

Observing the Transformation of China's First Marriage Pattern through Net Nuptiality Tables: 1982-2010

YAN WEI, School of Public Management, Xi'an University of Finance and Economics, China

QUANBAO JIANG, Institute for Population and Development Studies, School of Public Policy and Administration, Xi'an Jiaotong University, China

STUART BASTEN, Department of Social Policy and Intervention, University of Oxford, United Kingdom

Abstract

Using data from several censuses in China, including the newly released 2010 data, this study constructs net nuptiality tables as an analytical instrument to descriptively analyse the shape of China's first marriage pattern from 1982 to 2010, including the age-specific probabilities of first marriage, the percentage of remaining single by age, and number of years remaining single by age for both males and females. Our analysis reveals that while age-specific probabilities of first marriage have significantly declined for females during the past three decades, such probabilities for males have declined much less. The percentage remaining single below age 30 has increased up to 2010. At age 50 the proportion is 4.6 percent for males, while that for females is just one percent. Patterns of singlehood have also changed at younger ages, with an ever increasing period of singlehood, especially for males.

Key words: First marriage pattern, net nuptiality, first marriage probabilities, China

Background

The Chinese system of marriage is generally characterised by a number of set features. Firstly, it is generally suggested that marriage in China is, and has been, nearly *universal* (e.g. Barclay, Coale, Stoto and Trussell 1976; Smith 1980). Secondly, the Chinese marriage pattern has generally been characterised by *early* marriage. This is a feature which has certainly changed over recent decades, with age of marriage increasing in a near linear fashion (Wang and Yang 1996; Pimentel 2000; Tien 1983). Thirdly, female *hypergamy*, or an upward gradient to men whose age, wealth and education etc., appears to be a particular feature (Croll 1981). Despite this, Li and Lu (2008) suggest that recent patterns of marital homogamy – or equality in terms of *hukou* (household registration) type, educational attainment, and career status between husband and wife – has increased. Mu and Yu (2011) examined China's marital age homogamy

and found that large age differences between spouses have been associated with more patriarchal family systems and less spousal intimacy. They predicted that there are good reasons to expect this trend of increasing age homogamy to continue. This leads to the fourth consideration, namely the *marriage squeeze* in China owing to skewed sex ratios at birth and a so-called generation of excess males (Basten 2012; Guilmo 2012; Trent and South 2011). The important corollary to the ‘excess males’ is the issue of the *sheng nu* or so-called ‘leftover women’, who are characterised as urban, educated, professional females who eschew marriage until a later age and then struggle to find a partner (To 2013). Finally, marriage in the Chinese setting is viewed as being a necessary *precursor to family formation*. The precepts of the Second Demographic Transition of relatively high rates of extra-marital fertility are still very much nascent in China (Glick 1947, Hemminki, Wu, Cao, and Viisainen 2005; Lesthaeghe 2010).

Analysing these five characteristics of marriage is crucial to understanding not only the nature of marriage system(s) in China today, but also to picturing how future trends might develop, thus impacting upon related issues such as fertility, ageing and welfare. In order to do this, a series of demographic measurements must be taken. Because of a general lack of data availability for China, most existing studies of the pattern of first marriage concentrate on the average age at first marriage, the age gap between wife and husband, and other summary measurements. Either through utilising the census data (Zeng 1992; Guo 2003), fertility rate sampling survey data (Chen 1991; Coale et al. 1991; Ye 1992; Yang 1994), or a combination of the above (Banister 1984; Guo and Deng 2000), scholars reached a general consensus on the following three points concerning the national marriage pattern. Firstly, women generally marry within the age range of 20 to 25, and most of them marry before the age of 29. The proportion of men remaining single is higher than that of women in the above average age group – likely due to the ‘marriage squeeze’. Secondly, because of the promulgation of the Marriage Law issued in 1981, which set the minimum legal marriage age as 22 for males and 20 for females, the first marriage age in the 1980s is higher than that in the 1970s, and generally rose through the 1990s. Finally, the age gap between males and females is generally such that the husband is between one year younger and four years older than his wife. Despite these important empirical findings, however, these studies apply simplistic approaches to patterns of first marriage by taking only index measurements. As such, it is quite impossible to further explore the complex changes and characteristics of the first marriage pattern.

Since the early 1980s, some scholars have employed census data in an attempt to construct nuptiality tables in order to more closely scrutinise the characteristics of the Chinese pattern of first marriage. The nuptiality table is considered to be an appropriate method to investigate trends and changes in marriage and can generally be divided into two categories, namely the gross nuptiality table and the net nuptiality table (Shryock et al. 1973). Both are similar in construction to life tables which are more generally used

to indicate mortality measurements. The gross nuptiality table, like the conventional life table, is a single decrement table which takes into consideration marriage as the only cause of decrement. The net nuptiality table is a so-called double decrement table which takes into account both marriage and death as causes of decrement.

As discussed above, most previous studies have employed only summary data in the analysis of the Chinese marriage pattern (Huang 1995; Wang 1985; Huang 1987), despite the benefits of using nuptiality tables (Wei and Huang 1984). However, a few exceptions exist. Zeng (1987), for example, used multiple increment and decrement nuptiality tables to analyse the marital status of Chinese women in the 1950s 1960s, and 1970s and in the early 1980s. Jiang et al. (2012), meanwhile, used nuptiality tables and a ‘marriage squeeze model’ to simulate the future marriage market. Though a few studies used nuptiality tables to analyse the first marriage pattern, they are mainly concerned with the nuptiality market in, and before, the 1980s.

Making use of data from China’s 1982, 1990, 2000, and the newly released 2010 census, this study constructs net nuptiality tables for males and females from 1982 to 2010. These tables are then presented as an analytical instrument to analyse and explore trends in the pattern of first marriage in the past thirty years.

Methods and data

The life table in its classical form shows the probability that a person of a given age will die before his or her next birthday. If we define the state we are interested in as “never married” rather than “alive”, and replace the mortality functions with nuptiality functions, we get the single decrement nuptiality table or the gross nuptiality table. Furthermore, if we take both death and first marriage as two exit modes from the cohort, we can construct the double-decrement nuptiality table. Detailed methods about the construction and computation of nuptiality tables have been outlined elsewhere (e.g. Shryock et al. 1973). We synthesise the extant construction of the nuptiality table to take both the first marriage and mortality data into consideration.

We restrict our analysis to first marriages of both men and women from age fifteen to fifty years old. A person who has never married before the age of fifty is regarded as life-long never married in demography (United Nations 1990). In the 1980s, the number of people who married outside the age range from 15 to 50 accounted for less than one in ten thousand of all who entered marriage (Wang 1995).

The mortality data are derived from the life tables constructed using the four-census dataset. The life tables for 1982 and 1990 are taken from Huang and Liu’s (1995) male and female life tables generated from the 1982 and 1990 censuses, and we have calculated male and female life tables in 2000 and 2010 using the census data from those years. The age-specific marriage and never married data are taken from the four-census dataset

(The State Council Census Office and The National Bureau of Statistics Population and Social Science Technology Statistics Division 1983; 1991; 2002; 2012).

There is a large literature which analyses the data quality of China's census. In particular, widespread under-registration of children – and females in particular – has been reported (Cai and Lavelly 2003; Goodkind 2004; Johansson and Nygren 1991; Lavelly 2001; Merli 1998). As we censor under-15s from our analysis, much of the missing population issue should be mitigated. Despite this, the results should be treated with some caution. Indeed, given that the estimates of under-reporting vary greatly, we felt it would be inappropriate to perform any kind of correction exercise to the data.

Results

Below, we extract the core indices in the nuptiality tables that were constructed to demonstrate the trends and characteristics of the Chinese first marriage pattern, including the age-specific probabilities of first marriage, the percentage of remaining single by age, and the number of years remaining single by age.

First Marriage Probability

Figure 1 presents the age-specific probabilities of first marriage of both men and women 1982-2010. Generally, the age-specific first marriage probabilities decline significantly for women over these four censuses. The peak probability of female first marriage is 0.78 in year 1982, which then falls rapidly down to 0.26 in 2010. The Male peak probability of first marriage also falls correspondingly from 0.38 to 0.22. This implies that all peak probabilities of first marriage are postponed and the age of the first marriage is increasingly delayed over time. With regard to shifts in the peak age of marriage for women, we must take care in interpreting the 1982 peak at 30 which may be an effect of the data used. Even despite this, there is no clear trend in the shifting of female peak marriage ages between the censuses.

Comparing Figure 1(a) and 1(b) shows that the probability for women getting married is much higher than that of men, even at older ages. However, the probabilities have fallen sharply for women between the censuses – for example a shift from a probability of 0.36 aged 21 in 1982 to 0.12 by 2010.

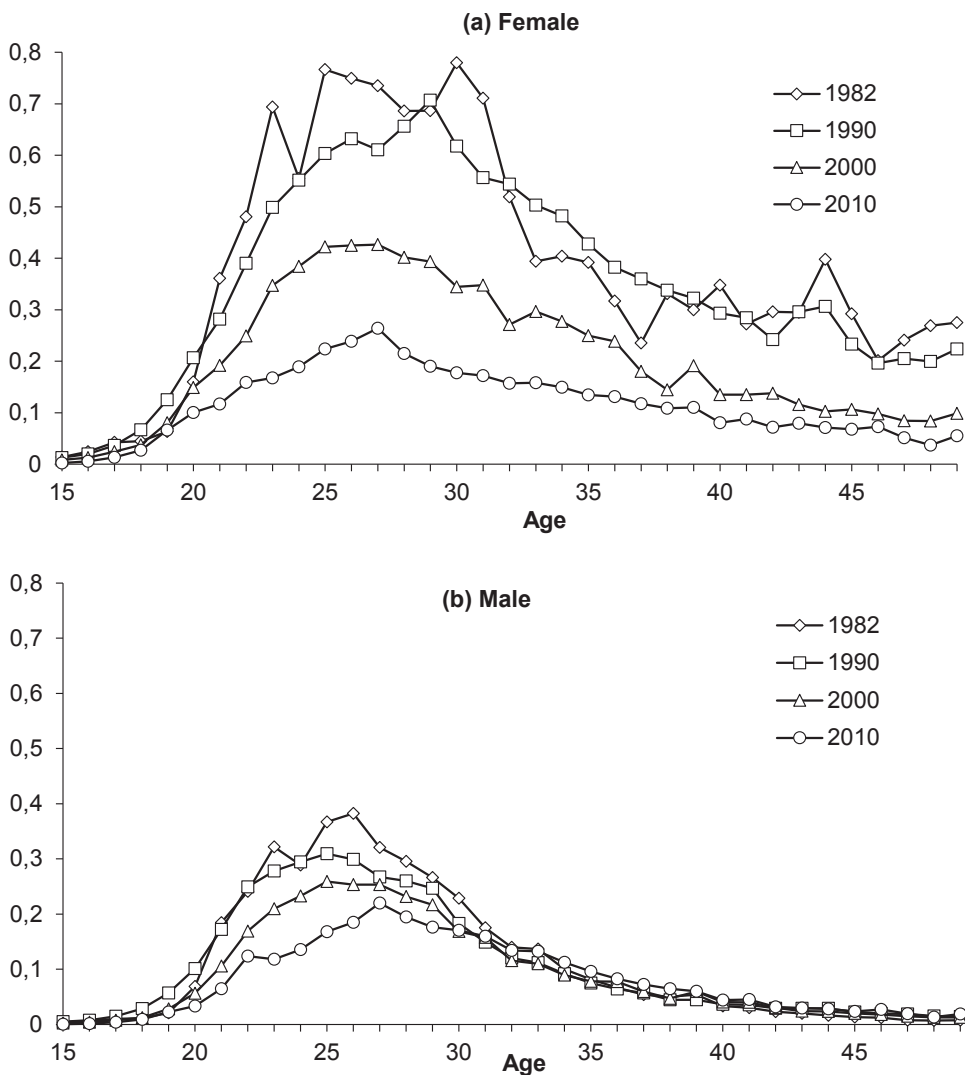


Figure 1. Age-specific probabilities of first marriage 1982-2010

Men's first marriage probability before year 2000 spans in the low and narrow level. It reaches 0.2 at the age of 23 and remains only just to 30, falling rapidly to below 0.1 after the age of 35. These results indicate that women keep a higher marriage probability throughout the long age span, whereas the probability of men's marriage declines with age.

Proportion Remaining Single

Through nuptiality tables we can calculate the percentage of the cohort remaining single for males and females by age. As Figure 2 demonstrates, over time the curve of the proportion remaining single moves rightward, which means that over time the percentage of never married persons by a certain age increases, and first marriage is being postponed.

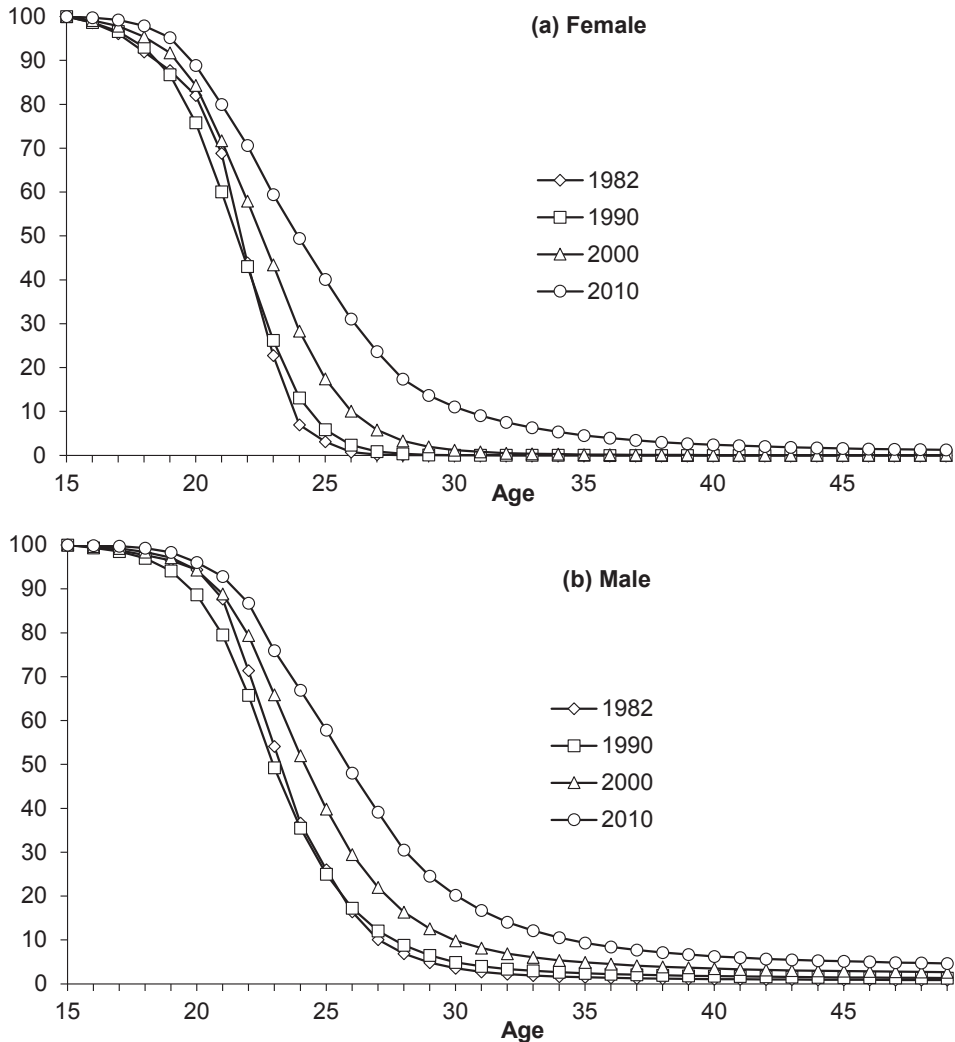


Figure 2. Percentage remaining single by age 1982-2010

Take the age 30, for example. In 1982, the proportion of females who were single by age 30 was 0.0045 percent and it increased to 0.033 percent in 1990, to 1.20 percent in 2000, and further to 11.05 percent in 2010. For males, the percentage of never married by 30 was 3.53 percent in 1982, 4.89 percent in 1990, 9.81 percent in 2000, and 20.18 percent in 2010.

The percentage of remaining single by 50 years old was negligible in 1982 and 1990; in 2000, the proportion of remaining never married by 50 was 0.018 percent, and it increased to 1.16 percent in 2010. For men, the proportion remaining single by 50 is 0.86 percent, 1.31 percent 2.62 percent, and 4.56 percent in 1982 1990 ,2000, and 2010 respectively.

Number of years remaining single by age

The number of years remaining single refers to the average years of being single that males and females would expect to spend at a certain age before marriage or death. As Figure 3 shows, the curve moves upward over time, indicating the increasing number of years being single at a certain age for females. This, however, is not reflected to the same extent for males.

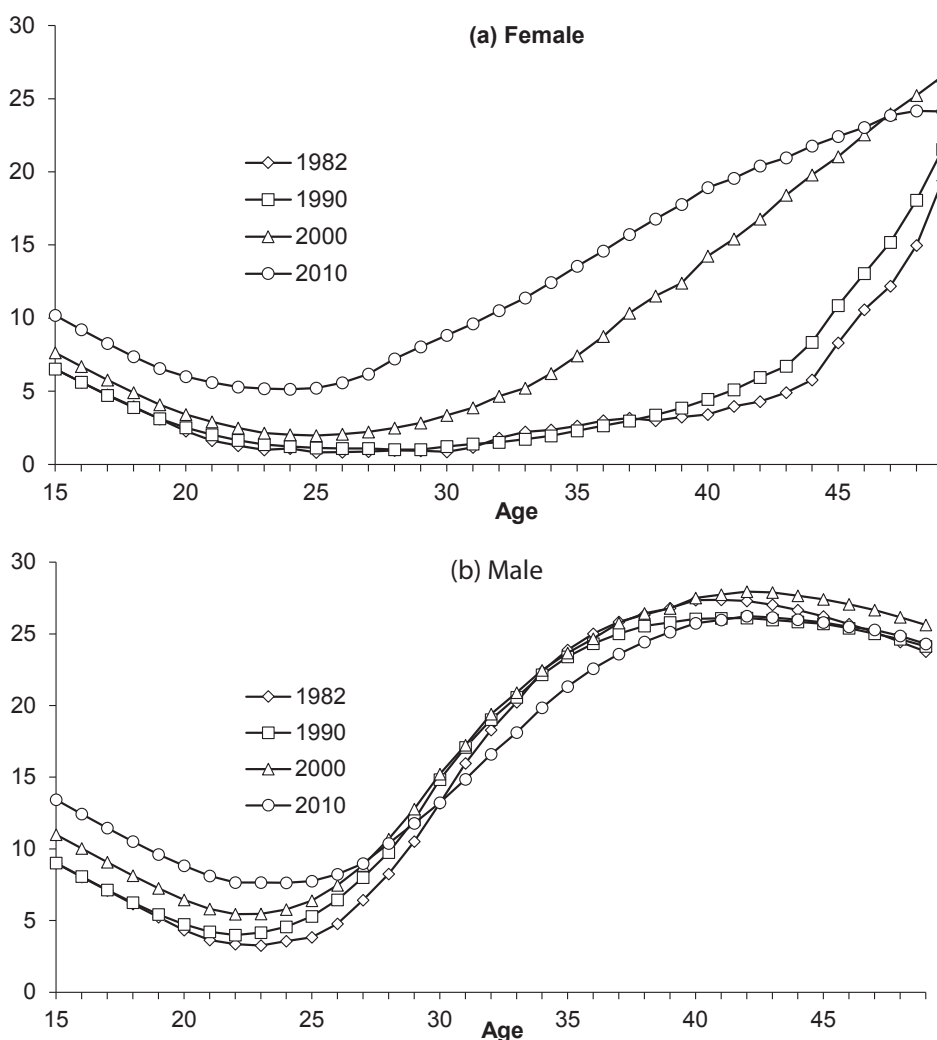


Figure 3. Number of years remaining single by age 1982-2010

As Figure 3 shows, the number of years remaining never married at aged 15 was 6.53 years in 1982, 6.53 years in 1990, 7.63 years in 2000, and 10.19 years in 2010. Before the age of 30, the curves for 1982 1990 2000 show great similarity, indicating that during those years, females at a certain age before 30 spent almost the same number of years single. However, the 2010 curve shows a big jump, indicating a large delay of first marriage among people of different ages.

The curves for both men and women exhibit an increased number of years being single at a certain age before turning 25 years in the 2010 data compared with earlier years. A comparison between Figures 3(a) and 3(b) suggests that at a certain age the number of years of being single for females is smaller than that for males.

Conclusions

Based on data from the past four population censuses, this paper constructed a net nuptiality table of China's first marriage patterns over the past three decades. Using the multi-dimensional indices presented here, our data suggest that China still represents a society of *near universal marriage*. Despite this, there is a remarkable difference in the first marriage pattern between women and men in China. Women's age-specific probabilities of first marriage have declined sharply in recent years, although the same probabilities are generally lower for men than women. The proportion of single people has increased for both sexes as the result of delay of marriage and the drop of the first marriage frequency. Nevertheless, the proportion of unmarried women in their 40s remains relatively low (around 1 percent in 2010), which suggests a universal marriage pattern for females in China. The proportion for unmarried men in their 40s has increased from around 1 percent in 1982 to about 4 to 5 percent in 2010.

Our analysis also shows that the percentage of single women drops quickly with age, but that this decline has become shallower between censuses. Furthermore, the number of years remaining single at a given age has increased notably for women, while the proportion remaining single and the number of years remaining single for males have changed relatively little. This results in a narrowing gap between males and females in first marriage patterns.

We hope to have demonstrated that the use of more sophisticated tools can present a more comprehensive and nuanced picture of first marriage in contemporary China, and how this appears to have changed over the past three decades.

The paper has a number of limitations. Firstly, owing to lack of available data we were not able to differentiate between marriage patterns in rural and urban areas or to take into account other socio-economic factors such as education. As outlined in the Introduction, these factors are clearly highly significant. Moreover, the vast heterogeneity of China is important. Rural people, for example, usually get married earlier

than their urban counterparts. People in the developed eastern provinces enjoy marital advantages over those in the poorer, western areas where the ‘marriage squeeze’ is more acute, especially among economically disadvantaged males.

Secondly, this study only investigated changes in the *first* marriage pattern and did not examine the growing phenomena of divorce and remarriage (Ye and Lin 1998). In 2010, the total number of divorced couples ratified by the Court and the Civil Affairs Department was 2.678 million (Jia 2012), while the number of remarriages in 2005 rose to 1.631 million (Zhang 2008). Clearly, divorce and remarriage are important factors in the study of Chinese marriage, and will become ever more so. Thus it will be necessary to develop multiple increment-decrement nuptiality tables to investigate this further.

Finally, without access to micro-data we were not able to explore in depth such factors affecting first marriages in recent decades as level of development or the birth control policy. One especially interesting question for future research concerns the interaction between changing patterns of marital hypergamy and the skewed sex ratio in China.

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