR 72703 or at flfarmer@uark.edu.

1The South in this research is defined as the states of Alabama, Arkansas, Delaware, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. This subset of states is based on research establishing the “new destination states” as well as comments by reviewers.
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Understanding the social and demographic composition of this recently emergent migration stream is important for social scientists and community decision makers alike. Much has been written recently about the change in migration flows of Hispanics into the United States (Alba and Denton 2004; Durand, Massey, and Charvet 2000; Farmer and Moon 2009; Johnson, Nucci, and Long 2005; Kandel and Cromartie 2004; Kochhar, Suro, and Tafoya 2005; Massey 2008; Massey, Durand, and Malone 2002; Saenz et al. 2002). California, Arizona, New Mexico, Texas, and Illinois have been traditional gateway states for Mexican migrants since the early 1900s with California becoming the dominant destination by the 1950s (Durand et al. 2000). The latest Census estimates show that 44 percent of the foreign-born population in the United States is found in these five traditional gateway states. California still ranks first with 26 percent of the country’s foreign-born population (Grieco and Trevelyan 2010). However, the passage of the Immigration Reform and Control Act (IRCA) in 1986 interacted with several macroeconomic changes in both the United States and Mexico (Durand, Massey, and Parrado 1999). These changes resulted in decreasing migration streams to these traditional destinations, especially California, and increasing streams to other areas, now called “non-traditional” gateways (cf. Crowley, Lichter, and Qian 2006; Singer 2004).

Although many Latin Americans are still migrating to the more traditional gateway destinations, the southern United States has seen enormous growth in the arrival of migrants, especially from Mexico (Kandel and Cromartie 2004; Kochhar et al. 2005; Massey 2008). While in absolute terms the numbers of migrants are not as large as those to traditional areas, the percentage increases are, in some states, substantial – for example, more than 300 percent increases between 1990 and 2000 for North Carolina (394 percent), Arkansas (337 percent), and Georgia (300 percent) (Kochhar et al. 2005). Other southern states have also had large increases of several-fold during the same period. Between 2000 and 2008, estimates show that in-migration rates have slowed but are still considerable across the southern states, ranging from a low of 11.4 percent in Alabama to nearly 62 percent in South

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2 The term Hispanic is widely used and generally based on the definition in the U.S. Censuses. However, the term is contested by some as overly broad or referring more accurately only to persons from Spanish-speaking areas. In this document, we use the terms Latino or Latin American to reference persons originating in Mexico and Central or South America, despite their first language, and Hispanic when used for persons counted or defined by the U.S. Census bureau category. We recognize that all these terms mask significant heterogeneity within the group of persons being referenced.
Carolina. North Carolina, Kentucky, and Georgia all show increases of about 60 percent on top of the huge increases of the 1990s. Of all the foreign-born population in the United States in 2008, slightly more than 10 percent are found in these non-traditional southern states. Between 2000 and 2008, the country as a whole has experienced a 22.1 percent increase in the foreign-born population, but these non-traditional southern states have experienced increases at double that rate, with a 44 percent increase for the region as a whole (Dockterman 2008).

These new migration destinations have emerged because of the convergence of several factors. Passage of IRCA legalized 2.3 million formerly undocumented Mexican immigrants. Once legalized, some of these immigrants sought new opportunities in other regions of the United States beyond the traditional gateways. In the same period, changes in California’s political and economic landscapes occurred; a deep recession dried up employment; and a growing local anti-immigrant sentiment created a hostile environment for immigrants. Coupled with increasing enforcement along the U.S.-Mexican border at the most heavily used crossing sites, these changes served to encourage Mexican immigrants to cross at more remote locations as well as to consider opportunities in areas beyond California (Leach and Bean 2008; Massey and Capóferro 2008; Massey et al. 2002; Smith and Furuseth 2006).

Simultaneously, other structural forces have affected the South and particularly rural areas. Industrial reorganization created a demand for low-wage labor that was unmet by local labor pools. In particular, the emergence of large, vertically integrated firms such as beef processing that have relocated in rural areas has increased demand for low-skill employment (Crowley et al. 2006; Grey and Woodrick 2002; Kandel and Parrado 2006; Torres, Popke, and Hapke 2006). Immigrant networks were aware of these opportunities and provided conduits for bringing in new workers while employers undertook recruitment activities designed to recruit foreign-born and migrant workers (Johnson-Webb 2002). Low-skill jobs have been increasingly filled by Latino workers across the United States but particularly in rural areas (Bureau of Labor Statistics 2009; Gibbs, Kusmin, and Very recent changes in Arizona regarding immigrants may result in further shifts in migration patterns but it is, as yet, too early to assess the impacts.

While migration streams to the United States include other countries, such as Vietnam, China, the Phillipines, and Canada, the fact is that in 2008, 30 percent of the foreign-born in the United States were from Mexico, according to the U.S. Bureau of the Census, 2008 American Community Survey.
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Cromartie 2005). Research in several southern communities (for some examples, see Gouveia, Carranza, and Cogua 2005; Hernández-León and Zúñiga 2000, 2003, 2005; Torres et al. 2006) has provided a micro level perspective on some of these broad forces. These studies also document the linkages between newly legalized immigrants in the newer settlement areas and sending regions in Mexico.

The importance of a closer consideration of the southern region is particularly well stated by Kochhar et al. (2005:i):

In the South, the white and black populations are also increasing and the local economies are growing robustly, even as some undergo dramatic restructuring. Such conditions have acted as a magnet to young, male, foreign-born Latinos migrating in search of economic opportunities. While these trends are not unique to the South, they are playing out in that region with a greater intensity and across a larger variety of communities—rural, small towns, suburbs and big cities—than in any other part of the country. Understanding the interplay of Hispanic population growth and the conditions that attended it helps illuminate a broad process of demographic and economic change in the South and in other new settlement areas as well.

Economic explanations, especially the calculus by an individual to seek higher wages in the United States than might be obtainable in Mexico, are useful in understanding some facets of Mexican migration to the United States. The restructuring of the labor market in the United States helps to explain why Latino migrants began shifting to non-traditional destinations, especially in regions of the southeastern and Midwestern states where construction, unskilled service, and meat and poultry processing jobs were being created. However, cumulative causation theory (Fussell and Massey 2004; Massey 1990) provides additional insight into the migration and social capital networks that support and sustain migration patterns over time. As a result, the model presented in this paper examines human capital attributes from economic theory as well as attributes associated with cumulative causation (social and migration capital) to elucidate the relative importance of these factors for migrants choosing destinations in these southern emerging gateway states.

The purpose of this paper, then, is to provide additional insights into these empirical changes. Consequently, the research presented here focuses on individual, familial, and community indicants associated with a migration trip to the southern United States. The paper is organized as follows. This brief overview is followed by
a discussion of data and methods. Next, we present empirical results. A discussion of the findings then concludes the paper.

DATA AND METHODS

Data Source and Characteristics

Data for this research were derived from the Mexican Migration Project (MMP). Princeton University and the University of Guadalajara have collaborated on this research project since 1982 (Princeton University and University of Guadalajara 1982-2009). Surveys were administered to households beginning in 1982 and, in this dataset, ending in 2008. One hundred and twenty-four communities in Mexico are included in this dataset. Although not completely randomized, these data “can be used as a basic source of information on the processes and characteristics of Mexican migration to the United States” (Massey and Zenteno 2000:790).

Information was collected from individuals in the communities with and without migration experience. The datasets include characteristics of individuals, migration history of heads of households as well as their spouses, and household and community characteristics. In this analysis, only heads of households, almost exclusively male, were used as time-varying data are only available for these individuals. The dataset was further constrained to actual migrators defined as those individuals who report at least one migration trip to the United States after 1986.

The model specified here generally follows previous research (Flores et al. 2004) using an earlier version of the MMP dataset. This previous research examined social capital measures and propensity to migrate illegally to the United States, comparing rural and urban origination. However, this paper differs in that it focuses on migration destination and the individual, household, and community characteristics associated with specifically those migrants arriving in the South. Consequently, although this analysis draws from the empirical approach of Flores et al. (2004), it is substantively different. The endogenous variable is binary and

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5 Full description, project documentation and data located at http://mmp.opr.princeton.edu.

6 This analysis was conducted on the MMP 124.

7 Refer to MMP project website for full description of sampling frames and weighting scheme.

8 Because of small N sizes for heads of households that are female, gender is not included in this analysis.
measured as selection of the South as the migration destination. As has been well-
documented (for a few examples, see Crowley et al. 2006; Durand et al. 2000;
Farmer and Moon 2009; Fry and Gonzales 2008; Kandel and Cromartie 2004;
Kochhar et al. 2005; Singer 2004), more recent migration streams have been
arriving in non-traditional parts of the country. Because the interest is in these
newer, non-traditional destinations, Texas and Florida, traditional destinations,
have not been included in the definition of the South for this analysis.

Following Flores et al. (2004), the exogenous variables are age, age squared,
matried or in a consensual union, number of children, educational attainment,
nonagricultural work experience, domestic migration trips, land ownership, home
or property ownership, business ownership, previous international migration
experience of parents and siblings, the percentage of adults in the origination
community with migration experience, whether or not the migrant had legal
documents for the trip, and whether or not the origination community has 2,500 or
fewer residents.

Beyond these core variables, the current model includes variables for
nonmetropolitan destination and a flag for migration after the passage of the North
American Free Trade Agreement (NAFTA). This period was selected to reflect
significant policy and economic changes in the United States and Mexico. The years
are constrained to begin after 1986, following the passage of IRCA. IRCA legalized
many undocumented migrants, whereas the North American Free Trade
Agreement (NAFTA) was passed in 1994 and changed the macroeconomic
relationships between Mexico and the United States. Other scholars (Canales 2003;
Fussell and Massey 2004) have shown these policy shifts to have influenced
migration patterns from Mexico into the United States. The time flag indicates
whether the trip was made following NAFTA (1995 and forward). The dataset is
constrained to those individuals who migrated at least once to the United States
between 1987 and 2008.

An event history table has been constructed to include a record for each person-
year. This record contains community, household, and individual attributes that
change over time. The individual characteristics are age, educational attainment,
occupation, marital status, number of children born, number of domestic migration
trips, whether or not parents or siblings have migration experience in the United
States, whether or not the individual has legal documentation for migrating,
whether or not a particular migration trip is to a rural destination in the United
States, and whether or not the particular migration trip is to a southern\(^9\) state or not. Household characteristics included are ownership of land, a house, or other properties and businesses. Community characteristics are the percentage of the community in a given year experiencing migration to the United States, and a binary flag for the population size of the community (2,500 people or less). This dataset is constrained to individuals who are heads of households. Additionally, a time flag for NAFTA is included. Definitions, N size, means, and standard deviations are given in Table 1. All binary variables are coded so that a value of one indicates possession of the trait at time \(t\).

These specific variables were selected to operationalize different dimensions of migration. Age plays an important role in understanding migration decisions and impacts. Economic migrants are generally young adults, primarily male. Changes in age structure in both sending and receiving communities alter patterns of demands for goods and services from local community institutions and businesses. Age squared has been included to account for the possibility that age has a curvilinear relationship with migration, often increasing in young adult and working age groups while decreasing for children or older adults.

Educational attainment and prior work experience capture the ability to function and compete in the local labor market. Educational attainment provides insight into the functioning of the individual within social structures. Equity in opportunity, whether in the local job market or within local social interactions, is promoted to some degree by equity in education. Contrarily, inequity in education often stratifies local communities and restrict opportunities. Previous work experience including skill level, like age, has an impact on both sending and receiving communities. The potential labor pool in a community is built on the accumulation of individuals’ skills and experience. The ability of a given individual to function and advance within the labor pool is enhanced by both skills and experience beyond formal education.

Coupled with these individual characteristics are familial characteristics. Marital status and the number of children in the household affect the resource requirements of the household as well as understanding migration decisions. These familial attributes combine with a family history of migration to be predictors of migration decision making (Aguilera and Massey 2003; Cerrutti and Massey 2001; Massey

\(^{9}\)As a reminder, these are the states of Alabama, Arkansas, Delaware, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>N</th>
<th>MEAN</th>
<th>STD DEV</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration trip to South / non-South.</td>
<td>19,634</td>
<td>0.02</td>
<td>0.46</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Age in years.</td>
<td>19,634</td>
<td>36.95</td>
<td>43.20</td>
<td>11</td>
<td>94</td>
</tr>
<tr>
<td>Age squared.</td>
<td>19,634</td>
<td>1519.22</td>
<td>3658.87</td>
<td>121</td>
<td>8836</td>
</tr>
<tr>
<td>Married or in consensual union.</td>
<td>19,634</td>
<td>0.73</td>
<td>1.55</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Number of children.</td>
<td>19,633</td>
<td>2.83</td>
<td>9.30</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Educational attainment.</td>
<td>19,589</td>
<td>7.17</td>
<td>14.06</td>
<td>0</td>
<td>22</td>
</tr>
<tr>
<td>Nonagricultural work experience.</td>
<td>19,634</td>
<td>0.88</td>
<td>1.12</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Domestic (internal) migration trips.</td>
<td>19,621</td>
<td>0.61</td>
<td>4.92</td>
<td>0</td>
<td>42</td>
</tr>
<tr>
<td>Owns land.</td>
<td>19,634</td>
<td>0.11</td>
<td>1.09</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Owns house or property.</td>
<td>19,634</td>
<td>0.62</td>
<td>1.70</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Owns business.</td>
<td>19,634</td>
<td>0.12</td>
<td>1.12</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Parents have migrated to United States.</td>
<td>19,634</td>
<td>0.37</td>
<td>1.68</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Siblings have migrated to United States.</td>
<td>19,634</td>
<td>0.33</td>
<td>1.64</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Percentage of adults in sending community that have migrated to United States.</td>
<td>19,164</td>
<td>0.27</td>
<td>0.44</td>
<td>0.00</td>
<td>0.83</td>
</tr>
<tr>
<td>Migrated to rural destination in United States.</td>
<td>19,634</td>
<td>0.05</td>
<td>0.75</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Originated from a rural community.</td>
<td>19,634</td>
<td>0.35</td>
<td>1.66</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Migration trip was after NAFTA.</td>
<td>19,634</td>
<td>0.41</td>
<td>1.72</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Migration trip made without documentation.</td>
<td>19,634</td>
<td>0.33</td>
<td>1.64</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Immediate family migration history is captured with indicators of parental migration as well as sibling migration.

Family migration history along with community migration history is thought to provide an advantage when migrating. A migrant coming from a family and/or community with migration history implies that individual will have access to knowledge and skills that other migrants might lack. Additionally, the presence of a migration network has been demonstrated to be a primary conduit for newly arrived migrants to access housing, employment, and important knowledge about the new surroundings (Aguilera and Massey 2003; Alba and Denton 2004; Davis, Stecklov, and Winters 2002; Fussell 2004). Family migration capital, then, is operationalized by two indicators: parents and siblings with previous migration experience to the United States. Community migration capital is measured by the percentage of adults in the originating community with previous U.S. migration experience. Additional migration experience is reflected in the number of internal or domestic migration trips made by an individual.

Recent research has examined the impact of household resources on migration decision making regarding destination as well as length of stay (Reyes 2004; Reyes and Mameesh 2002). Measures of the origination household resources, whether or not the migrant’s household owns land, houses, property or businesses, are included in the model. Asset-poor households may use migration as income-producing whereas asset-rich households may be seeking capital for investment. Household assets are also linked to duration in the receiving area. A migrant from a household with more assets is likely to stay longer whereas those with fewer or no assets often return home sooner (Reyes 2001). In this model, household assets are important for understanding differences in the resources available to migrants arriving in the non-traditional southern states.

Besides understanding the physical assets available to the sending household, the model includes a dimension to capture rural origination. Migrants from rural areas may be more comfortable migrating to a rural setting and are likely to find more familiar the more traditional family structures and worldviews of rural destinations than are found in the stereotypical urban setting.

Rural destination is also included in the model. Population changes over the last several decades in the non-traditional southern states have taken place largely in smaller urban, suburban, and rural settings (Kandel and Cromartie 2004; Kandel and Parrado 2006; Nord and Cromartie 2000). Especially in many rural areas, these recent arrivals have had significant positive and negative impacts on the receiving communities because of the relative magnitude and rate of change (Baker and
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Beyond rural concerns, the implementation of NAFTA has been a factor in destination-decision making as well as length of stay (Canales 2003; Durand et al. 2000; Fernandez-Kelly and Massey 2007; Fussell and Massey 2004). Although NAFTA was intended to allow the free flow of capital across borders, the free flow of labor across borders was not a provision in NAFTA. Increases in displaced peasants in Mexico, as well as the numbers of Mexican workers seeking employment in the United States, were unintended consequences of the implementation of NAFTA (Fernandez-Kelly and Massey 2007).

Migration with or without documentation is included. The most recent figures estimate 11.9 million illegal immigrants are in the United States. Of those, an estimated 76 percent are Latinos. A couple with children comprise nearly half (46 percent) of these unauthorized immigrant households (Passel and Cohn 2009). Communities with limited resources for social support services, including many rural areas and those in southern states particularly, may be challenged in meeting the needs of these new arrivals.

These variables are included in the multivariate model below to examine empirically the differences in characteristics of migrants coming to the United States and selecting a destination in the newly emerging southern states as compared with those migrants selecting other regions of the country.

**Method and Analytic Model**

Migration to a destination in the non-traditional southern states is a binary response, coded so that a value of 1 indicates migration at time $t$. A logistic regression model in this instance has two weaknesses precluding its use. Longitudinal data clustered in subgroups – in this case individuals within communities – are likely to exhibit correlations within these clusters that violate the independence assumptions required for logistic regression. Inefficient and incorrect estimation of the model’s parameters can result from violating this assumption (Ballinger 2004).

Because an individual may have from 2 to 21 records in the data, these repeated measures suggest the likelihood of correlation within these repeated measures. General estimating equations (GEE) are often used in instances like this because this approach accounts for any such correlation within the multiple observations on the same subject (Zeger and Liang 1986; Ziegler, Kastner, and Blettner 1998).
The generalized linear model (GLM) is modified to derive the GEE model such that it can account for correlated data for repeated observations through time (Liang and Zeger 1986; Zeger and Liang 1986). Here, the model is a binary distribution and the link function is coded to be the log alternative accordingly. This technique reduces to the logistic model in the case where correlation within the cluster is not a problem.

In this dataset, 19,105 unweighted records in 1,821 clusters are analyzed. When weighted, these records represent 235,903 observations. These large numbers in the dataset are appropriate for GEE, as it is particularly efficient with many clusters (Liang and Zeger 1986; Zeger and Liang 1986). With many clusters, the GEE parameter estimates are consistent as long as the mean model is correct even if the working correlation matrix is misspecified.

Several ways of assessing model fit are used. One is comparison of the empirical and model-based covariance structures used within the GEE model for estimation. These should be close in value and match in pattern and sign (Ziegler, Kastner, and Blettner 1998). Another approach is to compare standard errors of parameter estimates with those generated from a traditional linear model; smaller standard errors within the GEE model suggest that this model fits better than the comparison model. A third method is to examine observation level statics for extreme outliers. Comparisons of analyses with and without these outliers should be similar in outcomes and indeed that is the case with this analysis.

A marginal $R^2$ has been developed for GEEs and is given by this equation:

$$R^2_{\text{marg}} = 1 - \frac{\sum_{t=1}^{T} \sum_{i=1}^{n} (Y_{it} - \hat{Y}_{it})^2}{\sum_{t=1}^{T} \sum_{i=1}^{n} (Y_{it} - \bar{Y})^2}$$

where $\bar{Y}$ is the marginal mean rather than the cross-sectional mean (Zheng 2000). Interpretation is similar to an $R^2$ for ordinary least squares. However, this calculation reflects proportional reduction in variation of the marginal model. The range for the marginal $R^2$ is -1 to +1, with the upper bound of +1 reflecting perfect prediction, 0 reflecting no association, and negative values indicating the null model has less variation than the fitted model (Zheng 2000).

**FINDINGS**
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Results from the GEE model are found in Table 2. At the bottom of the table, the marginal $R^2 (0.24)$ is reported along with the number of observations and the log likelihood of the model. The marginal $R^2$ indicates the GEE model is a better fit than the null case. Table 2 also provides the estimate, standard error, odds ratio, and the $p$-value for each parameter. The response variable is migration to the South and is modeled for migration to a destination in the South (value of 1). Odds ratios are interpreted as indicating the odds of a unit change in the response variable. Age in years is not significant at $p < 0.05$; marital status is significant at $p < 0.05$. All the other exogenous variables are significant at $p < 0.001$.

Individual characteristics representing human capital reflect differences in those migrants choosing destinations in non-traditional southern states and those going elsewhere in the country. Those migrants selecting southern states are likely to have slightly less education, slightly more likely to be single, likely to have slightly fewer children, and much less likely to have nonagricultural work experience. Notably, those migrants with southern destinations are more likely to have household assets including land, houses, property, or businesses.

Migration capital attributes are mixed and notable. The results indicate that migrants selecting southern destinations are in a sense more likely to be pioneers. They are less likely to have parents who migrated to the United States, but more likely to have siblings with migration experience. Their originating community is likely rural but with a relatively small percentage of experienced migrators. This lack of community migration experience is contradictory to some findings (Garcia 2005; Palloni et al. 2001). However, other research (Farmer and Moon 2009) has found that migrants to rural areas of the United States do indeed tend to be pioneers and that community-level social capital exhibits little influence (Fussell and Massey 2004). A close examination of the MMP data also indicates that the communities added to the survey data in the last several years are communities with little or no previous migration experience (Lee 2006; Princeton University and University of Guadalajara 1982-2009). These two factors combine to give the very low odds ratio in this model.

Two other variables are of particular interest. The first deals with rural destinations. The log odds for this variable is 1.3, indicating that rural destination increases the odds that the migrant selected a southern destination. In addition, migrating without documentation also increases the odds that the migrant arrived in a southern state.
Table 2. General Estimating Equation Model Results of Migration to the South

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>Odds Ratio</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-2.76</td>
<td>0.19</td>
<td>na</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Age in years</td>
<td>0.01</td>
<td>0.01</td>
<td>1.01</td>
<td>0.176</td>
</tr>
<tr>
<td>Age squared</td>
<td>-0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Married or in consensual union</td>
<td>-0.10</td>
<td>0.04</td>
<td>0.91</td>
<td>0.011</td>
</tr>
<tr>
<td>Number of children</td>
<td>0.06</td>
<td>0.01</td>
<td>1.06</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Educational attainment</td>
<td>-0.05</td>
<td>0.01</td>
<td>0.95</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Nonagricultural work experience</td>
<td>-0.73</td>
<td>0.04</td>
<td>0.48</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Domestic (internal) migration trips</td>
<td>0.06</td>
<td>0.01</td>
<td>1.06</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Owns land</td>
<td>0.18</td>
<td>0.05</td>
<td>1.20</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Owns house or property</td>
<td>0.27</td>
<td>0.04</td>
<td>1.31</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Owns business</td>
<td>0.31</td>
<td>0.06</td>
<td>1.37</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Parents have migrated to United States</td>
<td>-0.16</td>
<td>0.04</td>
<td>0.85</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Siblings have migrated to United States</td>
<td>0.26</td>
<td>0.03</td>
<td>1.30</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Percentage of adults in sending community that have</td>
<td>-6.31</td>
<td>0.17</td>
<td>0.00</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>migrated to United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migrated to rural destination in United States</td>
<td>0.26</td>
<td>0.06</td>
<td>1.30</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Originated from a rural community (rancho)</td>
<td>0.41</td>
<td>0.03</td>
<td>1.51</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Migration trip was after NAFTA</td>
<td>1.02</td>
<td>0.04</td>
<td>2.78</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Migration trip made without documentation</td>
<td>0.73</td>
<td>0.04</td>
<td>2.08</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Marginal R-square</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Observations Read</td>
<td>19,634</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Observations Used</td>
<td>19,105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Observations Weighted</td>
<td>235,903</td>
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<td></td>
<td></td>
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<tr>
<td>Log Likelihood</td>
<td>17,432</td>
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</tbody>
</table>
CORRELATES OF MEXICAN MIGRATION TO THE SOUTHERN US

DISCUSSION

Previous research suggests that migrants to the southern United States are likely to be young males with comparatively low levels of educational attainment, but who are remaining in the United States, getting married, and having children (Kochhar et al. 2005). A more detailed picture of recent Latino migrants to specific areas within the southern region suggests that migrants moving into Tennessee are not notably different in human capital attributes from Latino immigrants as a whole in the United States. (Drever 2005). In Kentucky, research (Barcus 2006) suggests that Latinos arriving in the 1990s were socially and economically diverse, differing across the rural-urban spectrum.

In the current, more aggregated model, differences are noted from these views of individual states. The individual characteristics presented here suggest that migrants to the South are, indeed, young males who are slightly more likely to be single or, if married, have more children than migrants to other regions. They are also slightly less educated than migrants going to other regions of the country, less likely to have nonagricultural work experience, and far more likely to be undocumented. This picture fits with earlier regional research and does little to challenge the stereotypical popular image of Mexican migrants.

However, other covariates provide details important for understanding the complexity of these recently-arrived migrants. Unlike earlier research (cf. Flores et al. 2004), household assets such as land or houses have a strong impact in the current model. In this analysis, owning land or a house both increase the parameter for migration destination in the South. Ownership of these assets may encourage out-migration for building capital to improve holdings or expand businesses because of the limited mortgage and lending market in Mexico and that this is particularly true for rural areas (Parrado 2004). A longer stay in the United States is associated with ownership of these assets (Reyes 2001; Reyes and Mameesh 2002).

Several other parameters are striking in this model. The originating community’s migration characteristics play little role in those individuals who choose the South as a destination. Cumulative causation theory (Fussell and Massey 2004; Massey 1990) would suggest the importance of the sending community’s migration experience. However, previous research (Farmer and Moon 2009) has suggested that more recent arrivals may indeed be “pioneers” and that changing conditions in Mexico have resulted in communities without prior migration history becoming active in sending migrants (Lee 2006). The combination of the very small influence of community migration capital with the relative lack of influence of...
family migration capital may be a result of migrants to the South being more likely to be the “pioneers” in their family.

In that case, the influence of other extended family and receiving community contacts and networks would play a pivotal role during out-migration. These types of social networks have been established as important in understanding migration decision making and behavior (Davis et al. 2002; Garcia 2005). Studies of recent Latino migration into the Midwest, another so-called “new destination” region, have demonstrated the important roles of recruiters from employers in the receiving communities as well as extended family connections (Grey and Woodrick 2005; McConnell 2001). Similar factors may be operating to increase migrants arriving in non-traditional areas in the South.

Significantly, migration to a nonmetropolitan community is strongly associated with increased likelihood of migration to these new areas of the South. Others have found suggestions of rural-to-rural migration patterns in the South (Torres et al. 2006), speculating that the driver may be linked to familiar rural environs. The results here provide empirical confirmation of the reality of rural-to-rural migration. Donato et al. (2008) profiled the native and foreign-born populations in nonmetropolitan counties between 1990 and 2000. They found Mexican-born residents in non-metropolitan counties to have lower education, higher poverty rates, larger families, and higher percentages of households with minor children than either other foreign-born or native-born populations. The findings here complement this profile by demonstrating the importance of additional characteristics including household assets and weaker migration ties for the new migration streams in the South.

Since 1990, a greater number of low-wage jobs in nonmetropolitan areas are being filled by Hispanics (Bureau of Labor Statistics 2009; Gibbs et al. 2005), reflecting the arrival of increasing numbers of immigrants. As demonstrated here, those immigrants are more likely to originate in a rural Mexican community, be less educated, lack legal documentation, and lack work experience beyond agriculture – all characteristics of those most likely to engage in low-skill, low-wage jobs.

Two other factors play into the matrix of indicators increasing the likelihood of selecting the South as a migration destination. The implementation of NAFTA clearly demarcated an increase in migrants choosing to move to the South. However, this period also coincided with record-high U.S. job creation and record-low unemployment, a climate that itself encouraged migration (Martin and Midgley 2006). In any case, the latter half of the 1990s saw tremendous documented and
undocumented migration into the southern United States. This unprecedented increase included many undocumented immigrants to both rural and urban areas (Farmer and Moon 2009; Passel 2005; Passel and Suro 2005). Those realities are reflected in the very substantial influence of the association between lack of documentation and time of arrival in the South presented in this model.

The rapid influx of Latino migrants has wrought tremendous changes, particularly in rural areas in non-traditional southern states. Communities that might otherwise have seen a net loss in population have experienced gains in population because of migration. Many communities that historically have experienced relatively little diversity have had to find ways to contend with cultural, linguistic, and religious differences. Health, education, and social services have been challenged in some communities by the relatively rapid changes in demographic structure as the number of children and young families has ballooned.

However, as evidenced by the results here, the migrants moving into Southern communities bring with them a variety of human and social capital characteristics. These migrants also likely own homes, businesses, and property in Mexico, suggesting experience with asset accumulation and perhaps business. These migrants are also likely to be from a rural community themselves and so may bring a more compatible worldview and set of values. Communities may find these recent migrants an underutilized human resource for increased economic and social vitality.

This research has examined a variety of individual, familial, community, policy, and time indicators influencing migration to the southern United States. It has established that the indicants of Mexican migration to the South clearly describe an immigrant population that is likely to be prime competition for low-skilled jobs in the United States but also has property assets in the originating community. Although recently arrived migrants in Southern communities may present some challenges in terms of assimilation and acculturation, they clearly also present positive opportunities for growth, economic expansion, and diversity in their new residences.

AUTHOR BIOGRAPHIES

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REFERENCES


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