



DEMOGRAPHIC RESEARCH

A peer-reviewed, open-access journal of population sciences

DEMOGRAPHIC RESEARCH

VOLUME 35, ARTICLE 11, PAGES 283–314

PUBLISHED 16 AUGUST 2016

<http://www.demographic-research.org/Volumes/Vol35/11/>

DOI: 10.4054/DemRes.2016.35.11

Research Article

The gendered effects of labour market experiences on marriage timing in Egypt

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The gendered effects of labour market experiences on marriage timing in Egypt

Rania Salem¹

Abstract

BACKGROUND

In Egypt, the ‘social problem’ of delayed marriage is typically attributed to the difficult labour market conditions and high marriage costs faced by young people, particularly men. However, emerging evidence indicates that Egyptian women’s employment experiences may also influence marriage timing.

OBJECTIVE

This paper investigates gender differences in the determinants of marriage timing, including employment history, job characteristics, education, and urban residence. It tests a number of hypotheses based on existing claims in the literature on marriage timing.

METHODS

Data from two waves of the nationally representative Egypt Labour Market Panel Survey are used to carry out proportional hazard analyses. Characteristics of never-married respondents at wave one in 1998 are used to predict the risk of marriage by wave two in 2006.

RESULTS

The results indicate that, to some extent, never-married men who have favourable labour market experiences marry earlier. The same experiences bear no association with women’s marriage timing. For men, being employed and having a public sector job are important economic prerequisites for marriage.

CONCLUSIONS

Evidence indicates that Egyptian men with favourable labour market experiences attract a spouse and establish an independent household faster than others. The male breadwinner ideal is therefore a powerful force in dictating who marries when in Egypt today. I also contend that previous studies may have overstated the delaying effects of education and urban residence on marriage, particularly for women. Finally, I offer four

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contextual factors that must be taken into account when predicting whether existing theories will hold in a given setting.

1. Introduction

Across the Arab region the economic challenges young people face are believed to impede their timely entry into marriage (Dhillon 2007; Hasso 2011; Singerman 2007). This is also true in Egypt, the region's most populous country. Many Egyptians report that financing marriage and supporting a new household is more difficult today than it was in the past (Hoodfar 1997; Singerman 1995), causing youth to postpone union formation. Among Egyptians born in 1940, the median age at first marriage was 25 for men and 17 for women; in the 1970 birth cohort, this age rose to 28 for men and 20 for women (Assaad, Binzel, and Gadallah 2010). Some view this sustained increase (Mensch, Singh, and Casterline 2005; Rashad and Osman 2005) as a welcome development in a country where the population growth rate is high and where many women wed during adolescence (Singerman and Ibrahim 2003). However, many Egyptians today perceive young people's inability to marry at the time of their choosing as a pressing social problem (Salem 2015, 2016). Because marriage is the only socially accepted context for residential independence (Assaad and Barsoum 2009), sexual relations, and childbearing in Egypt (Salem 2015, 2016; Singerman 2007), many young people express frustration with their delayed departure from the parental home (Salem 2010), and some public figures worry that involuntarily single adults experience social exclusion that may lead to so-called moral deviance or religious extremism (Rashed 2006; Slackman 2008). Among scholars (Assaad and Barsoum 2009; Assaad, Binzel, and Gadallah 2010; Singerman 2007), media commentators (Salem 2016), and young people themselves (Hoodfar 1997; Salem 2010; Singerman 1995), the 'social problem' of delayed marriage is linked to economic conditions, particularly labour market conditions, in Egypt.

This paper examines how young people's labour market experiences affect their marriage timing and contributes to existing scholarship in three ways. First, the present study expands upon previous analyses of Egyptian men's transition to marriage, which attribute delayed marriage to young men's inability to secure steady, adequately remunerated, protected employment (Assaad and Barsoum 2009; Assaad, Binzel, and Gadallah 2010; Dhillon, Dyer, and Yousef 2009; Singerman, 2007). It overcomes the limitations of this literature using national panel data that provide appropriately sequenced reports on employment and marriage while controlling for potential sources of spuriousness measured before the outcome of interest, namely, marriage.

Second, this study extends the analyses of labour market experiences and marriage timing to include women. Egyptian women's proportional contributions to marriage expenses have grown over time (Singerman and Ibrahim 2003), and many unmarried women work to accumulate marriage assets (Amin and Al-Bassusi 2004), indicating that women's employment may be as consequential for marriage transitions as men's. The present analysis remedies the limited generalizability of previous small-N qualitative studies by using nationally representative survey data to test the association between women's labour market position and their marriage timing.

Third, in addition to its investigation of employment-related determinants of marriage timing, the present study considers other determinants related to education and urban residence. I quantify the relative weight of these factors by testing them side by side and offer thoughts on how various explanations of the transition to first union may be refined to account for country-level contextual factors.

2. Background

2.1 Employment-related explanations of marriage timing

Existing scholarship on marriage timing tends to focus on the explanatory power of three interrelated individual-level determinants: labour market experiences, education, and urban residence. The first of these, labour market factors, featured prominently in early attempts to explain union formation, which emphasized men's ability to afford marriage (Malthus 1817) and, later, to establish a financially autonomous conjugal household (Goode 1963; Hajnal 1965). More recent theoretical accounts address the expansion of women's employment opportunities in the 20th century. According to Becker's (1981) specialization and trading model, gains to marriage are greatest when partners exchange unique skills under a strict gender division of labour. Becker reasoned that income-generating women realize that they do not need to marry for economic support, and working men find working women unsuitable for fulfilling their homemaking needs (Kalmijn 2011; Lee and Payne 2010; Sweeney 2002). Consequently, women with higher earning potential will be less likely to marry compared to other women, and those who eventually marry do so later because they can sustain a longer search for an appropriate match. However, because their ability to support a traditional gender division of labour is enhanced, men with higher earning potential will be more likely to marry, and they will wed at earlier ages because they are considered 'good catches' on the marriage market (Becker 1981; Kalmijn 2011; Yu and Xie 2015).

Oppenheimer (1988, 1994; Oppenheimer, Kalmijn, and Lim 1997) disputed Becker's model of marriage with an alternative, the adaptive family model. According to Oppenheimer, deterioration in American men's earnings has reduced the extreme gender specialization assumed by Becker (Kalmijn 2011). Since the 1970s, American men and women commonly engage in market work, evaluate partners on the basis of their economic potential, and wed only when partners are able to ensure their desired standard of living. Although she contended that an improvement in women's labour market position increases their likelihood of marriage, Oppenheimer held that because women are not expected to remain employed consistently throughout their lives, men's economic prospects are still stronger determinants of marriage entry than women's (1994; Oppenheimer, Kalmijn, and Lim 1997; Sweeney 2002).

Empirical tests of these two theoretical models yield mixed results. Among men, the positive relationship between economic prospects and marriage seems to hold in most societies. Men's economic position is positively related to marriage at the aggregate and individual levels in the United States, as both Oppenheimer and Becker predicted (Lloyd 2006; Yu and Xie 2015). Men's favourable labour market positions are associated with earlier union formation for men in the United States (Sweeney 2002), in Spain (Gutiérrez-Domènech 2008), in 13 European countries (Kalmijn 2011), in Sri Lanka (Malhotra and Tsui 1996), in Nepal (Yabiku 2005), and in China (Yu and Xie 2015).

Among women, Oppenheimer's model finds wider support in the individual-level data² from the United States (Lloyd 2006; Ono 2003; Sweeney 2002; Yu and Xie 2015), with higher earnings being associated with earlier marriage for the latest cohorts of American women (Lloyd 2006; Ono 2003; Sweeney 2002). Similar findings of earlier union entry among women with a favourable labour market position have been reported for the most recent cohorts of women in Spain (Gutiérrez-Domènech 2008) and in Sweden (Ono 2003). These findings bolster the claims of the adaptive family model, while empirical tests among women in Malaysia (Lee 1982), in rural Java (Malhotra 1997), in Indonesia (Nobles and Buttenheim 2008), in the most recent birth cohorts in China (Yu and Xie 2015), in Hong Kong (Wong 2005), and in Japan (Ono 2003) yield the opposite findings and show that a good economic position leads to the postponement of women's marriage. The latter findings lend support to the specialization and trading model.

Overall, cross-national analyses indicate that the positive effect of men's employment on union entry is weaker in gender-egalitarian countries (where dual-earner couples may share the financial costs of family formation and maintenance) and

² At the aggregate level, empirical findings from the United States are usually consistent with Becker's model in that they report a negative relationship between women's employment and earnings and their marriage entry (Lloyd 2006; Ono 2003; Sweeney 2002; Yu and Xie 2015).

stronger in countries with highly differentiated gender roles. It appears that women's employment bolsters marriage prospects in gender-egalitarian countries, and employment competes with marriage in countries with asymmetric gender roles (Kalmijn 2011; Ono 2003). Indeed, prevailing gender norms are one of several contextual factors that likely influence the operation of employment-related explanations of union entry, although they are seldom foregrounded. For instance, both Becker's and Oppenheimer's theories assume that young couples form financially autonomous nuclear families at marriage. They also assume that mates alone participate as individuals in the marriage market. For a better sense of the importance of contextual factors beyond gendered familial duties (such as family living arrangements and mate selection processes), one must look to other accounts of marriage timing that complement labour market explanations.

2.2 Education-related explanations of marriage timing

The second main set of explanations advanced to account for marriage timing revolve around education as a determinant of marriage entry. One way in which education influences marriage timing is through its effects on employment. Although highly educated individuals sometimes experience longer bouts of unemployment before they establish themselves in the labour market, their eventual earnings are usually higher (Gutiérrez-Domènech 2008; Kalmijn 2013; Malhotra 1997), and predictions regarding the effects of education on marriage differ according to whether one subscribes to the specialization or adaptive family model. A related but distinct factor, being enrolled in school, may also impede marriage because of the incompatibility between the roles of student and spouse, which creates a high opportunity cost for getting married before an individual has transitioned out of the education system (Ikamari 2005; Torabi and Baschieri 2010). Education may also have ideational effects that result in the postponement of union entry. Mass schooling has instilled several interrelated cultural ideals in educated men and women that act to delay marriage: the beliefs that school is the appropriate place for children and adolescents, that school enrolment and marriage should not overlap, that girls should aspire to non-domestic roles, and that nuclear families are the ideal family form (the two latter ideals take more time to achieve because they require residential and economic independence of the new couple) (Ezra 2003; Ikamari 2005; Malhotra 1997; Malhotra and Tsui 1996; Mensch, Singh, and Casterline 2005; Torabi and Baschieri 2010; Yabiku 2005).

Among men, research finds that higher educational attainment is associated with older ages at first marriage in Spain (Gutiérrez-Domènech 2008), Java (Malhotra 1997), and in China (Yu and Xie 2015). In the United States (Sweeney 2002) and in more

gender-egalitarian countries of Europe (Kalmijin 2013) evidence indicates that more highly educated men marry at younger ages. Likewise, men's school enrolment lowers the risk of marriage in the United States (Sweeney 2002), Spain (Gutiérrez-Domènech 2008), Nepal (Yabiku 2005), Java (Malhotra 1997), Indonesia (Nobles and Buttenheim 2008), and among more recent birth cohorts in China (Yu and Xie 2015).

Empirical evidence suggests a consistent relationship between more educational attainment and older ages at first marriage among women (Chowdhury and Trovato 1994; Mensch, Singh, and Casterline 2005; Yabiku 2005), as demonstrated in analyses of European countries with asymmetric gender roles (Kalmijin 2013), Kenya (Ikamari 2005), Iran (Torabi and Baschieri 2010), Nepal (Maitra 2004), India (Chandrasekhar 2010), Sri Lanka (Malhotra and Tsui 1996), Malaysia (Lee 1982), Indonesia (Nobles and Buttenheim 2008), and urban Java (Malhotra 1997). Educational attainment appears to increase the risk of women's marriage in the United States (Ono 2003; Sweeney 2002) and in more gender-egalitarian European countries (Kalmijin 2013). Where school enrolment measures are available, being enrolled in school is associated with marriage delays among women in the United States (Sweeney 2002), Spain (Gutiérrez-Domènech 2008), Nepal (Yabiku 2005), Sri Lanka (Malhotra and Tsui 1996), and Java (Malhotra 1997), primarily because young women postpone marriage until the completion of their schooling.

As is the case with labour market determinants of marriage timing, the effects of education appear to vary according to context. Researchers investigating relatively gender-egalitarian settings have interpreted the fact that men's educational attainment hastens first marriage as meaning that education proxies for men's economic potential (Sweeney 2002; Kalmijn 2013). Low- and middle-income countries are commonly assumed to have more differentiated gender roles, and it is here that the positive association between education and employment is often weak due to a mismatch between job seekers' skills and opportunities available in the labour market (Malhotra 1997). Therefore, men's schooling cannot necessarily be assumed to accelerate the transition to marriage based on its influence on employment. In gender-asymmetric settings, education's ideational effects receive greater emphasis from researchers, likely because curricula impart family values that differ from recent practices, such as newlyweds living with extended family upon marriage and wives restricting their roles to the domestic sphere.

2.3 Urban residence in explanations of marriage timing

A third factor that the existing literature points to as an important determinant of marriage timing is urban residence. Dwelling in cities can involve improved access to

educational institutions and more abundant employment opportunities (Torabi and Baschieri 2010). Urban residence can thus operate to hasten or delay marriage through these two mediating factors. In addition, urban residence may have an ideational component. By exposing men and women to 'modern' ideals about family life transmitted through education and media, urban residence is linked to cultural norms that encourage later marital unions, individual choice in mate selection, and the formation of nuclear families (Malhotra and Tsui 1996; Mensch, Singh, and Casterline 2005). Another way in which urban residence exerts influence over marriage timing is through the lessened social pressure felt by individuals living in large cities where there are more lifestyles to choose from and where compliance with group norms is more difficult to enforce (Ikamari 2005). Several accounts specifically describe the diminished role of extended families in urban areas. Dwelling in cities often involves looser extended family control over individual marriage choices compared to dwelling in rural areas, where kin often live in close proximity to one another (Mensch, Singh, and Casterline 2005). Extended kin tend to prefer that women marry at younger ages to ensure the bride's sexual purity and her compliance with their choice of spouse. Extended kin also tend to favour arranged marriages for children of both genders because these unions meet family goals and involve a relatively speedy matching process (Malhotra and Tsui 1996; Wong 2005).

The effects of urban residence are less commonly estimated among men, but empirical evidence indicates that rural residence hastens marriage for women in Southern Ethiopia (Ezra 2003), in Kenya (Ikamari 2005), in India (Chandrasekhar 2010), in Nepal (Maitra 2004), and in Malaysia (Lee 1982).

The literature on urban residence draws attention to contextual factors, such as nuclear living arrangements and self-selection of one's spouse, and notes that city dwelling often instils a preference for these two marriage-delaying factors. However, perhaps because this literature is restricted to studies of low- and middle-income countries where gender roles are largely assumed to be highly differentiated, this literature does not specify how prevailing gender norms mediate the relationship between living in a city and one's marriage timing.

2.4 The Egyptian context

Although empirical studies on marriage timing in Egypt contain important insights, significant gaps remain. Among men, higher occupational status (Sokona and Casterline 1988), older age at first job as well as employment in a bad-quality job (Assaad, Binzel, and Gadallah 2010) are associated with older ages at first marriage. Women appear to marry later if they perform pre-marital non-family work (Sokona and Casterline 1988)

or pre-marital work (Heaton 1996). While the earliest study on this topic provides a useful gender comparison (Sokona and Casterline 1988), it is outdated. The second is restricted to women (Heaton 1996) and used crude measures of employment as determinants of marriage timing. The third study is restricted to men (Assaad, Binzel, and Gadallah 2010) and uses several measures of current status to predict past marriage outcomes, and many variables related to conditions in the parental household prior to marriage are absent from the analysis. Nonetheless, I use the results of these previous studies on Egypt together with insights gleaned from the international literature³ to derive testable hypotheses.

Egypt's labour market shares many features in common with European countries that have experienced a decline in protected employment concurrently with economic recession (Kalmijin 2011). Since Egypt's adoption of IMF-sponsored Economic Reform and Structural Adjustment measures in the early 1990s, the public sector contracted dramatically as the government retreated from its 30-year-old commitment to provide jobs. At the same time, Egypt's private sector has expanded (Assaad 1997). Three features of the resulting labour market⁴ are especially salient for young people. First, unemployment rates among youth are especially high in Egypt. In 2006, 17% of Egyptians aged 15–29 reported that they were not working and were actively seeking employment (Amer 2009). In part, this is caused by high job turnover in the early years of employment and by new labour market entrants' lengthy searches for more desirable public-sector work (Assaad 1997). Second, real incomes have not kept up with costs of living in recent years (Said 2009). In 2006, 69% of workers aged 15–29 received incomes that fell below the low-earning threshold of the national poverty line (Assaad and Barsoum 2009). Finally, although earnings in the growing private sector are sometimes higher than earnings in the shrinking public sector, private-sector jobs are usually informal and therefore often lack social insurance and medical coverage, are performed without a legal employment contract, and are temporary or irregular in nature. In 2006, only 30% of youth who were wage workers had social insurance coverage, 33% had a legal employment contract, and 22% had benefits such as sick leave (Assaad and Barsoum 2009).

Young Egyptians face these difficult labour market conditions at a time when they are expected to be accumulating savings for marriage (Assaad and Barsoum 2009). For Egyptians who married between 1990 and 2006, the total value of expenditures on marriage-related jewellery, furniture, appliances, celebrations, and housing averaged approximately 7,000 USD (Singerman 2007). Grooms and their families cover more

³ In instances where there is a contradiction between the international literature and the Egyptian literature, I derive hypotheses based on the literature from Egypt.

⁴ I describe labour market conditions for the period to which the data analyzed here pertain. For more recent figures, see Assaad and Krafft (2015).

than two-thirds of these expenses (Singerman 2007). This means that the average Egyptian groom must save his entire earnings for 3.5 years to finance his share of marriage expenditures alone (compared to 0.6 years for Egyptian brides) (Salem 2016). Given the high burden of men's marriage costs and the fact that men are expected to be the main breadwinners in a new union, high unemployment, low wages, and job informality are of particular concern to young men. The transition to first union of men with positive labour market experiences, therefore, should be accelerated because they are well placed to finance marriage and provide day-to-day economic support once a new household is set up. Among contemporary marriage cohorts, we may assume that newlywed couples establish a nuclear household upon marriage,⁵ or aspire to establish a nuclear family shortly thereafter (Brink 1987; Salem 2015). Grooms must therefore demonstrate their self-sufficiency with a positive employment history before marriage. Drawing from the literatures on marriage entry internationally and in Egypt, I derive the following hypothesis:

H1: If all else is held constant, Egyptian men with favourable labour market experiences will experience earlier transitions to first marriage.

To date, Egyptian men's economic constraints in marriage have received more scholarly and popular attention than those of Egyptian women (Salem 2016). But there is evidence that women's economic opportunities have important implications for marriage transactions and marriage timing in Egypt. Women's proportional contributions to marriage expenses have been increasing alongside their growing earning potential (Singerman and Ibrahim 2003). At the same time, there is ethnographic evidence that single women engage in wage work for the express purpose of financing marriage (Amin and Al-Bassusi 2004), and there is a high demand for such brides because potential grooms know that these women have accumulated savings. If young women are stepping in to compensate for men's inability to cover matrimonial expenses, their economic hardships may also act as an impediment to marriage, and their labour market successes may hasten the transition to marriage. In spite of the asymmetry that characterizes gender roles in Egypt, my predictions regarding the association between employment and marriage timing go against Becker's suggestion that working women forgo or postpone marriage because they do not need to rely on the economic support of a husband. Instead, my next hypothesis follows the ethnographic evidence from Egypt and is in line with Oppenheimer's model:

⁵ According to national Egyptian data from 2006, just under two-thirds of ever-married women aged 18–39 who had married within the previous five years established nuclear households at the start of their marriages. The percentage of couples achieving residential independence upon marriage reaches 84% among urban dwellers (Salem 2015).

H2: If all else is held constant, Egyptian women with favourable labour market experiences will experience earlier transitions to first marriage.

I also hypothesize that labour market influences do not affect men's and women's marriage trajectories symmetrically. Egyptian men are expected to occupy the role of provider of matrimonial outlays before the wedding and the role of provider of the resources needed to sustain family life after the wedding. Although ethnographic accounts indicate that Egyptian women are increasingly contributing to the costs of marrying and setting up a new household (Amin and Al-Bassusi 2004), their primary roles after the wedding are those of homemakers and mothers. It follows that employment will bear a stronger relationship with men's marriage timing than with women's:

H3: If all else is held constant, the association between favourable labour market experiences and earlier transitions to first marriage will be stronger for Egyptian men than for Egyptian women.

Although multivariate results for Egyptian men are mixed (Sokona and Casterline 1988; Assaad Binzel, and Gadallah 2010), descriptive analyses indicate that there is an educational gradient such that men with increasing education have older mean ages at first marriage (Salem 2015). Among Egyptian women, there appears to be a consistent positive relationship between educational attainment and age at marriage (Heaton 1996; Sokona and Casterline 1988). Given the normative pressure for men to act as (sometimes sole) breadwinners for their households in Egypt, I posit that the expectation that the life stages of student and spouse should be sequenced will affect men more strongly than it will women.

H4: If all else is held constant, school enrolment will be associated with later transitions to first marriage among Egyptian men and women.

H5: If all else is held constant, the association between school enrolment and later transitions to first marriage will be stronger for Egyptian men than for Egyptian women.

Educational attainment is thought to act on marriage entry in part through the influence of the human capital it imparts on employment outcomes. However, evidence from Egypt shows that among men, higher education is strongly associated with higher unemployment rates (Assaad, Binzel, and Gadallah 2010). It follows that highly educated men will marry later and that the positive relationship between education and ages at marriage will be stronger for men compared to women. Alternative explanations

for the influence of education posit that education eliminates early marriage through ideational pathways, namely by encouraging nuclear living arrangements and companionate marriages, the first because of the higher material costs of setting up an independent household and the latter because self-selection of a spouse is a lengthier process. Both of these ideational exposures should affect women's and men's nuptial behaviour equally in Egypt. A final ideational influence of education involves inculcating the value of non-domestic roles for women. Since the latter pertains only to women, I expect that the additional positive ideational effect of education on women's marriage will counterbalance the additional positive employment effect for men's education mentioned above.

H6: If all else is held constant, Egyptian men and women with higher educational attainment will experience later transitions to first marriage.

Finally, the existing literature suggests that in Egypt, urban residence is associated with older ages at marriage for women (Heaton 1996; Sokona and Casterline 1988) and men (Assaad, Binzel, and Gadallah 2010; Sokona and Casterline 1988). Although direct comparisons of marriage customs in rural and urban areas of Egypt are rare, the international literature holds that urban residence weakens the influence of family members who encourage or arrange early marriages. In addition, residing in a city fosters exposure to 'modern' ideals about family life, which emphasize the desirability of older ages at marriage, companionate unions, and nuclear family living arrangements. I hypothesize that both explanations should apply equally to men and women in Egypt.

H7: If all else is held constant, urban residence will be associated with later transitions to first marriage among Egyptian men and women.

3. Method

3.1 Data and sample

The Egypt Labour Market Panel Survey (ELMPS) is a nationally representative panel survey with two waves, the first fielded in 1998 and the second in 2006. In 1998, 96% of the 5,000 households selected for inclusion in the sample responded to questions pertaining to household members aged 6 and above. A total of 17,357 individuals from the 1998 wave of the survey were successfully re-interviewed in the 2006 wave. Analyses comparing those lost to attrition between the two waves of the survey (28%)

and those who were interviewed in both waves show that there are no systematic differences between the two groups (Barsoum 2007). The sample for this study consisted of 7,374 respondents (46% were women and 54% were men) who were never married at the time of the first interview in 1998 and at risk of marriage⁶ in the subsequent eight-year period. The earliest ages at first marriage retrospectively reported in the ELMPS 2006 were 14 for women and 17 for men; therefore, initial exposure to the risk of marriage was considered to begin for women aged 6 years old in 1998, and for men aged 9 years old in 1998. Exposure to the risk of marriage was considered to end at age 49, when the observed risk of marriage dropped close to zero. Of these at-risk never-married respondents, 2,131 (29%) wed between the two waves of the survey. Characteristics of these never-married respondents at wave one were tested as predictors of marriage timing among the same respondents at wave two.

I used two different analysis samples based on the nature of the labour market predictors employed. The first analysis sample comprised the full set of 7,374 never-married respondents who were at risk of marriage at wave one. This was used to test associations between two employment history measures and marriage timing. Tests of associations between four job characteristics and marriage timing could not employ the full analysis sample because the ELMPS lacked detailed information on any jobs held before marriage other than the job held in 1998. The second analysis sample was therefore restricted to the 1,779 respondents who were employed but never married and at risk of marriage at the time of the first wave of the survey in 1998.

3.2 Analysis strategy

My outcome variable for marriage timing was drawn from a question in the 2006 wave on ever-married respondents' age at first marriage.⁷ Because this was reported in full years, I used discrete-time proportional hazard analysis to model time to first marriage. An advantage of hazard models is that they account for censored observations, which in this case consist of respondents who remained unmarried at the second wave of the panel survey. Using a sample of those who were never married and at risk of marriage at wave one, I converted the data into person-year format to calculate hazards of first marriage. I fit a cubic spline as a semi-parametric method to estimate the shape of the baseline hazard of marriage at each age. The baseline hazard expresses the risk of marriage by age for the reference individual, and it is the constant against which

⁶ Although the timing of union entry varies in Egypt, by the end of the reproductive years, marriage is nearly universal among both men and women (Salem 2015, 2016).

⁷ In Egypt, Muslim couples may be contractually married weeks or months before the wedding. For this study, marriage was defined as coinciding with the consummation of the union and the start of joint residence.

hazards for individuals characterized by certain values on predictors of interest are compared (Cleves et al. 2010; Rodríguez 2010). My estimates indicate that the baseline hazards of first marriage in the ELMPS resembled bell curves, with the hazards peaking around ages 25 and 35 for women and men in the sample, respectively (available upon request). Separate splines were fit for men and women.

The two baseline-hazard functions were used to run stratified proportional hazards models for the full sample (with two predictors related to employment history interacted with gender) and for those who were employed in 1998 (with four predictors related to job characteristics interacted with gender). As expected, interactions between gender and the labour market measures were statistically significant (results available upon request). This provides a rationale for the estimation of separate proportional hazards models for each gender, since interest is in quantifying the statistical effects on marriage of various predictors in order to test the hypotheses posed for men and for women.

3.3 Measures

I investigated six labour market indicators to test the employment-related hypotheses laid out above. Those who were employed, had ever worked, were employed in the public sector, had high-status jobs, had a good-quality job, or had high wages were all considered to be in an advantageous labour market position relative to others. I discuss each of these predictors in turn.

The first two of these labour market predictors describe each respondent's overall employment history before marriage and can be tested using the full analysis sample of 7,374 respondents. First, I used a categorical measure of the respondent's employment status in 1998, with responses including the categories 'out of the labour force' (defined as neither working nor seeking work), 'employed,' and 'unemployed.' But what if respondents were in school, too young to work, or temporarily out of work at the time of the first interview in 1998? Based on questions posed in 2006 on respondents' age at first marriage and age at labour force entry, I constructed a measure of whether the respondent had ever worked before marriage for my second indicator of labour market history. I coded this variable '1' for every person-year after never-married respondents had first worked for a period of at least six months, and '0' for every person-year otherwise.

My next set of measures pertained to the analysis sample of the 1,779 respondents who were employed at the time of the first wave of the survey in 1998. The data contains variables describing four characteristics of the jobs held by these respondents in 1998 (i.e., before marriage). For my third measure of labour market experiences, I

constructed a binary measure indicating whether the respondent was employed in the private sector, where jobs tended to be unstable and lack social protections. Fourth, I used a binary measure of occupational status for those who worked in 1998. This variable was coded '1' if the respondent was in a professional, technical, or managerial job in 1998 (which I refer to as 'high-status jobs') and '0' otherwise. Fifth, for those who were employed in 1998, I included an indicator of their job quality as developed by Assaad, Roushdy, and Rashed for the ELMPS data (2009). This index is a composite measure of access to social insurance, having a legal employment contract, regularity of employment, work hours, and characteristics of the workplace in the respondent's primary job (Assaad, Roushdy, and Rashed 2009). Following Assaad, Binzel, and Gadallah (2010) I coded job quality into a binary measure contrasting good-quality jobs with poor-quality jobs (the index's values range from -2.73 to 1.38, and like the authors, I used 0.50 as the cut-off for good quality-jobs). I tested alternative categorical specifications as well as a continuous specification of job quality, using Cox-Snell residuals to gauge overall model fit. Although the best model fit was achieved with the binary measure, the significance and size (but not the direction) of job quality's association with marriage hazards was sensitive to the variable's specification (this is elaborated further in the results). I retained the binary specification of job quality in the models displayed below to enable comparisons with Assaad, Binzel, and Gadallah's (2010) results. Finally, I used a measure of logged monthly wages earned from all jobs held in 1998 for those who reported working at that time.

Two further measures tested the education-related hypotheses posited earlier. I used a categorical measure of the last stage of schooling completed by each respondent as reported in 2006. The 2006 measure of schooling completed was appropriate because 98.1% of all respondents exited the educational system before marrying. I also included a time-varying measure of whether the respondent was in school for every person-year in the data. Based on questions posed in 2006, construction of this variable assumed respondents first enrolled at age 6 and that students remained in school continuously.⁸ Construction of the 'in school' variable also used the last stage of schooling reported in 2006 while taking into account grades repeated among those aged 30 or younger who were asked about the latter. The 'in school' measure aimed to control for the fact that many younger respondents were out of the labour force or had never worked because they were students who did not combine work with their studies.

Finally, to test the hypotheses related to urban residence laid out above, I used a binary variable indicating whether the respondent lived in a city in 1998. This variable

⁸ The ELMPS data lack age at school enrolment, but enrolment starting at age 6 is a tenable assumption for Egyptian students according to Langsten (2013). The 2006 data include information on interruptions in schooling of more than 6 months for those aged 30 or less, but their timing is unknown. In the 2006 ELMPS, less than 1% of those aged 30 or less in 2006 who ever enrolled had interrupted their schooling, however.

allowed me to evaluate the statistical effect of rural versus urban residence before the respondent married.

I included two measures of socioeconomic status as controls in my hazard models. The first was a composite index measuring the wealth of the respondent's natal household (Egyptian youth seldom reside independently before marriage, so I assumed that the household in which the unmarried respondent lived in 1998 was her or his natal household) based on ownership of various household assets. I tested continuous and categorical specifications of this variable with similar substantive results, and the final models used a three-category measure of wealth, providing greater interpretability as well as better model fits according to the Cox-Snell test. The second measure of socioeconomic status was the schooling completed by the respondent's mother and father, measured in categories of stage of education completed. These socioeconomic variables were important controls to include because Egyptians of higher socioeconomic status tend to have better labour market outcomes, have more education, and be urban dwellers.

Although the proportional hazards analysis relies on predictors and controls drawn either from observations made during a prior wave of the panel study or from retrospective reports, this does not resolve all issues of causality. Spuriousness due to omitted antecedent variables driving the relationship observed between a given predictor and marriage timing (and related problems of endogeneity and reverse causality) cannot be ruled out. Therefore, although the indicators outlined above have the desired time-order relative to marriage entry, the relationships reported in what follows are associational rather than causal.

4. Results

4.1 Descriptive analysis results

Table 1 provides a summary of descriptive statistics for the key predictors and control variables for each analysis sample, with some predictors' specifications modified for ease of interpretation. The median age at marriage in the analysis sample is 28.7 for men and 23.3 for women (results available upon request). As the literature suggests, late marriage in Egypt is largely a male phenomenon (Salem 2016). The median education attained by respondents in my analysis sample was 12 years for both men and women. Therefore, men experienced a gap of about ten years between the completion of their schooling and marriage, whereas women experienced a gap of about five years on average (Salem 2015, 2016).

Table 1: Sample means for labour market, education, and urban residence variables by gender and analysis sample (N=7,374), Egypt Labour Market Panel Surveys 1998 and 2006

Variables	Full analysis sample			Those who were employed in 1998		
	Men	Women	Total	Men	Women	Total
Employment status in 1998 (%)						
Out of the labour force	63.55	78.07	70.23	0	0	0
Employed	30.12	17.09	24.13	100	100	100
Unemployed	6.33	4.83	5.64	0	0	0
Ever worked before marriage (%)	68.73	20.93	46.73	-	-	-
Private-sector job in 1998 (%)	-	-	-	79.11	81.40	79.88
High-status job in 1998 (%)	-	-	-	18.98	16.46	18.13
Monthly wage in 1998 (in '98 EGP)	-	-	-	162.75	64.00	130.55
Good-quality Job in 1998 (%)	-	-	-	19.77	12.33	17.25
Schooling completed by 2006 (%)						
No certificate	12.69	13.82	13.21	23.30	31.49	25.97
Primary	10.13	12.48	11.21	15.67	6.75	12.76
Preparatory	14.30	18.08	16.04	6.45	6.92	6.61
Secondary	41.13	37.22	39.32	33.45	35.64	34.16
Post-secondary	21.76	18.40	20.21	21.12	19.20	20.50
In school in 1998 (%)	58.45	70.83	64.14	9.84	26.38	15.23
In school in 2006 (%)	21.84	36.26	28.48	2.67	7.76	4.33
Urban residence in 1998 (%)	62.87	64.04	63.41	63.22	45.69	57.50
Natal family wealth in 1998 (%)						
Poorest one-third	33.03	30.03	31.65	35.78	40.17	37.21
Middle one-third	34.66	35.54	35.07	37.78	34.83	36.82
Wealthiest one-third	32.30	34.42	33.28	26.44	25.00	25.97
Father's schooling completed (%)						
No certificate	51.80	47.24	49.70	66.97	66.90	66.95
Primary	16.03	14.85	15.49	14.85	12.41	14.05
Preparatory	5.20	5.16	5.18	4.42	3.45	4.10
Secondary	15.07	19.19	16.97	9.01	11.38	9.78
Post-secondary	11.91	13.56	12.67	4.75	5.86	5.12

Table 1: (Continued)

Variables	Full analysis sample			Those who were employed in 1998		
	Men	Women	Total	Men	Women	Total
Mother's schooling completed (%)						
No certificate	66.69	61.18	64.16	82.40	80.34	81.73
Primary	13.54	12.26	12.95	9.67	8.28	9.22
Preparatory	3.19	4.33	3.72	2.09	2.76	2.30
Secondary	11.10	15.65	13.20	3.50	6.21	4.38
Post-secondary	5.48	6.57	5.98	2.34	2.41	2.36
<i>n</i> (respondents)	3,981	3,393	7,374	1,199	580	1,779

4.2 Hazard analysis results

I now turn to results of my hazard analysis of the determinants of marriage timing in Egypt. The tables below display hazards, standard errors, and hazard ratios. Hazards represent the probability of the occurrence of marriage in a given time interval (in this case, the interval between one year of reported age and the next year of reported age per respondent, i.e., a person-year), where the probability is conditional on not having married yet. Derived from hazards, hazard ratios estimate the relative risk of an event occurring (in this case, marriage in a given person-year, conditional on not having married previously). They represent the ratio of the probability that someone with a certain characteristic will marry versus the probability that someone lacking that characteristic will marry. Hazard ratio values greater than one indicate a greater hazard of marriage, and therefore show that the variable is associated with earlier age at marriage. Values less than one indicate a lower hazard of marriage and therefore show that the corresponding variable is associated with delayed marriage.

For men, being employed in 1998 is associated with earlier marriage compared to being out of the labour force in 1998. Men who were unemployed in 1998 do not marry significantly later relative to those who were out of the labour force. Men who have ever worked marry considerably younger than all other men, all else held equal (Model 2, Table 2). For women, neither employment status in 1998 nor ever working before marriage have a bearing on the subsequent timing of marriage (Models 3 and 4, Table 2). Regarding education, being in school inhibits men's and women's marriage in that person-year, but once school enrolment is held constant, level of schooling has no association with union formation. Urban residence is associated with delayed marriage for men in these models, but has no net effect for women.

Table 2: Proportional hazards models for the effects of employment status in 1998 and having ever worked before marriage on marriage timing, by gender (N=7,374), Egypt Labour Market Panel Surveys 1998 and 2006

Variable	Men						Women					
	Model 1			Model 2			Model 3			Model 4		
	B	SE	HR	B	SE	HR	B	SE	HR	B	SE	HR
Employment status in 1998												
Out of the LF (ref.)	-	-	-	-	-	-	-	-	-	-	-	-
Employed	0.46	0.09	1.59***	-	-	-	-0.02	0.1	0.98	-	-	-
Unemployed	0.02	0.13	1.03	-	-	-	0.08	0.13	1.08	-	-	-
Ever worked bef. marr.	-	-	-	2.59	0.37	13.28***	-	-	-	-0.01	0.1	0.99
Schooling completed												
No certificate (ref.)	-	-	-	-	-	-	-	-	-	-	-	-
Primary	0.06	0.13	1.06	-0.02	0.12	0.98	0.1	0.18	1.11	0.11	0.18	1.11
Preparatory	0.04	0.19	1.04	-0.03	0.19	0.97	0.02	0.19	1.02	0.02	0.18	1.02
Secondary	-0.03	0.11	0.97	-0.18	0.11	0.83	0.02	0.13	1.02	0.04	0.13	1.04
Post-secondary	0.03	0.12	1.03	-0.06	0.12	0.95	0.19	0.15	1.22	0.2	0.15	1.23
In school	-1.24	0.25	0.29***	-0.81	0.23	0.45***	-1.11	0.12	0.33***	-1.12	0.12	0.33***
Urban residence in 1998	-0.24	0.12	0.79*	-0.25	0.12	0.78*	-0.15	0.16	0.86	-0.14	0.16	0.87
n (person-years)	17,774						15,217					

Note: Controls are natal family wealth in 1998, father's schooling completed, and mother's schooling completed (omitted from the table). HR = hazard ratio. *p<.05. **p<.01. ***p<.001.

I next consider how characteristics of the job held in 1998 are related to the marriage timing of those who were employed at the time of the first wave of the survey in 1998. Among women who were working in 1998, no job characteristics were significantly associated with subsequent marriage timing when controlling for other factors. Accordingly, results for women are not shown (results available upon request). The men's models (Table 3) exclude the time-varying variable 'in school' because the number of men simultaneously enrolled in school and employed in 1998 was too small to yield robust estimates. Net of other factors, having a private sector job in 1998 is associated with a significantly reduced hazard of marriage for men. Similarly, having a good-quality job is associated with a significantly raised hazard of marriage for men in the subsequent time interval. However, this finding did not hold when job quality was specified continuously or in terms of quintiles or tertiles. The sensitivity of the association's significance to the specification of the job quality variable calls into question the robustness of the finding reported here and by Assaad, Binzel, and Gadallah (2010). Table 3 further shows that being in a high-status occupation is not associated with men's marriage timing. Nor does the level of men's wages predict their marriage timing, irrespective of how the measure of wages is specified. In these models, schooling level completed does not emerge as a statistically significant determinant of men's marriage timing, and urban residence is associated with later marriage in only one of the four models.

Table 3: Proportional hazards models for the effects of various job characteristics in 1998 on marriage timing, men (N=1,199), Egypt Labour Market Panel Surveys 1998 and 2006

Men												
Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE B	HR	B	SE B	HR	B	SE B	HR	B	SE B	HR
Private-sector job in 1998	-0.24	0.11	0.78*	-	-	-	-	-	-	-	-	-
High-status job in 1998	-	-	-	0.09	0.14	1.10	-	-	-	-	-	-
Log monthly wage in 1998	-	-	-	-	-	-	0.11	0.10	1.11	-	-	-
Good-quality job in 1998	-	-	-	-	-	-	-	-	-	0.24	0.10	1.28*
Schooling completed												
No certificate (ref.)	-	-	-	-	-	-	-	-	-	-	-	-
Primary	-0.23	0.14	0.80	-0.24	0.14	0.79	-0.24	0.17	0.79	-0.26	0.15	0.78
Preparatory	-0.17	0.20	0.85	-0.13	0.20	0.88	0.13	0.20	1.14	-0.19	0.20	0.83
Secondary	-0.18	0.13	0.84	-0.17	0.13	0.85	-0.08	0.15	0.92	-0.19	0.13	0.83
Post-secondary	-0.23	0.14	0.79	-0.21	0.16	0.81	-0.03	0.14	1.03	-0.22	0.13	0.80
Urban residence in 1998	-0.13	0.12	0.88	-0.12	0.13	0.89	-0.30	0.13	0.74*	-0.16	0.12	0.85
n (person-years)	5,357			5,357			5,196			5,459		

Note: Controls are natal family wealth in 1998, father's schooling completed, and mother's schooling completed (omitted from the table). HR = hazard ratio.

*p<.05. **p<.01. ***p<.001.

5. Discussion

Here I discuss my results in relation to each of the hypotheses posited at the outset, first for men and then for women. Recall that H1 and H2 posited that favourable labour market experiences would hasten men's and women's marriages in Egypt. Confirming H1, Egyptian men married considerably earlier if they were employed in the first wave of the survey, or if they had ever worked, even when controlling for the fact that some men were in school during the period in question. These results are consistent with the notion that the ability to establish and support an independent household is linked to men's marriage entry. It may also be the case that men with a history of employment and few or short spells of joblessness married earlier because they were considered a 'good catch' by potential spouses (Aassve et al. 2001). These conclusions are supported to some degree (in two models out of four) by my findings regarding the association between favourable job characteristics (specifically, public-sector jobs and, more tenuously, better-quality jobs) and earlier marriage among men who reported working at wave one. These two job characteristics are interrelated because both are associated with access to social insurance, having a legal employment contract, stability of employment, good work hours, and a favourable workplace environment. It is interesting to note that employment sector (and arguably, job quality) are more important determinants of men's marriage entry than wages. Clearly, for Egyptian grooms, a steady income matters more than a high income.

This last point has implications for our understanding of the two interrelated economic prerequisites for Egyptian men's marriage alluded to in my description of the Egyptian context. First, grooms typically shoulder the majority of the costs associated with entering a new union, and they therefore must be able to afford their share of marriage expenditures. If marriage costs were the prime obstacle to marriage entry or if marriage costs were not partially subsidized by grooms' families, we would expect wages to emerge as a more important determinant of men's marriage timing. Second, cultural expectations dictate that husbands should be the main providers for their marital households. Cultural norms in Egypt discourage husbands from depending on their natal families to cover day-to-day expenses, unlike initial matrimonial outlays, where natal families feel obligated to assist financially (Singerman 1995). Having a public-sector (and perhaps also a good-quality) job appears to assure men of a steady source of employment in the future, qualifying them to wed and to assume the role of primary earner in their new families.

With regards to women, hazard models show that those who reported working at the time of the first wave of the survey or having ever worked before marriage did not wed significantly earlier than others, therefore refuting H2. Specifically, these findings do not support Amin and Al-Bassusi's (2004) claim that Egyptian women's work

accelerates marriage either by minimizing the financial obstacles to marriage once a suitable match is found or by reducing time spent searching for a spouse because of working women's attractiveness to potential grooms. However, my findings also did not support the opposite claim. I found no evidence that working women use their economic independence to delay or forgo marriage. The conclusion that Egyptian women's work is associated neither with accelerated nor delayed marriage is reinforced by the finding that, among women who were employed in the first wave of the panel survey, job characteristics bear no association with the hazard of marriage. Overall, the results of the majority of the models tested indicate that the labour market hypotheses suggested by the literature largely do not apply to Egyptian women. Together, these findings also lend support to H3, which posited that men's marriage entry would respond to favourable labour market experiences to a greater extent than women's.

Men's results regarding the education-related hypotheses were consistent with those of women. The results confirmed H4 (that school enrolment would inhibit marriage) but did not support H5 (that it would do so more strongly for men than for women). For Egyptian men and women, school enrolment in a given person-year was significantly associated with a relatively large reduction in the hazard of marriage. The size of the 'in school' coefficient was larger for women across one set of parallel models and larger for men in another set. This is strong evidence for the notion that whenever school and marriage are viewed as incompatible, individuals will not engage in both simultaneously. Although the literature from low- and middle-income countries predicts that higher levels of schooling completed will be directly associated with older ages at first marriage (Chandrasekhar 2010; Ezra 2003; Lee 1982; Mensch, Singh, and Casterline 2005; Yabiku 2005), this does not hold for Egyptian men or women in the models controlling for school enrolment.⁹ Therefore, H6, which posited that higher educational attainment itself fosters delayed marriage, was not supported by the data.

Surprisingly, urban residence also had limited predictive power for Egyptian men and women's marriage timing. In spite of evidence from other low- and middle-income countries showing that urban residence tends to delay marriage, men who were city dwellers married later than their rural counterparts in three out of six models, lending limited support to H7. City-dwelling women married no later in the two models analyzed above, thereby refuting H7 among Egyptian women.

⁹ In tests of the men's hazard models including the 'in school' variable (similar to those displayed in Table 3), the coefficients for 'schooling completed' by the respondent were not statistically significant, as we might expect. This confirms that educational attainment has no statistical effect on men's marriage timing, whether or not school enrolment is controlled for.

6. Conclusions

This study is motivated by the need to better understand the relationship between labour markets and marriage markets among both women and men in Egypt, where young people's inability to finance and sustain new unions and to wed in a timely manner are widely considered as urgent and interrelated social problems. How do the foregoing results inform existing theories explaining marriage timing, and what do they reveal about the interplay between marriage and gender roles in contemporary Egypt? I first consider my findings' implications for existing theories regarding the predictive power of labour market experiences, followed by implications for theories regarding education and urban residence.

The finding that favourable labour market experiences largely accelerate marriage for Egyptian men but have no effect for women has several theoretical implications for the literature on the influence of labour market position on marriage. Among Egyptian men, evidence that positive employment experiences hasten marriage supports Oppenheimer's claim (1994; Oppenheimer, Kalmijn, and Lim 1997) that a good labour market position facilitates marriage by signalling that a groom can finance the maintenance of a family and by making a groom more attractive to potential brides. However, Oppenheimer also argues that men's and women's employment and earnings are both important (if not quite equal) determinants of marriage timing (1994; Oppenheimer, Kalmijn, and Lim 1997; Sweeney, 2002). This is clearly not the case in Egypt, where women's labour market experiences have no bearing on marriage timing, while men's do. The absence of any associations between Egyptian women's work and their marriage timing also contradicts Becker's claim (1981; Lee and Payne 2010; Sweeney 2002) that employment and earnings will cause women to delay or desist from marrying.

The failure of existing theories of the impact of labour market experiences on marriage timing to fully explain the Egyptian case suggests that some key contextual factors must be taken into account in future research on settings outside the high-income countries in which these theories were developed. First, in societies where nuclear families prevail, theories must consider how expenditures associated with the establishment of a new conjugal unit are socially organized. The extent to which brides, grooms, and/or their natal families bear these marriage costs in a given setting will likely affect the strength of the association between men and women's employment experiences and their marriage timing. Second, the rigidity of existing gender arrangements, particularly the post-marital division of labour, must be considered. In settings where domestic and care work are seen as the domain of wives and breadwinning is viewed as the responsibility of men (who should not rely on financial assistance from their natal families after marriage), men's marriage timing will likely be

far more sensitive to labour market position than women's. In Egypt, even single working women may anticipate no or intermittent labour market participation once they wed. Because they expect to be dependent on continuously employed husbands in return for performing unpaid domestic and care work, women's past and future jobs and earnings are not given much weight in determining when they will marry. Third, in settings where social expectations are such that women in particular cannot opt out of marriage, favourable employment experiences will fail to enable some women to postpone or forgo marriage. In Japan, another gender-asymmetric society, women use their economic resources to avoid marriage altogether (Lee and Payne 2010). But in Egypt, where remaining unmarried beyond a certain age is highly stigmatized for women (Sholkamy 2008), it appears that women in a favourable labour market position neither postpone marriage nor do they marry earlier than others. Finally, the quantity and quality of existing employment opportunities for young people of each gender must be taken into account in explaining union entry. After all, Oppenheimer's theory was advanced to account for shifting nuptiality behaviour under conditions of increases in women's earnings relative to men's (1994; Oppenheimer, Kalmijn, and Lim 1997). In Egypt couples cannot count on the wife to contribute substantially to the conjugal household's income, given prevailing conditions of large gender gaps in unemployment and earnings that favour men (Assaad and El Hamidi 2009; Said 2009). It is therefore unlikely that couples will factor women's labour market position into marriage timing decisions until women's labour market conditions improve. Combined with brides' minimal role in financing marriage entry, a husband-breadwinner model after marriage, and social pressure for women to avoid 'spinsterhood,' poor employment opportunities for women in Egypt reinforce the practices of women's early and universal marriage and women's dedication to domestic roles. In this cultural and economic context, women's labour market experiences are excluded from the decision regarding when to wed. In sum, these four contextual factors suggest that gender inequalities in marriage- and labour market-related cultural ideals and structural conditions will affect whether existing theories hold in a given country.

The fact that educational attainment largely fails to predict age at first marriage when school enrolment status is taken into account is an important finding in light of the existing literature on low- and middle-income countries. This literature seldom incorporates measures of school enrolment status in estimates of marriage timing (this may be due to the dearth of panel data in these settings – for notable exceptions see Malhotra 1997; Malhotra and Tsui 1996; and Yabiku 2005), unlike the high-income country literature (see for example Aassve et al. 2001; Gutiérrez-Domènech 2008; and Sweeney 2002). Thus, the delaying effect of education in low- and middle-income settings may have been exaggerated (particularly for women), and individuals with high levels of education may have postponed marriage simply because they wanted to

remain in school and to avoid occupying the roles of student and spouse simultaneously (in Egypt, this appears to be the case particularly among men). Furthermore, it is perhaps not surprising that education may not alter marriage timing preferences in Egypt, given that educational curricula sometimes present socially conservative content (Wassef 1996) while at the same time valorizing ‘modern’ family behaviours.

My analysis also reveals that there is only weak evidence that urban residence delays marriage. This is another departure from the literature on low- and middle-income countries (e.g., Malhotra and Tsui 1996; Mensch, Singh, and Casterline 2005) that may perhaps be explained by high rates of rural-to-urban migration in Egypt and, thus, by the existence of rural structural institutions and cultural ideals in some urban settings. The fact that dwelling in a city is associated to some extent with later marriage timing for Egyptian men but not for women (once other factors are taken into account) is another unexpected finding that requires investigation using measures designed for this purpose. Specifically, in Egypt and similar settings, research using direct measures of both marriage ideals (following, for instance, Dixon 1971 or Allendorf and Thornton 2015) and family involvement in the matching process (following, for instance, Malhotra and Tsui 1996) is needed in order to disentangle the mechanisms underlying these determinants of marriage timing in urban and rural contexts.

Drawing on two waves of a nationally representative panel survey, this study overcomes several limitations associated with the data, measures, and methods used in other studies: It makes direct comparisons between men and women, it includes detailed employment variables, and it uses predictors and controls that temporally precede the outcome of marriage. As such, the analysis presented here provides stronger evidence of the labour market-, education-, and urban residence-related determinants of marriage timing in Egypt than many previous studies conducted in Egypt and other low- and middle-income countries. However, it is not without its limitations. Specifically, some of the predictors tested may appear non-significant in their association with marriage timing because simultaneous forces are operating in opposite directions. For instance, employment may cause brides to be regarded as a ‘good catch’ in the eyes of some men (Aassve et al. 2001) while causing them to be regarded as excessively independent and thus unattractive in the eyes of others (Becker 1981). Without more varied survey measures to interact with the available predictors, such mechanisms cannot be uncovered and the net statistical effect of predictors may appear to be weak or non-significant. In addition, the possibility that the predictors investigated are endogenous to marriage timing cannot be ruled out. For example, respondents may have dropped out of school because they planned to wed (Mensch, Singh, and Casterline 2005). Alternatively, young women with poor marriage prospects may have chosen instead to remain enrolled in school. Similarly, lack of early success on the marriage market may have pushed young men to seek better-quality employment

(Bajracharya and Amin 2012). Future research may explore instrumental variables and structural equation approaches to determine whether the associations identified here are definitively causal and operate in the causal directions assumed.

7. Acknowledgements

Paul DiMaggio, Sara McLanahan, Marta Tienda, and Viviana Zelizer provided helpful comments and suggestions on an earlier version of this paper. Germán Rodríguez kindly provided advice on the statistical model. Ragui Assaad generously shared the job quality measure used in this analysis. This paper also benefitted from the comments of two anonymous reviewers and the associate editor.

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