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# THE IMPACT OF RETURN MIGRATION TO MEXICO\*

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**Resumen:** Cientos de miles de mexicanos salen de su país cada año para Estados Unidos. Casi la mitad de estos regresan dentro de los doce meses siguientes. Al utilizar una muestra de hombres en edad de trabajar (MxFLS), encontramos que ser migrante impacta en la probabilidad de empleo. En los estados fronterizos con EU, los migrantes que han regresado tienen menos probabilidad de trabajar. Pero este impacto no se observa cuando corregimos el modelo estadístico, considerando el hecho de que los factores que determinan la migración también pueden influenciar el empleo.

**Abstract:** Hundreds of thousand of Mexicans leave their country each year for the United States. Almost half these migrants return to Mexico within twelve months. Using a sample of working-aged males from (MxFLS) we find that being a return migrant affects the probability of employment. In states along the US border return migrants are less likely to be employed and those in the Central and Capital areas more likely. But these effects disappear when we correct for the fact that factors that determine migration also affect employment.

**Clasificación JEL:** O15, J21

**Palabras clave:** migration, Mexico, labor outcomes, MxFLS, resultados laborales

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## 1. Introduction

A standard model has emerged of the decision to migrate, in which a potential migrant makes decisions based on the costs and benefits of relocating (Borjas, 1999). A substantial number of migrants voluntarily return to their homeland, which suggests that the relative attraction of different places changes as an individual ages and gains experience. Reyes and Mameesh (2002), for example, found that close to half of migrants return to Mexico in under a year.<sup>1</sup> Although the reasons for returning vary, a question emerges as to what is the impact of return migration on success in the labor market of their country of origin.

Given the large number of Mexican immigrants moving to the United States, the substantial number returning, as well as the availability of data, we focus our analysis on Mexicans migrants who have returned to their home country after journeying to the United States for employment reasons. The impact of being a return migrant on employment is particularly relevant given proposals that have been made for a temporary worker program, which would allow immigrants to work in the United States before being required to go back to their home country. If implemented, this policy has the potential to create millions of return migrants. We want to determine if, controlling for other factors, return migration is associated with improved or deteriorated chances for labor market success in Mexico. We also use an instrumental variables approach to deal with the case that the decision to migrate might be endogenously determined.

One can easily imagine scenarios in which emigrating and then returning would improve employment prospects in the native country. Employers may regard potential workers who have spent time in the United States as having acquired valuable experience and training. Further, the potential employee may also be seen as displaying a willingness to get ahead, which might make the person a more attractive hire. On the other hand, someone who has been in the United States may have left a job in Mexico and might have difficulty finding one upon his or her return. Also, if the time spent in the United States

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<sup>1</sup> The number of legal immigrants from Mexico to the United States was 175,364 in 2004, about 19 percent of total Mexican immigrants (<http://uscis.gov/graphics/shared/statistics/yearbook/Yearbook2004.pdf>, table 3). Furthermore, the number of illegal immigrants is estimated at a number at least that large (<http://pewhispanic.org/files/reports/46.pdf>, page 6). Given that the population of Mexico is approximately 100 million, this represents a high level of migration and pool of potential return migrants.

has been substantial, some of the contacts and social capital that could lead to a job may be lost. Further, if the migration was for a specific goal - enough money to buy a home or accumulate funds for retirement, for example - the returning migrant might not feel as great a need to work.

We assess the impact of the break from the Mexican labor market associated with emigration by estimating a model of employment for Mexican men<sup>2</sup> age 15-65 years, some of whom have spent time working in the United States. A returning migrant is defined as someone who meets either of two criteria. The first is a person who migrated from Mexico to the United States for employment reasons, was in the United States for at least a year, and returned to Mexico no more than five years before the survey. The other group includes those who left for the United States for employment reasons, were gone for at least one month but less than a year, and have returned within the previous two years.<sup>3</sup>

Our results indicate that returning migrants are less likely to be employed when controlling for age, education, and marital status. The effect of migration also varies by geographic area. Migrants in the northern states that are not on the U.S. border actually have a higher probability of being employed and those in the border states have a lower probability, all else held equal. The effect of migrating to the United States for employment, however, disappears when we use an instrumental variables approach, where the probability of migration is estimated using historical migration rates and the household's access to migration networks to eliminate the endogeneity of the employment and migration decision, instead of just whether the person had migrated.

## 2. The Model

We posit a relatively simple and straightforward model of employment. The key variable of interest is return migration (*Migrant*), which is included in the model to find the impact of migration to the United States on employment. Although returning migrants tend to have lower levels of human capital than non-returnees (Reyes and

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<sup>2</sup> The vast majority of immigrants and returning immigrants were male so the model is estimated for males only.

<sup>3</sup> The results do not substantially change when only one of the two definitions is used.

Mameesh, 2002), they may have acquired skills while in the United States that improve their prospects in the domestic labor market. Recent work, however, suggests that employment in rural Mexico depends largely on social networks within the community, which are apt to become weaker in the migrant's absence (Araujo, de Janvry and Sadoulet, 2005).

Furthermore, other factors might lead to reduced employment. If a person migrates in order to reach a certain goal (e.g., purchase a home or earn funds for retirement), then he or she might return when the goal has been met and the need for employment may no longer be as strong. Also, employment in the United States might be seasonal in nature. Immigrants might return home to Mexico during slack periods of labor demand in the United States before making a return trip when demand revives. If the visit home is a relatively short one, then the search costs involved in finding a job while in Mexico might not be justified by a brief period of relatively low earnings in Mexico. Also, such a trip home might be more likely if the cost is modest. As a result, one would expect that those who live in areas close to the border would find the expense of traveling home between jobs in the United States lower and would be more likely to return to Mexico, but not to work.

Although a migration experience may have an impact on the possibility of subsequent employment, and even though we cannot state a priori the direction of the expected effect, still, another difficulty arises. The factors that determine employment may in fact be ones that are related to whether the person earlier had decided to migrate to the United States for work. For example, individuals who live in areas with a low level of migration to the United States may have been more likely to be employed in the survey year. Hence, we may get biased estimates if we just estimated a standard probit model. To avoid the problem we estimate a probit model with instrumental variables and in which an estimate of migration is used in lieu of migration, *per se*.<sup>4</sup>

One approach to instrument for migration is to utilize historical migration rates (see Woodruff and Zenteno, 2001; Hanson and Woodruff, 2003; McKenzie and Rapoport, 2004). We utilize data from Woodruff and Zenteno (2001), which measures the level of migration in the 1950s from the respondent's state of residence to instrument for current migration. If there is a high degree of migration from a

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<sup>4</sup> For a discussion of the use of instrumental variables in models such as this see Angrist and Krueger (2001).

person's home state to the United States the information costs associated with going to the United States will be lower and the probability of a migration experience higher. We use the 1950 level of migration rather than current migration levels as the more recent levels could be correlated with the current labor market conditions, and hence employment. In addition we use another instrument, whether other family members have migrated to the United States for employment. Someone considering migration often can depend on the relative as a source of information and support. This contact, too, might increase the probability of migrating to work in the United States. Both the family migration and level of migration in 1950 are interacted with the regional variables as well in the migration equation. Since there is more than one state represented in each region the interactions also control for variation within the region.<sup>5</sup>

We attempt to control for a number of factors in determining the impact of return migration on employment. The probability of employment also depends on personal and demographic characteristics as well as community measures. In looking at personal characteristics, employment may be seen as a function of age. A person's age is correlated with the level of experience, and in the case of a developing nation such as Mexico, strength and stamina. Marital status is also seen as influencing employment. Certainly having a wife to support can increase the effort spent finding a job. Also, some of the characteristics that are associated with finding a spouse (e.g., ambition, determination, etc.) can be seen as making a person more likely to find a job as well.<sup>6</sup> Education probably has an impact on employment, with increased levels of education being predicted to increase the chances of employment.

The locality may also affect the chances of securing work. We have used a series of dummy variables for size of the municipality of residence. Further, different regions of Mexico may have differing institutional structures and levels of economic activity as well as being located closer to or farther from the border, which affects the cost of migration. Hanson (2004) provides evidence that regional wages vary inversely with the distance to Mexico City and the United States. The same investigator also finds that, since NAFTA went into effect,

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<sup>5</sup> Omitting either instrument does not substantially influence the results.

<sup>6</sup> Although it is possible that there might be an income effect in that having a wife who works might reduce the need for a male to work, this is not viewed as likely in light of the more traditional nature of Mexican society. The labor force participation of married wives and their resulting level of income are both probably rather low.

the impact of the distance to the US on regional wages has increased, while distance to Mexico City has become less important. We have formed regional dummies to measure these impacts. We also construct interaction variables of migration with the regional variables. Those along the border may be slightly different than their counterparts as well as having lower costs of returning home and being more likely to return home after having earned "enough money".

### 3. Data

We use the Mexican Family Life Survey (MxFLS), a nationally representative sample that covers 8,400 Mexican households and 35,000 individuals in 150 communities across the country. The sample design was constructed by the *Instituto Nacional de Estadística, Geografía e Informática* (INEGI), a government unit that collects and organizes statistical information. The sample units were selected to be representative of the nation as a whole and also at rural-urban and regional levels.<sup>7</sup> The survey is intended to monitor changes in the social, economic and demographic changes that are occurring in Mexico. It was conducted in August 2002 and the sample consisted of people residing in Mexico.<sup>8</sup> All members of the household were interviewed, so responses are from the person in the sample rather than the head of the household or some other designated respondent. Having the respondents' own answers to detailed questions is something lacking in other surveys and should provide a high degree of accuracy about decision making.

The sample consists of males, as they comprise 90% of the returning migrants. The MxFLS defines permanent migrants as men who were gone for at least one year and temporary ones as people who have been gone for at least one month but less than 12. We felt a migration experience in the distant past would not have much effect currently, especially for short-term migrants. To factor this in we define return migrants as people residing in Mexico who have worked in the United States for one year in the last five years or for at least one month in the last two years. The sample contains approximately 6,200 males of working age.<sup>9</sup>

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<sup>7</sup> For more details on the survey, see <http://www.radix.uia.mx/ennvih>.

<sup>8</sup> The MxFLS will become a panel data set as waves from 2005 and 2008 are added. The 2005 wave of data, however, is not yet available.

<sup>9</sup> We had data on 6,800 people. The survey covered households in 15 states

Approximately two percent of the sample meets the criteria of a returned migrant. A comparison of means of the independent variables in table 1A reveals some differences between migrants and non-migrants.<sup>10</sup> In looking at returned migrants, we see that 84.7% were employed compared to 86.4% of non-migrants, although this difference is not significant using a standard t-test ( $T\text{-value} = 0.51$ ).<sup>11</sup> The returned migrants were on average five years younger, one third as likely to possess a college degree, and nine percentage points less likely to be married than the others. All of these differences were statistically significant at the .05 level. Moreover, the returned migrants were more likely to reside in towns (*municipios*) of under 2,500 in population and less likely to be in cities in excess of 100,000. These differences were significant at the .05 level as well.<sup>12</sup>

Variables are defined in table 1A, which includes measures of education and controls for household and community characteristics that may affect employment. Most of the definitions are straightforward. We use a series of dummy variables to measure educational attainment. Elementary education (*primaria*) is grades 1-6 and secondary (*secundaria*) grades 7-9. Open secondary and open high school represent special schools designed for returning adult students. The level "no education" serves as the omitted category in our equations. Also, the MxFLS marriage variable contains a category that is translated into English as concubinage, which represents a couple that is living together. The marriage variable counts those who are either classified as in concubinage or formally married. Those who are separated, divorced, widowed, and single are all treated as not married. Data were used for 13 of Mexico's 31 states as well as the federal district (*Distrito Federal*). The states were then grouped into four regional categories; Border (*Coahuila*, *Nuevo León* and *Sonora*), North (*Baja California Sur*, *Durango* and *Sinaloa*), Center (*Guanajuato*, *Jalisco*, *Michoacán*,

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as well as the federal district of Mexico City. These areas were divided into six regions. We found that there were only two returned migrants in the Southern region and none in the Yucatan. These two regions were dropped from the analysis, reducing the total sample size to 6,206.

<sup>10</sup> All descriptive statistics are reported using unweighted means. The use of weights in the descriptive statistics or in the regressions does not substantially change the results.

<sup>11</sup> Employment includes self-employment in a family business.

<sup>12</sup> Overall these statistics suggest some minor differences between migrants and non-migrants. In a future work we plan to utilize the second panel wave of the MxFLS to control for potential endogenous factors that might lead to migration.



*Morelos, Puebla and Veracruz*), and Capital (*Distrito Federal and Estado de México*).<sup>13</sup>

The returned migrants were less likely to reside in the Border region, but more likely to be in the Northern region, in the states immediately to the south of the border area. These regional differences, however, were significant at only the .10 level. It is interesting to note that Lindstrom (1996) found that Mexican immigrants were more likely to stay in the United States for a longer period of time if the level of economic activity was higher in their home community in Mexico. His reasoning was that the funds earned in the United States would have a higher rate of return upon their return home in economically active communities. In the North, with a greater number of returned migrants, 83.7% of the sample was employed compared to 84.6% in the Border region, where fewer returned migrants were to be found. Our finding of fewer migrants in the Border region, where the employment prospects are better, is consistent with Lindstrom's finding.

Table 1B presents descriptive statistics for the variables used in the equation to estimate the migration variable. A binary variable was created to measure whether or not the respondent had a family member in the United States. Consistent with our expectation that having such a relative would be associated with a migration experience by the respondent, we see that 89% of the migrants had a relative in the United States compared to only 51% of the non-migrants. The difference was statistically significant as well. The second instrument is the rate of out-migration from the Mexican state of residence to the United States in the 1950s. This instrument appears to be associated with being a return migrant as the average state migration rate of return migrants was 2.9% compared to 1.7% for non-migrants, this difference is statistically significant at the 5% level. The 1950s migration rate was also greater within a region for return migrant within a region, too, was statistically significant for the North and Central regions but not, however, for the Capital region.

#### 4. Results

Table 2 presents the results of estimating the model without correcting for the fact that migration may be related to the factors that determine employment as well. The results of the probit model for

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<sup>13</sup> Regional categories were taken from Hanson (2004).

**Table 1A**  
*Descriptive Statistics by Migrant Status: Employment Equation*

<i>Variable</i>	<i>Variable Definition</i>	<i>Whole Sample</i>	<i>Mean Non-Migrants</i>	<i>Returned Migrants</i>
Employed	= 1 if employed; = 0 otherwise	0.864	0.864	0.847
Unemployed	= 1 if unemployed; = 0 otherwise			
Migrant	= 1 if returned migrant; = 0 otherwise	0.019	0.00	1.00
Age	= age	36.71	<b>36.81</b>	<b>31.65</b>
Agesq	= age * age	1531.47	<b>1539.73</b>	<b>1105.26</b>
Elementary	= 1 if highest level of education elementary; = 0 otherwise	0.42	0.42	0.47
Secondary	= 1 if highest level of education secondary; = 0 otherwise	0.28	0.28	0.29
Opensecondary	= 1 if highest level of education open secondary; = 0 otherwise	0.01	0.01	0.01
Highschool	= 1 if highest level of education high school; = 0 otherwise	0.11	0.11	0.12
Openhighschool	= 1 if highest level of education open high school; = 0 otherwise	0.01	0.01	0.01
Normbas	= 1 if highest level of normal basic; = 0 otherwise	0.01	0.01	0.00

**Table 1A**  
(continued)

<i>Variable</i>	<i>Variable Definition</i>	<i>Whole Sample</i>	<i>Mean Non-Migrants</i>	<i>Returned Migrants</i>
College	= 1 if highest level of education college; = 0 otherwise	0.09	<b>0.09</b>	<b>0.03</b>
Noeducation	= 1 if no education; = 0 otherwise	0.07	0.07	0.08
Married	= 1 if married spouse present; = 0 otherwise	0.69	<b>0.70</b>	<b>0.61</b>
North	= 1 if reside in Northern state; = 0 otherwise	0.22	0.22	0.28
Center	= 1 if reside in Central state; = 0 otherwise	0.42	0.42	0.47
Capital	= 1 if reside in Capital area state; = 0 otherwise	0.11	0.11	0.08
Border	= 1 if reside in Border state; = 0 otherwise	0.25	0.25	0.18
North*migrant	= migrant*North	0.005	<b>0</b>	<b>0.28</b>
Center*migrant	= migrant*Center	0.009	<b>0</b>	<b>0.47</b>
Capital*Migrant	= migrant*Capital	0.001	<b>0</b>	<b>0.08</b>
Border*migrant	= migrant*Border	0.004	<b>0</b>	<b>0.18</b>
mun100up	= 1 if residence municipality of 100,000+; = 0 otherwise	0.37	<b>0.37</b>	<b>0.24</b>

Table 1A  
(continued)

<i>Variable</i>	<i>Variable Definition</i>	<i>Whole Sample</i>	<i>Mean Non-Migrants</i>	<i>Returned Migrants</i>
mun15up	= 1 if residence municipality 15-100,000; = 0 otherwise	0.09	0.09	0.10
mun2half	= 1 if residence municipality 2,500-10,000; = 0 otherwise	0.10	0.10	0.11
Munsmall	= 1 if residence of municipality less than 2,500; = 0 otherwise	0.44	<b>0.43</b>	<b>0.55</b>
Size		6206	6088	118

Source: MxFLS. Figures in bold have a difference in the means for migrants and non-migrants that is statistically significant at the .05 level

**Table 1B**  
*Descriptive Statistics by Migrant Status: Migration Equation*

<i>Variable</i>	<i>Variable Definition</i>	<i>Whole Sample</i>	<i>Mean Non-Migrants</i>	<i>Returned Migrants</i>
migr_fam	= 1 if other family member in United States; = 0 if not	0.52	<b>0.51</b>	<b>0.89</b>
Migr50	= state rate of migration to the United States, 1950, percent	1.73	<b>1.71</b>	<b>2.88</b>
North*fam	= North * migr_fam	0.14	<b>0.14</b>	<b>0.27</b>
Capital*fam	= Capital * migr_fam	0.05	0.05	0.07
Center*fam	= Center * migr_fam	0.22	<b>0.22</b>	<b>0.41</b>
North*50	= North * Migr50	0.50	<b>0.49</b>	<b>1.27</b>
Capital*50	= Capital * Migr50	0.06	0.06	0.05
Center*50	= Center * Migr50	0.71	<b>0.70</b>	<b>1.32</b>

Source: The migr\_fam and regional measures are taken from the MxFLS. The Migr50 is taken from Woodruff and Zenteno (2001).

employment are presented along with the marginal probabilities calculated at the mean. In addition to the variables discussed above, we include three regional terms that are each interacted with the migration variable to examine if the impact of return migration on employment differs across regions. Statistically significant coefficients at the .05 level are in bold and those at the .10 level in italics. Controlling for other factors, returned migrants are less likely to be employed. The effect is statistically significant and amounts to a fifteen percentage lower probability of being employed.

**Table 2**  
*Probit on Employment*

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>Marg. Effect</i>	<i>Standard Error</i>
Migrant	<b>-0.782*</b>	<b>0.293</b>	<b>-0.154</b>	<b>0.058</b>
Age	<b>0.102</b>	<b>0.010</b>	<b>0.020</b>	<b>0.002</b>
Agesq	<b>-0.001</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
Elementary	0.056	0.080	0.011	0.016
Secondary	<i>0.152</i>	<i>0.091</i>	<i>0.030</i>	<i>0.018</i>
Opensecondary	<b>0.594</b>	<b>0.275</b>	<b>0.117</b>	<b>0.054</b>
Highschool	0.051	0.104	0.010	0.021
Openhighschool	-0.159	0.227	-0.031	0.045
Normbas	0.352	0.271	0.069	0.054
College	0.144	0.109	0.028	0.021
Married	<b>0.456</b>	<b>0.054</b>	<b>0.090</b>	<b>0.011</b>
North	-0.033	0.060	-0.006	0.012
Center	<b>0.174</b>	<b>0.054</b>	<b>0.034</b>	<b>0.011</b>
Capital	<b>0.152</b>	<b>0.077</b>	<b>0.030</b>	<b>0.015</b>
North*Migrant	<i>0.728</i>	<i>0.404</i>	<i>0.144</i>	<i>0.080</i>
Center*Migrant	<b>1.155</b>	<b>0.409</b>	<b>0.228</b>	<b>0.081</b>
Capital*Migrant	0.077	0.554	0.015	0.109
mun100up	0.014	0.050	0.003	0.010

Table 2  
(continued)

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>Marg. Effect</i>	<i>Standard Error</i>
mun15up	-0.110	0.076	-0.022	0.015
mun2half	-0.018	0.075	-0.003	0.015
Constant	<b>-0.837</b>	<b>0.184</b>	<b>-0.165</b>	<b>0.036</b>

Bold indicates statistical significance at .05 level, italics at .10 level. n= 6,206, Pseudo  $R^2 = .09$ .

The migration variable was interacted with the regional dummy variables and the Border area served as the omitted category. Migrants from the Central region, however, were 22 percentage points more likely to be employed and those from the North over 14. The first effect is significant at the .05 level and the latter at .10. Thus, we see that return migrants in the Central area are actually more likely to be employed than males with similar characteristics who had not had a migration experience. For the North the impact is about a one percentage point lower chance of being employed, but for those in the Border area we find that they are much less likely to be employed than those who have not experienced a migratory trip to the United States. Although the reasons for this are not apparent from the model, it is possible that those living close to the border believe it is easier and less costly to cross again in the future and that the trip home might be a shorter one for rest and a visit and not a longer one with employment.

The results for the remaining coefficients are in line with our expectations. Both Age and Agesq were statistically significant at the .05 level and the probability of employment rises until a peak at 35.4 years. People with a secondary education, equivalent to ninth grade, both in regular as well as the open schools, were more likely to be employed. Those who were married were nine percentage points more likely to be employed. Both of these effects were statistically significant at the .05 level. Regionally, those in the Center states (*Guanajuato, Jalisco, Michoacán, Morelos, Puebla* and *Veracruz*) and the Capital area (Mexico City and the surrounding State of Mexico) were each predicted to be three percentage points more likely to be employed than the Border area, *ceterus paribus*. These effects were

significant at the .05 level. However, none of the other independent variables were significant at even the .10 level.

A separate model, not presented, added two more variables, but neither was statistically significant. The first was the number of correct answers in a cognitive ability test designed to measure innate ability. Although it required the taker to match patterns in pictures, thus eliminating the impact of literacy, it did not have a significant impact on employment. The second variable controlled for the local labor market. Lindstrom (1996) noted that the level of economic activity at the local level might affect employment. As most males will be either working or seeking employment regardless of the economic climate, he suggests using the share of women that are in the labor force. We constructed such a measure at the *municipio* level and used it as an independent variable, but it did not have a statistically significant effect.<sup>14</sup>

The results in table 2 show how various factors affect the probability of employment. In viewing the impact of a migration experience, we see that although migrants in general were less likely to be employed, return migrants in the Central area were more likely to be employed, those in the North slightly more, and those from the Border region much less likely to be employed. The question, however, is whether the factors that affected migration also helped determine whether or not a person chose to migrate. In order to find the answer to that question we use an instrumental variables estimate of migration in the employment equation.

Since our model of employment uses migration as well as migration interacted with three region variables (North, Capital and Central), we had to estimate four variables; migration and the three interaction variables of migration with each of the regions. Table 3 presents the results for the migration equation. As Angrist and Krueger (2001) suggest that an ordinary least squares (OLS) estimate of a binary variable such as migration may be preferable in the instrumental variable estimator in the employment equation, we present these OLS results. It can be seen that having family members in the United States increased the probability of migrating to the US. The effect was statistically significant at the .05 level, although three regional variables were not statistically significant when interacted with having a family member who has migrated to the US. This suggests that the impact on migration of having a family member in the US

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<sup>14</sup> The results with the cognitive ability and female labor force participation variables are available from the authors by request.



does not vary by region. The level of migration in 1950 from the state to the US had a negative relationship with the decision to migrate and the effect was statistically significant at the .10 level. Although this was surprising, the effect was positive and significant at the .05 level for the state's 1950 migration level when interacted with both the north and central regions. The implication is that regional variation in migration rates plays an important role in predicting migration.

**Table 3**  
*Migration Equation*

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>
migr _ fam	<b>0.015</b>	<b>0.007</b>
Northfam	0.008	0.010
Capitalfam	0.010	0.012
Centerfam	0.008	0.009
Migrants50s	-0.006	0.003
North50	<b>0.014</b>	<b>0.004</b>
Capital50	0.021	0.025
Center50	<b>0.013</b>	<b>0.004</b>
Age	<b>0.002</b>	<b>0.001</b>
Agesq	<b>-0.00003</b>	<b>0.00001</b>
Elem	-0.007	0.007
Secondary	-0.011	0.008
Opensec	-0.016	0.018
Highsc	-0.007	0.009
Openhs	-0.012	0.020
Normbas	-0.024	0.019
College	-0.016	0.009
Married	-0.004	0.005
North	<b>-0.026</b>	<b>0.010</b>
Center	<b>-0.021</b>	<b>0.009</b>
Capital	-0.022	0.015

**Table 3**  
(continued)

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>
mun100up	<b>-0.010</b>	<b>0.004</b>
mun15up	0.002	0.006
mun2half	-0.002	0.006
Constant	0.006	0.018

Bold indicates statistical significance at .05 level, italics at .10 level. n= 6172,  $R^2 = 2.5\%$ .

**Table 4**  
*Instrumental Variable Probit on Employment*

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>
Migr	4.587	4.214
Age	<b>0.099</b>	<b>0.010</b>
Agesq	<b>-0.001</b>	<b>0.000</b>
Elem	0.064	0.084
Secondary	0.166	0.097
Opensec	<b>0.623</b>	<b>0.280</b>
Highsc	0.046	0.108
Openhs	-0.110	0.237
Normbas	0.379	0.281
College	0.159	0.115
Married	<b>0.473</b>	<b>0.058</b>
North	0.029	0.094
Center	<b>0.242</b>	<b>0.086</b>
Capital	0.158	0.112
Northmigr	-4.757	4.596
Capitalmigr	-1.271	6.350
Centermigr	-4.453	4.634

**Table 4**  
(continued)

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>
mun100up	0.008	0.054
mun15up	-0.158	0.086
mun2half	-0.016	0.077
Constant	<b>-0.876</b>	<b>0.196</b>

Bold indicates statistical significance at .05 level, n= 6172.

Although the determinants of migration are of interest in themselves, when we use the instrumental estimates of migration and the three interaction variables in the employment equation, the effect of migration no longer has an effect that is statistically significant. Further, when we estimated the model separately for each of the four regions, i.e., a switching regression, we did not find a statistically significant effect of migration on employment.<sup>15</sup> In short, when we use an instrument for migration, the impact of a migration experience on employment disappears. It is conceivable that the migration experience might make some respondents more employable due to the acquisition of human capital while in the United States and perhaps make it difficult for others to find jobs when their social connections are broken through time in the United States. The net result is that the migration experience does not appear to have an effect on the probability of employment when we correct for those factors that are associated both with past migration as well as the current decision to work.

The model was also estimated to determine the effect of migration on earnings. The model was estimated using ordinary least squares and only for those in the sample that were both employed and reported positive earnings (see table 5 for these results).<sup>16</sup> In addition to migrant status the same variables used in the prediction of employment status were used in the earnings estimation equation. Overall being a migrant did not impact reported wages for those employed in any of the regions.<sup>17</sup>

<sup>15</sup> The results of these models are also available from the authors on request.

<sup>16</sup> Earnings include both employment income and self-employment income.

<sup>17</sup> Separate estimations, which omit the interaction of region and migrant sta-

**Table 5**  
*Ordinary Least Squares Earnings Regression*

<i>Variable</i>	<i>Coefficient</i>	<i>Standard Error</i>
Migrant	-11731.8	17934.53
Age	121.0263	473.3341
Agesq	-3.70475	5.89034
Elementary	1636.974	3982.053
Secondary	2564.285	4309.452
Opensecondary	2428.28	9372.587
Highschool	<b>10437.85</b>	<b>4794.785</b>
Openhighschool	<b>27235.07</b>	<b>10288.8</b>
Normbas	<b>34302.47</b>	<b>8894.869</b>
College	<b>34893.57</b>	<b>4791.867</b>
Married	2197.022	2434.204
North	<b>-6878.12</b>	<b>2730.754</b>
Center	<b>-7097.89</b>	<b>2331.204</b>
Capital	4056.142	3173.593
North*Migrant	7023.868	22609.59
Center*Migrant	7954.896	20591.53
Capital*Migrant	-11720.2	34698.69
mun100up	<b>10710.83</b>	<b>2112.38</b>
mun15up	1237.82	3336.468
mun2half	3139.686	3199.399
Constant	<b>15339.29</b>	<b>9099.238</b>

Bold indicates statistical significance at .05 level,  $n = 4,387$ ,  
 $R^2 = 5.0\%$ .

White Test for Heteroskedasticity  
 $\chi^2(142) = 150.56$  Prob >  $\chi^2 = 0.2954$ .

tus, do not change the results (these results are available upon request). In addition, using a Heckman model does not substantially change the results of the wage equation.

## 5. Conclusion

The level of Mexican migration to the United States has been high in recent years, as has the level of return migration. We use the Mexican Family Life Survey to investigate the impact of a return migration on the employment of males ages 15 to 65. We use an instrumental variables approach by estimating the probability of migration to eliminate the confounding effect that might occur if the decision to migrate might be endogenous. When we use an approach without such a correction, our results indicate that such an experience has a negative impact on employment probabilities for those residing in the Border region, but actually increases employment for those in the Northern region. Men in the Northern states, immediately south of the Border states, are actually seven percentage points more likely to be employed, *ceteris paribus*, than similar people who have not migrated to the United States for employment. It is unlikely that the level of migration of Mexican males to the United States will substantially subside in the near future. As these migrants return to Mexico, we see that the employment impact tends to be negative, especially for people now residing in Mexican border states. The impact, however, is just the opposite for those in the Central area.

These results, however, change dramatically when we use instruments for migration that include whether the respondent had a family member who migrated and the level of migration out of the state to the United States in 1950. The impact of migration disappears. It is possible that the migration experience could improve the prospects of employment for some who acquire human capital and decline for those who lose social contacts (capital) being away, but the net effect is not statistically significant. Therefore, when correcting for the factors that influence the decision to migrate, we find that the experience itself has no net effect.

Although the United States did not enact immigration reform legislation in 2007, the possibility of a guest worker program remains a distinct possibility in the near future. Such a program would lead to migration to the United States by Mexican workers as well as their eventual return. Our work indicates that there will be no net impact of this employment experience in the United States. Workers in Central and Northern Mexico who have been employed in the United States may be more likely to work upon their return, but the effect appears to be related to the factors that lead to migration in the first place and not the migration itself.

Mexico has more than 100 million inhabitants as well as socioeconomic circumstances that vary dramatically by place and among

individuals. As a result, the relationship between migration and local employment cannot be captured by a few simple generalizations, although economic forces clearly drive individual decisions. As the MxFLS continues and available data expand longitudinally, the impacts of these forces and the nature of the critical relationship that is the focus of this paper ought to become clearer.

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