What Makes You Go Back Home?

Determinants of the Duration of Migration of Mexican Immigrants in the United States.

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This Draft: October, 2006

Abstract

This paper examines the optimal migration duration of Mexican immigrants in the United States using data from the Mexican Migration Project (MMP). A simple theoretical model rationalizes the decision of the migrant to return to Mexico, despite higher wages in the United States. I use the Cox proportional hazard model to examine the determinants of return migration of Mexican immigrants. This paper contributes to the literature by introducing distances from origin states in Mexico to destination states in the U.S. as a proxy for costs of migration and also uses a U.S. expected wage measure instead of the average U.S. real wages. The empirical analysis shows that the optimal migration duration increases as the U.S. expected wage increases. Importantly, tighter U.S. migration policies have an ambiguous effect on the optimal migration duration while longer distances decrease the hazard of return to their state of origin.

Keywords: Illegal Migration, Border Enforcement, Duration Models, Mexico.

JEL Classification: F22, C41, J61,

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1 Introduction

The evolution of Mexican migration to the US is generally understood to be the result of several forces that encourage migration. Theoretical models and recent studies on Mexican migration have suggested a dynamic pattern of cross-border migration in which the economic situation in Mexico and the US, as well as the presence of relatives in the US, determine the location and length of stay of Mexican migrants (Massey et al., 1987; Hanson and Spilimbergo, 1999; Lindstrom, 1996). Migration literature has indicated three major reasons for people to migrate to the US. First, the difference in real wages between the US and Mexico is considered the most important reason why Mexicans choose to migrate (Hanson and Spilimbergo, 1999; Chiquiar and Hanson, 2002). Migration occurs under the implicit assumption that observed behavior is preceded by a desire to migrate. This is based on the seminal work by Stjaastad (1962) in which migration is viewed as an investment decision. An individual decides to migrate if the expected discounted difference in the income stream between two places exceeds moving costs.

The second reason is the existence of job and social networks among Mexican immigrants in the US. Previous literature suggests that the most important determinant of immigrants' locational choices within the United States. is the presence of earlier immigrants. For example, we would expect that the probability of an immigrant living in a certain city is positively correlated with the fraction of the same ethnic population that resides in the area. (Bauer et al., 2003; Bartel 1989). Moreover, highly educated immigrants tend to be less geographically concentrated than less educated immigrants.

Third, the US demand for unskilled labor. Labor market conditions may not affect the locational choice but most definitely will impact the length of stay. Bartel (1989) found that Hispanics are less likely to live in areas with high unemployment rates. High unemployment levels in the US are likely to positively impact the amount of time Mexican immigrants stay in the US.

Despite a wide literature on the incentives of Mexican Immigrants to move to the US, little we know about the determinants of duration in the US by Mexican immigrants. Return migration may occur despite a positive wage differential for two reasons. First, a

relatively high preference for consumption at home, this means that the preference to stay in Mexico for longer periods of time is higher when the family resides in Mexico and owning a property in Mexico. Secondly, a higher purchasing power of the dollar in Mexico. In the past, Mexico has suffered peso collapses that suddenly increased the purchasing power of the dollar. These conditions may incentive an *earlier* return since his savings increased in relative terms. An important issue is the role that expected wage returns play on the optimal migration duration. Intuition suggests that the optimal duration of the migrants in the host country increases if the expected wage increases.

In the past, temporary migrations were frequent, and often the rule rather than the exception in the case of Mexican immigrants. This pattern may be changing due to tighten of the border between Mexico and the United States. Recent evidence suggests that an increasing proportion of migrants eventually settle permanently in the United States (Vernez and Ronfelt, 1991). Moreover, Angelucci (2005) finds that while increased border enforcement discourages migrants from crossing into the United States, it may discourage the return to Mexico of migrants already in the United States. Even so, temporary migrants still constitute a significant portion, if not a majority, of Mexican migrants to the US. Importantly, a change in the duration pattern of migration trips of migrants to the U.S. towards longer spells implies that the United States is experiencing an increase in the number of illegal migrants residing within its borders. Important consequences of a more permanent illegal population, such as a higher use of public services and goods, have contributed to make migration reform a top policy issue in the U.S.

There is previous research that analyzed international return migration intentions among guest workers in Germany. Dustman (2001) highlights the existence of further motives for a return migration, these are a high purchasing power of the host country currency in the migrant's home economy, and higher returns in the home economy to human capital accumulated during the stay in the host country. Waldorf (1995) shows that return migration is influenced by residential and job satisfaction and stage of the life cycle. In the case for Mexico, Lindstrom (1996) finds that migrants from economically dynamic areas in Mexico with favorable opportunities for employment and higher returns to small capital investment have a larger incentive to come to the US. This is

counterintuitive because we would expect that the lack of opportunities in Mexico is the main driving force for migrants to cross the Mexico-U.S. border. But at the same time, we see that illegal migrants come from different social and economic classes as well as from a diverse array of locations.

In this paper, I argue that the relation between duration of migration trips and forces that spur migration (i.e. individual characteristics, location choices, labor market conditions), are important and interdependent - the duration of migration trips will depend on the locational choice, the type of employment available, *paisanos*[2] living in the area but at the same time, where the migrant chooses to go may be dependent on how long they are planning to stay. Therefore, a clear understanding of the determinants of trip duration is crucial for evaluating future U.S. migration policies. In this paper, I develop and test a simple theoretical model of migrant's trip duration that incorporates social and economic factors in Mexico and in the United States. This paper fills a gap in the migration literature by analyzing the factors that increase or decrease the length of stay of Mexican immigrants in the United States, an issue widely ignored in the migration literature. By analyzing how much time individuals spend in the United States, we can describe how the duration of migration varies across individuals and in subsequent migrations. This study will examine whether demographic characteristics, economic conditions or social networks drive the duration of Mexican immigrants in the United States. Moreover, two new variables are introduced in the analysis. First, the distance in miles between the origin state in Mexico and the destination state in the United States. This distance accounts for the transportation costs an individual incurs when migrating. Secondly, instead of just using the average U.S. real wage, I use an expected U.S. wage for each migrant, which is a function of unemployment rate level and the average U.S. real wage. This study also compares if these durations have changed across migration trips: we determine whether the characteristics that drove the duration of the first migration trip are the same for the last migration trip undertaken by the migrant.

The sample is a cross-section of 2375 individuals aged 15-64, who report the duration of their first trip to the United States. A second sample is also a cross-section of 2658 individuals who report the duration of their last trip to the United States. The survey

[2] Paisanos refers to individuals from the same origin community in Mexico.

is from the Mexican Migration Project (MMP)[3] which is a survey constructed jointly by research centers based in Mexico and the US from 1982 to 1999. This study focuses on the migration experience and social characteristics of Mexican migrants who have migrated to the United States and some of them have never returned to Mexico.

This paper uses the Cox proportional hazard model to estimate the impact of characteristics of the individual, household, destination and origin areas, and U.S. migration policy on the hazard of returning to Mexico. I find that the U.S. expected wage and changes in the United States migration policy have a significant impact on the hazard of returning to Mexico, especially for the latter migration.

The use of the Cox proportional hazard model to study return migration of Mexican immigrants is a building block for future estimations. The model poses challenges, which I address, while at the same time it offers several advantages over alternatives. First, the Cox proportional hazard model makes use of all the available information in observations for Mexican immigrants who migrated to the US and have not returned to Mexico at the time of the survey (8% and 25% of migrants in the first and last migration sample, respectively, never returned to Mexico), as well as for those who have already returned to Mexico. Second, the model yields estimates of baseline hazards, establishing, for example, that the migrants who are proficient in English have a lower hazard of return relative to those do not speak or understand English. Third, the model allows very flexible specifications; it appears that the effect of migration policy on the hazard of return to Mexico falls as the probability of being apprehended increases, while a tighter U.S. migration policy increases the hazard of returning to Mexico. As a consequence, we have an ambiguous effect of the migration policy on the duration of migration by Mexican immigrants.

This study is organized as follows. First, I present a simple theoretical migration model that illustrates the relationship between wage differentials and optimal migration duration. Secondly, I analyze empirically the individual and economic characteristics that modify the length of stay in the US. Third, I provide estimates that test whether Mexican immigrants are deciding to stay longer in the US (therefore forming a more permanent illegal community in the US), or, they are choosing to stay for shorter periods of time

[3] The survey can be found at: http://www.pop.upenn.edu/mexmig

(suggesting a repeated migration pattern that moves back and forth between Mexico and the US). Finally, policy implications and future lines of research are presented in the conclusions of this paper.

2 The Conceptual Framework: Optimal Migration Duration

The purpose of this section is to construct a simple theoretical model of migration that illustrates the relationship between wage differentials and optimal migration durations.[4] The economy starts at some initial point in time, $t = 0$. The individual dies at time (T). The migration pattern between Mexico and the US results from individual decisions of potential migrants who are individuals age 15 to 64. Also, assume that migration results from a positive difference in real wages between US and Mexico and the existence of social networks in the US. Individuals choose the optimal migration duration given a positive wage differential between Mexican and US wages $\left(w^{mx} < w^{us}\right)$. Assume wages in Mexico and US are constant throughout a lifetime and that there is a continuum of migrants with different abilities and heterogeneous migration costs. The utility function also depends on the consumption preferences by the migrant $\left(c^{us}, c^{mx}\right)$ and assumes that the migrant will have an appetite for consumption in both places. Every month, a migrant decides whether to stay in the US or return to Mexico. If the immigrant decides to return to Mexico, then temporary migrations occur. It is assumed that the migrant chooses the optimal duration in the US and will return at $\hat{t}$, which occurs when $\hat{t} \in (0,T)$. However, given the parameters of the model, different abilities will be associated with varying optimal migration durations, including $\hat{t} = 0$ and $\hat{t} = T$, which refer to permanent migrations. Permanent migrations occur when individuals choose to stay in Mexico or in the US for their lifetime.

This study only considers the case of interior solutions, which is where we have temporary migrations. To simplify the analysis there is no uncertainty in the model. To

[4] This model is based on the one developed by Dustmann and Kirchkamp (2001). This model is more simplistic since we are not interested in the activity a migrant pursues once thay have returned to their place of origin. However, the model still captures the essential tradeoff between staying longer in the US and returning to Mexico.

represent the choice problem, assume the existence of a utility function representing individual preferences. The migrant's lifetime utility function is given by

$$U = \sum_{\tau=1}^{\hat{t}} u\left(\mu^{us}, c^{us}\right) + \sum_{\tau=\hat{t}+1}^{T} u\left(\mu^{mx}, c^{mx}\right) \tag{1}$$

since it was assumed that wages $\left(w^{mx}, w^{us}\right)$ are constant throughout a lifetime, the utility function simplifies to:

$$U = \hat{t}u\left(\mu^{us}, c^{us}\right) + (T - \hat{t})u\left(\mu^{mx}, c^{mx}\right) \tag{2}$$

where $u(\cdot)$ are the utility functions in Mexico and the United States. Denote preference parameters as μ^{mx} and μ^{us}, which indicate if a migrant prefers to live in Mexico rather than in the US, then $\mu^{mx} > \mu^{us}$. Assume that immigrants have an appetite for consumption in both places, that is $u_c > 0$ and $u_{cc} < 0$. The maximization problem is represented as:

$$\max_{c^{us}, c^{mx}, \hat{t} \in (0,T)} U\left(c^{us}, c^{mx}, \hat{t}\right) = \hat{t}u\left(\mu^{us}, c^{us}\right) + (T - \hat{t})u\left(\mu^{mx}, c^{mx}\right) \tag{3}$$

$s.t.$

$$\left(T - \hat{t}\right)w^{mx} + \hat{t}w^{us} - \hat{t}pc^{us} - \left(T - \hat{t}\right)c^{mx} - cc = 0$$

$$w^{mx} < w^{us}$$

In equation (3) the parameter p denotes the relative price of consuming in United States. relative to Mexico. Assume that $p > 1$ then consumption in the United States. is more costly than consumption in Mexico.[5] The term (cc) denotes the costs of crossing the border, which include transportation costs, ability to cross the border, and forgone income. Therefore, (cc) captures the heterogeneity in cost from crossing the border.

[5] This also accounts for the purchasing power of the dollar in Mexico.

Denote the marginal utility of wealth as (θ) . Differentiating the associated Lagrange problem with respect to the optimal time of return $\hat{t}$ yields the condition which determines the optimal migration duration:

$$\theta\left[\left(w^{us} - pc^{us}\right) - \left(w^{mx} - c^{mx}\right)\right] - \left[u\left(\mu^{mx}, c^{mx}\right) - u\left(\mu^{us}, c^{us}\right)\right] = 0$$

The first term of equation (4) $\left[\left(w^{us} - pc^{us}\right) - \left(w^{mx} - c^{mx}\right)\right]$ represents the benefit of remaining an additional month in the US. Since we assumed that $w^{us} > w^{mx}$ and $p > 1$ we expect this term to be positive (i.e. each month spent in the United States. increases the migrant's lifetime wealth) but decreases in $\hat{t}$. The second term of equation (4) represents the costs of staying one additional month in the United States. This term is also positive given that $\left(\mu^{mx} > \mu^{us}\right)$ and increases in $\hat{t}$. The difference between benefits and costs of staying one additional month in the US decreases in $\hat{t}$. The optimal time of return is when the benefits of staying one more month in the United States. are equal to the costs of doing so.

Comparative static are derived using equations (3) and (4) and the first order conditions for c^{mx} and c^{us} . The change in the optimal migration duration as a result of the changes in wages in the US is summarized as follows:

$$dt = \psi_1 dw^{mx} + \psi_2 dw^{us}$$

where ψ_i combines the partial derivatives of (3) and (4) with respect to θ , $\hat{t}$, w^{mx} , w^{us} . If we assume that there is an increase in the wage differential then we expect an increase in the migration duration. However, the income effect is negative because the value of staying in the US one additional month decreases as total wealth increases, leading to a reduction in the optimal migration duration.[6] Consequently, the theoretical

[6] Note that the theoretical model presented above refers only to the duration of a single trip, and not to lifetime participation in the US labor market or to the frequency of trips.

model does not tell us if we should expect an increase or decrease in the duration of migration trips due to an increase in the wage differential. Therefore, I explore the empirical implications of this simple theoretical model. While there are other effects to analyze theoretically, they are left for further research on the topic. For example, the effect on the optimal migration duration of an increase in Mexican real wages, the effect of an increase in border enforcement, the effect of an increase in migration experience.

3 Empirical Model

This study focuses on understanding the determinants of migrants' trip duration. This topic has been ignored in the migration literature which has mainly focused on describing the individual characteristics of migrants and estimating the number of entering migrants into the U.S. (Bean et al, 1987; Durand and Massey, 1992). A notable exception is Angelucci (2005) where she looks at the probability of returning to Mexico once the migrant is in the U.S. This paper contributes to the literature by looking at the time the migrants stays in the U.S instead of the probability of returning to Mexico.

The main hypothesis of this paper is that migrants make migration decisions based on the expected wages they will receive in the destination communities, as well as costs of migration. Both factors are expected to be positively related to the length of migrants stay in the United States. Ideally, Mexican migrants prefer to spend as little time as possible away from home and yet accumulate enough savings during their stay in the United States. Therefore, when Mexican migrants have saved or remitted money equal to some target, they return to their places of origin in Mexico.

In general, the expected length of time a migrant spends in their locational choice on a given trip increases with higher migration costs because the migrant will minimize costs by having a single longer trip than several short trips. On the other hand, it is expected to decrease with lower destination wages because the migrants costs will exceed the benefits of remaining in the United States.[7] Finally, the expected length of the trip increases with tighter border controls and illegal status, this effect has the same rationale

[7] An increase in the host country wage increases the marginal value of staying in the host country (relative wage effect) but, at the same time, decreases the marginal utility of wealth (income effect). Migrants may return earlier, should the wage level in the host country increase. Therefore, there is an ambiguous effect with a change in destination wages.

as minimizing migration costs. Every time a migrant crosses the border, he incurs in explicit (e.g. coyote fees) and implicit (e.g. days waiting to cross the border, time spent crossing the border, risk of death) costs. If these costs increase, then the migrant is likely to stay for longer periods of time.

3.1 Migration Characteristics

The data used in this paper comes from the Mexican Migration Project (MMP) constructed jointly by researchers based in Mexico and the Unites States from 1982 to 1999. In this project, a number of communities are surveyed each year. Each community is surveyed only once, obtaining a retrospective history of migration patterns. The selected communities are diverse in size and economic base; they encompass small agricultural towns, mid-sized towns and metropolitan areas located primarily in the western part of Mexico, which has been characterized as the major supplier of Mexican immigrants. In each community, representative households are selected through simple random sampling.[8]

I focus on the migration experience and social and economic characteristics of individuals aged 15 to 64[9] who have migrated to the United States. The migration period considered in this study is called the modern period of illegal migration, which refers to migrations that occurred after the *Bracero* Program ended.[10] Therefore, the migrations analyzed occurred from 1963 to 1999. Moreover, the sample period includes three major changes in the US Immigration Law: The Immigration Reform and Control Act (IRCA) in 1986, the Immigration Act (IA) of 1990 and the Illegal Immigration and Responsibility Act (IIRA) of 1996. Finally, the most recent Mexican economic collapses are also included in the sample: the peso collapse in 1982 and 1994.[11]

The IRCA contains four main provisions: (1) sanctions were introduced on

[8] In some cases, the entire town was surveyed. In large urban cities, however, this procedure is infeasible therefore only demarcated and sampled specific working-class neighborhoods were included in the sample (Durand and Massey, 1992).

[9] This is the age at which the individual migrated. This age can differ from the one reported in the survey because the age reported at the survey is the current age.

[10] Illegal Migration began to rise after the end of the Bracero Program (1942-1964), which permitted farm laborers from Mexico to work in the US agriculture on a temporary basis. Laborers were required to return to Mexico after completing their contract work (see e.g. Hanson and Spilimbergo, 1999).

employers hiring illegal immigrants; (2) the Border Patrol resources were increased; (3) an amnesty was provided for the undocumented immigrants who could prove to have resided continuously in the United States. from 1982; (4) a special legalization program was implemented for the undocumented agricultural workers. The next legislative step was the passage of the 1990 Immigration Act. While its main provision was to introduce a yearly cap on total immigration to the US, it is important with respect to illegal Mexican migrants because the Act provided increased resources destined to the Mexican Border Patrol.[12] Finally, the Illegal Immigration and Responsibility Act, passed in 1996, mainly increased the penalties to those smuggling immigrants to the United States.

Based on the MMP survey, I can identify complete durations of Mexican Immigrants in the United States. This allows to test the hypothesis proposed in the theoretical model that Mexican immigrants reduce their migration duration as a response of higher wages in the United States, or increase their migration duration with higher migration costs (e.g. increased border enforcement). The sample consists of male and female immigrants, with the majority of immigrants crossing the border illegally.[13] I create two samples: one that refers to the first migration undertaken by the individual, and one that refers to the last migration undertaken by the time of the survey. Unfortunately, while the MMP survey asks the number of trips undertaken by the individual, detailed information (including duration) is collected only for the first and last trips.

[TABLE 1 HERE]

Table 1 presents summary statistics for durations of the first migration and the last migration of Mexican immigrants. It also presents the percentage of individuals that return to Mexico in the indicated period of time. There is a high percentage of individuals returning within six months of arriving to the United States in the last migration than in

[11] For a more complete treatment of US migration legislation and Mexican economic contractions, see Massey et al. (2002), Hanson and Spilimbergo, 1999 and Angelucci, 2005.
[12] During the 1990's, a series of local operations against illegal border crossing were put in place by the Border Patrol. The main feature of these operations was to discourage illegal border crossing.
[13] In the sample, 45% of migrants report crossing the border illegally, that is they don't have the necessary papers to cross the border. The rest crosses the border legally but become illegal migrants by staying after the expiration date on their visas.

the first migration. Moreover, there are a higher percentage of individuals that stay more than five years in the last migration than in the first migration. This accounts for the fact that the last migration sample has 672 right censored observations. I expect that the empirical results are not driven by the behavior of long-term stayers because the sample still portrays both types of migration trips (e.g. return and permanent migration). Furthermore, the number of censored long-term migrants (duration greater than five years) in the sample is relatively small.

3.2 Definition of variables/covariates

Table 2 defines the variables used in the estimation and presents summary statistics for the first and last migration samples. Characteristics of the individual include age of individual when migration occurred (*age*), marital status and place of residence of the spouse (*married mx* and *married us*), number of children aged up to 15 years old (*minors*)[14], occupation, and education. The last two variables are a measure of human capital, and are constructed using flexible specifications to control for the heterogeneity in the ability of migrants to obtain a job in the US.[15] Finally, the migrant reports his English proficiency (*ESL*), that is, if they understand, speak, write and read in English. They report in a scale from 1 to 4, where the highest score (4) means that they read, write, and speak English fluently. *ESL* is a dummy variable that takes the value of one if they report a score of 4 and zero otherwise.

[TABLE 2 HERE]

Migration costs are defined as whether the city of origin is considered an urban (*urban*) or a rural area.[16] This distinction of migration costs is due to the fact that it is more likely that the migrant in an urban area has more options to travel than a migrant from a rural area. The average of apprehensions for the year they crossed the border

[14] Unfortunately, I can't distinguish whether the children reside in Mexico or in the US. The survey only reports number of children and their ages.

[15] Several specifications for the education dummy were tested. The most flexible was using a dummy for the highest level of completed schooling to the most restrictive using a dummy to indicate that the migrant completed elementary school. The specification used is the most parsimonious and the best that describes the characteristics of the sample.

(*apprehension*) and the distance in miles between origin state and destination cities (*Distance*).[17]

Destination communities are described by the presence of kin (*Mother us* and *Father us*), social networks (*paisanos*) and the wage the migrant expects to receive (*expw*). Mexican migrants' response to the higher returns associated with increased trip duration should be influenced by the availability of employment in the destination community. Therefore an *expected* wage measure was constructed instead of using just the average of the real wage. The expected wage in the United States at the year the migrant decides to migrate, is constructed as $(1-u_t)(w_t / p_i)$, where u_i is the unemployment rate in the US at time t, w_t is the mean wage, and p_t is the US' CPI.[18]

United States migration policies are described by *irca*, which indicates whether the migrant was legalized during the amnesty of 1986, also whether the migration duration occurred after 1986 (*Year 1986*) and 1990 (*Year 1990*) Migrations Acts. Finally, long term savings are described by whether the migrant owns a property in Mexico (*property mx*), the total amount of savings brought to Mexico (*saving1* and *saving2*)[19], and whether remittances were sent to Mexico during their stay in the US (*Remittances*). I also control for the year migration occurred (*year migration*) to capture some kind of a fixed effect because I have a cross-section of individuals over time.

Finally, the dummy *property mx* captures the effect of investment in fixed capital assets that can be sold in the future with some gain and proxies for long term savings of migrants. This is in addition to the amount brought to Mexico after the trip has ended. Agricultural land and residential real state are two of the most common forms of fixed capital in which migrants invest, as shown in Table 3. Therefore, *property mx* equals one whenever the migrant reports ownership of agricultural land and/or residential real state.

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[16] According to the Mexican Census, an area is considered urban if its population is greater or equal to 50,000.

[17] Apprehension is average is the ratio between total apprehensions and the total undocumented migrations.

[18] Ideally we would like to construct a more individual specific expected real wage rate. It may be possible to predict the potential unemployment rate and wage for a given migrant in a given community. This will potentially reduce the bias produced when using aggregated unemployment rates and wage rates.

[19] Saving1 one denotes those individuals that saved from 500 to 2500 dollars during their trip and saving2 refers to those individuals that saved more than 2500 dollars during their trip.

[TABLE 3 HERE]

The presence of kin (*mother us* and *father us*) and persons from the same community (*paisanos*) in the United States measure the extensiveness of social ties of Mexican immigrants. Together with marital status and community based migration networks increase individuals migrants' flexibility and freedom in the choice of migration strategies because both sets of factors facilitate long-term migration to the US as well as frequent cross border movement. The human capital and migration experience variables are set to be equal to the values they assume at the start of the trip.

Optimal migration duration is a function of the migration policy and migration costs at the time of the trip. Therefore, in order to measure the impact of changes in the duration by changes in the US migration policy and border enforcement, I control for legalization sponsor (*irca*), year migration occurred, whether they migrated after Migration Acts were in place and the rate of apprehensions the year they migrated. It is expected that an increase in US Border enforcement significantly reduces the flow of Mexican immigrants since migration costs are higher. Hence, migration durations are longer when the immigrant faces higher migration costs. Consequently, the individual expectations of future migration costs also affect the optimal duration of subsequent migrations.

Both samples (e.g. first and last migration) are fairly similar when considering individual characteristics (age, education, occupation, etc.) It is interesting to note that both samples are consistent with common characteristics of Mexican immigrants described in the literature.[20] They are poorly educated, younger and more likely to be males.[21] However, when we examine the nature of immigrant flows from Mexico to the United States., two other important features are highlighted in the sample. First, past migrants were highly concentrated in only two states (California and Texas) and accounted for 81% of Mexican migrations. Second, in recent migrations there is more variation across states. Migrants mainly choose to locate in California, Texas, Illinois, Florida, and Arizona. This partly explains the increase in the mean distance measure from

[20] See Borjas (1991) and Cuecuecha (2003) where they highlight a decline in immigrant skills, prominently males and young.
[21] 95% of the individuals in the sample are males.

the first migration to the last migration, together with the fact that more recent migration comes from southern states in Mexico (e.g. Oaxaca, Puebla) that are farther away from the border.

Another important difference is that 92% of individuals in the first migration sample reported to be legalized through IRCA. This legalization process may have not occurred during the first migration. Also, there is a higher percentage of migrants that crossed the border after 1986 in the last migration than the first migration. This is somewhat expected because the last migration is definitely more recent than the first one. For example, 23% of Mexican immigrants made the trip after 1986 compared to 17% of the first migration.

3.3 The Statistical model

My choice of model for the analysis of returning migration is the Cox proportional hazard model to asses the impact of characteristics of the individual, the origin communities and the destination communities on the hazard of returning to their origin communities. The choice of a hazard model comes naturally because this framework requires one of two possible outcomes for each individual in the sample. The first one is that the individual was in the US when surveyed, which means that the duration has not ended, this outcome in the hazard framework is considered as right censored. The other outcome is that the individual returns to Mexico, in this case it is considered as a "failure".

The instantaneous hazard rate of return migration at time t , conditional on survival to time t can be written as

(6) $$h(t;x) = h_0(t) * \exp\left(x_i'\beta\right)$$

where $h(t;x)$ is the hazard of return migration at time t for a migrant described by a vector of coefficients β associated with covariates that characterize the social and economical characteristics of migrants in the sample, where $h_0(t)$ is considered the baseline hazard rate. The crucial assumption in the Cox proportional hazard model is that the effect of the covariates is proportional over the entire baseline. Since the baseline hazard gives the shape of the hazard function, under the Cox proportional model it will be the same for any given individual. Therefore, $h_0(t)$ is the same for all individuals and

only the level of the hazard function $\exp\left(x_i'\beta\right)$ is allowed to differ across individuals.

The Cox proportional hazard model has several features that makes it an attractive statistical framework for the problem at hand.[22] The most obvious is that it incorporates both the social components that affect the return migration decision and the economic characteristics that modify the length of stay. Secondly, the Cox proportional hazard model exploits all the available information in observations that are right censored, that is, observations for migrants who haven't completed their duration at the time of the survey. The estimated parameters and standard errors in the Cox Proportional hazard model provide information on the direction and statistical significance of the partial effect of each covariate specified in X .

The risk of return migration is allowed to vary over time and with variation in the covariates. Hazard ratios (exponentiated coefficients) greater than one of the covariates are indicative of increasing hazard rates and thus are associated with a reduction in the expected time in the US until returning to Mexico. Hazard ratios less than one imply that migrants postpone their return to Mexico, consequently having longer trips.

Another desirable feature of the Cox proportional hazard model is that it readily yields an estimate of the underlying baseline hazard function. The estimation of the baseline hazard function enables us to identify the average length of stay of Mexican migrants in the US. This information is useful for policy makers that would like to avoid a more permanent illegal migration in the US. Moreover, it allows for non-parametric treatment of baseline hazard which relaxes the need for parametric assumptions regarding the shape of the baseline hazard.

Although the model is dynamic, the data are recorded in discrete intervals, particularly in months. As a result, there are numerous migration spells of the same duration, in other words for many observations, the left hand side variable is the same. Duration time are handled using the Peto-Breslow approximation procedure.[23] This approximation takes into account all the individuals that exit at the same time and adjusts the likelihood function. This implies that the likelihood function can be approximated as

[22] The proportional hazard model is a common choice for modeling durations because it is a reasonable compromise between the Kaplan-Meier estimator (see below) and the possibly excessively structured parametric models. (Greene, 2003).
[23] Described in Kalbfleish and Prentice (1980).

(7) $$L = \prod \frac{\exp\left(\sum_{j \in Di} x_{ij}^{'} \beta\right)}{\left[\sum_{l \in R_i} \exp\left(X_l \beta\right)\right]^{m_i}}$$

where i indexes the ordered failure times $t(i)$, $(i = 1,...,k)$, D_i is the set of observations j that fail at time $t(i)$, m_i is the number of individuals who exit at time $t(i)$, and R_i is the set of all observations l that are at risk to exit at time $t(i)$. Finally, consistent estimates of β can be obtained by just maximizing the associated partial log-likelihood function (7), which does not depend on the baseline hazard function $h_0(t)$. This is arguably one of the great advantages of the Cox proportional model.

Unfortunately, this specification of the partial log-likelihood function does not explicitly account for the potential effect of unobserved heterogeneity on the hazard rate, which is a limitation of the present approach. The problem of heterogeneity in duration models can be viewed essentially as the result of an incomplete specification. Individual specific covariates are intended to incorporate observation specific effects. With this framework, the best way to account for individual heterogeneity is to include a diverse array of individual covariates in the hazard model which control for individual characteristics as well as household characteristics. Meyer (1990) suggests that explicitly modeling unobserved heterogeneity has little effects on the estimated coefficients in a model in which the baseline hazard rate is allowed to be non-parametric. Nevertheless, I intend to explore the use of duration models that account explicitly for unobserved heterogeneity in future research, such as the mixed proportional hazard model (MPH, Lancaster 1979).

3.4 Diagnostic and Specification Analysis

In this section, I undertake a series of diagnostic and specification tests of the duration data to provide a context for the estimation of the hazard rate. The purpose of this graphical analysis of the data is to distinguish the best functional forms and the homogeneity of the observations. I use the Kaplan-Meier estimator (also called the product limit estimator), which is the empirical cumulative distribution function turned around:

(8) $$\hat{S}(t) = \pi(n_i - h_i)/n_i = \pi(1-\hat{\lambda}_i)$$

where $\hat{\lambda}_i$ is the number of "failures" at duration t_j divided by the number "at risk" at duration t_j . I define failures as those migrants that returned to their origin community. The variable of interest for the duration models is the length of time that elapses from the beginning of some event, in this case migration to the US, either until its end or until the measurement is taken, which may precede termination. Observations are a cross section of durations of trip in months $t_1,t_2,...,t_n$. The migration process began at different points in time for different individuals in the sample.

It is immediately apparent, as shown in Figures 1 and 2, that there is a negative duration dependence, which means that the probability that the duration of the trip ends shortly increases as the trip increases in one more month of stay.[24] Comparing, Figure 1 and 2, we see that there is a higher probability of returning to Mexico for those individuals migrating the first time as the migration duration increases. Furthermore, it is clear that we do have right censored observations in the last migration sample because the estimates never go all the way down to zero as the first migration estimates do. The graphs also show that the most common returning point occurs at the beginning of the trip. This highlights the temporary migration pattern of Mexican immigrants.

[FIGURE 1 HERE]

[FIGURE 2 HERE]

From this nonparametric analysis, we can test whether the effect of the covariates is proportional over the entire baseline. When the sample is divided by English proficiency (*ESL*) we find that there are different survival functions for each sub-sample (also called strata). In Figure 2A, we see that those migrants that report being proficient in English have a lower hazard of returning to Mexico. Therefore, we need to estimate the model for each migration trip and stratify the sample by English proficiency.

[FIGURE 2A HERE]

4 Estimation Results

The estimates of the determinants of the hazard of returning to Mexico for the first and last migration are summarized in Table 4 and 5, respectively. Column one refers to the hazard ratio of each variable on the duration of each trip (exponentiated coefficient). A hazard ratio greater than one corresponds to shorter durations while a hazard ratio less than one corresponds to longer durations. Having a hazard ratio statistically significant means that it is significantly different from one, which in turn means that it does not affect the length of the trip.

The (exponentiated) coefficient for the indicator variable *married mx* in the first migration indicates that individuals with their spouse in Mexico are 13% more likely to return during the first migration and 58% more likely to return during the last migration. On the other hand, the variable *married us* is not significantly different from one in both trips, meaning that the variable does not affect the length of the trip. The variable *minors* is significantly different from one, where those individuals with children under age 15 are 10% more likely to return to Mexico in both trips. These results are consistent with Massey et. al. (1987) and Waldorf (2003) who found that migrants early in the stage of family formation tend to remain in the host country for shorter periods than do married migrants or migrants without children, who are typically younger.

Education shortens the duration of migration for those migrants with higher education while it reduces the hazard of return for those with less education. For example, those individuals with at least some college education stay for shorter periods of time than those individuals who are less educated. On the last migration, individuals employed in professional occupations are 30% more likely to return and manufacturing workers have shorter trips as well (21% more likely to return). Conversely, unskilled migrant workers (*unskilled*) have longer trips (for the first migration unskilled workers are less likely to return by 27% and for the last trip they are 14% less likely to return)

[24] The horizontal axis displays the number of months of trips for the first and last migrations respectively. The vertical axis displays the Kaplan-Meier survival estimates.

than other migrants in other occupations. These results might imply that for Mexican immigrants the returns to Mexican schooling are higher in Mexico than in the US. This is consistent with Borjas (1987), who found that the US is a magnet for workers with relatively low earning capacities, and attracts workers with below average skills. A possible cause for these results is that educational requirements are lower for the low skilled work they perform in the US than in Mexico. Given a preference for remaining in Mexico, well educated migrants have greater incentive to spend more time in Mexican labor markets and less time working in the US than do less educated migrants. Finally, Agriculture workers have a very high hazard of returning on the last migration (58% more likely to return) but on the first migration only 6% more likely to return. A hazard greater than one is consistent with the temporal nature of agriculture and a higher hazard on the last migration may account for a lower demand for agriculture labor.

[TABLE 4 HERE]

In regard to social aspects of the destination community, only the indicator variables *father us* and *paisanos* significantly differ from one in both migrations. The presence of the father in the US increases the probability of return by 17% in the first migration and by 15% in the last migration. The presence of people from the same origin community in the destination area increases the probability of returning by 27% in the first trip and only 16% in the last trip. The prevalence of recurrent migration among people in a community is an indicator of the reach of migration networks, which are instrumental in reducing the costs of migration. An innovative way to proxy for transportation costs (which also count as migration costs) is to use the distance in miles between the origin state in Mexico and the destination state in the US. As expected, the distance decreases the probability of returning to Mexico by 9% as the distance increases 1,000 miles in the first migration and by 14% in the last migration. These findings support the idea that the expected length of stay decreases with lower migration costs.

Next I examine the economic effects of origin and destination characteristics. Migrants coming from urban areas tend to have longer trips than migrants coming from rural areas. During the first trip, migrants from an urban area are 23% less likely to return and 27% less likely to return in the last migration than those individuals from a rural area.

Owning a house/lot or farmland, has a higher hazard of returning to Mexico, staying in the US for shorter periods of time. A migrant who owns a property in Mexico increases the probability of return by 17% during the first trip and 41% during the last trip. These results are consistent with Lindstrom (1996) who found that migrants from areas with poor economic conditions tend to have a repeat migration pattern. This is also explains that migrants from rural areas have little incentive to stay in the US longer than is necessary to meet current income needs and it is plausible that migrants from urban areas stay longer periods of time in order to accumulate savings.

The expected wage has the anticipated effect, where an increase of 1 dollar in the expected wage decreases the probability of returning, consequently increasing the optimal time of return. Migrants are highly sensitive to occasional increases in the expected wage. The estimated coefficient for the first migration indicates that an increase of the expected wage decreases the probability of returning by 3% and 4% for the last migration.

The estimated hazard ratio for savings shows that accumulation of savings is only significant in the last migration, where the probability of return of those that were able to save while in the US is higher than those that reported no savings at all. The probability of return for those that reportedly saved between 500 and 2,500 dollars is 32% while the probability of return for those that saved more than 2,500 dollars is 22%. On the other hand, remittances are highly significant for the first migration. If the individual sent remittances to Mexico while in the US, the probability of return decreases by 9%. It seems that the length of the last migration is not affected by whether or not the migrant sent remittances to Mexico while in the US. These results suggest different intentions for each trip. It is feasible that the savings from the first trip are used to cover current basic needs of the household while the savings from the last trip are intended for long-term savings.

Finally, I look at the migration policy variables. During the first migration, the probability of return increases by 29% and 67% whether migration occurred after 1986 and 1990, respectively; whereas the effect of the probability of apprehension on the duration of the first migration is insignificant. The insignificance of this last variable is somewhat unexpected since the theoretical model suggests that the length of migration

trips increases when border enforcement is increased, since migration costs increase. On the other hand, an increase of the border enforcement has the opposite effect on the duration of the last migration: an increase of the border enforcement induces longer migration trips. For example, for the last migration sample, migrants show a 2% lower hazard of returning to Mexico when the probability of apprehension increases by 1%. Therefore, we can expect a more permanent illegal community of Mexican immigrants as enforcement increases.[25] However, I still find that immigrants that crossed the border after 1990 in the last migration, the period which border enforcement was increased, are 25% more likely to return to Mexico. Finally, those migrants that were legalized by IRCA 1986 have a lower hazard of returning to Mexico in the last migration but it does not make a difference for the first migration.

[TABLE 5 HERE]

The estimation of the Cox proportional hazard model stratified by English proficiency yields estimates of the underlying baseline hazard and survival function for a typical migrant in each stratum.[26] Figure 3 shows the baseline hazard estimates for each stratum. The hazard rate rise rapidly in the first months of the trip and then flatten out to a two very different levels of risk. The lower baseline hazard applies to those migrants who are proficient in English; the higher hazard rate applies to those who do not speak nor understand English. Therefore, those migrants proficient in English have on average longer durations. This may imply that assimilation in the US labor market of Mexican immigrants is easier if they speak English because the communication costs are lower.

[FIGURE 3 HERE]

5 Conclusions and Avenues for Future Research

[25] This is consistent with results in Angelucci (2005) who uses a different methodology.

[26] Each Stratum is composed by migrants proficient in English (speak and understand English) and those migrants who are not proficient. In my estimation last migration sample, 26% of migrants report themselves as proficient in English while in the first migration sample 20% are proficient in English.

This paper developed a simple model, with useful insights, regarding the migration duration of Mexican immigrants. Once in a destination area, temporary Mexican immigrants decide how long they will stay. In making this decision, this paper showed the tradeoff the migrant faces. They weigh the economic benefits of remaining longer against the social cost of living abroad. The analysis shows that an increase in the benefits of remaining in the US are positively correlated with an increase in the optimal duration migration and the costs.

The empirical evidence presented is consistent with many of the predictions of the simple theoretical model. The exception is an ambiguous result found regarding border enforcement, where an increase in border enforcement does not yield longer migration trips for the first migration, while for the last migration there is indeed a change in the return migration pattern in the expected direction: increased border enforcement increases the duration of the trip.

Empirical results also suggest that Mexican immigrants may in fact increase the length of the trip as a result of an increase in US expected wages. It is misleading to only consider wages as a sole indicator for migration patterns, since it neglects other social and economic factors that are important determinants of the migration duration, such as, social networks in the destination area, family ties in Mexico and communication costs. The important social dimension of migration is confirmed by the significant effect of kinship ties to experienced migrants on the hazard to return during last migration. Mexican migration is both an economic and social process. Once migrants are joined by their spouse and children they gradually develop social and economic ties in destination areas; these ties reduce the likelihood of return.

The savings incentive associated with increased last trip duration is strongest for migrants who can convert current foreign earnings into a source of long term income in their place of origin. On the other hand, savings in the form of remittances during the first trip are intended to cover basic needs of the household. Therefore, employment opportunities in community of origin indicate the degree of likelihood that migration is motivated by the need to cover current household expenses as opposed to the simple desire to accumulate savings.

Future research will address the issue of potential effect of unobserved

heterogeneity on the hazard rate. Failure to account for heterogeneity may bias the empirical estimates. Also, whether immigrants stay longer when they have access to social assistance. Borjas (1999) finds welfare-receiving immigrants tend to be clustered in certain locations. Moreover, we can tell whether the magnetic effects of welfare (if they affect duration) differ across migrations under different admission categories.

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Table 1: Summary Statistics, Return Frequencies

Duration in Months	Less than 6 mos	6mos-12mos	13mos-36mos	37mos-60mos	60+mos	Total
			First Migration			
No.	871	728	465	137	174	2375
Percentage	0.37	0.31	0.20	0.06	0.07	1.00
Mean						26.69
Std. Dev.						57.16
			Last Migration			
No.	1091	658	433	158	318	2658
Percentage	0.41	0.25	0.16	0.06	0.12	1.00
Mean						22.91
Std. Dev.						54.21

Source: MMP, Migration File

Table 2: Variable Definitions and Summary Statistics

Variable Name	Definition	First Migration		Last Migration	
		Mean	Std. Deviation	Mean	Std. Deviation
Age	Individual; Age at 1st Migration	26	9.252	26	9.010
Married Mx	Individual; =1 if Married and spouse resides in Mx	0.888	0.315	0.972	0.165
Married US	Individual; =1 if Married and spouse resides in US	0.089	0.285	0.093	0.291
Minors	Individual; Number of Minors less than 15yrs old	1.114	0.815	1.133	0.832
Agricultural	Occupation; =1 if an Agriculturist	0.285	0.451	0.305	0.461
Professional	Occupation; =1 if practices profession	0.052	0.222	0.056	0.231
Manufacturing	Occupation; =1 if in manufacturing (skilled labor)	0.176	0.381	0.219	0.414
Unskilled	Occupation; =1 if Unskilled Laborer	0.163	0.369	0.152	0.359
Self-Employed	Occupation; =1 if is Self-Employed	0.206	0.405	0.197	0.398
Mother US	Household; =1 if Mother resides in US	0.103	0.304	0.098	0.297
Father US	Household; =1 if Father resides in US	0.324	0.468	0.322	0.467
Property Mx	Household; =1 if owns property in Mx	0.724	0.447	0.732	0.443
Urban	Origin characteristics; =1 if comes from an urban area	0.175	0.380	0.166	0.372
Elementary	Schooling; =1 if completed 5th-6th grade	0.312	0.463	0.291	0.454
Some Middle Educ	Schooling; =1 if completed 7th-8th grade	0.052	0.222	0.047	0.212
Middle Educ	Schooling; =1 if completed 9th grade	0.117	0.322	0.107	0.309
Some High Educ	Schooling; =1 if completed 10th-11th grade	0.031	0.173	0.028	0.165
High School	Schooling; =1 if completed 12th grade	0.045	0.207	0.041	0.198
Some College Educ	Schooling; =1 if completed 13th-15th grade	0.027	0.163	0.025	0.156
College Educ	Schooling; =1 if completed 16th-17th grade	0.024	0.154	0.022	0.146
Some Grad Educ	Schooling; =1 if completed 18th+ grade	0.009	0.094	0.008	0.091
Paisanos	Destination characteristics; =1 if members same community reside same destination	0.634	0.482	0.637	0.481
Exp Wage[1]	Destination characteristics; Expected wage	9.858	1.211	9.531	1.361
Distance[2]	Crossing border costs; Distance in miles from origin to destination community	1.572	0.484	1.611	0.475
Apprehension	Crossing border costs; Probability of apprehension	0.315	0.048	0.288	0.057
Year Migration	Migration Policy; Year they migrated to US	1981	7.756	1986	7.942
IRCA	Migration Policy; =1 if legalized by IRCA 1986	0.928	0.259	0.158	0.364
Year 1986	Migration Policy; =1 if Crossed border after 1986	0.174	0.379	0.234	0.423
Year 1990	Migration Policy; =1 if Crossed border after 1990	0.129	0.335	0.364	0.481
Savings 1[1]	Savings; =1 if saved from 500 to 2500 usd during the trip	0.261	0.440	0.258	0.437
Savings 2[1]	Savings; =1 if saved more than 2500 usd during the trip	0.186	0.389	0.187	0.390
Remittances	Remittances; =1 if sent remittances to Mexico while in the US	0.661	0.473	0.657	0.475

Source: Mexican Migration Survey, MMP71

[1] Series deflated by the US Consumer Index (CPI)

[2] Normalized by 1,000 miles

Table 3: Use of Remittance income from household heads trip to the US

Spending	First Migration	Last Migration
Category (%)		
Productive Capital[1]	27.83	27.62
Vehicle	0.17	0.1
Consumer Goods	3.58	3.57
House/Lot	11.37	11.96
Home Construction/Improvement	5.52	5.38
Family Maintenance	45.09	44.89
Recreation	0.16	0.16
Debt	3.41	3.54
Savings	1.09	1.02
Other	1.78	1.76

Source: MMP; Housefile

[1]Business, Tools, Farmland, Livestock

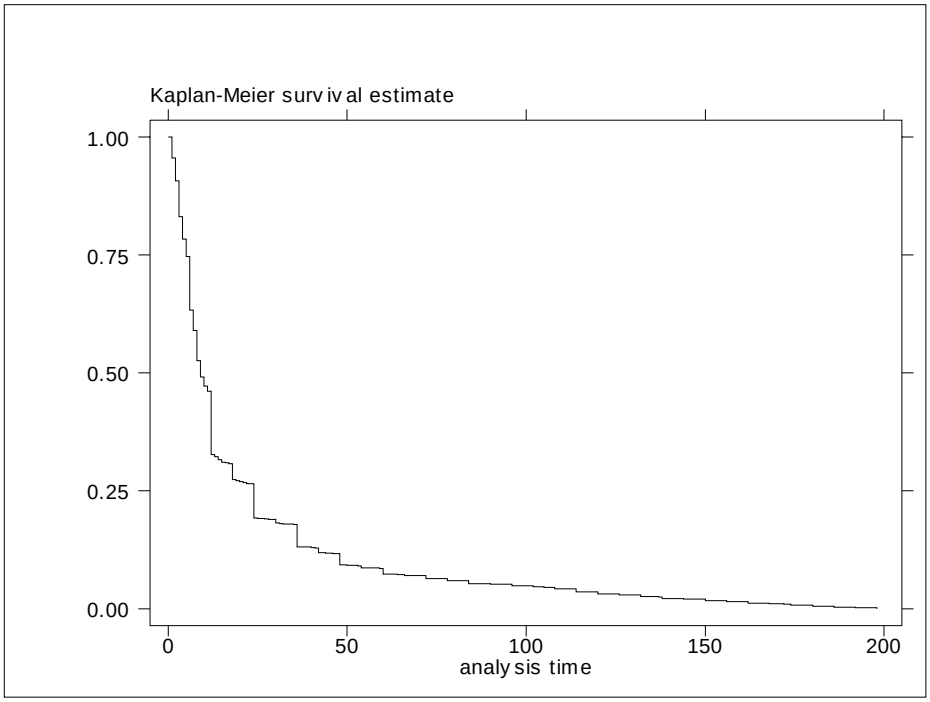

Figure 1: Kaplan -Meier survival estimates for the first migration

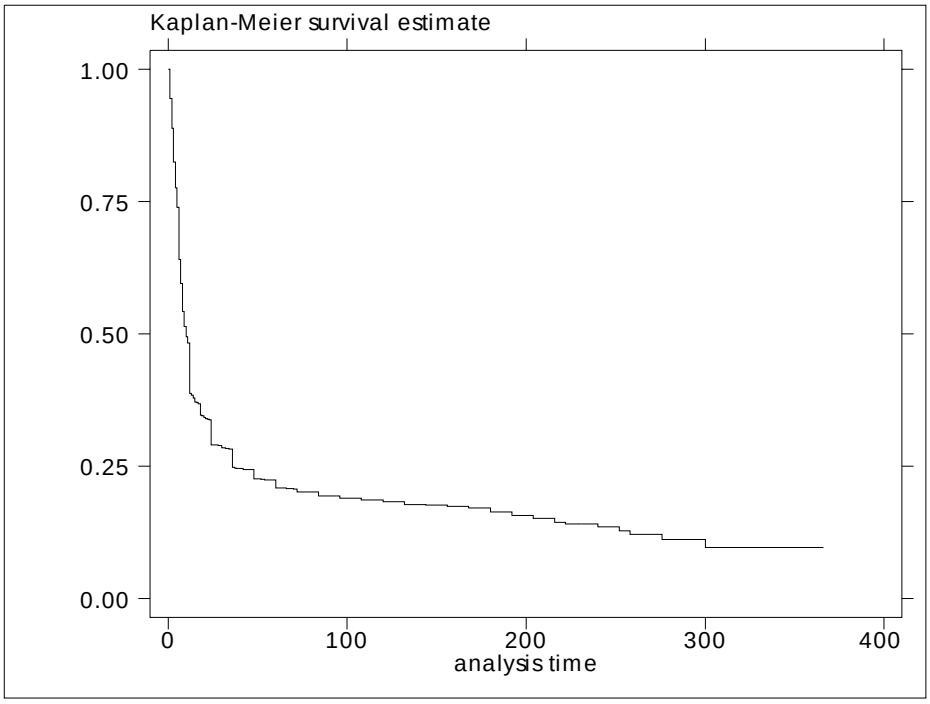

Figure 2: Kaplan -Meier survival estimates for the last migration

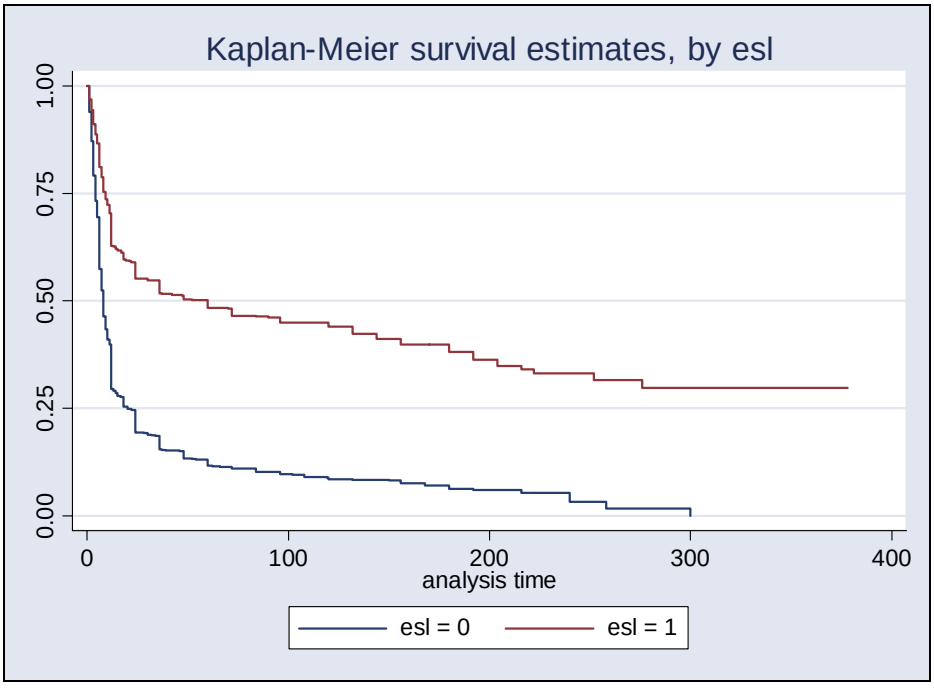

Figure 2A. Kaplan Meier survival estimates for the last migration, strata (ESL)

Table 4: Estimates of the determinants of the hazard of returning to Mexico (cox proportional hazard stratified by english proficiency)

First Migration

Variable/Covariate	Hazard Ratio	S.E.	z-stat	P>|z|
Age	1.0063	0.0026	2.45	0.014
Married Mx	1.1371	0.0816	1.79	0.073
Married US	0.9049	0.1828	-0.49	0.621
Minors	1.1042	0.0317	3.46	0.001
Agricultural	1.0683	0.0798	0.88	0.377
Professional	0.8470	0.0975	-1.44	0.149
Manufacturing	0.9222	0.0733	-1.02	0.308
Unskilled	0.8640	0.0712	-1.77	0.076
Self-Employed	0.8706	0.0670	-1.8	0.072
Mother US	0.9516	0.1795	-0.26	0.793
Father US	1.1726	0.0564	3.31	0.001
Property Mx	1.1735	0.0592	3.17	0.002
Urban	0.7721	0.0472	-4.23	0.000
Elementary	0.8954	0.0480	-2.06	0.039
Some Middle Educ	0.9481	0.0962	-0.53	0.599
Middle Educ	0.8713	0.0672	-1.79	0.074
Some High Educ	0.9059	0.1167	-0.77	0.443
High School	0.9195	0.1021	-0.76	0.450
Some College Educ	1.1950	0.1620	1.31	0.189
College Educ	1.6458	0.2455	3.34	0.001
Some Grad Educ	1.7796	0.4245	2.42	0.016
Paisanos	1.2770	0.0582	5.36	0.000
Exp Wage	0.9721	0.0171	-1.61	0.107
Distance	0.9180	0.0404	-1.94	0.052
Apprehension	1.0118	0.0076	1.56	0.119
Year Migration	0.9812	0.0048	-3.89	0.000
IRCA	1.0899	0.0943	0.99	0.320
Year 1986	1.2931	0.1261	2.64	0.008
Year 1990	1.6760	0.2159	4.01	0.000
Savings 1	1.0884	0.0561	1.64	0.100
Savings 2	1.0349	0.0590	0.6	0.547
Remittances	0.9133	0.0436	-1.9	0.057
Log-Likelihood				-14747
Number of observations				2375
Number of observations (failed)				2375

Table 5: Estimates of the determinants of the hazard of returning to Mexico (cox proportional hazard stratified by english proficiency)

Last Migration

Variable/Covariate	Hazard Ratio	S.E.	z-stat	P>|z|
Age	1.0070	0.0027	2.59	0.010
Married Mx	1.5841	0.2812	2.59	0.010
Married US	1.2391	0.6707	0.4	0.692
Minors	1.1022	0.0321	3.34	0.001
Agricultural	1.5839	0.1516	4.81	0.000
Professional	1.3071	0.1760	1.99	0.047
Manufacturing	1.2199	0.1246	1.95	0.052
Unskilled	0.7352	0.0852	-2.66	0.008
Self-Employed	1.1289	0.1166	1.17	0.240
Mother US	0.5902	0.3153	-0.99	0.324
Father US	1.1550	0.0604	2.75	0.006
Property Mx	1.4177	0.0846	5.85	0.000
Urban	0.7355	0.0523	-4.32	0.000
Elementary	0.8637	0.0493	-2.57	0.010
Some Middle Educ	0.9994	0.1216	-0.01	0.996
Middle Educ	0.7489	0.0660	-3.28	0.001
Some High Educ	0.6868	0.1231	-2.1	0.036
High School	0.8628	0.1159	-1.1	0.272
Some College Educ	0.9303	0.1534	-0.44	0.661
College Educ	1.6762	0.2860	3.03	0.002
Some Grad Educ	1.6692	0.4404	1.94	0.052
Paisanos	1.1676	0.0588	3.08	0.002
Exp Wage	0.9622	0.0155	-2.39	0.017
Distance	0.8619	0.0410	-3.13	0.002
Apprehension	0.9853	0.0067	-2.18	0.030
Year Migration	0.9908	0.0059	-1.53	0.125
IRCA	0.7414	0.0561	-3.95	0.000
Year 1986	0.9802	0.1081	-0.18	0.856
Year 1990	1.2581	0.1695	1.7	0.088
Savings 1	1.3298	0.0723	5.24	0.000
Savings 2	1.2261	0.0739	3.38	0.001
Remittances	1.0049	0.0527	0.09	0.925
Log-Likelihood				-13058
Number of observations				2658
Number of observations (failed)				1986

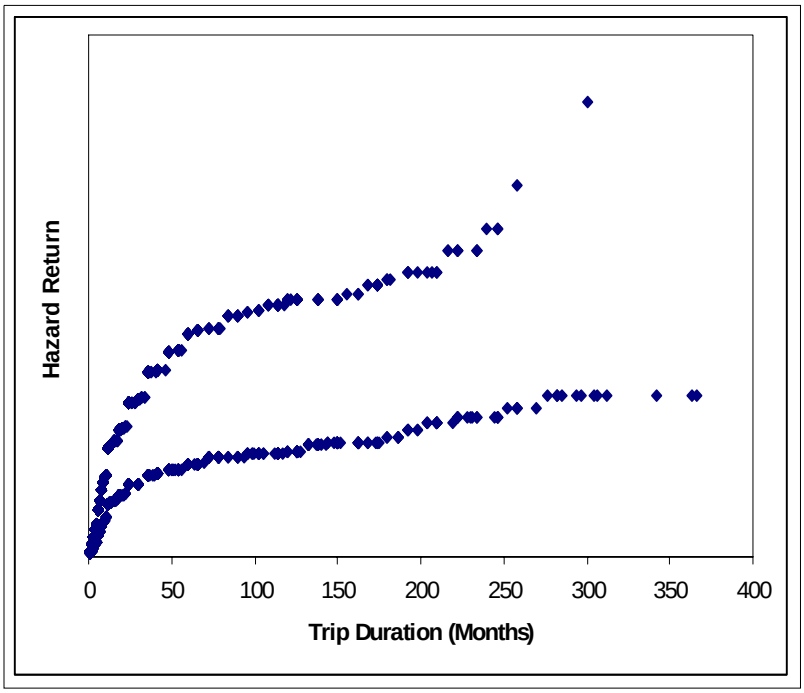

Figure 3: Estimated baseline hazards, Last Migration