



YOUNG AUTHOR'S PRIZE 2019

Kim Qinzi XU*

Changing Patterns and Determinants of First Marriage over the History of the People's Republic of China

A word from the jury president

Since 2015, the journal Population has awarded a Young Author's Prize to recognize the work of a young researcher. For the 2019 edition, 14 manuscripts were received, tackling subjects as diverse as infant health, mortality, interracial couples, international migration, forms of kinship, demographic ageing, and even climate change. Resolutely international in scope, the works submitted covered Africa, North America, Latin America, Asia, and Europe.

After a preliminary anonymized review of the texts, four manuscripts were shortlisted and each one sent to two external reviewers. The members of the jury read the texts and the reports (all anonymized). The final deliberations took place on 5 February 2019, when this year's prizewinner was selected. The authors of some of the shortlisted manuscripts were invited to submit a revised version of their manuscript to the journal's editorial board.

It is with great pleasure that we award the 2019 Young Author's Prize to Kim Xu for her article entitled 'Changing Patterns and Determinants of First Marriage over the History of the People's Republic of China'. Adopting a comparative approach between generations, the winner explores how women and men in China, born between 1920 and 1983, entered into marriage. The originality of the analysis lies in the use of longitudinal cure models to distinguish the effects associated with experiencing the event studied (here, first marriage) and those associated with the timing of this event. As such, the author can, for example, show that although the most educated men and women marry later, they also have a higher probability of getting married.

I hope you will enjoy reading this 2019 Young Author's prizewinning article and that it will encourage other early-career researchers to enter the competition for the 2020 prize (for more information, see <http://www.journal-population.com/young-authors-prize/>).

Joseph LARMARANGE

Composition of the jury

The jury for the fourth edition of the *Population* Young Author's Prize was chaired by Joseph Larmarange (CEPED/IRD, France) and was composed of Jacques Marquet (UCLouvain, Belgium), Alexandre Avdeev (Université Paris 1 Panthéon-Sorbonne, France), Viviana Egidi (Sapienza University of Rome, Italy), and Anne Solaz (INED, France), voting members; and Aline Désesquelles (INED, France) and Olivia Samuel (Université de Versailles Saint-Quentin, France), non-voting members.



Kim Qinzi Xu*

Changing Patterns and Determinants of First Marriage over the History of the People's Republic of China

Widespread changes in marriage over the past few decades have been observed in the US, most of Europe, and across parts of Asia, notably in terms of delays in marriage timing and declines in marriage prevalence (Frejka et al., 2010; Kalmijn, 2007; Raley, 2000). Against this background, the trajectory of marriage change in China seems to diverge from the cross-national trend towards later and less marriage (Jones et al., 2011). Age at first marriage rose in China during the 1970s and again during the 1990s, but delays in marriage timing did not coincide with notable declines in prevalence of marriage (Cai and Wang, 2014). Despite more than three decades of rapid socioeconomic development, marriage in contemporary China continues to be characterized as early and near universal (Ji and Yeung, 2014).

More recent studies have challenged this characterization, arguing instead that traditionally early and universal marriage has gradually declined in China (Piotrowski et al., 2016; Yu and Xie, 2015). These studies focus on the marriage-delaying effects of sociostructural changes, including the expansion of education and wage labour market participation since the introduction of economic reforms in 1978. They have further posited the demise of Chinese universal marriage due to gender-asymmetric mate preferences, noting increased lifelong singlehood among less educated rural men and highly educated women. Moreover, the one-child policy introduced in 1979 has penalized men on the marriage market by engendering a surplus of males.

Contrasting studies highlight several important questions in the literature on marriage formation in China. How have the timing and prevalence of marriage in China changed? Were marriage delays in the past associated with declines in marriage prevalence? And, importantly, will rising ages at marriage in recent decades foreshadow an increase in non-marriage among younger

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cohorts? What are the factors influencing the timing and likelihood of marriage in China? Finally, how have they changed over time?

This analysis aims to address these questions by investigating changing first-marriage patterns and determinants over the history of the People's Republic of China (PRC). This study contributes to the existing literature in two main ways. First, by adopting a long-term perspective, it extends research that has more often focused on the so-called reform era (1978 to the present). Second, it goes beyond studies on marriage determinants in China that generally use conventional event history models (Piotrowski et al., 2016; Yu and Xie, 2015), which tend to conflate the analysis of marriage timing and likelihood (Cox et al., 2007), even though factors associated with later marriage may not affect one's likelihood of marriage (Goldstein and Kenney, 2001). This is perhaps especially true in China, where marriage is highly valued. To distinguish whether a factor has primary effects on marriage timing and likelihood, the present study uses cure (or 'split-population') survival models to jointly model determinants of marriage timing and propensity.

I. Background

China has a long history of early marriage and universal female marriage. Traditionally, most women entered marriage in their late teens, and virtually all were married by age 30. Men married later compared to women, while male lifetime singlehood was more widespread (Lee and Wang, 1999).

1. Changing ages at first marriage in China

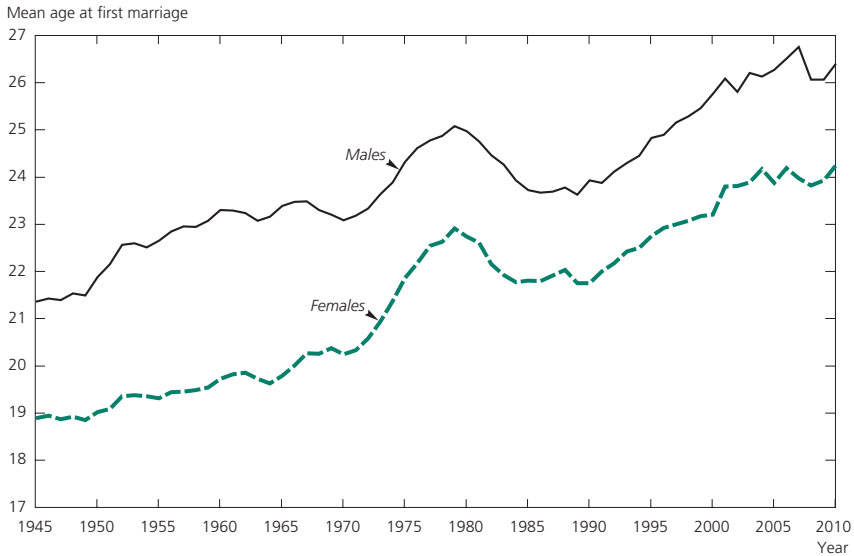
Throughout the history of the PRC, marriage timing has shifted for both men and women. As shown in Figure 1, mean ages at marriage have increased gradually between 1950 and 1970, then sharply during the 1970s. Rising ages at marriage during this period are attributed to the prohibition of underage and parent-arranged marriages (Cai and Wang, 2014). Specifically, the stipulation of minimum marriageable ages—first by the 1950 Marriage Law and later during the nationwide birth control campaign in the 1970s⁽¹⁾—had direct and significant impacts on marriage timing.

The 1950 Marriage Law set the minimum marriageable ages to 18 years for women and 20 for men. According to Tien (1983), these age requirements for marriage were enforced in urban China with efficiency due to the system of compulsory marriage registration.⁽²⁾ The enforcement of minimum marriageable ages may have been less successful in rural areas (Van der Valk,

(1) Known as the 'later, longer, fewer' campaign (later marriage, longer birth interval, and fewer births).

(2) The 1950 Marriage Law stipulates that marriage is legally concluded with marriage registration. For employees of state-owned enterprises, unions below legal minimum marriageable ages may have their registration rejected and thus be unable to obtain housing and ration coupons.

Figure 1. Mean ages at first marriage by sex, People's Republic of China, 1945–2010



Source: Author's calculation based on the 1988 Two-Per-Thousand Population Sample Survey on Fertility and Contraceptives, the 2000 census long-form data, and pooled waves of the Chinese General Social Survey (CGSS) for the years 2006, 2008, 2010, 2011, 2012, and 2013.

1957). During the nationwide 'later marriage' campaign in the 1970s, minimum marriageable ages were amended upwards to ages 23 for women and 25 for men in rural areas and as high as 25 and 28 years for their urban counterparts. Forceful administrative measures that partly coincided with the Cultural Revolution (1966–1976) were instituted to boost the nationwide enforcement of minimum marriageable ages.⁽³⁾ This resulted in a sharply rising period average of age at marriage during the 1970s. Policy-induced marriage delays during the 1970s were followed by a period of declining ages at marriage as a result of the revised Marriage Law of 1980, which reduced the age requirements for marriage (Zhang and Gu, 2007).

As shown in Figure 1, period mean ages at marriage stabilized during the 1980s and began trending upwards again in the early 1990s. Marriage delays in the reform era have been attributed to sociostructural changes accompanying socioeconomic development, for which a number of causal mechanisms have been established by studies that we will summarize here. First, economic liberalization policies ended China's cultural isolation from the outside world. Ideals of romantic love spread through the influences of pop culture and mass media, themselves facilitated by rapidly increasing geographic mobility, which

(3) The percentage of marriages conforming to late marriage age requirements in a calendar year ('late marriage rate') was widely used to evaluate the performance of local birth planning units and provided powerful incentives for local governments to enforce high marriageable age requirements (Tien, 1983).

altogether constitute important factors that contributed to a flourishing courtship culture and later marriage entry in contemporary China (Yan, 2002). Second, the expansion of higher education over the past few decades has been identified as a key factor driving the postponement of marriage for both men and women (Tian, 2013; Yu and Xie, 2015). Third, the skyrocketing costs of housing in China's larger cities during the reform era may have contributed to prolonged periods of wealth accumulation prior to marriage among younger generations, since property ownership is widely regarded in China as a precondition of family formation (Yu and Xie, 2015).

2. Universal marriage in China

Despite marriage delays, few have challenged the centrality of marriage due to the resilience of Confucian family norms emphasizing the importance of marriage and of continuing the lineage (Attané, 2012). The importance of marriage may have been simultaneously reinforced by marriage-related laws prohibiting non-marital sex and childbearing throughout the first three decades of the PRC (Palmer, 2007). Non-marital childbearing remains illegal under family planning laws of the reform era.⁽⁴⁾ Between 1978 and 2015, children born outside marriage were not eligible for household registration, which is essential for accessing healthcare and education (Ji and Yeung, 2014). Even after relaxing the one-child policy in 2015, clear conceptual distinctions persist, and children born within and outside marriage are treated differently in family planning laws.⁽⁵⁾ In a society that highly values lineage continuation, as evidenced by China's near-universal childbearing (Zhao et al., 2017), state mandates whereby all births must occur within marriage generate powerful motivation for people to marry.

Indeed, the prevalence of marriage has remained high in China. According to the Chinese population censuses and intercensal surveys from 1982 to 2010, the proportion of the never-married population at age 50 remains at around 4% for men and about 0.3% for women.⁽⁶⁾ The data do not allow us to capture a potential increase in non-marriage among younger generations, yet they do

(4) Article 18 of the 2001 PRC Law on Population and Family Planning declares that each legally married couple may have one child, but two are allowed where the requirements specified by laws and regulations are met (The Population and Family Planning Law of the PRC, 2001). Its 2015 amendment permits two children per married couple (The Population and Family Planning Law of the PRC, 2015).

(5) Social compensation fees and administrative punishments continue to apply to couples with non-marital births. In Guangdong Province, for example, a revision to provincial regulations on population and family planning in 2016 demands that parents who have their first child outside marital union register for marriage. If they go on to have a second child without registering marriage, a social compensation fee is incurred for twice the annual average income in urban/rural areas, depending on their household registration status (a second child is now permitted for married couples). A third non-marital birth is subjected to a fee of 3 or 6 times the provincial average annual income (Chapter 7, Article 46, Guangdong Provincial Regulations on Population and Family Planning Revised, 2016).

(6) Author's calculation using the 1982, 1990, 2000, and 2010 censuses and the 1986, 1995, and 2005 intercensal surveys.

demonstrate the persistent popularity of marriage in Chinese society, especially among women.

Compared to women, non-marriage among men has been higher. Historical demographers have documented widespread lifelong singlehood among lower-class men during the later imperial periods (from the Song through the Qing dynasties, ca. 960–1911 CE) (Lee and Wang, 1999). This was attributed to a skewed sex ratio in the marriage market as a result of excess female infant and child mortality (Lee and Wang, 1999) and gendered mate preferences where men's economic and social standing was regarded as key to marriage market success (Ji, 2015). In recent decades, a potential increase in forced bachelorhood has become a growing concern as the country faces a 30-year-long imbalance in the sex ratio at birth as a result of sex-selective abortion that has favoured boys following the introduction of the one-child policy. According to national census data, the sex ratio at birth increased from just above 108 in 1982 to 118 in 2010 (Huang et al., 2016).

Though near-universal female marriage has been a defining characteristic of Chinese marriage patterns, recent research has raised concerns over a future decline in marriage propensity among highly educated women due to the practice of female hypergamy, i.e. women marrying more-educated men with higher economic status (Yu and Xie, 2015). At the same time, prolonged time spent in education has been linked with delayed entry into marriage, and women who remain unmarried beyond a certain age are perceived negatively as men favour younger women in their early to mid-20s (Ji, 2015).

II. Factors influencing marriage timing and likelihood

1. Theoretical perspectives

The trend towards later and fewer marriages across Western industrialized societies has been attributed to the impact of industrialization on parent-arranged marriage (Goode, 1963), ideational influences (Lesthaeghe, 2010), greater gender equality in educational opportunities, and increased female labour market participation (Becker, 1973, 1974, 1981). In particular, women's higher education and increased labour force participation have often been emphasized as key factors driving the marriage decline (Frejka, 2008; Kalmijn, 2007).

A long-standing model of marriage developed by Parsons and Bales (1955) and by Becker (1973, 1974, 1981) maintains that women's involvement in the labour market reduces the advantages of marriage, which are determined by the spouses' specialized functions (husbands in the labour market and wives in home production). Women's labour market participation thus increases the opportunity costs of marriage, resulting in non-marriage and marriage postponement. In contrast, economic resources improve men's desirability as

marriage partners, leading to their higher likelihood of ever marrying. The ‘economic independence hypothesis’ is supported by evidence based on aggregated data, which found a negative association between women’s educational attainment and earnings, on the one hand, and their marriage rates on the other (Coughlin and Drewianka, 2011; McLanahan and Casper, 1995), while men’s economic prospects had a positive influence on marriage formation (Goldscheider and Waite, 1986).

Oppenheimer (1988) proposed an alternative ‘marriage-search’ theory, which argues that, in modern societies, higher education and higher earning potential also make women attractive marriage partners. However, improved economic resources facilitate a more thorough search for a ‘good-quality’ match, thus leading to a longer search period and delayed marriage entry. Oppenheimer also noted the distinct processes leading to marriage delays and non-marriage, taking the view that marriage postponement reflects the increasing difficulty individuals have in finding a suitable match in modern societies, which is a product of prolonged and arduous transitions to adult economic roles. However, the likelihood of ever marrying ultimately reflects mate selection preferences in a society.

Marriage-search theory is well supported by empirical evidence using individual-level data. Furthermore, a number of studies in the US have demonstrated that women’s economic resources encourage rather than inhibit marriage (Goldstein and Kenney, 2001; Lichter et al., 2002; Mare and Winship, 1991). Other studies have suggested that individual-level indicators of economic resources, including educational attainment, are associated with later marriage but have little overall effect on the likelihood of marriage (Oppenheimer and Lew, 1995; Oppenheimer, 1997).

Both the economic independence hypothesis and marriage-search theory are evoked in studies on the socioeconomic determinants of marriage in Western industrialized societies, although scholars have noted their limitations in explaining the wide array of factors influencing marriage formation in non-Western societies (Jones et al., 2011; McDonald, 1994). As these studies emphasize, a society’s cultural and institutional contexts may uniquely shape marriage outcomes. Indeed, theoretical perspectives focusing on socioeconomic determinants of marriage may be inadequate for understanding factors influencing marriage formation in China, especially from a long-term perspective. Several aspects of Chinese societal contexts may also influence marriage formation and deserve attention. The first is a significant urban–rural division due to geographical differences between those with urban and rural household registrations (*hukou*). The second relates to the importance of Chinese Communist Party (CCP) membership in affecting marriage propensity. Third, gender asymmetry in mate selection criteria plays a role in marriage outcomes.

2. Hypotheses

The Chinese state enforces a rural–urban divide not only by institutionalizing the division of the country into rural and urban regions (Piotrowski et al., 2016) but also by dividing the country’s population into those with urban and rural household registrations. China introduced the *hukou* system in the 1950s to limit rural-to-urban migration and to protect urban workers from competition posed by migrants from rural areas (Knight et al., 2006). Those with urban *hukou* enjoy preferential treatment in employment and social security, and this was especially the case during the first three decades of the PRC (Chan and Buckingham, 2008). In the reform era, economic development and the expansion of education have favoured China’s bigger cities and urban areas in eastern coastal regions (Piotrowski et al., 2016).

Both urban *hukou*⁽⁷⁾ and residence in urban areas can affect marriage timing and marriage chances. During the first three decades of the PRC, higher marriageable age requirements were more rigorously enforced among residents with urban *hukou*. In the reform era, urban *hukou* and urban residence are likely associated with later marriage for both men and women, owing to rapid socioeconomic development, the proliferation of urban lifestyles, and skyrocketing housing prices in urban areas. However, as an indicator for socioeconomic standing, urban *hukou* may ultimately facilitate men’s chances of marriage. Therefore, urban *hukou* and urban residence are likely to be associated with later marriage for both men and women, but having an urban *hukou* may ultimately facilitate men’s marriage propensity (Hypothesis 1).

Since marriage reform was a central focus of socialist family reforms, the political status signified by one’s CCP membership may also have significantly influenced marriage formation in China. Regarded as vanguards of the socialist revolution, CCP members were expected to strictly follow state policies mandating later entry to marriage (Glosser, 2003). However, in the context of political campaigns during the earlier decades of the PRC (especially during the Cultural Revolution), high political status may have afforded some protection and facilitated a party member’s marriage chances (Diamant, 2000). Therefore, among those entering the marriage market during the first three decades of the PRC, CCP membership is likely to be associated with later marriage but higher marriage likelihood (Hypothesis 2).

Higher educational attainment is an important indicator for one’s economic resources, and its influence on marriage formation is widely emphasized in

(7) In China, household registration status is inherited from parents, and the conversion of *hukou* from one locale to another requires official approval (Chan and Buckingham, 2008). Marriage to a spouse with urban *hukou* does not automatically grant a rural resident urban local *hukou*. In China’s big cities, requirements for after-marriage rural-to-urban *hukou* conversion are extremely stringent, and the process of *hukou* conversion can be long and arduous. In Beijing, for example, a waiting period of 10 years is required for *hukou* conversion after marriage (Lui, 2018). Barriers to *hukou* conversion may have deterred inter-*hukou* marriage. Despite increased internal migration, inter-*hukou* marriages remain rare in contemporary China (Nie and Xing, 2011).

the literature. For both men and women, prolonged time spent in education is likely to be associated with later marriage entry. Higher educational attainment is likely to increase men's propensity to marry, especially in the Chinese context where men's socioeconomic standing is viewed as key to marriage market success. It remains contested as to whether higher education merely delays women's marriage entry or negatively affects their likelihood of marriage. In China, one study predicts a lower marriage propensity among highly educated women residing in urban areas (Yu and Xie, 2015), while another study finds that higher levels of education do not impact the marriage chances of urban women, although they do reduce the chances for rural women (Piotrowski et al., 2016). In contrast, Ji and Yeung (2014) posit that higher education does not affect women's likelihood of marriage.

Qualitative research also casts doubt on the negative link between women's educational attainment and their chances of ever marrying in China. Diamant (2000) notes that a woman's higher education in the earlier decades of the PRC signified her cultural status and made her highly valued in the marriage market. Ji's (2015) research on 'leftover women' in China demonstrates that gendered mate selection preferences may have resulted in a marriage squeeze among highly educated women. However, Ji's research also emphasizes that these women express a strong desire to marry in the future and, importantly, they indicated a willingness to accept men from a lower socioeconomic status. Therefore, higher educational attainment is likely associated with later marriage entry for both men and women. In addition, it is likely to increase men's chances of marriage, although it may not have significant effects on marriage likelihood among women (Hypothesis 3).

III. Data and variables

This study analyses pooled individual-level data from the 2006, 2008, 2010, 2011, 2012, and 2013 rounds of the Chinese General Social Survey (CGSS). The CGSS is a nationally representative, repeated cross-sectional survey of non-institutionalized Chinese adults. The survey adopts a multistage stratified sampling design that covers most of China's 31 provinces. The final sample in this study consists of 24,574 males and 25,936 females.

Respondents are divided into five birth cohorts: 1920–1949, 1950–1959, 1960–1969, 1970–1979, and 1980–1989. Due to low numbers of respondents from earlier cohorts, those born between 1920 and 1949 were combined (most of whom would have been in their late teens and 20s and therefore of marriageable ages between the 1940s and 1960s).⁽⁸⁾ Potential mortality selection exists for this cohort, since the poorest may have died before data collection and are not

(8) Coale (1984) also observed that age patterns of first marriage were similar among these earlier cohorts.

observed in the data. Men with lower socioeconomic status in China are more at risk of forced bachelorhood. Mortality selection might bias downward estimates on male lifelong singlehood for this cohort. The second birth cohort began to reach marriageable ages in the 1970s and early 1980s, a period covering the implementation of the 'later marriage' campaign, the Cultural Revolution, modest economic development, and when the state had just begun to shift away from socialist family policies. The third birth cohort reached prime marriage ages during the reform era, when socioeconomic reform had begun to gradually deepen. The two youngest cohorts were likely to be still at risk of marrying when the surveys were conducted. These cohorts entered prime marriage years in a fundamentally transformed society, where the state's partial withdrawal from direct intervention in marriage affairs allowed courtship culture to flourish, while sociostructural changes brought increased labour market uncertainty and soaring marriage-related costs. The youngest cohort born after the introduction of the one-child policy entered a marriage market with a skewed sex ratio.

The main dependent variables of interest are the likelihood of never marrying and waiting time since age 11 until either first marriage occurs or the observation is censored. The main independent variables of interest include years of education, education enrolment status, *hukou* status, CCP membership, and region of residence. The respondent's ethnicity as well as their father's and mother's educational status are included as control variables. Education serves as a time-varying variable measured by years of education. This variable is based on the respondent's highest level of education and the year/age when it was attained. Raymo (2003) shows that educational attainment and enrolment distinctively affect the timing of first marriage. A time-varying dummy variable for enrolment in an educational institution is also included. As discussed earlier, a respondent's *hukou* status is another important factor in influencing marriage entry. This variable is included as a time-varying variable based on the respondent's current *hukou* status, whether or not the respondent has experienced a rural-to-urban *hukou* conversion, and the year of the conversion. This variable is equal to 0 if the respondent's *hukou* is rural; it changes to 1 when conversion to urban *hukou* occurs. Similarly, a respondent's CCP membership is constructed as a time-varying variable based on current party membership and the year the respondent joined the party.

Region of residence is included as a time-invariant variable with five categories: (1) the metropolitan areas of Beijing, Tianjin, and Shanghai; (2) the east coast regions; (3) the north and northeast provinces; (4) the midlands; and (5) the western provinces. Previous research has noted significant differences in marriage patterns between China's more developed eastern and less developed western regions (Piotrowski et al., 2016). Unfortunately, this time-invariant variable indicates only the respondents' residence at the time of survey but not their moves between regions. As a result, the variable

may not accurately reflect a respondent's area of residence at the time of marriage, especially among younger cohorts who have experienced increased internal migration. Nonetheless, research has shown that most internal migration in China is temporary and circular in nature, due to China's *hukou* system, which restricts permanent migration (Yang, 2000). Furthermore, permanent migration for reasons of work or marriage tends to occur within the home provinces (Hu et al., 2011).

Control variables include a dummy variable for Han ethnicity. We also use the father's and mother's educational attainment as measures of the family's socioeconomic background. Appendix Table A.1 provides descriptive statistics about the independent variables by sex and cohort.

IV. Methods

The modelling approach for this research is parametric cure survival models.⁽⁹⁾ These models take into account that a segment of the population will never experience the event of interest while jointly estimating, on the one hand, a parametric model for the likelihood of an event occurring and, on the other, a survival model for the waiting time until the event occurs. This methodology provides two main advantages. First, conventional survival models typically assume that everyone in the population will eventually experience the event of interest (i.e. in the context of this research, first marriage) (Cox et al., 2007). Though lifelong singlehood is historically low in China, non-marriage does exist, particularly among men. The proportion of the never-married population, however small, may have distinct characteristics compared to those who do eventually marry. It is therefore important to acknowledge and analyse these segments of the population.

Second, conventional survival analysis tends to conflate the analysis of the speed of progression towards an event and the probability of an event occurring (Cox et al., 2007). Discrete-time event history models can indirectly assess the impacts of a predictor on the timing and probability of an event by analysing time-varying effects, i.e. by including terms of interaction between predictors and time (Allison, 1982). However, interpreting multiple time-varying effects can be cumbersome. A statistical model may quickly become complex when multiple time-varying effects are incorporated. As a result, studies on marriage determinants in China have generally opted to maintain model parsimony by examining the time-varying effects of a handful of factors such as educational attainment while overlooking a wide range of other important factors such as household registration status, region of residence, and party membership (Tian, 2013; Yu and Xie, 2015a). In comparison, cure models offer greater flexibility by separately parameterizing the effects that independent

(9) The parametric cure models are estimated by CUREREGR (Buxton, 2004), an add-on Stata module.

variables have on the probability of never marrying and, for those who do marry, on the timing of first-marriage entry.

There are two types of split-population models: mixture and non-mixture models (for the statistical specifications, see Buxton, 2004). The cure fraction is modelled using a logistic link. Age patterns of marriage are modelled using two parametric distributions: log-normal and gamma distributions. Demographers have found that age patterns of marriage in historical and some contemporary societies tend to follow right-skewed distributions (Coale, 1971; Kaneko, 2003). Therefore, log-normal and gamma distributions are chosen for their ability to fit a wide range of right-skewed distributions (Lambert, 2007). For the parametric distributions of the duration model formations, there are four combinations of mixture versus non-mixture and log-normal versus gamma, and the Bayesian information criterion is used to choose the most appropriate one.

V. Results

1. Changing marriage patterns over birth cohorts

Table 1 provides a summary of mean and standard deviation of age at first marriage, and the percentage of those who never married at ages 35, 40, and 50 by birth cohort. Two sets of survival estimates from Kaplan–Meier analyses and parametric cure models are presented in Figure 2. Kaplan–Meier estimates are used as benchmarks for evaluating the fit of the cure models. Including cure model estimates in turn sheds light on the survival probabilities among younger cohorts who have not married.

Estimates from the cure models are consistent with the Kaplan–Meier estimates for most cohorts, though cure models tend to slightly underestimate the proportion of those who are single at ages 40 and older. The fitting of the cure model for the 1980–1989 cohorts is comparatively poor due to censoring at younger ages. Compared to the Kaplan–Meier estimates, the cure model survival estimates for this cohort show faster progression towards first marriage at ages 30 and older. Consequently, the proportions of men and women never marrying in this cohort could be moderately higher than the cure model projections.

Table 1 and Figure 2 demonstrate fluctuations in marriage timing over successive male and female cohorts. Compared with those born between 1920 and 1949, marriage occurs later among the 1950s cohort. Marriage postponement among this cohort echoes the increase in period mean age at first marriage during the nationwide ‘later marriage’ campaign. Similarly, the decline in mean age at first marriage during the early 1980s is mirrored by a shift towards earlier marriage among subsequent cohorts born between 1960 and 1969. Further, the re-emergence of later marriage in reform-era China is reflected

Table 1. Mean age at first marriage and percentage single, by sex and birth cohorts

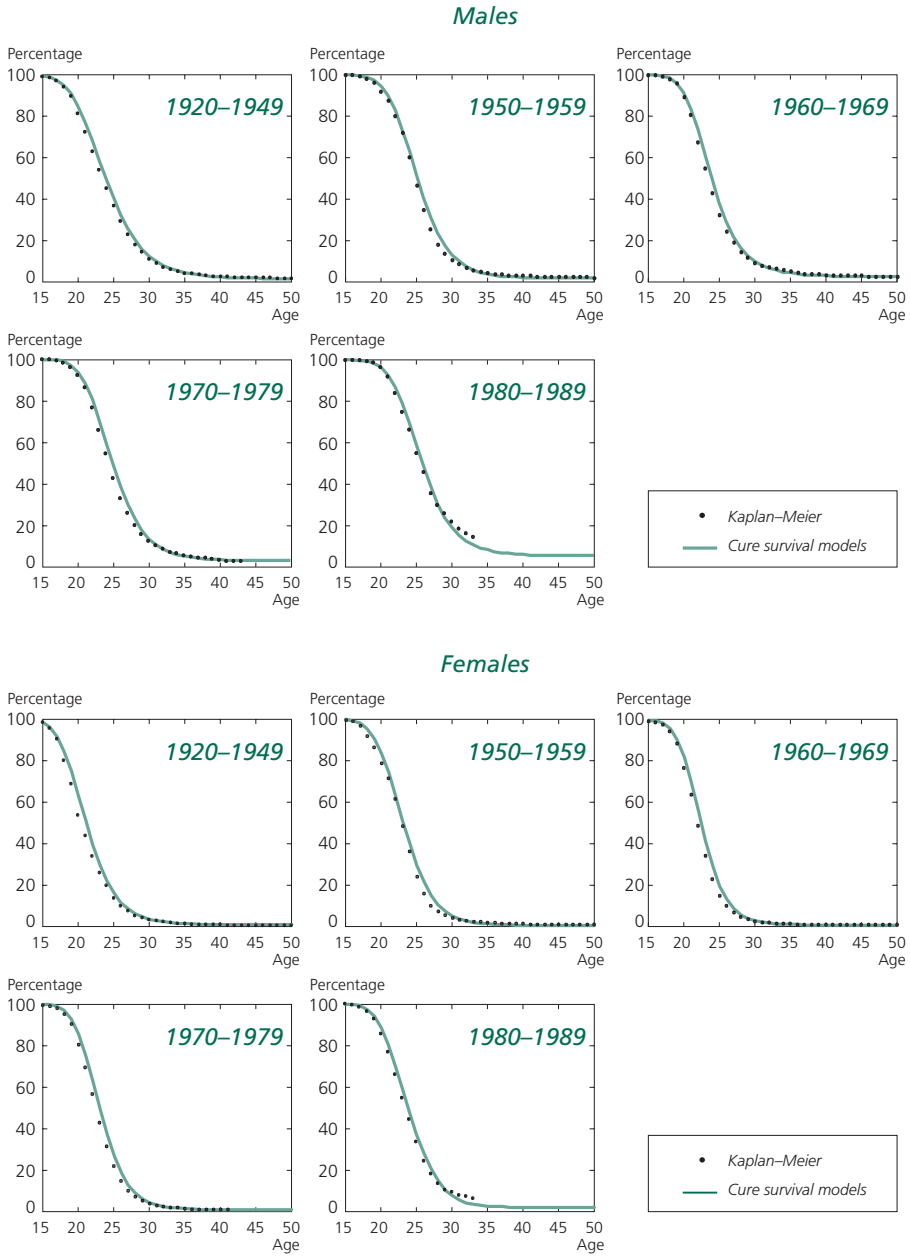
Birth cohorts	Mean age at first marriage (standard deviation)	Median age at first marriage	Percentage single at 35		Percentage single at 40		Percentage single at 50	
			K–M	Cure	K–M	Cure	K–M	Cure
Males								
Prior to 1950	24.5 (4.7)	24	4.35	4.75	2.75	2.63	1.83	1.80
1950s	25.5 (4.1)	25	4.01	3.62	2.51	1.91	1.67	1.46
1960s	24.4 (3.9)	24	4.38	4.05	2.91	2.75	2.19	2.29
1970s	24.9 (3.6)	25	5.84	5.42	3.61	3.63	n/a	3.35
1980s	24.0 (2.6)	24	14.17 ^(a)	10.53	n/a	5.86	n/a	5.39
Females								
Prior to 1950	21.6 (3.9)	21	1.22	1.23	0.66	0.78	0.45	0.62
1950s	23.4 (3.7)	23	1.45	1.38	0.83	0.51	0.52	0.27
1960s	22.7 (3.1)	22	1.01	0.94	0.62	0.57	0.51	0.52
1970s	23.1 (3.1)	23	1.82	1.77	1.14	1.04	n/a	0.94
1980s	22.6 (2.7)	23	6.07	4.66	n/a	1.20	n/a	1.98
<p>(a): Survival estimates for this cohort are censored at age 33. Note: Kaplan–Meier (K–M) estimates are compared with cure parametric survival estimates by using the best fitting specification for each cohort and both sexes. Coverage: Respondents to all six waves of the CGSS ($N = 50,510$). Source: Author's calculations based on pooled waves of the Chinese General Social Survey (CGSS) for the years 2006, 2008, 2010, 2011, 2012, and 2013.</p>								

by a slower progression into first marriage for cohorts born after 1970, especially among women.

Non-marriage has remained rather low among those born between 1929 and 1960. Only about 0.5% of women in these cohorts remained never married by the end of their reproductive lives. Non-marriage was more prevalent among men. As shown in Table 1, less than 2% of men born between 1920 and 1959 remained single at age 50. The percentage increases to more than 2% among men born in the 1960s despite this cohort's lower mean age at marriage.

Younger cohorts born during the 1970s and 1980s had not married at the time of the surveys. Yet, according to the cure model predictions, non-marriage is likely to increase moderately among these two birth cohorts. For those born in the 1980s, more than 5% of men and around 2% of women are predicted to remain never married throughout their lives. When compared to Western industrialized countries, the projected percentages of the never-married population in China seem relatively low. However, even a moderate increase of this magnitude deserves attention, due to the size of the Chinese population. Further, the increase in female non-marriage to 2% would represent nothing less than an unprecedented departure from China's centuries-long tradition of universal female marriage.

Figure 2. Predicted percentage single by sex and birth cohorts



Note: Kaplan-Meier survival estimates are compared with cure parametric survival estimates by using the best fitting specification for each cohort and both sexes.

Coverage: Respondents to all six waves of the CGSS ($N = 50,510$).

Source: Author's calculations based on pooled waves of the Chinese General Social Survey (CGSS) for the years 2006, 2008, 2010, 2011, 2012, and 2013.

2. Determinants of the timing and likelihood of marriage

This section presents model estimates for the determinants of the timing and probability of marriage for both men and women. Consistent with the third hypothesis, a higher level of education delays marriage entry but is linked with a lower likelihood of never marrying among most male cohorts (Table 2). This demonstrates the persistent emphasis placed on men's educational attainment and socioeconomic standing in the marriage market in China.

The results also confirm the hypothesis that urban *hukou* and residence in metropolitan cities and more developed eastern coastal regions are linked with later marriage entry. The marriage-delaying effects of urban *hukou* and urban residence are pronounced in older male cohorts born between 1929 and 1949, which may relate to the later marriage policy's differential enforcement between the urban and rural populations. Interestingly, although urban *hukou* and residence delay marriage entry, their impacts on men's marriage propensity become inverse over time. Both urban *hukou* and residence in metropolitan cities facilitate men's marriage for those born between 1920 and 1949, but they negatively affect men's marriage propensity among those born in the 1970s and 1980s. Perhaps, during the earlier decades of the PRC, urban *hukou* and urban residence were closely associated with men's earnings and socioeconomic standing in the context of a centrally planned economy and limited rural-to-urban migration. These factors may have become less indicative of men's socioeconomic standing in the reform era, as men's wealth and socioeconomic status are more closely associated with educational attainment. Our results further demonstrate regional variances in marriage timing and propensity among men. In particular, residence in remote, less developed western provinces is shown to be associated with earlier marriage entry but higher likelihood of lifelong singlehood.

CCP membership is hypothesized to delay men's marriage entry significantly but to improve their likelihood of marriage. The results show, however, that CCP membership has primary effects on marriage likelihood. For most male cohorts, party membership is linked with improved chances of marriage, but its effects on marriage timing are not statistically significant.

Due to the low level of female lifelong singlehood in China, most explanatory variables have primary effects on marriage timing, while few factors significantly influence women's likelihood of marriage (Table 3). As hypothesized, having a higher level of education and urban *hukou* registration are both significantly associated with later marriage among most female cohorts. Women living in the western and northern provinces are shown to enter marriage earlier compared to women living in the more developed eastern coastal regions.

Higher level of education and residence in the three metropolitan cities are among the few factors with significant impacts on women's marriage propensity. For most female cohorts, higher education increases women's

likelihood of marriage. For younger women born in the 1970s and 1980s, residence in metropolitan cities is pinpointed as an important factor associated with reduced marriage propensity.

For one cohort of women born in the 1950s (most of whom would have reached marriageable ages during the 1970s), CCP membership significantly reduced the likelihood of marriage. Lower marriage propensity among female party members is perhaps attributable to intensified party efforts advocating for females to reject traditional gender roles (Croll, 1995). It is also likely that party members were required to strictly abide by later marriage requirements during the 'later marriage' campaign in the 1970s. These women may have postponed marriage to ages beyond what were considered to be prime marriageable years during a time when early marriage remained the norm.

Table 2. Cure model assessing the timing and eventuality of first marriage for males by selected variables

	Likelihood of never marrying					Timing of first marriage				
	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989
Years of education	-0.217** (0.030)	-0.216** (0.027)	-0.220** (0.027)	-0.211** (0.029)	-0.268** (0.055)	0.017** (0.002)	0.013** (0.001)	0.012** (0.002)	0.021** (0.002)	0.034** (0.003)
Enrolment						0.066** (0.023)	0.019 (0.024)	0.068** (0.017)	0.060** (0.016)	0.066** (0.020)
Region (Ref.: Eastern coastal)										
Beijing, Shanghai, and Tianjin	-1.936* (0.906)	0.405 (0.506)	1.390** (0.325)	1.014** (0.380)	0.820 (0.524)	0.089** (0.033)	0.004 (0.020)	-0.015 (0.019)	-0.034 (0.022)	0.019 (0.027)
North and Northeast	-0.207 (0.337)	0.217 (0.370)	-0.098 (0.303)	0.413 (0.318)	-0.820† (0.472)	-0.082** (0.022)	-0.107** (0.016)	-0.083** (0.016)	-0.111** (0.017)	-0.013 (0.022)
Midland	-0.499† (0.273)	0.652* (0.311)	-0.375 (0.293)	0.809** (0.297)	0.492 (0.393)	-0.059** (0.019)	-0.057** (0.015)	-0.016 (0.015)	-0.087** (0.016)	-0.054* (0.023)
West	-0.160 (0.266)	0.593* (0.315)	0.059 (0.267)	0.655* (0.294)	0.155 (0.431)	-0.059** (0.019)	-0.063** (0.015)	-0.043** (0.014)	0.069** (0.016)	-0.015 (0.024)
Urban hukou	-1.321** (0.361)	-0.368 (0.302)	0.184 (0.222)	0.540* (0.221)	0.787* (0.340)	0.138** (0.019)	0.120** (0.014)	0.121** (0.012)	0.044** (0.013)	0.026 (0.019)
CCP membership	-0.999* (0.471)	-1.978** (0.706)	-0.339 (0.531)	-1.848** (0.595)	-0.201 (0.805)	0.021 (0.025)	0.024 (0.023)	0.003 (0.026)	0.053* (0.024)	-0.026 (0.036)
Han ethnicity	-0.019 (0.373)	0.464 (0.416)	-0.490† (0.284)	-0.744** (0.246)	0.467 (0.496)	0.008 (0.027)	0.010 (0.020)	-0.003 (0.018)	-0.021 (0.019)	-0.033 (0.028)

Table 2 (cont'd). Cure model assessing the timing and eventuality of first marriage for males by selected variables

	Likelihood of never marrying					Timing of first marriage				
	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989
Father's education (Ref.: No education)										
Primary	-0.627* (0.306)	-0.174 (0.252)	-0.213 (0.214)	0.103 (0.223)	-0.245 (0.395)	0.035* (0.017)	0.005 (0.012)	0.005 (0.012)	-0.016 (0.014)	0.004 (0.028)
Middle	0.784 (0.551)	-0.133 (0.492)	-0.905* (0.390)	-0.105 (0.307)	-0.903† (0.497)	-0.021 (0.035)	0.016 (0.022)	0.020 (0.018)	0.004 (0.018)	0.041 (0.031)
High school+	0.060 (0.735)	-2.691** (1.05)	0.363 (0.376)	0.215 (0.327)	-1.020† (0.545)	0.081* (0.041)	0.080** (0.030)	-0.029 (0.021)	-0.005 (0.020)	0.039 (0.032)
Mother's education (Ref.: No education)										
Primary	-0.162 (0.559)	0.130 (0.346)	0.308 (0.232)	-0.267 (0.226)	0.366 (0.358)	0.055* (0.027)	0.013 (0.015)	-0.000 (0.012)	0.032* (0.013)	-0.018 (0.021)
Middle	1.979** (0.694)	-0.133 (0.940)	0.409 (0.411)	0.318 (0.322)	0.312 (0.460)	-0.034 (0.050)	0.047 (0.033)	0.026 (0.022)	0.027 (0.019)	0.027 (0.024)
High school+	0.229 (1.669)	2.340** (0.679)	-0.111 (0.571)	1.250** (0.361)	0.761 (0.550)	0.051 (0.075)	-0.008 (0.032)	0.076** (0.028)	0.011 (0.024)	0.036 (0.029)
Constant	-2.462** (0.423)	-3.467** (0.502)	-1.751** (0.389)	-1.626** (0.411)	-0.738 (0.696)	0.727** (0.044)	0.234** (0.039)	0.074* (0.037)	0.008 (0.044)	-0.515** (0.081)
Shape										
Constant	2.166** (0.024)	2.664** (0.023)	2.705** (0.023)	2.756** (0.029)	3.036** (0.057)					

Interpretation: In the section on marriage likelihood, a positive coefficient indicates that the independent variable increases the chances of non-marriage; in the section on marriage timing, a positive coefficient indicates that the independent variable increases the waiting time till marriage occurs, i.e. it delays marriage entry.

Notes: Standard errors are shown in parentheses. Non-mixed gamma cure models provide the best fit of the data for most male and female cohorts, except for the 1960–1969 male cohort, where a non-mixed log-normal cure model provides the best fit. To facilitate comparison across both sexes and birth cohorts, Tables 3 and 4 present only the model estimates for non-mixed gamma cure models. The use of log-normal models and gamma models has little impact on the parameter estimates. Estimates from log-normal models are available upon request.

Coverage: Respondents to all six waves of the CGSS (N = 50,510).

Statistical significance: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

Source: Author's calculations based on pooled waves of the Chinese General Social Survey (CGSS) for the years 2006, 2008, 2010, 2011, 2012, and 2013.

Table 3. Cure model assessing the timing and eventuality of first marriage for females by selected variables

	Likelihood of never marrying					Timing of first marriage				
	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989
Years of education	-0.134** (0.045)	-0.202** (0.049)	-0.128** (0.039)	0.005 (0.052)	-0.297** (0.091)	0.024** (0.002)	0.021** (0.002)	0.017** (0.002)	0.017** (0.002)	0.035** (0.003)
Enrolment						0.106** (0.028)	0.069* (0.030)	0.019 (0.014)	0.068** (0.014)	0.104** (0.016)
Region (Ref.: Eastern coastal)										
Beijing, Shanghai, and Tianjin	0.089 (0.511)	-0.180 (0.639)	-0.013 (0.526)	1.462** (0.417)	2.403* (0.985)	0.019 (0.028)	0.036 (0.023)	0.006 (0.020)	-0.066** (0.022)	-0.036 (0.035)
North and Northeast	-0.860 (0.545)	-0.107 (0.504)	-0.139 (0.423)	-0.594 (0.464)	-0.231 (0.819)	-0.018 (0.028)	-0.071** (0.021)	-0.075** (0.016)	-0.079** (0.019)	-0.080** (0.026)
Midland	-0.524 (0.435)	-0.367 (0.464)	-0.068 (0.435)	-1.066* (0.477)	-1.049 (0.913)	-0.027 (0.025)	-0.038* (0.020)	-0.018 (0.016)	-0.010 (0.018)	-0.026 (0.028)
West	-0.954 (0.462)	-0.941† (0.518)	0.339 (0.384)	-0.082 (0.431)	-1.515 (0.994)	-0.066** (0.025)	-0.064** (0.021)	-0.086** (0.016)	-0.073** (0.019)	-0.061* (0.030)
Urban hukou	-0.004 (0.374)	-0.349 (0.455)	0.671† (0.354)	-0.522 (0.379)	-0.073 (0.706)	0.023 (0.019)	0.061** (0.017)	0.033* (0.014)	0.05** (0.016)	0.005 (0.022)
CCP membership	-1.623 (1.343)	2.123** (0.733)	0.318 (1.246)	0.057 (0.733)	-7.007 (8.910)	0.093 (0.058)	-0.092* (0.041)	-0.021 (0.061)	-0.009 (0.043)	0.128 (0.100)
Han ethnicity	-0.753 (0.534)	-1.721** (0.457)	-0.590 (0.400)	-0.616 (0.424)	-0.628 (0.994)	0.048 (0.031)	0.094** (0.024)	0.028 (0.018)	0.023 (0.021)	0.021 (0.035)

Table 3 (cont'd). Cure model assessing the timing and eventuality of first marriage for females by selected variables

	Likelihood of never marrying						Timing of first marriage					
	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989	1990–1999	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989	1990–1999
Father's education (Ref.: No education)												
Primary	-0.409 (0.410)	0.218 (0.382)	-0.285 (0.332)	-0.501 (0.394)	0.158 (0.817)	0.037† (0.020)	0.023 (0.015)	0.026* (0.013)	0.032† (0.017)	-0.004 (0.031)		
Middle	1.171† (0.663)	0.504 (0.629)	-0.029 (0.462)	-0.845† (0.483)	-0.778 (0.948)	-0.032 (0.040)	0.038 (0.025)	0.030† (0.018)	0.049* (0.020)	0.043 (0.032)		
High school+	0.237 (1.057)	0.751 (0.804)	-0.460 (0.598)	0.139 (0.518)	0.903 (0.938)	0.030 (0.055)	0.013 (0.033)	0.062** (0.023)	0.019 (0.023)	0.009 (0.034)		
Mother's education (Ref.: No education)												
Primary	0.399 (0.610)	0.392 (0.493)	0.204 (0.360)	0.066 (0.358)	-0.271 (0.714)	-0.007 (0.031)	-0.016 (0.019)	-0.004 (0.014)	0.005 (0.015)	-0.014 (0.025)		
Middle	-0.883 (1.691)	0.686 (0.997)	1.111† (0.497)	0.548 (0.468)	0.418 (0.777)	0.084 (0.074)	-0.038 (0.038)	-0.020 (0.021)	-0.003 (0.020)	0.005 (0.027)		
High school+	2.190 (1.260)	1.086 (0.120)	0.447 (0.868)	0.595 (0.546)	-1.470 (1.407)	-0.055 (0.087)	-0.014 (0.047)	-0.023 (0.032)	0.001 (0.026)	0.070* (0.035)		
Constant	-3.679** (0.628)	-3.011** (0.574)	-3.967** (0.543)	-3.977** (0.661)	-2.104† (1.242)	0.521** (0.051)	0.259** (0.042)	-0.027 (0.039)	0.001 (0.049)	-0.100 (0.088)		
Shape												
Constant	2.183** (0.025)	2.484** (0.025)	2.723** (0.024)	2.696** (0.028)	2.663** (0.050)							

Interpretation: In the section on marriage likelihood, a positive coefficient indicates that the independent variable increases the chances of non-marriage; in the section on marriage timing, a positive coefficient indicates that the independent variable increases the waiting time till marriage occurs, i.e. it delays marriage entry.

Notes: Standard errors are shown in parentheses. Non-mixed gamma cure models provide the best fit of the data for most male and female cohorts, except for the 1960–1969 male cohort, where a non-mixed log-normal cure model provides the best fit. To facilitate comparison across both sexes and birth cohorts, Tables 3 and 4 present only the model estimates for non-mixed gamma cure models. The use of log-normal models and gamma models has little impact on the parameter estimates. Estimates from log-normal models are available upon request.

Coverage: Respondents to all six waves of the CGSS (N = 50,510).

Statistical significance: † p < 0.10, * p < 0.05, ** p < 0.01.

Source: Author's calculations based on pooled waves of the Chinese General Social Survey (CGSS) for the years 2006, 2008, 2010, 2011, 2012, and 2013.

Conclusion

This study outlines the long-term changes in first-marriage patterns in China. The results show that marriage delays among those born during the 1950s were followed by a shift towards earlier marriage among cohorts born a decade later. Age at marriage increased again among younger cohorts born in the 1970s and 1980s. Cohort changes in marriage timing echo the fluctuation in period mean ages at first marriage during the 1970s and the early 1980s and ‘the re-emergence of later marriage’ in the reform era (Cai and Wang, 2004). The prevalence of marriage in China has remained high despite changes in marriage timing. Nevertheless, the occurrence of non-marriage is more prevalent among men. Additionally, for both men and women, lifelong singlehood is predicted to increase among younger cohorts born in the 1970s and 1980s.

This study further highlights distinct factors influencing marriage timing and propensity in China. The results show that, for men, later marriage is associated with higher educational attainment, urban *hukou*, and residence in more developed regions. However, as an important indicator for men’s socioeconomic status, higher educational attainment ultimately improves men’s marriage chances among most male cohorts, whereas having an urban *hukou* and urban residence improved men’s likelihood of marriage only among earlier cohorts. Interestingly, communist party membership does not significantly influence men’s timing of marriage entry despite the later marriage requirements to which party members must strictly adhere. Instead, for most male cohorts, party membership significantly improves men’s likelihood of marriage.

Similar to men, later marriage among most female cohorts is also linked to higher education, urban *hukou*, and residence in eastern coastal regions. Higher educational attainment is shown to promote women’s likelihood of marriage despite its association with later marriage. This finding provides support for the marriage-search theory, which suggests that women’s higher educational attainment enables a prolonged search for an ideal spouse. Yet, as an important indicator for a woman’s earning potential and cultural status, education may ultimately increase women’s chances of marriage.

Among younger female cohorts, residence in China’s metropolitan cities is observed to be a significant factor in reducing women’s likelihood of ever marrying. This finding draws attention to a segment of the female population most at risk of lifelong singlehood, i.e. less educated women living in China’s metropolitan cities. Using data from the 2005 mini-census, Yu and Xie (2015) observed that, among urban women born after 1974, those with only primary school education have a faster progression towards first marriage, although the proportion of singles levels off at much earlier ages compared to women with higher education. The chances of lifelong singlehood among this group of women could be higher. Future studies are warranted for gaining a better

theoretical understanding of the factors associated with marriage propensity among younger generations of Chinese women.

It is important to acknowledge the limitations of this study. First, its explanatory variables are far from exhaustive. Due to data limitations, this study did not include an individual's labour market participation, earnings, and migration experiences—all of which may have significant effects on first-marriage timing and propensity. Second, the motivation for adopting cure models in the present study has less to do with the high occurrence of lifelong singlehood in China than with the recognition that different factors are associated with marriage delays and lifelong singlehood, particularly in a society that highly values marriage. However, the low occurrence of female non-marriage in China (especially among the earlier birth cohorts) decreases the statistical power of the models, as reflected by there being few factors with statistically significant effects on women's marriage propensity. Distinguishing marriage timing from marriage likelihood yielded more significant results for men than for women, due to the higher occurrence of non-marriage among men. Nonetheless, as non-marriage increases among younger generations of men and women, the use of cure models may become increasingly important in the study of marriage determinants in China.



APPENDIX

Table A.1. Descriptive statistics of main predictors of marriage timing and propensity by sex and birth cohort

	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989
Males					
Years of education (mean)	6.9	8.3	9.6	10.5	12.1
Currently enrolled (%)	1.5	0.6	1.4	1.5	11.2
Region (%)					
Beijing, Shanghai, Tianjin	12.1	14.1	10.4	10.0	17.2
Eastern coastal	20.8	20.6	21.5	23.3	24.7
North and Northeast	15.4	17.8	17.7	18.6	18.5
Midland	26.6	23.6	23.2	20.0	16.3
West	25.1	23.9	27.3	28.1	23.3
Urban <i>hukou</i> (%)	40.3	41.4	40.7	46.3	52.6
CCP membership (%)	10.6	8.5	5.1	8.7	7.5
Han ethnicity (%)	93.3	93.2	92.0	92.0	91.3
Father's education (%)					
No education	61.4	51.6	36.7	21.3	7.0
Primary school	30.3	35.2	40.8	41.1	28.9
Middle school	4.0	7.6	12.8	21.0	33.2
High school and above	4.3	5.6	9.7	16.6	30.9
Mother's education (%)					
No education	87.1	77.1	61.9	41.7	18.5
Primary school	10.0	17.7	26.9	36.9	32.7
Middle school	1.8	3.0	6.8	13.4	27.9
High school and above	1.2	2.3	4.5	8.0	20.9
Number of observations	5,121	5,109	5,705	4,948	3,691

Table A.1 (cont'd). Descriptive statistics of main predictors of marriage timing and propensity by sex and birth cohort

	1920–1949	1950–1959	1960–1969	1970–1979	1980–1989
Females					
Years of education (mean)	4.6	6.2	8.1	9.4	11.5
Currently enrolled (%)	1.1	0.4	2.1	2.4	12.7
Region (%)					
Beijing, Shanghai, Tianjin	15.2	15.4	10.4	9.5	15.4
Eastern coastal	19.9	19.7	20.6	22.1	24.1
North and Northeast	16.3	18.2	18.4	18.4	19.9
Midland	23.3	23.8	25.1	22.4	18.1
West	25.3	23.0	25.5	27.6	22.6
Urban <i>hukou</i> (%)	36.9	39.5	37.2	39.8	46.2
CCP membership (%)	2.5	2.4	0.9	1.7	5.3
Han ethnicity (%)	92.9	93.4	92.0	91.3	90.6
Father's education (%)					
No education	64.1	51.6	39.9	22.3	9.6
Primary school	28.1	34.5	37.0	40.1	28.5
Middle school	4.4	8.1	13.4	22.8	33.4
High school and above	3.3	5.8	9.7	14.8	28.5
Mother's education (%)					
No education	87.9	76.7	63.7	43.2	21.1
Primary school	9.7	17.5	25.1	36.8	32.7
Middle school	1.6	3.6	7.2	13.3	28.5
High school	0.8	2.3	4.0	6.7	17.6
Number of observations	4,849	5,172	6,043	5,691	4,181
<i>Note:</i> Measured at the time of first marriage or censoring.					
<i>Coverage:</i> Respondents to all six waves of the CGSS ($N = 50,510$).					
<i>Source:</i> Author's calculations based on the 2006, 2008, 2010, 2011, 2012, and 2013 rounds of the CGSS.					

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Kim Qinzi Xu • CHANGING PATTERNS AND DETERMINANTS OF FIRST MARRIAGE OVER THE HISTORY OF THE PEOPLE'S REPUBLIC OF CHINA

Throughout the history of the People's Republic of China, age at marriage has increased as a result of state policy intervention and socioeconomic changes, although the popularity of marriage remains undiminished. At the same time, concern is growing over forced lifelong singlehood among segments of the population, which is due to a sex ratio imbalance in the marriage market and gender differentiation in mate preferences. Few empirical studies have examined the factors that likely influence the timing and propensity of marriage. To address that research gap, this study adopts cure survival analysis to jointly model the determinants of first-marriage likelihood and timing. Data from multiple rounds of the Chinese General Social Survey are used to assess changes in marriage over successive birth cohorts. The results suggest that, among most male and female cohorts, a lower level of education is linked with younger ages at marriage, although with lower chances of ever marrying. For younger male cohorts, residence in less developed provinces is found to be associated with earlier marriage entry but reduced marriage likelihood. Among younger female cohorts, living in metropolitan cities stands out as the most important factor in reducing marriage propensity.

Keywords: marriage, China, cohort, cure survival models, split-population survival models

