Unraveling the Life Course: Marriage and U.S. Migration Dynamics among Mexican Males.

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People tend to get married and migrate for the first time at similar ages (for age patterns of each, see Coale 1971; Rogers, Willekens and Ledent 1983)[1]. This is especially true of temporary labor international migration flows, like those between Mexico and the U.S., where males are most likely to get married and/or make a first U.S. migration in his twenties (Quilodrán 1980; Riosmena In Progress).

Both age-dependencies and their parallel occurrence are the expression of similar (biological and) life course-related processes (Elder, Johnson and Crosnoe 2003; Hobcraft, Menken and Preston 1982; Sandefur and Scott 1981). For instance, both marriage and migration may be intimately related given their relevance in defining the transition to adulthood; their association to labor market decisions, and their potential connection with household and family formation. Thus, the joint study of these two phenomena study may yield insights regarding the aforementioned processes not quite achieved by looking at them independently (also see Stark 1988).

The purpose of this paper is to analyze the timing and sequencing of marriage and U.S.–bound migration decisions of five cohorts of Mexican males while considering the context in which these choices (and their timing) are made. I use retrospective labor, migration, marriage, and fertility histories of male household heads from the Mexican Migration Project database to: 1) analyze the timing and sequencing of marriage and migration, and the spacing between both events; 2) sketch a general socio-demographic profile of people engaging in each sequence vis-à-vis those only engaging in marriage (i.e. non-migrants); 3) test for the state- and duration dependence of migration on marriage,

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[1] That is, the age-specific marriage schedule is mostly restricted to an age range where age-specific migration probabilities are relatively high.

(along with family formation and its lifecycle); while 4) exploring if the sequencing of the two events varies according to local contexts.

PREVIOUS RESEARCH

The literature on the inter-relationship between marriage and spatial mobility has mostly devoted to internal migration and residential mobility processes (Courgeau 1985; Flowerdew and Al-Hamad 2004; Juárez 1996; Mulder and Wagner 1993; Sandefur and Scott 1981). More specifically on the relationship between international migration and marriage, studies have mostly focused on the consequences of migration in marriage timing. Most notably, international migration has been found to be a short-term disruptive event by delaying marriage decisions, even when controlling for socioeconomic factors that may explain marriage timing. Delays in marriage decisions have been robust to (individual-level) socioeconomic controls for both immigrants who settle at the destination (Carlson 1985), as well as for temporary migrants who return to their countries of origin (Parrado 2004). However, these delays did not result into reduced marriage propensities over the long term while migrants were prone to catch up with their peers by marrying quicker than non-migrants of similar ages and educational levels.[2] Specifically, it has been advanced that this 'time recuperation' in the marriage behavior of Mexican labor migrants back in their hometowns resulted from wealth accumulation during the migratory spell (Parrado 2004).

In contrast, few studies have addressed differences in the international migratory behavior of people according to their marital status or family life cycle while explaining them in terms of lifecycle characteristics.[3] Ortiz (1996) looks at the migration dynamics of Puerto Rican women to and from the continental US. She finds that single (i.e. unmarried *and*

[2] Similar delaying *and* catch-up effects have also been found in the fertility of these two groups (Carlson 1985; Lindstrom and Saucedo 2002).
[3] See Courgeau (1985), and Sandefur and Scott (1981), for similar analyses regarding more limited spatial mobility.

divorced) women are more likely to migrate to the mainland, while never-married ones were less likely to return to the island (recently divorced women being the *most* likely to return).[4]

Analyzing migration choices of Mexican male household heads, Massey et al. (1987: Chapter 7) find a general pattern across the familial lifecycle: the likelihood of migration "begins at a high level among young unmarried men, after marriage, rises with the arrival of children, and then falls again as the children mature and leave home" (p. 200). This pattern, though overall characteristic of the four communities studied by the authors', varies somewhat across communities. Based on bivariate analyses, Massey and colleagues posit that ambitious young unmarried men are especially likely to migrate to the US in communities with limited opportunities (in their case, a rural town with high proportions of land-locked estate). On the other hand, they find that fluctuations over the life cycle are much less pronounced in the two urban-industrial settings in their study.

At any rate, no systematic efforts have been made to study differentials in both the propensity and timing of migration according to marital status and/or duration while considering the broader socioeconomic milieu in which decisions are made. This study thus attempts to contribute in the literature in these respects: I look at the socioeconomic characteristics of individuals to assess if the inter-dependence between these events is robust to the consideration of the socioeconomic selectivity of migration *and* marriage, while also controlling for aggregate-level characteristics that also influence the propensity and timing of both events. I discuss these characteristics next.

In Mexico, both international migration propensities and marriage timing are associated with people's age, educational attainment and the economic base and/or dynamism

[4] Studies of gender dynamics and immigration have partially looked at this issue as well. However, these studies have mostly focus on describing gender differentials in migration dynamics (Cerrutti and Massey 2004), or how gender dynamics may affect migration and return/settlement decisions (Grasmuck and Pessar 1991; Hondagneu-Sotelo 1994). As such, their focus though informative regarding marriage and family formation is ancillary. This paper, in contrast, seeks to understand how marriage and family formation play out in the out-migration dynamics of *males* while keeping in mind how gender and family life cycle may affect people's decision-making in this respect.

in a community for migration, (Lindstrom 1996; Massey and Espinosa 1997; Parrado and Zenteno 2002; Quilodrán 1991). Both age dependencies are overall highest in the early 20s and decrease onwards (see Quilodrán 1980; Riosmena In Progress). In addition, people with the highest educational levels and occupational qualifications are the ones least likely to migrate to the US, while those with medium levels of education are the least likely to marry.

In the case of marriage, female economic activity indices such as female labor force participation rates and/or percentage of females in the labor force in manufacturing-related occupations have been used in order to test for hypotheses related female independence and marital search models (Oppenheimer 1988). In the case of migration, similar measures of female economic activity at the community level have been used as proxies for the economic dynamism of a community. In both cases, female economic activity has been *positively* associated with marriage (Parrado and Zenteno 2002), first US-bound migration (Massey and Espinosa 1997), and trip duration (Lindstrom 1996). In a quite straightforward manner, rural settings are also positively associated to both events, which especially true for the cohorts under study.[5]

In addition, some variables seem to be good predictors of one of the two events especially (but not necessarily of the other). First, social capital –generally extracted from kinship and *paisanaje* networks- is clearly related to international migration (Portes and Rumbaut 1996). Various measures of migration-related social capital are some the strongest predictors of international migration (Massey and Espinosa 1997), including having immediate relatives with previous experience in the US. At the aggregate-level, the proportion of people (above age 15) with US migration experience as a measure of the

[5] Most notably absent from the discussion so far are wage levels in the community. Given the fact that the cohorts under study are exposed to the risks of marriage and migration in the 1950s (see data section below), it was not possible to include a measure of the wage level at the municipal level, since their availability starts in the 1970s, when minimum wage laws were enacted in Mexico. Nonetheless, other relevant indices of economic activity include the proportion of people in the municipality's labor force who are self-employed, or who act as employers, which will be included in the analysis as well.

cumulative causation (or social multiplier effects) of migration (see Fussell and Massey 2004; Massey 1990; Massey and Espinosa 1997; Massey, Goldring and Durand 1994).

In the case of marriage and net of age effects, leaving school, entering the labor force, and accruing labor force experience all strongly predict marriage timing (Parrado and Zenteno 2002; Parrado 2004). Furthermore, in the aggregate, various measures of the potential availability of marriage partners have also been strongly associated to marriage (normally in a positive way, see Fossett and Kiecolt 1991; Goldman, Westoff and Hammerslough 1984; Lloyd and South 1996).

In sum, while marital status (and to some extent duration) may have a negative effect on migration, both age at marriage and migration are overall associated with age at marriage through similar pathways. However, they are far from identical and, as suggested, in some settings a sequence may very well be an even more reasonable option than the other, especially when compared to the prevailing situation in another setting. In order to explore this, it is necessary to study the effect of marriage on migration while controlling for those characteristics that influence *both* and to interact individual marriage characteristics with aggregate-level socioeconomic ones. I first introduce the database used in the analysis, then operationally-define these variables, and discuss an appropriate methodological alternative for dealing with these issues.

DATA

Data come from come from the Mexican Migration Project (MMP), based at the University of Guadalajara and Princeton University (see http://mmp.opr.princeton.edu). The MMP recollects wide-ranging multi-level social, economic, and demographic data, particularly focusing on those pertaining to the study of migration to the United States. The communities under study are selected in order to cover an ample spectrum of urbanization

and socioeconomic conditions.[6] Within each community, a simple random sample of 100-200 households was selected.[7] Individual- and household-level data are collected via a flexible survey instrument, the ethnosurvey (see Axinn 1991; Massey 1987). This format allows for a less contrived interview wherein internal validity is ensured via careful interviewer training.[8]

I focus on the experience of male household heads as 1) most of the available information relevant to the analysis –e.g. marital histories- refers to the head; and 2) nearly all householders in the Mexican context are males. Since the analysis of two or more demographic events along the life course is truly a longitudinal and cohort-specific issue, the database is further restricted to cover the experience of those people who, by the survey year, went through the age span where most marriage and migration transitions occur in the population under study. This span roughly goes from ages 15 to 44 for cohorts older than 45 by the year of the survey: as table 1 shows, roughly 95% of people married by age 45 while 90% of U.S. migrants started their migratory career by the same age. Thus, a reasonable lower age limit for the study is to include individuals ages 45 and above by the year of the survey.[9] Since selective mortality and recall bias are a natural problem of retrospective studies I further restrict the upper-limit of the analysis to age 65. In sum, I study the marriage-migration behavior of male household heads for the 1933-1937 to 1953-1957 birth cohorts between ages (last-birthday) 15 and 44. The range refers to the five-year moving

[6] For a more detailed description of the project methodology see Massey and Sana (Massey and Sana 2003), or the projects' websites.

[7] Variation in sample size was mainly contingent on sampling fraction considerations, and not on refusal rates (which average a remarkable 5%, and rarely exceed 10%).

[8] In addition, the same instrument is applied to a non-random snowball sample of people originally from the community under study who have settled in the U.S. These smaller samples (typically 10% the size of the Mexican community sample) are gathered in order to compensate for the impossibility of surveying people whose entire household is in the U.S. at the time of the study. Sample weights are constructed via indirect estimation techniques in order to account for this compensation. This calculation mainly relies on the number of children of the household head who settle in the U.S. (see Massey and Espinosa 1997; Massey and Parrado 1994 for a more detailed description of the weighing scheme). In this analysis, I only use samples gathered in the origin.

[9] Only people engaging in either transition after age 15 and higher were considered. Very few –yet some- cases yielded ages at marriage below age 15. I assumed they were inconsistent and eliminated them from the analysis.

window corresponding to the 1998-2002 survey years.[10] These cohorts experienced significant changes (i.e. overall, non-monotonic delays) in marriage behavior (Quilodrán 2001), while they also lived through a span of far-reaching changes in the Mexican political economy and US immigration policy (Massey, Durand and Malone 2002).

This community and cohort selection yields a total of 1,575 individuals distributed in 35 communities located in 27 different municipalities ranging from a few small rural settlements, to small cities to neighborhoods in a couple of large metropolitan areas. As the (mostly time-varying) individual-level data are supplemented with municipal-level ones coming from the National Institute of Statistics, Geography, and Informatics (INEGI by its Spanish acronym), I pool data of communities by municipality, which mainly means the integration of two sets of neighborhoods (four each) sampled in two large urban areas. This pooling makes sense not only given the availability of the data at the municipal level, but also if we wish to consider an appropriate aggregation level that indicates the state of the social and economic milieu to which individuals in cities are exposed to and influenced by. In fact, it has been found that municipal-level socioeconomic indicators similar to the ones used here are associated to the propensity and timing of marriage (Parrado and Zenteno 2002); the likelihood of US migration (Massey and Espinosa 1997); and migratory trip durations (Lindstrom 1996). These indicators, along with individual-level measures, are described and operationalized in the next section.

VARIABLES

[10] Heads aged 40 to 65 at the time of the survey are likely to be a representative sample of their birth cohorts, precisely because people ages 40 and over have mostly formed their own household (mostly by marriage in Mexico in the underlying period of reference). Thus, they would have a non-zero probability of being selected in the MMP sample. However, it could be the case that people who died or emigrated with their whole household by the time of the survey were systematically different than those surveyed in their marriage-migration behavior. I attempt to minimize the bias brought by differential mortality by setting an age upper-limit for the cohorts included in the analysis.

- *First U.S. Trip*: The main dependent variable in the analysis refers to the first time a person in the sample *migrates* to (as opposed to visits) the U.S. If the person is present in the U.S. longer than a month with the express purpose of working or residing in the country, the variable is coded 1 during the first year of residence in the U.S. (in fact, most first trips last less than a year, see table 1); otherwise, it is coded as zero.
- *Age*: Age is included in 3-year ranges in during the span of highest variation and incidence (i.e. between ages 15 and 29, see table 1); it is then coded in 5-year groups between ages 30 and 44. These ranges were carefully selected based on examination of migration schedules and grouped to avoid over-stressing sampling variability and potential heaping in the data.
- *Period*: Broad controls for period were included in order to avoid confounding the some community-level characteristics with mere temporal change (further correlated with these characteristics). Person-years between 1965 and 1994 were divided in 5-year groups, while two other groups were defined as those PY occurring before 1965 and after 1995.
- *Cohort*: Controls for membership into 5-year birth cohort are included, starting with the 1933-1937, and ending in 1953-1957. These controls were introduced since the cohorts studied underwent through periods of large social change regarding both migration and marriage, aside from their differences in variables like educational attainment due to changes in the educational supply and culture in communities. It is important to mention that it was possibly to identify age, period, *and* cohort effects given the fact that they were defined in ranges (as such, identification does not depend on a very specific identifying assumption, so results should be robust to these definitions).[11]
- *Marital status characteristics*: Marital *status* was defined in two categories: single (i.e. never-married) and ever-married. Since marital disruption is such a rare event in the data

[11] Though there was some obvious colinearity between them, it did not reach near-extreme levels. This was tested by the estimation of a linear probability model of migration on the data (results not shown here).

(6% over more than 30 years, see table 2), defining a third state (previously married) did not yield different results in the analysis. It was then preferred to stick with the two-type classification given the motivation to study the behavior of people who have not married with that of people who have (presumably) previously established their own household, and who have additional familial obligations.[12] Some models also test for the effect of marriage *duration* on migration, which is defined in three ranges: 0-3, 4-7, and 8+ years after marriage. When included in the analysis, it is interacted with the marital status indicator, so unmarried people then become the reference category.

- *Family formation*: The household roster includes basic socio-demographic information of all people living in the household, *plus* all children of the head (whether they still live in the household or not). Using these data, time-varying measures of the number of children in different age groups were constructed. Age groups were defined as infants (ages 0-1), young children (2-5), older children and young teenagers (6-15), and teenagers (15-19). Age groups were defined in this manner to differentiate and test for the effects of having children very recent fertility (0-1), vis-à-vis those households that might potentially draw some labor from their children (15-19).[13] Given the educational levels (and supply) in the communities and periods under study, it was not uncommon for children these ages (and even younger) to initiate their labor force participation relatively early.
- *Educational attainment*: defined in three broad ranges, and according to the educational distribution of these cohorts in: less than 6 years, 6-11, and 12 years or more.

[12] In this respect, it would have been desirable to consider differential obligations of single people in their household of origin. Unfortunately, these data are not available.

[13] Children older than 19 were not included since the data do not indicate their age at marriage. Thus, we cannot be certain of their presence in the household after that age. Their presence may still be relevant for providing some support to (or drawing resources from) parents. However, it was judged sufficient to include the presence of younger children since it may be mediating between the more relevant age groups being studied in the analysis. Besides, as the experience of heads is censored after age 44, the expected number of adult children should be relatively low.

- *Occupation*: also defined in three broad ranges: out of the labor force, unskilled, and skilled occupation. Aside from managerial and professional occupations, the skilled category includes people engaged in administrative and sales work, and all sorts of supervisors (including foremen and machine operators in different industries). Thus, unskilled work mainly relates to people engaged in repetitive, low qualification tasks in services, manufacturing, and agriculture.
- *Labor force experience*: variable measured in months accumulating the experience of people in the labor force, regardless of occupation.
- *Property and business holdings*: both coded as 1 if the person held one or more properties/businesses during the intervening person-year and 0 otherwise.
- *Migration-related familial social capital*: four gender- and generation-specific variables relating to the previous migration prevalence of the nuclear family of origin (i.e. father, mother, brothers, and sisters), which are coded as 1 if the corresponding parent (or at least one sibling of the specified gender) have been US migrants on or before the intervening person-year.
- *U.S. Migration prevalence in the community*: defined as the estimated proportion of people ages 15 and over in the community with migration experience to the US on or before the intervening person-year.
- *Agricultural base of the community*: measured by the proportion of males in the labor force engaged in agriculture-related occupations in the municipality.
- *Female economic activity in the community:* measured by the proportion of females over 12 years of age in the labor force, and the proportion of females in the labor force engaged in manufacturing-related occupation in the municipality.
- *Economic dynamism in the community:* measured by the percentage of people self-employed in the municipality, and the percentage of people who act as employers. In

addition, the level of industrial activity of women, described above, is used as a proxy for the level of economic dynamism in a community (see Massey and Espinosa 1997: p. 954).

- *Overall characteristics of the marriage market*: following Fossett (1991) and Goldman and Westoff (1984), defined as the ratio of males ages 12 and over *in the labor force* to females ages 12 and over (regardless of their labor force status).e[14]
- *Educational attainment of the community*: percentage of people ages 12 and over with 6 or more years of education. Given the educational distribution of people in these cohorts (see table 1), this measure seems appropriate enough as a proxy of the educational level and/or supply of the community.

METHODS

Aside from performing descriptive analyses on marriage-migration timing, and describing the data by way of the bivariate relationship with the three possible sequences found in the data,[15] I estimate discrete-time survival models predicting a first US migratory trip of an individual in a given year *t* while controlling for individual- and community-level characteristics in *t-1* (see table 2 for statistics on the covariates used in the analysis). The estimation of these models is done via logistic regression on a set of pseudo-observations (in this case, person-years}. As we are interested in studying adult labor migration and since

[14] The two quantities are separately reported in Mexican census publications. Unfortunately, it was not possible to further refine the age ranges in order to only include those people exposed to an increased risk of marriage (e.g. ages 16 and over). While a potential problem, our interest here is to control for the overall situation of the marriage market, and this measure does a quite decent job in doing so. Preliminary analyses of marriage propensities with the data (not included here but available upon request) indicate that this measure is a strong positive predictor of marriage timing. In addition Fossett (1991) finds that age restrictions are much less relevant for the predictive power of the variable rather than restricting males counted in the ratio to be inside the labor force.

[15] That is, the vast majority of people in the sample were found to every marry but never migrate (~76%), while some engage in migration while single (~10%), and others while married (~14%). I found very few cases where people did not marry (less than 1%). Therefore, it is next to impossible to make any kind of inference about never-married people, much less so to distinguish between those who end up migrating from those who do not (see table 1).

people belong to different cohorts in slightly different survey dates, I restrict the analysis to the experience of people starting at age 15 and ending with the occurrence of the event or age 44, whatever occurs first (see Allison 1996).

The estimation method selected was that of Generalized Estimating Equations (GEE, see Liang and Zeger 1993; Zeger and Liang 1985). GEE uses an intra-cluster correlation matrix in order to produce asymptotically consistent and more efficient estimates while reporting standard errors robust to clustering (Liang and Zeger 1993: p. 60-61). The specific method is especially appropriate (and remarkably computationally convenient) given 1) the bi-level structure (and clustering) of the data,[16] and 2) our special interest in estimating micro-macro interactions (i.e. between marital status and community characteristics).

RESULTS

The Sequencing and Pacing of Marriage and Migration

Table 1 shows descriptive statistics on the marriage and migration timing of the sample. It is first clear from the upper panel of the table that marriage is a nearly universal event: 99% of household heads, who are quite likely to be representative of their respective community's birth cohorts, marry at least once. The 95th percentile of the age-at-marriage distribution is well below 44 for all union types but those in consensual unions. The latter represent a minority (i.e. 11%) of marriages (broadly defined) as it is typical in the Mexican case (Quilodrán 2001). As hinted, there are some differences in the timing of unions according to their type: people in consensual unions tend to have later ages at marriage than those in legal unions. Marriage is also a highly stable event for these cohorts: only 6% of first marriages are dissolved by the survey year. Dissolution probabilities (excluding legalizations) are higher-than-average, at 9%. In addition, some of initially-consensual unions

[16] That is, composed of individual- and aggregate level covariates on people sampled in two stages (though one is not strictly random).

(23%) later become legalized by some instance. This step has been an important component in the pathway of consensual unions in the country (Pebley and Goldman 1986). Given the small number of consensual unions in the data, and in spite of these timing differences *but* due to its relative stability, they will be treated the same way as other institutionally-sanctioned unions.

The second and third panels of table 1 show timing characteristics of first U.S. trip timing. 24% of people initiated their US migratory careers before the survey year, which does not precisely define migration as an uncommon event. The initiation of a migratory career tends to occur slightly later in life when compared to marriage (the median is 25, compared to 23 for marriage). This difference is primarily the resultant of a slightly majority of people in the sample (60%) migrating after marriage, and of the quicker catch-up in marriage of returning single migrants (see Parrado 2004). In addition, a topic for future consideration and one that has elicited some yet limited research, people migrating when single tend to have trip durations in average 2 years longer than those married migrants (see third panel of table 1).[17]

The fourth panel of table 1 shows the distribution of age at marriage according to migrant status, as well as according to the order of events that the person followed. Most notably, differences in the distribution of age at marriage of never- and ever-migrants are astonishingly similar, even though the figures are not adjusted for differences in socioeconomic status and while the ever-migrant group is of decent size. This empirical 'convergence in law' is the resultant of a slightly lower-than-average age at marriage of married migrants compared to a fairly higher-than-average age at marriage of single

[17] Given the limits set on cohort selection and origin of the sample (i.e. the Mexican community of origin, as opposed to including the samples recollected in the US as well, and since we are only dealing with the first trip, the proportion of people still in the US by the survey year is quite low, at 6% (see third panel in table 1).

returnees[18] (at 28 years of age) who, nonetheless as mentioned above, seem to catch-up quicker than other unmarried people of the same age (Carlson 1985; Parrado 2004).

Descriptive Analyses of Each Sequence

Table 2 shows individual- and community-level differences between non-migrants and those who engage in marriage-migration and migration-marriage. These characteristics are evaluated at the year prior to the occurrence of the *first* event (whether it is migration of marriage). In other words, characteristics are measured at the year prior to marriage for non-migrants and married migrants, while they refer to the year prior to migration for single migrants. Though imperfectly, these numbers attempt to study the characteristics of people at similar ages, as single migrants are coming to the US at similar (though slightly younger) ages as the other two groups are marrying (cfr. table 1, panels 2 and 4).[19]

People migrating after marriage disproportionately belong to the youngest (15.4%) and oldest (9.3%) cohorts when compared to the non-migrant majority (9.8% and 7.3% respectively). This over-representation in the two extremes is complemented by under-representation in the remainder cohorts. Pre-marital migrants, on the other hand, are over-represented in the two oldest cohorts with 11.6% and 32.7% (vis-à-vis 7.3% and 23.3% in the non-migrant group).

On top of the fact that single migrants tend to be 'drawn' from older cohorts, whose average educational attainment is lower, they tend to have slightly higher levels of education than married migrants (5.2 vs. 4.5 years), but less so than non-migrants (6.2 years). As most labor migrants were drawn from the peasantry and working classes in Mexico, again whose education levels tend to be relatively low, a further breakdown of educational attainment in intervals makes sense in order to study if migrants are truly drawn from the lowest

[18] The vast majority of people marry while in Mexico, or while spending less than 6 months in the US while most spouses were located in Mexico during the person-year.

[19] Alternatively, we could just follow all people to the year of the survey and report their experiences. This approach has also problems insofar as some time-varying information may be affected by migration (e.g. property acquisition). The aforementioned approach was thus preferred.

educational levels, or they are simply not likely to have the highest ones. This situation seems to be true for single but not for married migrants. As table 2 shows, both single and married migrants are indeed less likely to have 12 or more years of education (they have roughly 6% vis-à-vis 15.5% of non-migrants; married migrants are also more likely to have less than 6 years of education than non-migrants (57.3% vs. 40.9%). Single migrants are (around 15%) more likely to have less than 6 years of education than non-migrants,[20] while they are also slightly more likely to have 6-11 years of education. In short, of educational selectivity of migrants in these cohorts is negative, especially for married migrants. However, if migrants are drawn disproportionately from rural places with low educational supply, we may be overstating their (negative) educational selectivity (in the case of single migrants, controlling for cohort might also diminish this selectivity, as hinted above). This will be taken care of in the multivariate analysis section.

Regarding occupation, migrants are – unsurprisingly- less likely to be engaged in a skilled occupation than non-migrants. Married migrants, who as stated above tend to marry older than non-migrants, are also slightly (12%) less likely to be out of the labor force than non-migrants. Single migrants, on the other hand, are more likely to be out of the labor force than the other groups. However, at the year before migration, they only have 5 months less of labor force experience to those of married migrants, who in turn have around 1 year less of labor force experience to that of non-migrants. Again, these differences could be due to the lack of proper controls for age, though it is somehow considered in the analysis.

Looking at property and business holdings, it is clear that migrants (especially married ones) are overall less likely than non-migrants to own a business by their marriage year (though the proportion of non-migrants who own one the year before marriage is also

[20] This relative risk was calculated by dividing the percentage of (single) migrants (in this case) in the educational group of interest (i.e. with less than 6 years of education) by the proportion of people with the same educational level in the non-migrant group. Comparisons of this sort throughout the remainder of the section use the same rationale.

rather small at 4%). Though same statement is true of property holdings, single migrants – again, whose age at migration is slightly lower than the age at marriage of the other two groups- are considerably (67%) more likely to own a property than married migrants (but slightly less than non-migrants at 8.2%, 4.9%, and 10.3% respectively).

Quite a established result in the literature (e.g. Massey *et al.* 1987; Massey and Espinosa 1997), people with more family-, migration-related social capital are more likely to become migrants than those without it. More interestingly, this situation is especially true of single migrants, who are between 1.6 and 3 times more likely to have an immediate relative (of their nuclear families of *origin*). In addition, as predicted by cumulative migration and already related to community-level characteristics, migrants are (~35-40%) more likely to come from places with higher US migration prevalence. The difference in means (nor variance) between single and married migrants does not seem to be too large (6% in relative and 0.06 percent points in absolute terms).

Regarding the socioeconomic makeup of the community, migrants are –as expected- slightly more heavily drawn from rural communities, indicated by the proportion of males in the labor force engaging in agricultural occupations. This is especially true of married migrants, whose communities of origin have a proportion of agricultural workers out of the male labor force 23% higher than communities where non-migrants come from (in their marriage year). A similar yet smaller difference lies between married and single migrants, where the ratio of agricultural workers is 15% higher in the communities of origin of the former.

Migrants also tend to come from places with slightly lower female labor force participation rates: it is 15% for married migrants, 16% for single ones, and 17% for non-migrants. Females *in* the labor force in each of these communities work in similar proportions in manufacturing, at roughly 19%. On the other hand, the proportion of people self-employed

in communities where migrants come from is slightly higher (~16%) than those of communities where non-migrants come from (the relative difference between pre- and post-marital migrants is rather small at 4%).

Similar to the case of individual-level educational attainment, and unsurprisingly due to their rural origin, migrants tend to be drawn from communities with a lower percentage of people with education above primary school. This is especially true of married migrants, whose communities average 72% fewer relative percentage points to those of non-migrants (i.e. the mean proportion is 22% vs. 30% respectively; single migrants lay in-between at 25.6%).

Finally, migrants tend to come from communities with a lower ratio of males in labor force to females, which is probably resultant of its higher levels of male absence (precisely due to migration) rather than from lower labor force participation rates of males at any age. This situation is especially true of single migrants, who tend to come from places with rather low (labor-adjusted) sex ratios compared to both post-marital migrants and non-migrant (there are only 102 males in the labor force to females in the former vs. 118 and 126 in the latter two). This situation could be partly done to the fact that ratios systematically diminish in more recent years, most surely due to decreased labor force participation of teenagers (at least below age 16). Therefore pre-marital migration could be something done in more recent periods, though this is not suggested by the composition of cohorts in the analysis, as described above.

Survival Models

Table 3 presents GEE discrete-time event history models predicting the likelihood that a person makes a first US trip (see Methods section above for a brief description and rationale of the methodology). It is only important to mention here that standard errors are further corrected for the clustering of individuals within communities, and that likelihood

ratio tests are preferred and reported over Wald ones, except in the cases of age, cohort, and marital duration (included in models I-B and III-B), where individual coefficients report results of Wald tests while I also include *joint* likelihood ratio test of the significance for the whole variable (which is shown right next to its heading). Finally, model nomenclature reflects which models are directly comparable given the fact that one is nested within the other. Models sharing a number *or* a letter are nested (the lower number or letter being the simpler one). For instance, model III-B is nested into I-B, but not into II-A, while both models II-A and I-B (and thus III-B) are indeed nested into I-A.

Model I-A in the first panel, presents a 'full' (yet completely) additive base model with all the covariates described above. As expected, the age dependency of migration is curvilinear, quickly increasing in the teens, peaking in the early twenties and then monotonically decreasing throughout the rest of the span under study. Most cohort and (especially) period effects disappear with the inclusion of all controls (though cohort ones are marginally jointly significant), though suggest a positive curvilinear increase in migration across cohorts partly expressed in period fluctuations. Education, occupation, and social capital variables have overall the expected effects, while the only aggregate-level variables that remain statistically significant from zero after introducing controls and adjustments for clustering at the community level are those of migration prevalence and the proportion of people self-employed in the municipality.

It is important to mention that some variables are expressed in dichotomous form in all models hereby presented. These dichotomies were created in order to test for non-linearity in community-level variables, which is especially relevant in the interactive models discussed below. Hence, the inclusion of the continuous version of these variables might still yield significant and substantive results that are out of consideration in the present analysis. In short, I am not claiming that these effects are not such after one controls for clustering and

the relevant covariates; I am merely showing a baseline model with a certain goodness of fit in order to compare other specifications relevant to our purposes, and which are nested within this model.

Regarding our topic under study, though marriage is negatively associated to migration as expected, the inclusion of controls (even starting with age) weakens this relationship enough to make it undistinguishable from random noise. In addition, the familial lifecycle is weakly associated to migration in a slightly unexpected way. The presence of children ages 2 to 5 is the only strongly significant variable, thought it is negative, which is contrary to what Massey et al. (1987: chapter 7) found (though in a bivariate fashion). The presence of children in all other ages (including infants) is positively related to migration, though their effects are too weak to be conclusive about them.

Also in a purely-additive fashion, model I-B explores the notion of marital duration dependence on migration. Despite the fact that three other relevant time indices (i.e. age, period, and labor force experience) have been included in the analysis, the model remains robust to the inclusion of the variable, which interacts with marital status and where unmarried people are the reference category, is mildly significant (under a global likelihood ratio test, $0.05< p <0.10$). The most conspicuous result of this model is that the effects of the presence of children ages 2-5 diminish enough to loose significance while people married for 4-7 years, who most likely have at least one child 2-5 years-old, are the least likely to migrate to the US. Overall, the (weak) pattern seems to be one in which single migrants are the most likely to migrate to the US, which remains almost intact right after marriage, but diminishes considerably so after a couple of years.

Given the censoring of people's experience at age 44 (for reasons previously exposed), the effect of marriage at longer durations may not be as informative as it could be. Whether this is the case or not, additive models have shown a relatively weak duration

dependence of migration on marriage. Thus, given the structure of this dependence (and its relative lack strength), it is all but clear that the negative state dependence of marriage on migration is a univocal feature of the migration process in the population under study.

Since expectations that pre- or post-marital migration may be favored in some settings rather than others, model II-A in table 3 tests for interactions between marital status and some community-level characteristics (see the lowest and second leftmost panel of table 3). Overall, model II-A shows that pre-marital migration is especially more likely to occur in communities with higher proportions of people with primary education and –tentatively- females engaged in manufacturing (though the effect of this last variable was actually not significant, controlling for its presence strengthens the effect of other components of the marital status – context interaction and thus was left in the analysis). On the other hand, people from agriculture-based communities were also more likely to migrate while single rather than married.

After adding these three interactions, the coefficient of what originally was the 'main' effect of marital status on migration became significant *and* negative. Precisely because of the addition of these interactions, this coefficient actually needs to be interpreted as the effect of marital status when *all* other three (dichotomous) contextual variables included in the interactions are zero. Hence, it can be interpreted as the effect of marital status in communities with less than 50% of males in the labor force in agricultural occupations, less than 10% of females in manufacturing, *and* less than 35% of people ages 12 and over with 6 or more years of education. In short, people from less agricultural settings with low levels of female participation in the industry *and* relatively low educational levels are *more* likely to migrate to the US while married rather than single. An interpretation of these findings and the order of magnitude of these effects are discussed in the next section below. However, as it will be clear then, such community type is not representative of the data at all, confirming the

notion that pre-marital migration is more prevalent, though its effect does vary considerably according to a community's setting.

Model III-B represents a similar attempt to disentangle if the duration dependence of marriage on migration is contingent on the socioeconomic setting in which people are embedded. The results are similar to those of model II-A *only for the case of the educational level of the community,* suggesting that people from places with higher levels of people with primary education *and* who have been married for less than 3 years are especially *unlikely* to migrate when compared to never-married people. However, the fit of model III-B did not improve considerably from that of model II-A (in benchmarks for non-nested models such as Akaike's Information and Schwartz' Bayesian Criteria; AIC and SBC respectively). In addition, as model II-A seems more informative for our purposes, I will continue with its discussion and further interpretation of the (*status* dependence) and orders of magnitude of the estimated effects via a special case of predicted probabilities, discussed next.

A Macro-Simulation of Predicted Probabilities

Since the models specified above relate to the log-odds scale, and the 'effect' of marital status is to some extent contingent on the characteristics of local contexts, it makes sense to look at predicted probabilities of the occurrence of the event under study. As we are dealing with a time-dependent event, the (one-year) probability that a given individual of fixed characteristics at a given age may not depict much of anything and will be highly contingent on the age chosen. In addition, as commonsense dictates, the ascription of some characteristics of the individual vary more considerably than others along the life course and thus by age. In order to depict these dynamics, figures 1 through 3 present relatively simplistic macro-simulations of the age-specific schedule of migration between ages 15 and 44, as well as survival curves during these same ages.

As hinted above, these predicted probabilities are calculated upon the model reported in table 3, model II-A. Most characteristics of people were set to be fixed across all the simulated age range. However, some need to vary as people age. Aside from the monotonic increase in age and period indicators, it is assumed that people gain 12 months of labor force experience (all of it in an unskilled occupation). After age 35, the simulation also confers people with a property of their own. For the sake of simplicity, community characteristics remained constant across time (regarding those selected as discrete types, this is not such an unreasonable assumption).

As our working model for the simulation implies, the differential likelihood of becoming a migrant among never- and ever-married people varies by community type. Given the three different community characteristics that interact with marital status in the model, there are a total of 8 possible discrete community types according to whether they reach the selected thresholds of people in primary education (35%), males in agriculture (50%), and females in manufacturing (10%), or not. These combinations are shown in table 4, along with a calculation of how many community-years they represent out of the total in the sample. Since some combinations make more sense than others, I chose the four ones with the highest relative frequency, which are types labeled as 1, 2, 4, and 5 in table 4.

Taking a closer look at the characteristics in which these are most prevalent in communities yields the following classification. Type 1, where basic educational levels are higher and there is some female labor force participation in manufacturing *but* also high male participation in agriculture, can be regarded as a recently industrializing town. Type 2, similar to community 1 save from its lower levels of male agricultural workers, is the typical (established) urban-industrial town. Type 4, representing communities with low educational levels, high proportions of males in agriculture and moderate ones of females in manufacturing seem to represent early-industrializing rural communities, where female

participation in industry is incipient but educational levels are still low. Finally, type 5 refers to the traditional rural community of old, where female participation in industry (at least) and educational levels are low while male participation in agriculture remains high. Some exploratory analysis looking at general (time-specific) characteristics of the community overall confirm this notion. Hence, this nomenclature will be preferred over the generic one and will be henceforth used.

As stated before, marriage is a nearly-universal and pretty steady state in the population under study. Nevertheless, the event itself must occur at a certain age. The simulation implies three different ages at marriage, at 20, 23, and 27 years of age, which correspond to the 25^{th}, 50^{th} and 75^{th} percentiles of the distribution of age at marriage, as shown in table 1 (the model implies that people remain married thereafter, at least until age 44). In addition, it was simplistically assumed that people have four children in total (regardless of age at marriage and none of which are a product of pre-marital fertility), and that they are equally spaced two years after the birth of the preceding (again, regardless of age at marriage, where the first being born two years after marriage as well). Since children, as their parents, age as time progresses, people of similar ages (say, 35) but previously married at different ones (i.e. 20, 23, and 27) may be in different familial cycles (e.g. some of them with one or two teenagers in the household, others with children only). As such, the effect of marital status on the likelihood of migrating becomes a 'family effect' as time progresses.

Figures 1a, 1b, and 1c show predicted age-specific probabilities of engaging in a first US trip by community type. The only difference between the simulations used for producing the three figures is that of age at marriage, where it was set to 20, 23, and 27 years respectively. While age at marriage remains low (i.e. at 20 or even 23), people from industrializing communities (both types included in the data) are the most likely to migrate to

the US (while single), whereas people from rural communities are most likely to migrate in ages after marriage (see figures 1a and 1b). In higher ages at marriage, however, traditional rural communities become the second (relative) source of migrants at all ages, topped by (more recently) industrializing towns *before* marriage, and then closely following well-established urban-industrial towns and cities thereafter. As ages at marriage are overall lower in traditional rural areas than in industrial and industrializing ones, figure 1d shows this comparison by setting age at marriage at age 20 for traditional rural communities and 23 for all others. A clear crossover occurs around age at marriage between people in more urbanized areas and those in traditional agricultural ones.

The large effect of marriage in migration probabilities in industrializing towns (as implied in the model and *ceteris paribus)* is clearest in figures 2a, where three age-specific schedules for each type of community are presented respectively. Each of the three curves corresponds to a different age at marriage. The later marriage occurs in this setting, the higher the long-term propensity to migrate to the US. ${}_{30}q_{15}$ varies proportionally with age around 0.75 percent points per year: When age at marriage is 20, 28% of people migrate between 15 and 44; it goes up to 32.6% as age at marriage rises to 23; and rounds 38% when people marry at 27.

In fact, differences brought by varying age at marriage are much larger than those brought by changes in community setting. Figure 2b shows differences in the migration age gradient in traditional urban communities by varying age at marriage. As mentioned before, traditional rural settings –where migration is a more likely event- display the lowest gradient between pre- and post-marital migration propensities As a result, the three age patterns in the figure look much more similar than those in figure 2a. In addition, the likelihood of engaging in a migratory trip between ages 15 and 44 only varies from 35% to 39% when varying age at marriage from 20 to 27 years.

SUMMARY AND DISCUSSION

Marriage is a nearly universal and stable event in Mexico, mostly achieved through a high percentage of people in institutionally-sanctioned and later-legalized unions (Pebley and Goldman 1986; Quilodrán 1991, 2001). Typical ages at marriage for *males* are around 23-24. People with previous US migration experience have remarkably similar marriage behavior. However, this similarity is the resultant of an earlier age-at-marriage of single migrants combined with a relatively quick catch-up in marriage by people who migrated while single and return to Mexico (see table 1).

Overall, when compared to non-migrants in a bivariate fashion, migrants were found to belong to slightly older cohorts and have slightly negative educational selectivity, though it is lower on single migrants, who also tend to belong to older cohorts. Migrants are also more likely to be engaged in less qualified occupations while they are less likely to own a property or business. Unsurprisingly, migrants –especially single ones- have higher levels of (family-originated) potential migration-relevant social capital. Community-wise, migrants tend to come from places with higher proportions of individuals with US migratory experience (and thus of lower labor-force-adjusted sex ratios) and more rural places with lower educational levels (especially true of married migrants), though also from communities with levels of female labor force participation (and activity in manufacturing) comparable to places where non-migrants come from.

Given the intrinsic correlation between these variables and in order to better pin down the time-dependency of the phenomenon under study and the two-level structure of the data, several discrete-event history models on the likelihood of making a first US migratory trip were estimated via GEE logistic regression. As the bivariate analyses performed suggest, people are more likely to *initiate* their U.S. migratory careers while single rather than married, though the relationship seriously weakens as one barely starts introducing relevant

controls. At any rate, results of models interacting marriage duration with marital status suggest with better statistical power that the negative effects of marital status on migration increase as time progresses. In fact, differences in migration propensities between unmarried people and those married for *more* than four years are especially divergent.

Differences timing roughly coincided with the presence of small children (~2-5 years old), which was found to be strongly negatively related to the likelihood of engaging in a first migratory trip to the U.S.[21] It thus seems that single individuals are more likely to migrate to the US since –on the whole- they have fewer economic and social familial obligations.[22] While they also seem to have more social ties with migration experience even when compared to married migrants, this selectivity (and that of education) is not robust to other controls. In fact, except for family obligations per se, there was nothing in the profile of *individuals* that could be univocally associated to pre- or post-marital migration (several interactions were tried, none of which reached significance levels).[23]

Additionally, it was explored whether pre- or post-marital migration was more likely to occur according to the socioeconomic context in which people are embedded. It has been suggested that at least in certain communities, where opportunities for young people are limited, ambitious young men are especially likely to migrate to the US (Massey *et al.* 1987: chapter 7). Various interactions between marital status and community level characteristics were entertained. Three main characteristics were found to have *non-linear* effects in determining which sequence was more prevalent at the community level. The otherwise weak marital state dependence on migration found in purely-additive (log-odds-scaled) models

[21] It could still be possible that family obligations encourage migration in different settings and, in fact, the data suggests this, though the relationship with migration is rather weak, given the non-significance of the otherwise positive effect of having children other than between the ages from 2 to 5. Future research will attempt to consider this issue in more depth.

[22] This is not to say that economic and social obligations that may draw opposition to the idea of migration may be absent for migrants-to-be (especially for women, see Hondagneu-Sotelo 1994)

[23] The characteristics of single migrants lied between those of non-migrants and married migrants over the board but never suggested an inverted relationship to migration than that of post-marital migration (see table 2).

became stronger in specific socioeconomic settings when considering their interaction with marital status (and properly controlling for the bi-level structure of the data).

Pre-marital migration remained higher than post-marital migration throughout pretty much all the space-time studied here. The difference between them was especially high in medium-sized towns of relatively recent industrialization (followed by those of earlier industrialization), where post-marital migration seems to be an unlikely event and pre-marital one a likely one. On the other extreme, traditional rural communities (with low levels of female activity and education) displayed the lowest gradient between pre-and post-marital migration, which might partly explain their higher migration propensities at older ages and their overall higher migration prevalence.[24] While this gradient does not necessarily contradict Massey et al.'s (1987: Chapter 7) statement regarding young people in communities with limited opportunities being more likely to migrate (they are, especially in absolute terms), it may qualify it. Migration in places with limited opportunities seems to be an acceptable strategy throughout the whole life course. This likelihood is indeed higher at younger ages (and for the unmarried).

However, the likelihood of migration for young, unmarried people is especially higher *relative* to married ones in industrializing areas, where opportunities may actually be growing, and where age at marriage may also be shifting at a faster pace than in rural areas (Quilodrán 1991, 2001). At any rate, it may be that a group of people with fewer investment (and subsistence) opportunities, who live in an economically dynamic context are especially motivated to migrate in order to accumulate resources otherwise not available to them given the relative lack of accessibility to well-functioning credit and capital markets {Stark, 1985 #232}. The fulfillment of these opportunities may aid them establish a better livelihood in

[24] The pre- vs- post-marital migration gradient in established urban-industrial centers lies between that of industrializing communities and rural areas, though migration overall is less likely to occur in such settings to begin with (though it has changed in more recent years, see Bustamante, Reynolds and Hinojosa Ojeda 1992; Cornelius 1992; Durand, Massey and Zenteno 2001; Fussell and Massey 2004; Hernández-León 2001).

their places of origin, whether in the form of a (small) business venture, or as the purchase of real estate or construction of a home (Lindstrom 1996; Parrado 2004). This, in turn, may permit them establish a family, to which they are expected to be the primary breadwinners.

Future research will deal with the analysis of other components of the migration dynamics of this population and its relationship with marriage and family life cycle issues. Specifically, as hinted in table 1, single migrants have longer (first) trip durations than married ones. These analyses would then complement the present one by analyzing if differential trip duration between the married and the unmarried is the product of similar processes to the ones described above.

Total individuals in the sample	1,575	100%									
Total individuals ever-marrying	1,553	99%	Age @ marriage by type of marriage								
Type of 1st Marriage			p5	p10	q1	median	q3	p90	p95	mean	s.d.
Religious only	23	1%	20	20	21	23	29	34	40	26.5	8.94
Civil only	273	18%	18	19	20	24	27	33	37	24.9	6.03
Religious and civil	1,091	70%	18	18	20	23	26	31	34	23.9	5.21
Consensual union	166	11%	17	19	21	25.5	32	42	46	27.6	8.67
			Age @ trip by ever-migrant status								
			p5	p10	q1	median	q3	p90	p95	mean	s.d.
No. of people with no US migration experience	1196	76%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
No. eventually migrating at least once	379	24%	17	18	21	25	35	44	48	28.7	9.85
Migrated for 1st time before marriage*	150	40%	16	17	18	21	24	26	28	21.4	4.51
Migrated for 1st time after marriage	229	60%	21	22	25	32	40	46	51	33.4	9.57
			Trip duration in months (for those back from 1st trip)								
			p5	p10	q1	median	q3	p90	p95	mean	s.d.
No. eventually migrating at least once	379	24%	2	3	6	12	24	60	132	28.6	56.03
Migrated for 1st time before marriage*	150	40%	2	2	6	12	36	132	192	42.4	78.6
Migrated for 1st time after marriage	229	60%	2	3	5	10	24	48	60	19.4	30.36
No. not returning from 1st trip by svyyr	24	6%									
			Age at marriage by sequence status								
			p5	p10	q1	median	q3	p90	p95	mean	s.d.
Never migrating before survey year	1,196	76%	17	18	20	23	27	32	36	24.5	5.97
No. eventually migrating at least once	379	24%	18	19	21	23	26	32	36	24.6	6.04
Migrated for 1st time before marriage*	150	40%	20	21	24	26	31	36	42	28.2	6.87
Migrated for 1st time after marriage	229	60%	17	18	20	22	24	27	30	22.3	4.07

Notes: * Includes 6 never-married individuals (by the survey year)

Table 1. Descriptive statistics on Marriage and First US Migration Timing

	Non-migrant		Single Migrant		Married Migrant	
	mean	s.d.	mean	s.d.	mean	s.d.
	1196		150		229	
(Five-year) birth cohort (REF=1953-1957)						
1933-1937	0.073	(0.26)	0.116	(0.32)	0.093	(0.29)
1938-1942	0.233	(0.42)	0.327	(0.47)	0.220	(0.41)
1943-1947	0.259	(0.44)	0.163	(0.37)	0.234	(0.42)
1948-1952	0.338	(0.47)	0.299	(0.46)	0.300	(0.46)
Year union began	1971	(7.92)	1973	(8.89)	1969	(7.08)
Year of migration	N/A		1967	(7.48)	1980	(11.05)
Socioeconomic characteristics:						
Educational attainment (REF=6-11 years)	6.2	(4.63)	5.2	(3.65)	4.5	(3.44)
Less than 6 years	0.409	(0.49)	0.469	(0.50)	0.573	(0.49)
12+ years	0.155	(0.36)	0.061	(0.24)	0.066	(0.25)
Occupation during person-year (REF=Unskilled)						
Out of the labor force	0.070	(0.26)	0.109	(0.31)	0.062	(0.24)
Skilled occupation	0.336	(0.47)	0.197	(0.40)	0.199	(0.40)
Cumulative labor force experience (in months)	115.0	(82.75)	98.5	(65.61)	103.1	(59.41)
One or more properties held during PY	0.103	(0.30)	0.082	(0.27)	0.049	(0.21)
One or more businesses owned during PY	0.040	(0.20)	0.034	(0.18)	0.022	(0.15)
Migration-related social capital:						
Father a US migrant on or before PY	0.021	(0.14)	0.095	(0.29)	0.057	(0.23)
Mother a US migrant on or before PY	0.003	(0.06)	0.048	(0.21)	0.018	(0.13)
At least one brother a US migrant on or before PY	0.037	(0.19)	0.116	(0.32)	0.057	(0.23)
At least one sister a US migrant on or before PY	0.024	(0.15)	0.054	(0.23)	0.018	(0.13)
Pct. of people 15+ with US migration experience	7.3	(5.89)	10.5	(7.15)	9.9	(6.67)
Pct. of males 15+ with US migration experience	12.6	(9.53)	18.3	(12.59)	17.3	(11.28)
Pct. of females 15+ with US migration experience	2.1	(3.21)	2.2	(3.28)	1.8	(2.95)
Municipio characteristics:						
Pct of males in agriculture	0.489	(0.32)	0.526	(0.32)	0.605	(0.28)
Pct of females in manufacturing	0.185	(0.12)	0.191	(0.14)	0.184	(0.14)
Female labor force participation rates	0.172	(0.07)	0.161	(0.08)	0.147	(0.07)
Pct of people self-employed	0.262	(0.12)	0.293	(0.14)	0.305	(0.13)
Pct of people 12+ with 6+ years of education	0.303	(0.18)	0.256	(0.17)	0.220	(0.15)
Ratio of males 12+ in LF to (all) females 12+	1.266	(1.12)	1.020	(0.69)	1.181	(1.04)

Note: Variables are evaluated at the previous year to that where the first transition occurs, whether it was marriage or migration (see text)

Table 2. Means and standard deviations of covariates included in the analysis

		I-A			II-A			I-B			III-B		
		β	S.E.		β	S.E.		β	S.E.		β	S.E.	
Intercept		-7.6784	(0.792)	**	-7.1428	(0.818)	**	-7.4741	(0.825)	**	-7.5352	(0.833)	**
Age groups (REF=40-44)				*			*			*			*
	15-17	2.0409	(0.511)	**	2.0797	(0.532)	**	1.9099	(0.516)	**	1.9185	(0.520)	**
	18-20	2.3962	(0.458)	**	2.4136	(0.473)	**	2.2451	(0.462)	**	2.2449	(0.467)	**
	21-23	2.6758	(0.425)	**	2.6581	(0.443)	**	2.5182	(0.431)	**	2.5006	(0.437)	**
	24-26	2.2759	(0.367)	**	2.2538	(0.384)	**	2.1568	(0.376)	**	2.1391	(0.378)	**
	27-30	1.8158	(0.330)	**	1.8065	(0.352)	**	1.7617	(0.327)	**	1.7653	(0.339)	**
	30-34	1.2806	(0.378)	**	1.2911	(0.395)	**	1.2723	(0.378)	**	1.2917	(0.384)	**
	35-39	1.1631	(0.295)	**	1.1717	(0.311)	**	1.1560	(0.293)	**	1.1647	(0.298)	**
Period (REF=Before 1965)													
	1965-1969	-0.2813	(0.236)		-0.3164	(0.235)		-0.2777	(0.237)		-0.2764	(0.235)	
	1970-1974	0.1609	(0.322)		0.1215	(0.320)		0.1554	(0.323)		0.1573	(0.324)	
	1975-1979	0.0584	(0.451)		0.0658	(0.451)		0.0610	(0.450)		0.0709	(0.456)	
	1980-1984	-0.1815	(0.546)		-0.0878	(0.555)		-0.1689	(0.547)		-0.1408	(0.553)	
	1985-1989	0.1867	(0.660)		0.2976	(0.659)		0.2437	(0.667)		0.2606	(0.658)	
	1990-1994	-0.5626	(0.955)		-0.4248	(0.956)		-0.4824	(0.964)		-0.4736	(0.940)	
	1995-2002	1.0081	(0.873)		1.1216	(0.879)		1.1257	(0.896)		1.1290	(0.876)	
Cohort (REF=1953-1957)				+			+			+			+
	1933-1937	-0.0965	(0.473)		-0.1036	(0.476)		-0.0783	(0.472)		-0.0841	(0.483)	
	1938-1942	-0.3832	(0.402)		-0.3602	(0.410)		-0.3804	(0.401)		-0.3863	(0.409)	
	1943-1947	-0.6604	(0.266)	*	-0.6236	(0.275)	*	-0.6572	(0.267)	*	-0.6641	(0.274)	*
	1948-1952	-0.3935	(0.167)	*	-0.3705	(0.171)	*	-0.3857	(0.165)	*	-0.3993	(0.168)	*

Table 3. Discrete-time Survival Model on the Likelihood of Engaging in a First US Trip (via GEE Logistic Regression)

	β	S.E.		β	S.E.		β	S.E.		β	S.E.	
Marital status/duration and family formation:												
Never-married before PY (REF=ever-married by PY)	0.0968	(0.170)		-0.8633	(0.314)	+	N/A			N/A		
Married for 0-3 years (REF = Never-married by PY)	N/A			N/A			0.0532	(0.153)		0.2442	(0.179)	
Married for 4-7 years (REF=Never-married by PY)	N/A			N/A			-0.5762	(0.241)	*	-0.3675	(0.270)	
Married for 8+ years (REF=Never-married by PY)	N/A			N/A			-0.4864	(0.364)		-0.4929	(0.493)	
No. of children of the head 0-1 year-old in PY	0.0779	(0.116)		0.0629	(0.115)		0.0629	(0.112)		0.0572	(0.111)	
No. of children of the head 2-5 years-old in PY	-0.187	(0.049)	**	-0.1820	(0.048)	**	-0.0733	(0.050)		-0.0687	(0.050)	
No. of children of the head 6-15 years-old in PY	0.0227	(0.050)		0.0351	(0.051)		0.0501	(0.070)		0.0512	(0.070)	
No. of children of the head 16-19 years-old in PY	0.0654	(0.108)		0.0681	(0.108)		0.0838	(0.108)		0.0842	(0.106)	
Socioeconomic characteristics:												
Educational attainment (REF=6-11 years)												
Less than 6 years	0.1208	(0.125)		0.1202	(0.126)		0.1212	(0.125)		0.1165	(0.126)	
12+ years	-0.669	(0.173)	**	-0.6742	(0.174)	**	-0.6630	(0.170)	**	-0.6598	(0.171)	
Occupation during person-year (REF=Unskilled)												
Out of the labor force	0.1766	(0.254)		0.1585	(0.247)		0.1878	(0.256)		0.1633	(0.249)	
Skilled occupation	-0.2663	(0.155)	+	-0.2771	(0.160)	+	-0.2643	(0.157)	+	-0.2601	(0.159)	
Cumulative labor force experience (in months)	0.0036	(0.001)	*	0.0035	(0.001)	*	0.0036	(0.001)	*	0.0035	(0.001)	*
One or more properties held during PY	-0.3104	(0.160)	+	-0.3170	(0.160)	+	-0.2897	(0.158)	+	-0.2996	(0.160)	+
One or more businesses owned during PY	-0.186	(0.282)		-0.1826	(0.281)		-0.1795	(0.280)		-0.1737	(0.280)	
Migration-related social capital:												
Father a US migrant on or before PY	0.4926	(0.339)		0.5042	(0.333)		0.4832	(0.344)		0.4864	(0.337)	
Mother a US migrant on or before PY	0.7695	(0.821)		0.7415	(0.825)		0.7884	(0.820)		0.7847	(0.823)	
At least one brother a US migrant on or before PY	0.9842	(0.164)	**	1.0123	(0.157)	**	0.9814	(0.164)	**	0.9923	(0.160)	**
At least one sister a US migrant on or before PY	0.0486	(0.249)		0.0389	(0.255)		0.0495	(0.252)		0.0512	(0.254)	
Pct. of people 15+ with US migration experience	0.0918	(0.022)	**	0.0900	(0.022)	**	0.0918	(0.022)	**	0.0911	(0.022)	**
Pct of people 15+ with US migration experience - squared	-0.0013	(0.001)	*	-0.0012	(0.001)	*	-0.0013	(0.001)	*	-0.0013	(0.001)	*

	I-A		II-A		I-B		III-B	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Municipio characteristics:								
At least 50% of males in LF in agriculture	-0.2399	(0.199)	-0.4542	(0.242) +	-0.2286	(0.202)	-0.2238	(0.204)
At least 10% of females in LF in manufacturing	0.1245	(0.170)	-0.1583	(0.289)	0.1240	(0.168)	0.1127	(0.169)
Pct of females in labor force	0.005	(0.018)	0.0025	(0.019)	0.0059	(0.018)	0.0068	(0.018)
Pct of people self-employed	0.014	(0.007) +	0.0132	(0.008) +	0.0137	(0.007) +	0.0140	(0.007) +
Ratio of males 12+ in LF to (all) females 12+	-0.0012	(0.001)	-0.0011	(0.001)	-0.0012	(0.001)	-0.0012	(0.001)
At least 35% of people 12+ with 6+ years of education	-0.1178	(0.233)	-0.4130	(0.334)	-0.1144	(0.231)	0.0922	(0.198)
Family formation, macro-micro interaction Effects:								
Never-married * 50%+ of males in LF in agriculture	N/A		0.6683	(0.283) *	N/A		N/A	
Never-married * 10%+ of females in LF in manufacturing	N/A		0.5407	(0.331)	N/A		N/A	
Never-married * 35%+ people 12+ with 6+ yrs of education	N/A		0.5399	(0.238) +	N/A		N/A	
Married 0-3 yrs * 35%+ people 12+ with 6+ yrs of education	N/A		N/A		N/A		-0.5760	(0.221) **
Married 4-7 yrs * 35%+ people 12+ with 6+ yrs of education	N/A		N/A		N/A		-0.5540	(0.432)
Married 8+ yrs * 35%+ people 12+ with 6+ yrs of education	N/A		N/A		N/A		-0.1264	(0.362)
Person-years	40,897		40,897		40,897		40,897	
Log-likelihood	-1,848.1		-1,843.8		-1,844.6		-1,842.4	
(Exchangeable) working correlation	2.20E-04		1.70E-04		2.39E-04		1.97E-04	
Notes:								

Table 3. (CONT.) Discrete-time Survival Model on the Likelihood of Engaging in a First US Trip (via GEE Logistic Regression)

Type	+ 50% males in LF in agriculture	+10% females in LF in manufacturing	+ 35% people 12+ w/6+ yrs of education	Comm – Years	Percent
1	Yes	Yes	Yes	200	11%
2	No	Yes	Yes	746	40%
3	Yes	No	Yes	41	2%
4	Yes	Yes	No	340	18%
5	Yes	No	No	352	19%
6	No	Yes	No	126	7%
7	No	No	Yes	35	2%
8	No	No	No	15	1%

Table 4. Distribution of community-years by community types

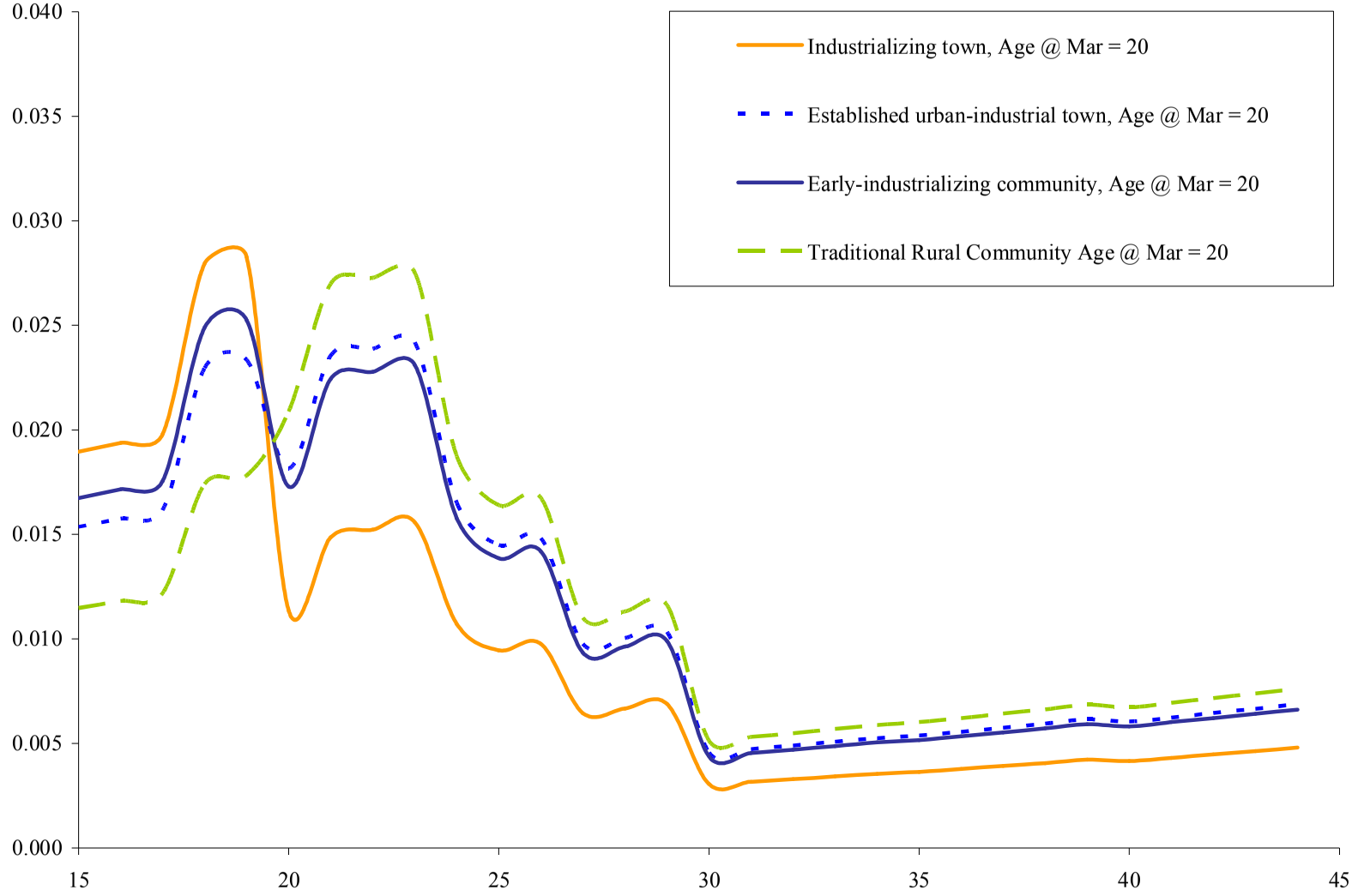

Figure 1a. Predicted age-specific probabilities of making a first US trip by community type with implied age at marriage = 20

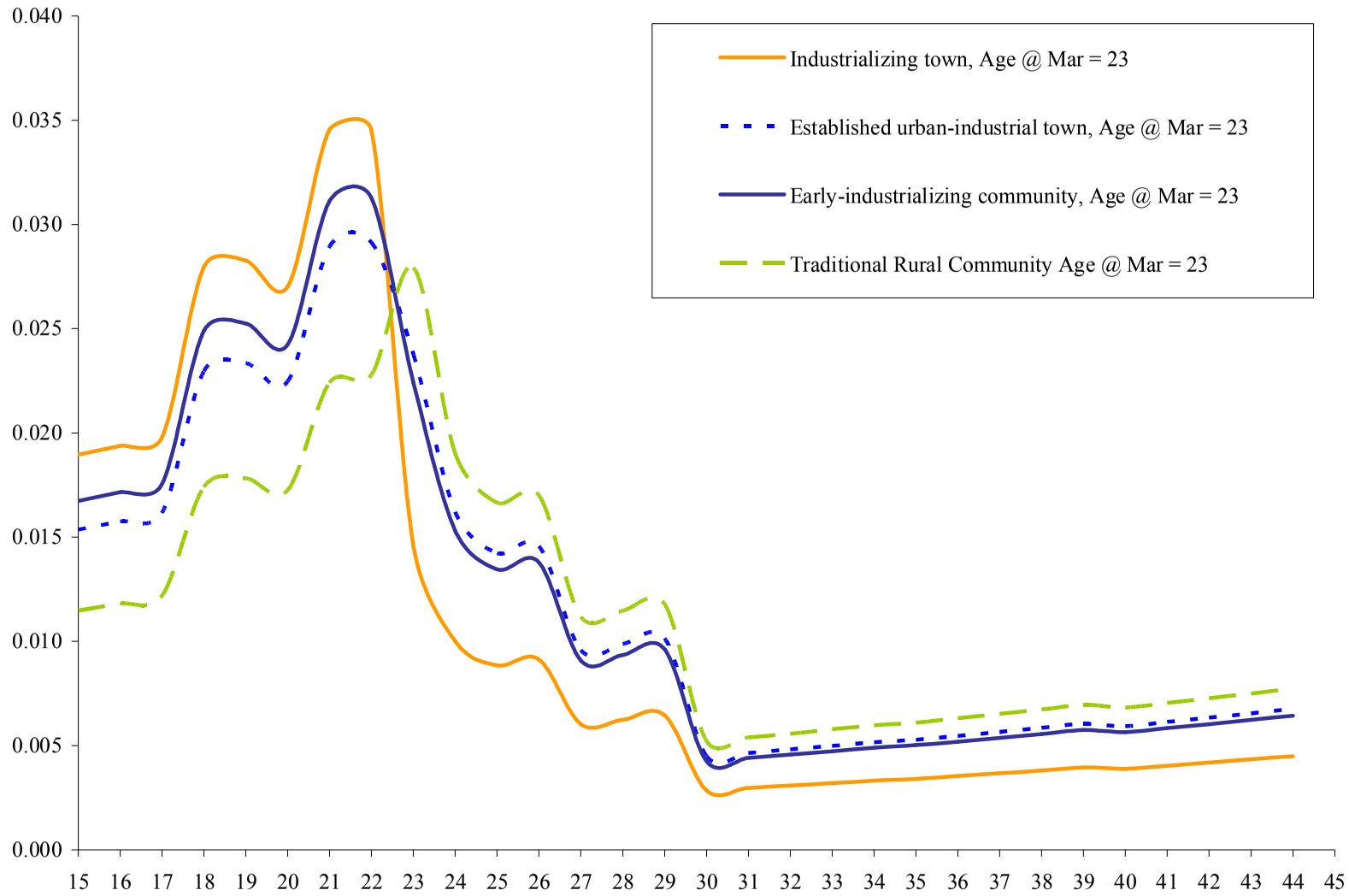

Figure 1b. Predicted age-specific probabilities of making a first US trip by community type with implied age at marriage = 23

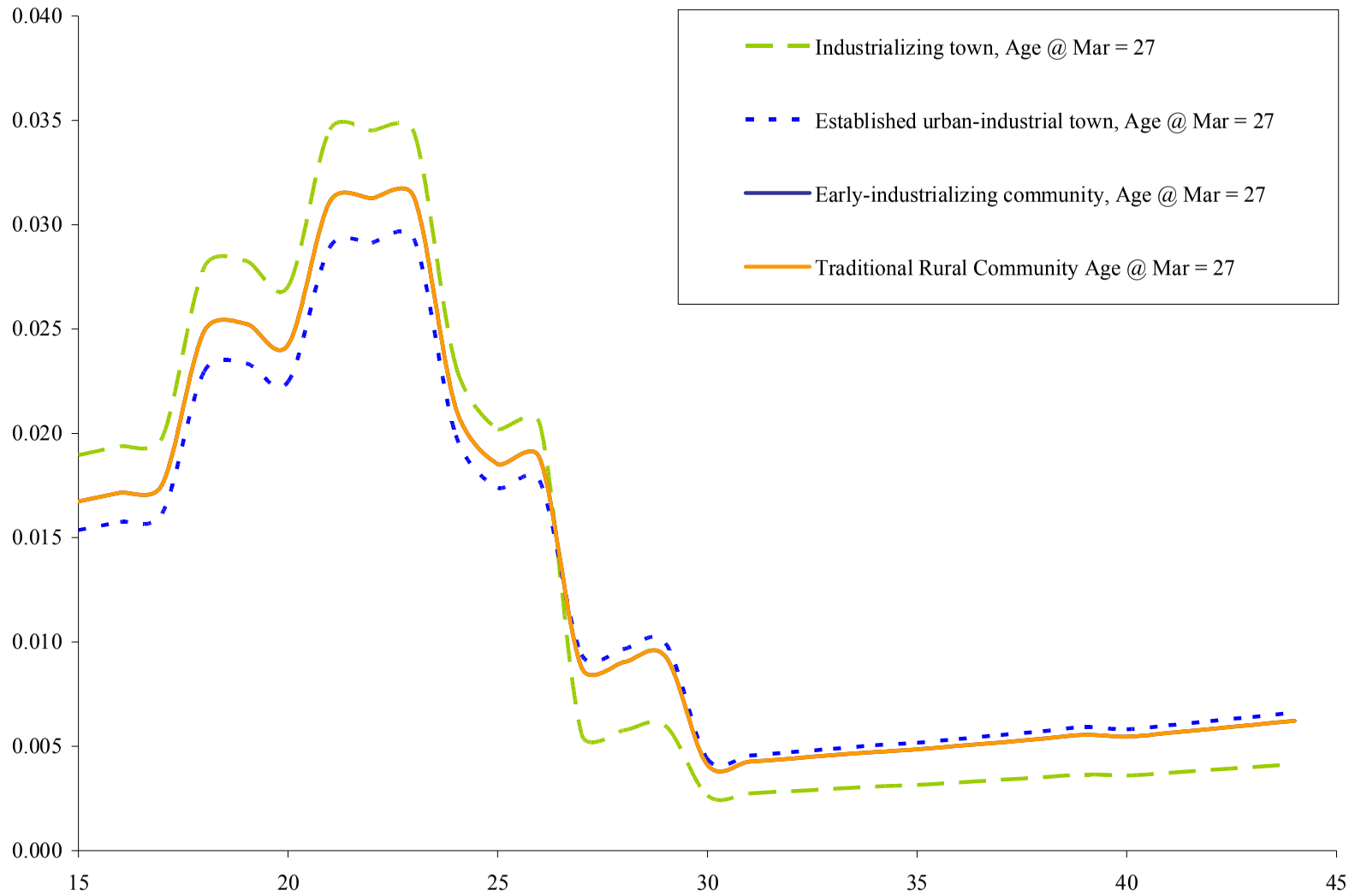

Figure 1c. Predicted age-specific probabilities of making a first US trip by community type with implied age at marriage = 27

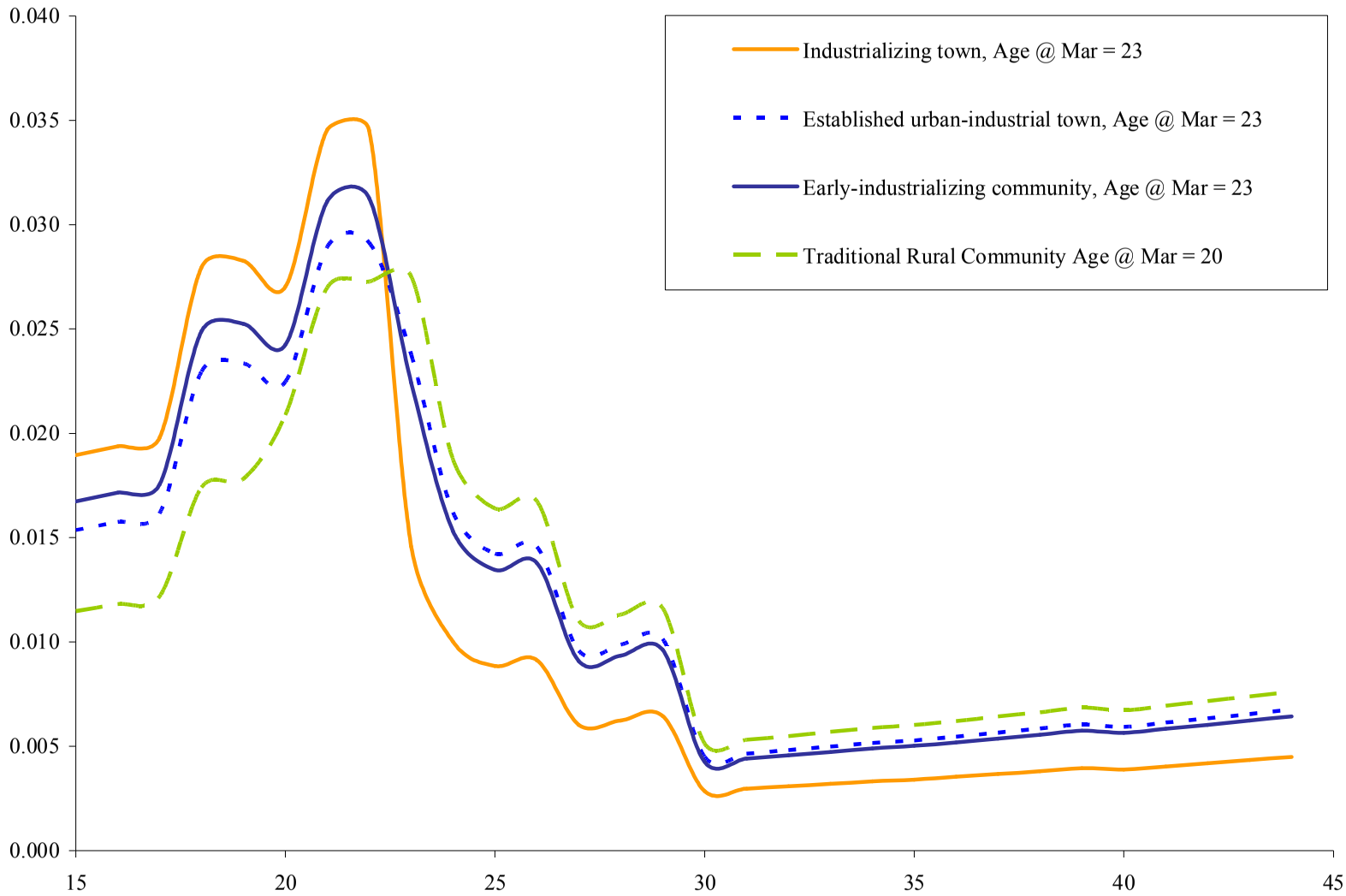

Figure 1a. Predicted age-specific probabilities of making a first US trip by community type, selected ages at marriage

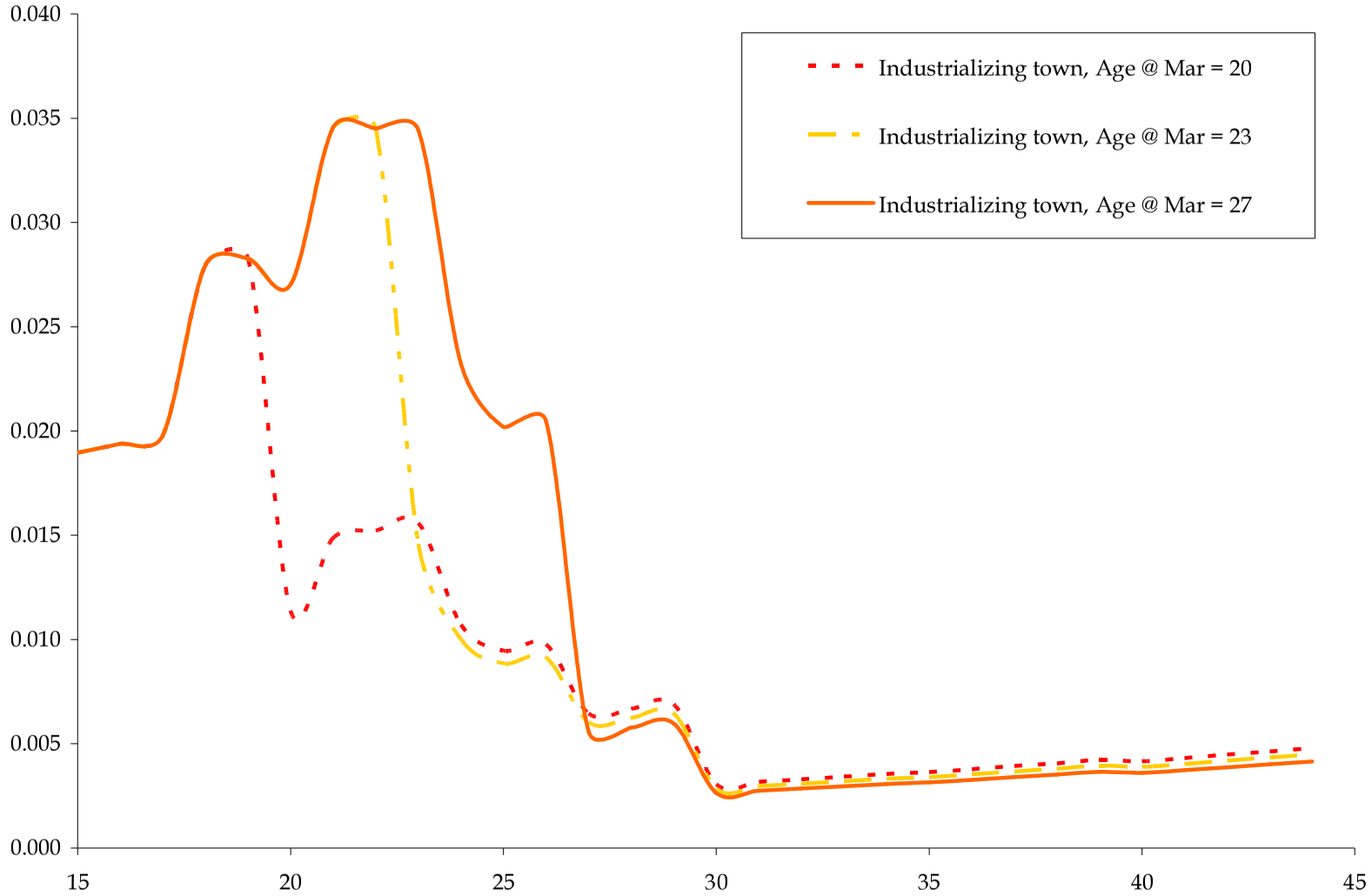

Figure 2a. Predicted age-specific probabilities of making a first US trip for industrializing towns, selected ages at marriage

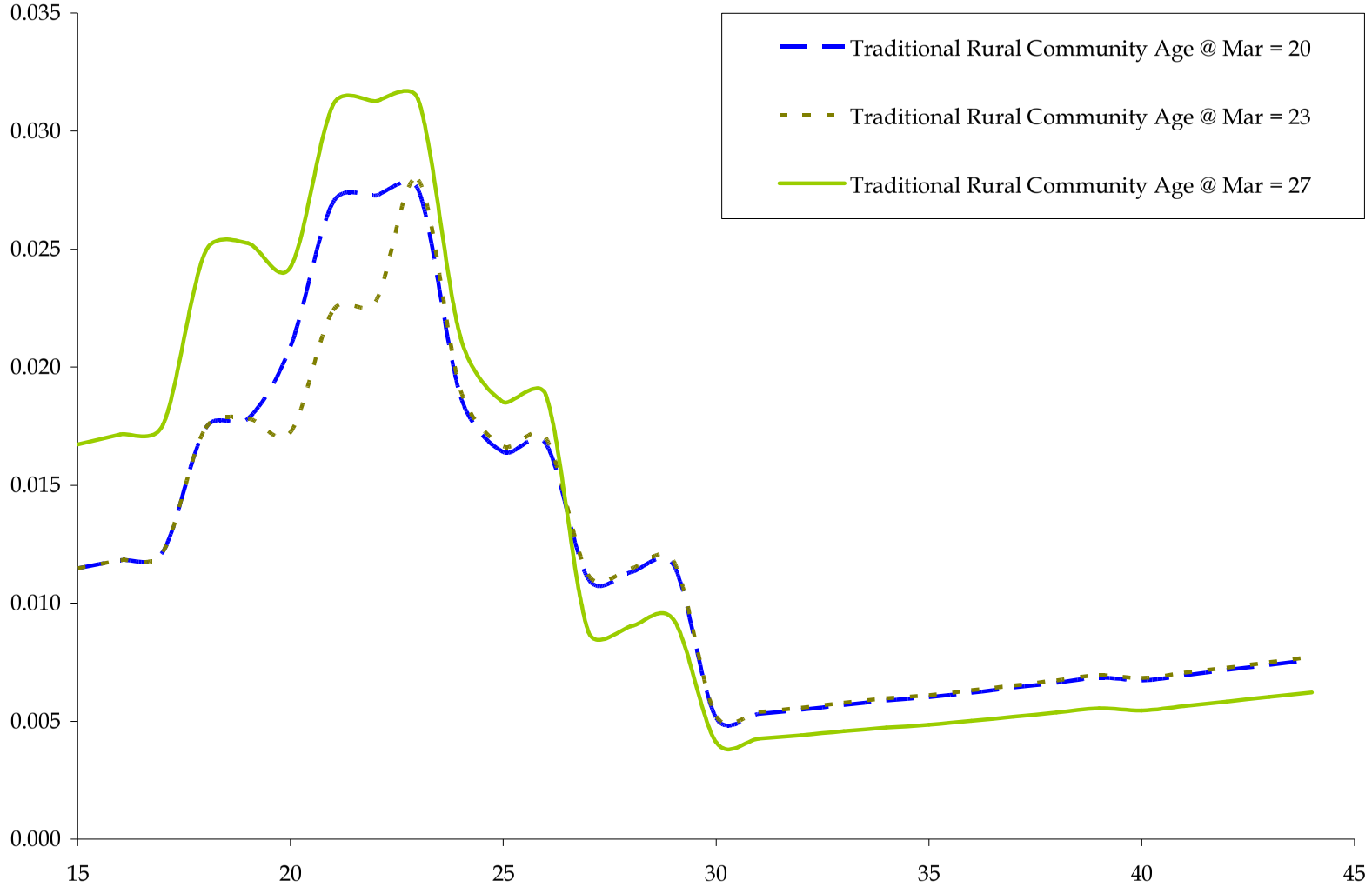

Figure 2b. Predicted age-specific probabilities of making a first US trip for traditional rural communities, selected ages at marriage

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