DOES INTERNATIONAL MIGRATION HELP THEM MARRY EARLIER? A HAZARD MODEL FOR THE CASE OF EGYPT

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Abstract

Marriage represents an important step of entering adulthood in the Egyptian society and its delay often results in tensions and frustration among youth. Considering migration as a predetermined strategy to reach a targeted level of savings, we question whether having migrated helps shorten the duration to marriage in the case of Egypt. To the best of our knowledge, the present study will be the first to link the timing of migration to the timing of marriage in the case of Egypt. We find no effect of migration on the timing of marriage, except within the migrant population.

ملخص

يمثل الزواج خطوة هامة لدخول مرحلة البلوغ في المجتمع المصــــري وتأخيره في كثير من الأحيان يؤدي إلى التوتر والإحباط بين الشباب. وبالنظر إلى الهجرة باعتبارها استراتيجية محددة سلفا للوصـول إلى المستوى المستهدف للمدخرات، علينا أن نتسـاءل ما إذا كانت الهجرة ســاعدت على تقصـير مدة الزواج في مصـر. إلى حد علمنا، فإن الدراسـة الحالية هي أول من ربط توقيت الهجرة بتوقيت الزواج في مصر. لا نجد أي تأثير للهجرة على توقيت الزواج، إلا في عدد السكان المهاجرين.

1. Introduction

Migration is generally known as the process of moving from one country or place to live or work in another. It is a major event that occurs in a migrant's life course and is expected to affect other major decisions in his/her life (Wahba, 2015), such as marriage and work among others. A long list of studies showed evidence of such interrelationships between migration and other life events (Gabaccia, 1992; Grasmuk & Pessar, 1991).

As argued by Willikens (1991), one of the advantages of studying migration in a life course context is that the connection between the migration career and other parallel careers can be clarified. A general hypothesis is that changes in residential locations are often associated with other changes in the individuals' lives such as changes related to the individuals' organization of household (Odland & Shumway, 1993). Originally, people migrate for a plethora of reasons. Usually people who migrate only temporarily do so in the hopes of making some more money outside their country to bring home with them. Having higher and higher economic demands to meet, especially in many parts of the Middle East, can leave people needing to migrate to afford things like marriage and child care.

Scant research exists on migration and life course in Egypt, and the Middle East and North Africe region in general. In Egypt, migration is mostly temporary (Wahba, 2004) and is a male dominated event. For this reason, the present study only focuses on male return migrants who married (or not) post-migration to analyze the impact of migration on the duration of transition from non-marriage to marriage.

The costs of marriage are the most substantial investment young North Africans make. These costs have been identified as a substantial contributor to the delay in age of marriage, and a barrier to adult life (Amin and Al-Bassusi 2004; Assaad et al. 2010; Assaad and Ramadan 2008; Dhillon et al. 2009; Rashad et al. 2005; Singerman 2007).

In this study, we estimate hazard duration models for the duration to marriage and we compare between ever-migrants and never-migrants to see if migration has helped shortening this duration of transiting from non-marriage to marriage. We look at two main durations, the one between the legal age of marriage and the actual age at first marriage and the one between the moment of engagement and the marriage. Thus, the current research will answer two main research questions: Does migration delay marriage? Alternatively, in contrast, a return migrant is more likely to marry earlier than a non-migrant? To the best of our knowledge, the present study will be the first to link the timing of migration to the timing of marriage in the case of Egypt.

The outline of the paper is as follows. After the introduction, Section 2 will review the existing literature on marriage and migration in MENA and identify gaps in the literature for the MENA region. In Section 3, we offer an overview on marriage in the context of Egypt. Section 4 describes our methodology and data sources, while discussing descriptive results to motivate our analyses. Section 5 presents the findings of our hazard model and Section 6 concludes.

2. Literature Review

There are many variables to consider in a discussion on migration. Wahba (2015) extensively studies migration in Egypt. In the study, Wahba (2015) notes that although poor conditions were the main reason why Egyptian migrants return, another important reason is marriage. As it turns out, "12% of urban and 15% of rural returnees return to get married" (Wahba, 2015, p. 204). Inversely, Elbadawy (2011) discusses in her article the many varied reasons that compel people to migrate out of Egypt and she does so by focusing on young people aged 15-29. Elbadawy studies the different intentions for migration by studying the years of schooling, region, employment status, which wealth quintile those surveyed belong to and even their parents' years of schooling. The study provides a holistic view on the mentality of Egyptian

youth by also taking into account whether each person feels loved and/or unhappy and their level of worrying about the future. The results suggest that "having a migrant on one's social network is one of the key factors in developing migration aspirations" (Elbadawy, 2011, p. 9). Moreover, where Egyptian youth tend to migrate depends on a lot of matters, but it is the wealthiest youth who are likely to want to migrate to the West. Elbadawy (2011) concludes the article by saying "Worrying about future prospects generally is a push-factor" (p. 9). It appears that the main thing pushing people to leave their homes is the worry they feel about their future prospects.

The reasons people migrate are important to consider, but it's also important to consider the effects of returning from migration have on individuals and more notably on families and family dynamics. Bertoli and Marchetta (2012) study the effects that return migration have on fertility rates in Egypt and interestingly point out that married couples who have past migration experience, especially in another Arab country, have a significantly larger number of children than Egyptian married couples of which neither have ever migrated. Bertoli and Marchetta (2012) suggest that "Egyptian returnees have a number of children that is closer to the level that prevails at destination than to the Egyptian one" (Bertoli & Marchetta, 2012, p. 21). Interestingly enough Courbage (1994) notes that "Among Egyptian emigrants, 95 percent went to Gulf states, Iraq and Libya" (p. 21). The resources in these countries allow for the savings that are sent back home to be as astronomical as "$3 to 4 billion a year in Egypt" (p. 21), but these countries have small populations. Since migrants end up adopting the norms and traditions of the countries they migrated to, this leads to lower fertility rates, contradicting what Bertoli and Marchetta (2012) found. Migration is not the only reason that Courbage (1994) gives for the differentiation in fertility rates, but it is one of the most prominent.

Elwood Carlson (1985) explores the relationship of migration and marriage in Australia, discussing both martial timing and childbearing although previous studies often covered one or the other. Carlson (1985) discovers that the effect of migration is temporary, noting, "The effect of migration on both marriage and childbearing was a limited one, a disturbance which influenced the timing of only proximate vital events. Though migration delayed marriages for some, single migrants soon showed by their shorter birth intervals interruption had been overcome" (p. 70). While the notion seems to be that migration can have a more significant effect on the lives of migrants, Carlson is suggesting that that is not the case for many migrants. It is possible that those studied where more adaptable and flexible and were therefore able to combat the dramatic changes of migration. This could be how the results end up pointing to a very temporary effect.

There is still a question of endogeneity in terms of marriage and migration, at least in the context of Thailand. Rural-urban migration in Thailand is not motivated by impending marriage but rather economic factors as well as education play a significant role since compulsory education ends at the age of 12 (Piampiti, 1982; Soonthorndhada, 1983; Rindfuss, 1991; Rindfuss et al., 2000). When it comes to Thailand, it appears that there is not an endogenous relationship between migration and marriage as migration can occur more freely at a much younger age than marriage can. Although these earlier findings suggest that there is a negative relationship between marriage and migration Jampaklay (2006) shows how migration can often delay marriage, but how it can inversely facilitate it after the migrant returns home. Studies done by Chattopadhyay (1999) and Parrado (1998) show that there is a delay in marital timing because of the increased economic uncertainty in the place of destination and because migrants will often require an adjustment period. Migration yields positive economic effects though and could eventually lead to fostering union formation. The differences in how migration affects marital timing among males and females is most interesting and requires separate analyses. As Jampaklay (2006) says, "For women, the positive effect of migration remains even after school enrollment and employment are controlled for.

For men, the positive effect of migration on entering marriage disappears after other life course events are controlled for in the statistical models" (p. 723). People who have migrated and have experience with it are often more likely to marry out than stay single or even marry in (Jampaklay, 2003).

Mulder and Wagner (1993) study migration and marriage in a life course context by studying them as undergoing synchronization effects so as to prove that conclusions are easier to draw that way and can actually differ from a model without a synchronization variable. Mulder and Wagner (1993) point out that "it is obvious that between the marital career and the migration career there is also event dependence: the simple fact that migration often coincides with marriage" (p. 56). They mainly focus on the differences between men and women and short distance versus long distance migration. Their study shows that the common finding that being married actually negatively influences one's propensity to migrate is not the case when it comes to short distance migration. When it comes to long distance migration, Mulder and Wagner (1993) state that "It could be made plausible that differences in bargaining power between marriage partners, caused either by age differences or more intrinsic gender differences, result in more long distance moves of marrying women than of marrying men" (p. 74). All in all, their results show that accounting for synchronization effects is beneficial to life course analysis because it yields far clearer results. What one can get from a research such as theirs then is that the same method can provide a valuable addition to the techniques used in studying parallel and interacting careers in the life course. This can possibly alter the ways in which migration research is looked at.

In terms of a hazard model, research suggests that "when unmarried individuals migrate (almost exclusively men), their hazard of marrying is lower. While work as a migrant may increase their wealth and prospects for marriage in the long run, the time spent abroad may act as a substantial delay in the marriage timeline" (Assaad & Krafft, 2014, p. 13). Since multivariate analysis of topics such as the timing of marriage has only been done in research by Assaad et al. (2010), Assaad and Ramadan (2008) and Assaad and Zouari (2003), Assaad and Krafft suggest that the lack of quantity and quality in research done on the economics of marriage in North Africa needs to be improved. They even comment on how "Particularly for men, the role of migration in enabling or delaying marriage merits further research" (Assaad & Krafft, 2014, p. 15). This suggests a gap that such a research as ours could possibly fill.

In terms of research on marriage in the region, Salem (2012) studies in her paper the patterns in marriage timing and marriage behavior over time and socio-demographic groups in Jordan. She extensively discusses marriage from the duration of engagement to current marital statuses to marriage timing, spousal age and education gaps, household structure and marriage expenditures across marriage cohorts and different socio-demographic groups. Migration isn't discussed extensively although she does consider how return migration "may have driven up housing prices in Jordan, forcing newlywed couples to temporarily reside with relatives" (Salem, 2012). By utilizing the 2010 JLMPS questionnaire, Salem was able to cover the topic of marriage in Jordan quite appropriately. Understanding the specifics of marriage in Jordan can help to showcase how traditions and processes can vastly differ, even between different Arab countries.

3. Marriage in Egypt
It is important to understand marriage in the context of Egypt and highlight its significance. Unlike with other parts of the world, marriage in the Arab world is the only form of socially acceptable and legal union for both men and women. Interestingly, marriage was not a topic discussed in the context of economics before Becker (1973; 1974) applied economic theory to marriage. Marriage tends to affect all facets of Egyptian's lives and life decisions. There is substantial variation in both the timing and universality of marriage in Egypt. According to

Assaad and Krafft (2014), around a quarter of Egyptian women had married by age 20, but men do begin marrying around age 20 and thereafter. In Egypt, the median age of marriage for men is 27 and for women 21.

There is little research done on the economics of marriage in the Middle East region. According to Assaad and Krafft's (2014) calculations, "In Egypt, the costs of marriage exceed eight years of a groom's wages" (p. 1). Assaad and Krafft examine the following topics: "age at marriage, consanguinity, nuclear residence, total costs of marriage, bride-side share of costs, and the age difference between the bride and groom as outcomes of the matching and bargaining process" (p. 3). When it comes to the costs of marriage, they have been identified as rather significant enough to cause a delay in the age at which North Africans marry as well as causing a barrier to adult life (Amin & Al-Bassusi, 2004; Assaad et al., 2010; Assaad & Ramadan, 2008; Dhillon et al., 2009; Rashad et al., 2005; Singerman, 2007). Assaad and Krafft present new information on the prevalence and timing of marriage and the characteristics that affect it such as education, employment, migration and housing markets. They conclude their research by highlighting an agenda for future research, noting that "To date, there has been only a little, primarily descriptive research on the economics of marriage" (p. 15). It is then clear that the economics of marriage in the region is a topic worth exploring and researching extensively.

Another way that marriage was looked at in the Egyptian context is how it specifically affects the labor force participation of women. Hendy (2015) studies this topic and notes just how detrimental marriage is to women's participation in the labor market. Due to cultural and religious factors, women are made to be "the principal and in most cases the only household member in charge of household responsibilities including children" (Hendy, 2015). By looking at the difference between married women and unmarried women when it comes to their participation in the labor force as well as which sectors of the market they tend to participate in, Hendy (2015) was able to come up with Figure 1.

Figure 1 shows the huge gap in the kinds of sectors women work in before and leading up to marriage as well as after marriage. Their participation in the government sector is clearly the most significant with only a small percentage of women work in other sectors. Through looking at this study, it is easier to understand the ways in which marriage affects Egyptian women with regards to their labor force participation. This study proves how big an impact something such as marriage can have on facets of Egyptian's lives, specifically women's.

4. Data and Methodology

4.1 Methodological background

This section reviews some of the methodological literature for studies on migration, both within and outside the region. Starting with one of the studies conducted on Egypt, Elbadawy (2011) used regression analysis to study the determinants of aspiring to migrate. Elbadawy focused on the 18-29 age group; employing a uniform set of explanatory variables in the regression for different dependent variables. These variables include individual characteristics, employment variables, household socio-economic characteristics, including father's and mother's years of schooling, a group of dummies reflecting to which wealth quintile the household belongs, whether the young adult lives in an owned household, and in which region the individual resides. Moreover, the paper uses variables to assess individual psychosocial well-being and the quality of life in Egypt. To assess the effect of knowing someone who is a migrant, a variable showing access to migration networks is included in the regressions.

Meanwhile, Bertoli and Marchetta (2012) used a variation of a Poisson formula, while employing regression based tests well. They adopted the @SRI estimator in hopes of measuring the endogeneity of the regressors. For some of the factors, the 2SRI estimator was employed to estimate the coefficient of return migration.

In another study, Jampaklay (2006) used a discrete-time event-history methodology. Jampaklay organizes the life history data collected from the survey into observational records as a way to represent life course experiences of the respondents in the age range of 15-25, or at whatever age after 15 that they first get married. Dependent variables measured whether the transition into first marriage took place during that year while the independent variables are lagged. Jampakaly explains that such lags are used since the date of marriage and migration events within years is not known. She uses a logit maximum-likelihood technique in the discrete-time event-history analysis to estimate models with a dichotomous dependent variable. Event-history analysis was primarily used to explore the relationship between migration experience and marital timing. Since a lot can differ between males and females, different models were used.

In an earlier study by Mulder and Wagner (1993), the authors used an event history analysis technique to study the influence of covariates on what is described as the 'hazard' or rate of an event taking place in time. The dependent variable in the analysis is then the hazard or the rate. Since the hazard is often formulated as a function in continuous time, it allows for events to be ordered on a time axis. The idea behind this is to treat all migration events that occur somewhere within the synchronization interval the same so as the fact that one marrying person moves in the beginning of the interval and another at the end of it is not used. To achieve this, they model the discrete-time equivalent of the hazard. This model is a log-linear model also known as a log-rate model. They employed a saturated model to assess all possible interactions between the variables present. They point out that the purpose for this is to arrive at a model that includes a smaller number of interaction effects while still accurately describing the data. Mulder and Wagner say, "Two advantages of the model are worth mentioning here. First, it allows easy and straight- forward modelling of interactions between covariates and testing of hypotheses on the absence of interactions. This is important, since we want to test hypotheses on differences between subgroups in the strength of the migration-generating power of marriage. Second, it allows the incorporation of multiple types of the event under study in one model: in this case, short and long distance migration. It can be tested whether a covariate's influence differs between short and long distance migration" (1993). The authors go on to highlight that the results of the two models that they use are that "one with a marital status variable in which marital status is measured at the beginning of the residence spell, and one with a time-varying marriage covariate that includes a synchronization category." Their main objective was to compare the results of the two models, but they do stress that with these types of models, formal comparison is not permitted. Similar to any log-linear analysis, what these models indicate is the difference between a parsimonious model and a less parsimonious one. Furthermore, Mulder and Wagner note that the method they use is not the only one suitable for studying event dependence of synchronized events but that alternative methods using logit or logistic regression models -applied as discrete-time event history models- can also be used (Allison, 1982; Yamaguchi, 1991). The advantage for Mulder and Wagner, as they point out, is that their method allows them to easily include multiple event types such as short and long distance moves in one analysis.

We will use a discrete-time logistic model in order to estimate the probability of the marriage occurring at a point in time (year), along the lines of Krafft (2016) and Van Hook and Altman (2013). This approach has been chosen since it allows us to correct for the endogenity of the migration variable.

Thus, adapting Krafft (2016)'s model for marriage timing, instead of childbearing as used in the original paper, we transform the duration from the legal age of marriage until the actual marriage or the survey time (our observations are right-censored) into the probability of getting married in each year, if marriage has not yet occurred. In this case, the probability of getting married at a particular time t, T_t, in the discrete-time hazard function, denoted by h_{it} will be:

$$h_{it} = \Pr(T_t|T_t \geq t)$$

The model that we will estimate will therefore be the following:

$$\log\left(\frac{h_{it}}{1 - h_{it}}\right) = \theta(t) + \beta X_{it}$$

where $\theta(t)$ is a series of dummies for each year and the estimated coefficients, β, can be exponentiated to generate odds ratios; the relationship between a one-unit increase in a covariate and the odds of getting married.

In order to complete our analysis, we also adopt a different perspective in terms of duration and look at the engagement period. Indeed, we suppose that while the duration from the legal age until marriage might be influenced by other factors (such as preferences for celibacy) besides the financial constraints that can be lifted through migration abroad, the duration of engagement is more likely to be directly influenced by savings, that can be faster obtained through migration.

As mentioned, a potential issue with our model is that it suffers from selection bias since the samples of both migrants and return migrants might not be random samples and, as such, unobservable characteristics might impact both the choice of migration and the timing of the marriage. For instance, we do not observe the initial wealth of the household, prior to migration or prior to marriage, only the wealth at survey time. Therefore, an initial higher wealth level might determine both the emigration and the timing of marriage by lifting the budget constraints that are binding for both decisions. To correct for this bias, we follow Wahba (2015) in the choice of instruments. For the migration decision, we use real oil price at the migrant's age of 26, since this is the average migration age in our data. Real oil prices are obtained from the Global Economic Monitor (GEM) commodities database. Meanwhile, for the return migration decision, we use conflicts in the country of migration as an instrument. We use the Uppsala Conflict Data Program (UCDP) database in order to create a dummy variable at the year of return migration, capturing conflict occurrence in the 32 countries to which Egyptian migrants have migrated.

Since our setting is non-linear we will adopt an instrumental variable control function approach (Wooldridge, 2015) that implies a two-stage residual inclusion (2SRI). As highlighted by Krafft (2016), this approach performs better than alternatives in simulations for a variety of non-linear outcomes (Terza et al., 2008) and performs well in a survival analysis setting (Carlin & Solid, 2014).

4.2 Data

This study makes use of the 2012 round of the Egypt Labor Market Panel Survey (ELMPS). ELMPS is a representative survey of the Egyptian population collected by the Economic Research Forum in collaboration with the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS).

The 2012 ELMPS has a migration module with detailed information about both current as well as return migrants. Data allows identifying the timing of migration (in both months and years) as well as the reasons for migration and reasons for returning to Egypt (for return migrants). The module also has information about the destination country, work status, sector of employment and occupation both in the destination country and in the origin country just before migrating.

For return migrants, the data fortunately allows us to link information on migration with information on other life events such as the timing of marriage, the timing of first child and a unique employment module that provides detailed information on the individual's employment since his/her first entry in the labor market till the date of the survey. All changes/ transitions

in the individual's professional career are observed. However, for current migrants, the information about employment and marriage is not detailed enough. We only observe the current migrants' current marital status and whether they migrate on their own or with family members.

For the above-discussed reasons, this study will focus on return migrants to investigate the interdependence between the timing of migration and the timing of marriage.

One of the questions in the ELMPS survey is about the main reason for migration, and one of these reasons is marriage. Out of a sample of 355 return migrants, 140 is the number of return migrants who migrated to get married. Yet, we do not limit our sample to those 140. We rather make the hypothesis that if the migration event happens before the marriage event then, marriage was at least one of the reasons for migration. Then, the working sample in this research consists of all individuals both whoever and never-migrated aged 16 years old or above; age 16 being the legal age of marriage. For the return migrants, marriage has to follow migration not the other way around. We also only focus on those who migrated in young ages to follow the assumption that one of the main reasons, if not the main reason for migration is saving for the costs of marriage. Additionally, we focus our study on males, since as Table 1 shows, the majority of Egyptian return migrants are males (97%).

By looking at the age at first marriage and at first migration of our full sample, we can see that the mean and median age for first marriage is lower than that of first migration by one year (Table 2). Meanwhile, Table 3 shows that about 70% of the return migrants got married after migrating. Even though this following hypothesis has not been validated, these simple statistics could indicate that Egyptians who do not marry along with their generation, migrate sometime later and marry after migration.

5. Results

As previously mentioned, we analyze two outcomes for the purpose of this study: 1) the duration to marriage, and 2) the engagement duration. We control for a set of individual and household characteristics such as the individual's educational level, father's employment status and occupation, household wealth, religion, number of siblings, the share of contribution of the groom's family in costs of marriage, whether he completed his military service as well as the sector of employment. We also control for the region of residence in the origin country and the individual's parental education attainment.

5.1 Duration to marriage

As it is shown in Figure 2, using Kaplan-Meier survival estimates, we can see that marriage happened later or took more time for those who migrated compared to those without any migratory experience. Furthermore, we observe that the two curves are parallel except for the beginning and the end of the analysis time. Indeed, the two survival estimates converge faster towards the end of the analysis time suggesting that marriage is an imminent event at later ages.

A first outcome that we analyze is the duration between the legal age of marriage (18 years old) and the actual age of marriage. Thus, the event for which we observe the timing and occurrence is marriage and the data is structured as to be annual.

In Table 5, column 1 presents the results of the simple logit model for the probability of marriage occurrence each year. In column 2, we correct for the endogeneity of the migration decision by introducing the residual of the first stage (Wooldridge, 2015). Since our sample size decreases considerably in the instrumented regression (due to lacking information for the years of emigration that we use in order to instrument), we check whether the results are not driven by the sample size and run the simple regression on the reduced sample. The latter results are presented in column 3. Finally, in column 4 we run the model only for return migrants.

The results show that despite individual's expectations of shortening the duration to marriage through migration, having migrated delays marriage, but the effect disappears when we control for the endogeneity of migration. Indeed, in the non-instrumented model we find the same result as Assaad and Krafft (2014), which is a lower hazard of marrying for those who migrate prior to marriage. However, when we correct for the endogeneity of migration, we find no significant effect of migration on the probability of getting married each year. The fact that the residual is significant in the instrumented model indicates that those who have unobservable characteristics that make them more likely to migrate are less likely to get married. A potential explanation would be, for instance, a lower preference for family life that could motivate the individuals to migrate, thus to temporary isolate themselves from their families, and could, at the same time, push them to delay marriage.

Interestingly, when we run the model only for the sample of returnees, thus completely isolating the selection effects into migration and into return, we find that, within this specific sample, those that had migrated before getting married have shortened their duration to marriage compared to those that had migrated afterwards. In other words, if we consider ever-migrants to be a specific population, then migration can play a role in fast forwarding to marriage and, thus, entering adulthood.

Men's own education has no clear effect on the hazard of marriage in Egypt. Compared to men with fathers engaged in public wage work, men with fathers employed and self-employed had a significantly higher hazard of marrying, which may be due to a higher ability to pay on the part of the groom's side. Fathers in clerical/sales occupations were also associated with a higher age difference; families may be accepting older husbands as a tradeoff for socioeconomic status of the family and ability to pay. And, Interestingly, We find that household wealth has no significant relationship with the timing of marriage. The latter result goes in line with what is found in Assaad and Krafft (2014).

5.2 Duration on engagement

One measure of whether or not young people struggle to get married is the length of the engagement. Long engagements are often considered a sign of high costs and marriage crises (Amin and Al-Bassusi 2004; Singerman 2007). Therefore, we look at whether having experienced a migration episode shortens or not the time spent engaged. Our intuition, just like in the case of marriage, is that given the higher savings obtained during migration, returnees could have shorter durations of engagement.

In Table 6, men's own education seems to have no significant effect on the hazard of marriage. Compared to men with fathers engaged in public wage work, men with fathers in private wage work had a significantly lower hazard of marriage. Interestingly, We find that household wealth has no significant relationship with the timing of marriage.

The model we estimate is roughly the same for the duration until marriage, with two main differences. First of all, time spent under observation starts with the engagement and ends with the marriage or the survey time. Secondly, the duration is now measured in number of months, and no longer years, as the case of marriage, in order to have more heterogeneity.

Interestingly, we find no impact of migration on the engagement duration in the logit model, but we do find a slightly significant impact when we correct for endogeneity. This could lead us to think that migration can help shorten the engagement duration, but this result is not robust. Indeed, when we run the simple logit model on the subsample used in the instrumented regression, we also find a significant negative impact of migration, indicating that the result might just be sample-driven.

6. Conclusion

Institutions matter for growth (Acemogly, 2005) and a neglected and yet important determinant of institutions is emigration.

The analysis presented in this paper showed that Egyptian men who had an international migration history and higher chances for saving for marriage do not significantly marry earlier than stayers. This result has been proved to be robust even when controlling for the endogeneity of self-selection into migration. This suggests that Egyptian returnees marry later than the norm that prevails at the origin country.

Marriage, on the one hand, is becoming an important challenge for Egyptian youth. The marriage costs in Egypt are reported to be among the highest in the MENA region and affording these costs is a major obstacle to marriage. On the other hand, temporary migration is a one of the important events that may contribute to facing and overcoming marriage costs. For this reason, the results of the present study will be of great policy implications.

References

Allison, P. D. (1982). Discrete-time methods for the analysis of event histories. Sociological Methodology, 13(1), 61-98.

Assaad, R., Binzel, C., and Gadallah, M. (2010). Transitions to employment and marriage among young men in Egypt. Middle East Development Journal, 2(01), 39-88.

Assaad, R., and Krafft, C. (2014). The economics of marriage in North Africa (No. 2014/067). WIDER Working Paper.

Assaad, R., and Ramadan, M. (2008). Did housing policy reforms curb the delay in marriage among young men in Egypt?. Middle East Youth Initiative Policy Outlook, 1.

Assaad, R., and Zouari, S. (2003). Estimating the impact of marriage and fertility on the female labor force participation when decisions are interrelated: evidence from urban Morocco. Topics in Middle Eastern and North African Economies, 5.

Bertoli, S., and Marchetta, F. (2012). Bringing It all Back Home: Return Migration and Fertility Choice. The Economic Research Forum, 1-33.

Bijwaard, G., Schluter, C. and Wahba, J. (2011) 'The Impact of Labour Market Dynamics on the Return-Migration of Immigrants'. Norface Discussion Paper Series 007, University College London.

Bijwaard, G., Schluter, C. and Wahba, J. (2011) The Impact of Labour Market Dynamics on the Out-Migration of Immigrants. Migration: Economic Change, Social Challenge Conference, University College London, 6-9 April 2011. British Society for Population Studies Conference 2011, York 7-9 September 2011.

Carlin C. S., and Solid, C. A. (2014). An Approach to Addressing Selection Bias in Survival Analysis. Statistics in Medicine, 33, 4073–4086.

Carlson, E. D. (1985). The impact of international migration upon the timing of marriage and childbearing. Demography, 22(1), 61-72.

Chattopadhyay, A. (1999, March). Marriage and Migration in the Changing Socioeconomic Context of Nang Rong, Thailand. In annual meeting of the Population Association of America, New York, March (Vol. 25, p. 27).

Courbage, Y. (1994). Demographic change in the Arab world: the impact of migration education and taxes in Egypt and Morocco. *Middle East Report*, *24*(190), 19-22.

Elbadawy, A. (2011). Migration Aspirations among Young People in Egypt: Who Desires to Migrate? The Economic Research Forum, 1-16. (2011, September 1).

Hendy, R. (2015). Women's Participation in the Egyptian Labor Market: 1998-2012. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 147-161). Oxford, UK: Oxford University Press.

Jampaklay, A. (2003). Migration, marital timing, and mate selection in the context of Thailand (Doctoral dissertation, University of North Carolina at Chapel Hill).

Jampaklay, A. (2006). How does leaving home affect marital timing? An event-history analysis of migration and marriage in Nang Rong, Thailand. Demography, 43(4), 711-725.

McCormick, B. and Wahba, J. (2004), Migration and Mobility in the Egyptian Labour Market. ERF Research Reports Series No. 0401.

Mulder, C. H., and Wagner, M. (1993). Migration and marriage in the life course: a method for studying synchronized events. European Journal of Population/Revue européenne de Démographie, 9(1), 55-76.

Odland, J., and Shumway, J. M. (1993). Interdependencies in the timing of migration and mobility events. *Papers in Regional Science*, *72*(3), 221-237.

Parrado, E. A. (1998). Marriage and international migration: timing and ordering of life course transitions among men in western Mexico.

Piampiti, S. (1982). Female migration and labor force participation. Women and Development: Implications for Population Dynamics in Thailand. 125-43.

Rindfuss, R. R. (1991). The young adult years: Diversity, structural change, and fertility. Demography, 28(4), 493-512.

Rindfuss, R. R., Chattopadhyay, A., Kaneda, T., and Sethaput, C. (2000). Migration and Longitudinal Data Analysis: Implications of individual and family processes. Unpublished manuscript. Carolina Population Center, University of North Carolina.

Salem, R. (2014). Trends and Differentials in Jordanian Marriage Behavior: Marriage Timing, Spousal Characteristics, Household Structure, and Matrimonial Expenditures. The Jordanian Labour Market in the New Millennium, 189.

Soonthorndhada, A. (1982). The determinants and consequences of female migration in Thailand. Population geography: a journal of the Association of Population Geographers of India, 5(1-2), 4-11.

Terza, J. V., Basu, A., and Rathouz, P. J. (2008). Two-Stage Residual Inclusion Estimation: Addressing Endogeneity in Health Econometric Modeling. Journal of Health Economics, 27(3), 531–543.

Wahba, J. (2015). "Selection, selection, selection: the impact of return migration". Journal of Population Economics, 28(3), 535-563.

Wahba, J. (2015). Through the Keyhole: International Migration in Egypt. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 198-217). Oxford, UK: Oxford University Press.

Wooldridge, J. M. (2015). Control Function Methods in Applied Econometrics. Journal of Human Resources, 50(2), 421–445.

Yamaguchi, K. (1991). Event history analysis (Vol. 28). Sage Publications.

Figure 1: Employment and the Transition to Marriage, Market Definition, Women Married between 1992 and 2012 (Percentage)

Note: Inactive women not shown.
Source: Hendy (2015)

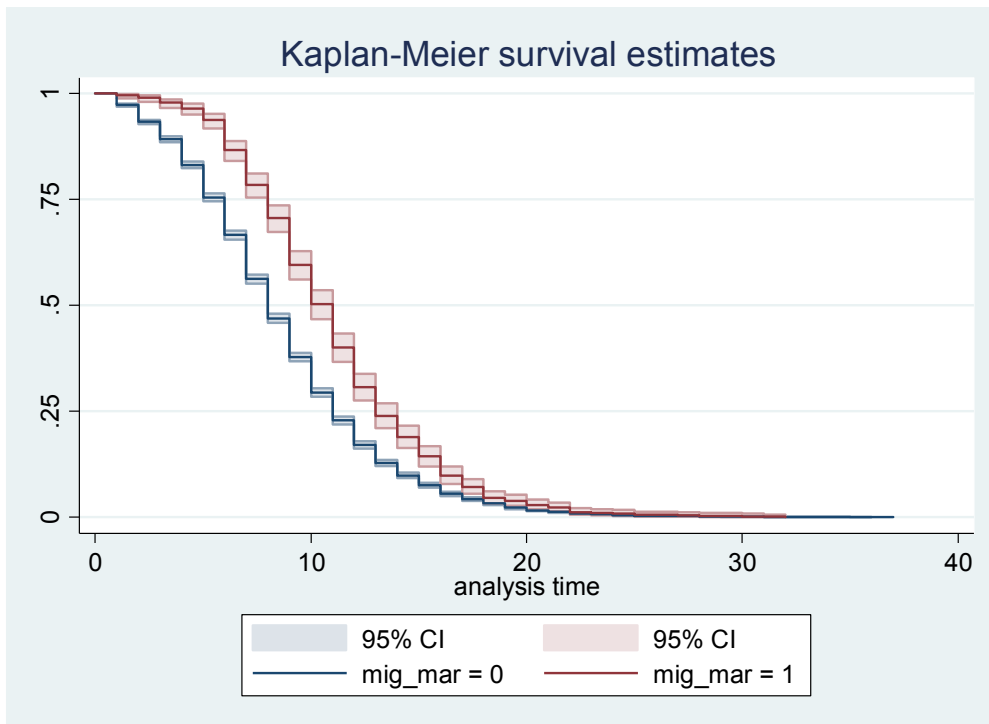**Figure 2: Survival Estimates for the Duration to Marriage**

Table 1: Proportion of the Ever-Migrants Population by Gender

Gender	Have you ever worked abroad for more than 6 months		
	Yes	No	Total
Males	0.97	0.74	0.76
Females	0.02	0.26	0.24
Total	1	1	1

N=15,392 (1,381 ever-worked abroad, and 14,011 never-worked abroad)
Source: Constructed by the authors using the ELMPS 2012.

Table 2: Some Descriptive Statistics on the Age at First Marriage and the Age at First Migration

Percentiles	Age at the time of the first migration	Age at the time of the first marriage
10%	19.0	17.0
25%	21.0	19.0
50%	**24.0**	**23.0**
75%	27.0	27.0
90%	33.0	30.0
Mean Age	24.8	23.4
Standard dev.	5.7	5.4

Source: Constructed by the authors using the ELMPS 2012.

Table 3: Proportion of Individuals Who Married After Migration Occurred

Got Married After Migration	
No	0.3012
Yes	0.6988
Total	1

Source: Constructed by the authors using the ELMPS 2012.

Table 4: Difference in Duration to Marriage between Ever to Never Migrants, Males

Duration to Marriage		Linearized		
	Mean	Std. Err.	[95% Conf. Interval]	
Returnees	9.638207	0.1826421	9.280185	9.996229
Non-Migrants	8.623475	0.06708	8.491982	8.754968

Source: Constructed by the authors using the ELMPS 2012.

Table 5: Discrete-Time Survival Analysis Models for the Duration to Marriage

Variables	(1) Logit	(2) 2SRI	(3) Sample test	(4) Only returnees
Migration preceeded marriage	-0.163*	-0.020	-0.201**	0.619***
	(0.097)	(0.092)	(0.094)	(0.182)
Residue migration probability		-1.651***		
		(0.422)		
Education *(ref. No education)*				
Reads & Writes	-0.078	-0.363**	-0.065	0.299
	(0.120)	(0.142)	(0.123)	(0.482)
Less than Intermediate	-0.032	0.164	-0.067	-0.147
	(0.082)	(0.108)	(0.086)	(0.315)
Intermediate	0.225***	0.827***	0.235***	0.093
	(0.071)	(0.169)	(0.075)	(0.248)
Above Intermediate	0.022	-0.170	0.101	-0.566
	(0.126)	(0.158)	(0.131)	(0.700)
University	-0.024	0.246**	0.063	-0.908***
	(0.090)	(0.106)	(0.094)	(0.348)
Number of brothers	-0.023	0.069***	-0.003	-0.120**
	(0.015)	(0.024)	(0.015)	(0.060)
Number of sisters	-0.014	-0.008	-0.005	-0.004
	(0.014)	(0.014)	(0.014)	(0.055)
Father's work *(Ref. public wage)*				
Private wage	0.023	-0.073	-0.004	0.209
	(0.070)	(0.076)	(0.074)	(0.278)
Employer/self-employed	0.169**	0.250***	0.132*	-0.002
	(0.068)	(0.076)	(0.071)	(0.280)
Unpaid FW/Jo job	-0.457	-0.427	-0.580	0.441
	(0.369)	(0.411)	(0.396)	(1.050)
Father's occupation *(Ref. Manager)*				
Inter, clerical,sales	0.212**	0.402***	0.240***	-0.222
	(0.083)	(0.096)	(0.088)	(0.349)
Agriculture	0.062	0.651***	0.050	-0.068
	(0.076)	(0.166)	(0.080)	(0.291)
Production non-agr	0.222***	0.688***	0.231***	-0.392
	(0.078)	(0.142)	(0.082)	(0.331)
Army	0.373*	0.165	0.249	0.645
	(0.222)	(0.219)	(0.216)	(0.843)
Christian religion	-0.155	-0.409***	-0.085	0.014
	(0.099)	(0.131)	(0.103)	(0.376)
Household wealth score	-0.080**	0.288***	-0.082**	-0.082
	(0.036)	(0.101)	(0.037)	(0.136)
Percentage of groom's family contribution to the marriage cost	0.001	-0.008***	-0.000	0.004
	(0.001)	(0.002)	(0.001)	(0.004)
Constant	3.083***	3.724***	3.047***	1.142*
	(0.531)	(0.985)	(0.532)	(0.670)
Observations	57,359	31,799	31,799	4,512
Controls for region	Yes	Yes	Yes	Yes
Controls for parents' education	Yes	Yes	Yes	Yes

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Discrete-Time Survival Analysis Models for The Duration of Engagement

Variables	(1) Logit	(2) 2SRI	(3) Sample test	(4) Only returnees
Migration preceeded marriage	-0.176	-0.202*	-0.217**	-0.261
	(0.110)	(0.110)	(0.109)	(0.192)
Residue migration probability		-0.066		
		(0.069)		
Education *(ref. No education)*				
Reads & Writes	0.133	0.093	0.122	0.640
	(0.128)	(0.137)	(0.134)	(0.514)
Less than Intermediate	-0.027	-0.028	-0.029	0.028
	(0.087)	(0.092)	(0.092)	(0.328)
Intermediate	-0.073	-0.106	-0.106	0.153
	(0.077)	(0.081)	(0.081)	(0.277)
Above Intermediate	0.076	0.023	0.056	0.718
	(0.139)	(0.148)	(0.143)	(0.722)
University	-0.097	-0.136	-0.123	-0.085
	(0.097)	(0.102)	(0.101)	(0.438)
Number of brothers	-0.022	-0.017	-0.022	-0.139**
	(0.015)	(0.017)	(0.016)	(0.055)
Number of sisters	-0.009	-0.012	-0.008	0.061
	(0.015)	(0.016)	(0.016)	(0.055)
Father's work *(Ref. public wage)*				
Private wage	-0.240***	-0.244***	-0.239***	-0.142
	(0.076)	(0.080)	(0.080)	(0.304)
Employer/self-employed	-0.085	-0.069	-0.067	-0.154
	(0.075)	(0.078)	(0.078)	(0.285)
Unpaid FW/Jo job	-0.397	-0.288	-0.264	1.702
	(0.437)	(0.485)	(0.484)	(1.035)
Father's occupation *(Ref. Manager)*				
Inter, clerical,sales	-0.066	-0.038	-0.052	-0.802**
	(0.088)	(0.093)	(0.091)	(0.341)
Agriculture	0.165*	0.217**	0.178**	-0.328
	(0.085)	(0.099)	(0.088)	(0.328)
Production non-agr	-0.115	-0.063	-0.085	-0.776**
	(0.083)	(0.090)	(0.086)	(0.373)
Army	0.113	0.171	0.161	-0.857
	(0.247)	(0.267)	(0.267)	(1.175)
Christian religion	-	-		-
Household wealth score	-0.015	0.004	-0.009	0.250
	(0.040)	(0.044)	(0.042)	(0.161)
Percentage of groom's family contribution to the marriage cost	-0.000	-0.000	0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.004)
Constant	-2.387***	-2.346***	-2.365***	-0.341
	(0.232)	(0.243)	(0.243)	(0.839)
Observations	53,570	49,364	49,364	3,889
Controls for region	Yes	Yes	Yes	Yes
Controls for parents' education	Yes	Yes	Yes	Yes

Notes: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$