

Is There a Chinese Model of the Second Demographic Transition?

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Abstract

The “Second Demographic Transition” (SDT) is a useful theoretical framework for explaining the recent trend in many countries of very low fertility combined with different union and family types. Although past studies have observed the SDT in many Western societies, whether it is applicable to East Asia remains unclear. Capitalizing on data from the Chinese Census and China Family Panel Study, we provide estimates of key SDT indicators. We find that union formation in China has trended increasingly towards patterns commonly observed in the West, including delayed ages of marriage and common practices of premarital cohabitation. Despite below-replacement fertility, childlessness remains rare among married Chinese couples. In addition, almost all children are born and raised within marriage, with a virtual absence of nonmarital childbearing in China. Although we observe a slight increase in divorce across cohorts, the divorce rate within 10 years in China was much lower than in other East Asian societies. Our research suggests that the pace and magnitude of family changes that commonly characterize the SDT may vary significantly with social context, especially for a society like China that has been heavily influenced by Confucian culture.

Is There a Chinese Model of the Second Demographic Transition?

1. Introduction

In the past century, the First Demographic Transition (FDT)—declines in mortality followed by declines in fertility—has swept through most societies in the world. Driven primarily by economic development, the FDT was viewed as inevitable, unilinear, and irreversible (Casterline 2003). When the FDT theory was first proposed, it was predicted that fertility decline would stop at replacement level so that a population would remain stationary thereafter (Lee 2003). However, sustained below-replacement-level fertility has been observed in Western and Northern European societies since the 1970s, and several new pathways to family formation became prevalent, such as premarital cohabitation and nonmarital childbearing. To understand these newly emerging demographic phenomena, Lesthaeghe and van de Kaa (1986) proposed the Second Demographic Transition (SDT) theory. Unlike the FDT, which is driven primarily by industrialization and economic development, the emerging family behaviors of the SDT are explained by ideological and behavioral changes at the societal level such as the acceptance of individualism and non-marital sex (Lesthaeghe 2010).

The notion of an SDT has been under debate since its inception. Some scholars contend that the SDT is merely a continuation of the classic demographic transition, and that the newly observed demographic developments are secondary features of the FDT (Cliquet 1992; Coleman 2004). In addition, other scholars believe that the SDT is archetypical of

Western European (including Canadian and Australian) societies but would not spread to the United States or Southern, Central, or Eastern Europe, let alone to Asia (Lesthaeghe, 2010). In response, Lesthaeghe (2010) argued that the driving forces of the SDT were different from those of the FDT, with ideational factors and women's empowerment being particularly important.

The SDT can also be distinguished from the FDT by its multifaceted manifestations. Beyond fertility, the SDT entails multiple family-related behaviors that are radically different from traditional practices of marriage and childbirth. For the applicability of the SDT framework, recent empirical studies have revealed that the SDT exists in the US, Eastern Europe, and South America (Esteve, Lesthaeghe, and López-Gay 2012; Lesthaeghe 2010; Lesthaeghe and Neidert 2006; Rotariu 2006; Zakharov 2008). Due to data limitation, studies of the SDT in East Asian societies remain limited to date. Scholars usually pay attention to one or two indicators of the SDT, and no study has yet provided a quantitative assessment of all indicators of the SDT in an East Asian country (Raymo et al. 2015).

China has completed the First Demographic Transition over the past decades (Cai 2010; Wang 2011). As a result of improved health, for example, the life expectancy in China significantly increased from 42.2 for males and 45.6 for females in 1950 to 74.6 and 78.4 years old respectively in 2010 (Cai 2013; Wang 2011). Largely a result of the government's family planning policy that began in the early 1970s, fertility rate declined from 5.8 in 1970 to 2.8 in 1979 (Banister 1987; Lavelly and Freedman 1990). In 1980, the Chinese government formally launched the One-Child Policy, pushing the fertility rate further down, below replacement level since the early 1990s (Wu 2010). Along with the FDT, China also

underwent many new family changes associated with the SDT: a delay in first marriage age, an increase in pre-marital cohabitation, and a rise in divorce rate (Mu and Xie 2014; Wang and Zhou 2010; Zeng and Wang 2000; Yu and Xie 2015a). However, some signature elements of the SDT have not been explored in China, most significantly nonmarital childbirth and childless families. In this paper, capitalizing on the Chinese Census and nationally representative survey data, we contribute to the literature by providing an overall assessment of the SDT in China. Moreover, situating our study in China, an East Asian society with a long tradition of Confucianism and a socialist political system, so as to have a Chinese model of the SDT, we ask whether or not trajectories of the SDT may vary depending on cultural and political contexts.

2. The Chinese Family in Transition

(1) The Historical Chinese Family

In traditional Chinese society, the family was of paramount importance. It was the social institution for a multitude of activities, including economic production, marriage, reproduction, education, elder care, and many other aspects of everyday life (Ebrey 2003; Ebrey 2014; Fei 1946; Whyte 1996; Whyte 2005). As a collectivity, the family, in its extended family and family clan forms, also served as a major social organization mediating between the individual and the state in ancient China, as it performed such social functions as local administration, jurisdiction over civil disputes, and social services (Dutton 1992; Freedman 1961; Parish and Whyte 1978; Sommer 2000). Gender asymmetry was a prominent feature of the traditional Chinese family. Daughters were only transitory members

of their natal families. After marriage, women belonged to their husband's family (Greenhalgh 1985; Parish and Willis 1993). Below, at the risk of oversimplification, we provide a brief summary of family behaviors in traditional Chinese society in terms of the following four features:

First, the male head of the family lineage had ultimate authority over individual family members in traditional Chinese society (Cohen 1990; Hamilton 1990; Stacey 1983; Zheng 2001). In Confucianism, personal sacrifice for the prosperity of the family was considered a virtue, and the family head carrying the familial lineage was primarily responsible for other family members' behaviors (Earley 1989; Winfield, Mizuno, and Beaudoin 2000). Moreover, the governance of the Chinese empire depended greatly on local family organizations for more than two thousand years (Fei and Liu 1982; Leung and Nann 1995). The family system administered most civil and legal affairs. According to their own family rules, family clans had the right to punish family members, including at rare and extreme circumstances sentencing them to death, without the approval of the local government. As a result, individuals had to obey the arrangements of family clans for their economic activities, social life, and family behaviors in ancient China.

Second, there was a long tradition of early and universal marriage in ancient China (Hajnal 1982; Coale 1992). Marriage was more an institution for the continuation of family lineage than a realization of personal happiness. Thus, almost all marriages in traditional Chinese society were arranged by parents when children were still very young, and love-based matches were not accepted until the modern era (Xu and Whyte 1990). In other words, marriage was not an individual's family behavior, as he/she had little control over when and

whom to marry (Riley 1994). In addition, premarital sexual behavior was strictly prohibited (Wang and Yang 1996; Sommer 2000). Female virginity was highly prized, and in certain extreme cases, women were encouraged to commit suicide for losing virginity before marriage (Theiss 2004).

Third, to continue the bloodline, reproduction was the most important function of the family, especially giving birth to sons (Murphy, Tao, and Lu 2011; Poston 2002). The wife could be legally expelled from the family due to infertility, and men could marry more than once if the first wife did not bear sons (Hong et al. 1993). Having more sons was crucial to Chinese families for several reasons. First, sons could enhance agricultural production by performing farming activities requiring heavy labor (Das Gupta et al. 2003); parents relied on their sons for elderly care (Sun 2002); in addition, there were frequent fights between different family lineages over land, water, and other resources in some Chinese regions, and thus sons were also protective powers for the family (Cohen 1968). A small fraction of ambitious families invested in sons' education so that they might achieve official positions by passing the Imperial Examinations ("Ke Ju") and in doing so promote the upward mobility of the whole family (Miyazaki 1981; Wang 2012).

Finally, women were in a subordinate position in the Chinese family system (Zuo 2009). According to Confucianism, women owed obedience to three rotating male owners ("San Cong"): "As a child, the girl belongs to her father; as a bride, to her husband; when the husband dies, she obeys her sons." In traditional Chinese society, women's activities in a well-respected family were limited within the inner residential quarters (Ebrey 1993). Women could neither receive formal education nor sit for the Imperial Examinations, let alone occupy

important positions in their society (Bernhardt 1999; Hinsch 2010; Wang 1999). Women had no right to initiate divorce, and remarriage of widowed women was discouraged (Mann 1987; Palmer 1995). In sum, Chinese women suffered great disadvantages in education, property ownership, and participation in public affairs.

(2) Changes in the Chinese Family

After the last imperial dynasty, the Qing, was overthrown in 1911, China began to experience multiple social revolutions and transitions, particularly the Republic Revolution in 1911, the Communist Revolution that culminated in the founding of the People's Republic of China in 1949, and the Cultural Revolution between 1966 and 1976. As a result, the traditional functions and authority of the family were deeply eroded by many formal social institutions. The *danwei* system was established soon after the founding of the People's Republic of China in 1949, and it defined the urban citizens' social, economic, and political lives (Walder 1986). On the one hand, workers and their families were dependent upon their *danwei* for material resources; on the other hand, the heads of *danwei* were given the authority to reward and punish *danwei* workers on behalf of the state (Xie, Lai, and Wu 2009). As a mediating collectivity between the state and individuals, *danwei* assumed some of the all-encompassing role of the traditional family in China, as individuals were now less restrained by their families.

Government policy and legislation have influenced Chinese people's family behavior directly. After the Chinese government proposed the family planning policy in the early 1970s, the fertility rate in China quickly began to decline (Cai 2010; Gu et al. 2007).

Combining with the economic development and ideational changes, the One-child Policy

between 1980 and 2013 further reduced fertility to below-replacement levels since 1990 (Cai 2013; Whyte, Wang and Cai 2015). Legal regulations disrupted the early marriage tradition. The first Marriage Law of the People's Republic of China, promulgated in 1950, prescribed the legal marriage age for men and women to be respectively 20 and 18 years old, and marriage to a child bride was forbidden. As a response to the Family Planning Policy, the legal marriage age was later postponed to 22 and 20 years of age for men and women in the revised Marriage Law of 1980. The Marriage Law of the PRC in 1950 also abolished arranged marriages, with love-based matches highly encouraged. Thus, an individual's preference began to play a prominent role in marriage formation (Davis and Friedman 2014). Moreover, this was the first time that all Chinese women had the right to initiate divorce against their husbands, and widowed women were allowed to remarry. The government has also changed treatments of non-traditional family behaviors. For instance, the Chinese Marriage Law of 1980 referred to cohabitation as "illegal cohabitation," whereas a 2001 amendment to the law changed the wording to "non-marital cohabitation" so that the negative implications of cohabitation became neutral.

The rapid economic development spurred by the economic reform since 1978 has ushered in new changes to family structures and individual family behaviors in China. Due to the urbanization that has accompanied economic growth, many rural-to-urban migrants have been physically separated from their parents and now live independently in urban areas. As a result, parents' authority over their children's family lives has been significantly weakened. Without parental supervision, young adults have more freedom to choose lifestyles and experiment with novel behaviors such as premarital sex and cohabitation (Rosenfeld and Kim

2005). In addition, parental influence on individual mate choice has been reduced.

Marketization and rising inequality have changed the economic foundations of marriage in China, and economic prospects have begun to exert a significant influence on marriage entry (Mu and Xie 2014; Yu and Xie 2015b). Thus, marriage has become more of a social privilege than a universal practice common to all. Along with economic development, the introduction of Western ideologies has also altered the traditional ideational basis of the Chinese family. In contrast to the long-lasting collectivism, individualism in China has begun to rise in recent years (Hansen and Svarverud 2013; Yan 2009, 2010). Individual choice is now less subject to traditional norms, as young people increasingly value personal freedom (Davis 2014). As a result, family behaviors have become less vulnerable to the judgments of others, and Chinese people in general have become more tolerant towards traditionally unaccepted behaviors such as premarital sex, cohabitation, and divorce (Farrer 2014).

In fact, even before the economic reform, China's patriarchal and patrilineal family model had been challenged by the empowerment of women. During the Mao era, "Women's Liberation" was one of the most significant social movements advocated by the government, and Chinese women were encouraged to participate in the labor market as breadwinners for the family. The female labor force participation rate in China was one of the highest in the world (Maurer-Fazio et al. 2011). As a result, Chinese women gained economic autonomy within the family and began to reject strong traditional gender role specializations. Women's education has also significantly improved since 1949. In the early stages of the PRC, the Literacy Campaign granted women the opportunity to receive a formal education. In 1956, more than 20 million girls were enrolled in primary school, which was unprecedented in

China's history (Zhang 1984). After the economic reform, education in China experienced further growth, especially in terms of college expansion around 2000. According to recent statistics, women's average educational attainment has exceeded that of men in the youngest cohort, with women surpassing men in both college and graduate education (Treiman 2013; Wu and Du 2018; Wu and Zhang 2010). The improvement in Chinese women's status in education and work has changed women's attitudes towards marriage and the family. The economic independence of women makes marriage no longer a necessity. Moreover, to achieve a successful career, many highly-educated women may postpone the timing of entering marriage and motherhood (Ji 2015; Piotrowski and Tong 2016).

(3) Continuity of the Chinese Family

Despite the profound changes documented earlier, certain features of the traditional Chinese family continue to persist to this day, the most prominent of which is the high importance attached to children. Childbearing remains an obligation for married couples, and the childless family may face prejudice in certain social circles or in some areas of China (Zhang 2006). Indeed, various fertility intention surveys in China invariably reveal that few Chinese people intend to be childless (Hou 2015; Zheng et al. 2009). Scholars have observed that even among the youngest cohorts born in the 1980s and 1990s, less than 1 percent intended to be childless (Zhuang et al. 2014). Unlike in Western societies, in which many women choose to forgo motherhood, married women in China are expected to bear children.

Another manifestation of the emphasis on children is the high educational expectation and investment among Chinese families. According to recent studies, about two-thirds of urban Chinese parents expect their children to complete at least a college education (Lei and

Shen 2015). What is particularly remarkable is that parents' expectation for children's education is high across the entire spectrums of family socioeconomic status (SES), being much less constrained by family SES than in the West (Li and Xie 2020). Many Chinese parents' happiness and life hopes depend on whether their children are able to move up the social ladder and achieve upward social mobility for their parents (Chyi and Mao 2012; Mitchell 2010). As in other East Asian societies with a longstanding Confucian culture, children in China are viewed as the private property of the family, and raising children is the responsibility of the family rather than the state (Tang and Dong 2006; Zhang and Xie 2016). Such beliefs are reflected in the high educational expenditures of Chinese families (Chi and Qian 2016; Qian and Smyth 2011). In this respect, many Chinese parents remain committed to maximizing their effort to provide a better environment for their children, including maintaining marital stability. Therefore, we will not expect a substantial increase in the prevalence of nonmarital childbearing and divorce in China.

Taken together, the family among today's Chinese is influenced by traditional Confucian culture, socialist revolution, as well as rapid modernization. Although the patriarchy and authority of the family have declined, certain functions of the traditional Chinese family persist, especially in terms of childbearing and childrearing. Thus, we expect that individualized family behaviors such as cohabitation and marriage entry have gained more acceptance, while changes in family behaviors pertaining to childbearing and childrearing have been much less significant and much slower paced. To capture the overall trend of family changes in China, the first aim of our study is to provide a careful and comprehensive investigation of the SDT indicators. Furthermore, we contribute to the

literature on the SDT by presenting empirical evidence in support of our argument that the concurrent continuity and change in the Chinese family system will lead to a Chinese variant of the SDT.

3. Data and Measures

(1) Data

For this study, we first use data from the China Censuses and 1% Population Inter-census Surveys (called “Mini-Censuses”). Compared with social surveys, the Censuses and Mini-Censuses have larger sample sizes, which enable us to describe the trends of family changes in China. Specifically, we analyze the long-form data of the 1982, 1990, 2000, and 2010 China Censuses, as well as the data from the 2005 and 2015 Mini-Censuses. However, with limited questionnaires, the Censuses and Mini-censuses did not include key detailed questions regarding family behaviors, such as the timing of divorce. To have a better coverage of the SDT indicators, we also use China Family Panel Study (CFPS) data to supplement the analysis. The CFPS is a nationally representative longitudinal survey of Chinese communities, families, and individuals, launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University (Xie and Hu 2014). It includes detailed information about union formation, fertility, and marital dissolution. We pool 2010, 2012, 2014, and 2016 waves of the CFPS and construct a sample containing individuals, with longitudinal information updated from the most recent wave.

(2) Measures

We measure timing of marriage entry using the age of first marriage in the Censuses and the 2005 Mini-Census. Cohabitation is measured by two binary variables: current cohabitation status and past cohabitation experience. Since the Census and Mini-census did not include cohabitation as an option for marital status, we use a proxy measurement: for a household with only 2 members of the opposite sex, no kinship, and a within-15-year-old age gap, the two are defined as a cohabiting couple. The CFPS directly asked about the cohabitation experiences of adult respondents, and we use such information to construct the cohabitation experience measurement. Divorce is measured by survival time of marriage. The CFPS contains the marital history of each adult respondent, through which we construct the marriage duration variable. The Census and Mini-census asked married women about the number of daughters and sons ever born, from which we calculate the number of childbirths. Unfortunately, the Census and Mini-Census only include the fertility history of married women, resulting in the difficulty of estimating the prevalence of nonmarital childbirths. Thus, we use fertility and marriage information from the CFPS to infer whether a woman has ever given birth to a child before marriage.

To capture the trends in family changes, we focus on differences across birth cohorts born in six successive periods: (1) before 1950, (2) between 1950 and 1959, (3) between 1960 and 1969, (4) between 1970 and 1979, (5) between 1980 and 1989, and (6) between 1990 and 1995. The changes in diverse SDT indicators across the birth cohorts reveal the trends of family changes and developmental path of the SDT in China.

4. Results

(1) Marriage Entry

Using results from the 2010 China Census, we present the median age at first marriage for men and women in China by birth year in Figure 1. We observe an overall increase in median first marriage age for both men and women, albeit with some fluctuations. The median first marriage age gradually increased from about 23.1 to 24.5 for men and 19.9 to 21.0 for women, for cohorts born between 1920 and 1950. Among those born in the early 1950s, the first marriage age increased much more sharply. This trend is largely driven by the “Later, Longer, and Fewer (*Wan, Xi, Shao*)” policy designed in the early 1970s to control fertility (Coale 1984; Lively and Freedman 1990). According to the policy, rural men and women were encouraged to marry after 25 and 23 years of age respectively, and urban men and women should marry even later. Note that marriage had to be approved by the individuals’ *danwei* in China during that period, and most men and women had to wait until they reached these ages to get their *danwei*’s approval. The strict regulation on late marriage was terminated by the Revised Marriage Law of 1980, which permitted marriage as long as both partners had reached legal marriage ages, which were raised to 22 for men and 20 for women. Consequently, the median first marriage age went back down for those born in the late 1950s and 1960s. Among those born after 1970, we observe a renewed increase in median first marriage age, by about 2 years. For men and women born in the mid-1980s, the median marriage ages were about 26 and 24.

[Figure 1 Median marriage age by gender and birth year]

As indicated by previous studies, economic basis for marriage became more important among urbanites in China (Ji 2015; Yu and Xie 2015a). We restrict our survival analysis to urban residents. In Figure 2, we plot the Kaplan-Meier survival estimates of transition to first marriage by six cohorts for male and female urban Chinese residents, based on the 2010 China Census. For the cohort born before 1950, we observe a universal and early marriage pattern, in which more than 95 percent of both men and women entered marriage by age 35. Among the cohorts born in the 1950s, 1960s, and 1970s, the timing of marriage entry was delayed for both men and women, and the proportion remaining single after age 40 increased. Age of first marriage declined further for men and women born in the 1980s.

[Figure 2 Kaplan-Meier survival curves of transitions to first marriage
for urban residents by cohort]

Chinese women have significantly improved their social status since the founding of the People's Republic of China in 1949, particularly in educational attainment (Hannum 2005). However, the cultural tradition of female hypergamy has persisted (Ji 2015; Mu and Xie 2014; Qian and Qian 2014). As a result, it has become more difficult for highly educated women and poorly educated men to find a matching spouse in today's China. To better understand nonmarriage in China, we show the education gradient in marriage entry in Figure 3. For highly educated urban men and women born in the 1950s, although the marriage timing was postponed, the life-long nonmarriage rate was less than 1 percent. For urban men

born in the 1960s, marriage was still universal except for the least educated group, for whom the nonmarriage rate before age 50 increased to about 10 percent. At the same time, singlehood among urban women born in the 1960s with graduate education increased slightly. This gender-education pattern is pronounced in the 1970s birth cohort. Projecting the currently marriage hazard rates forward, we estimate that about 20 percent of urban males with primary-school or lower education will never get married, and more than 10 percent of urban females with graduate education will remain single. The singlehood rates in these particular socioeconomic groups are unprecedentedly high in China's modern history (Yu and Xie 2015a). Given the increasing educational attainment and persistent hypergamy preference of Chinese women, the life-long nonmarriage rate could go higher due to the mismatched socioeconomic status between men and women.

[Figure 3 Kaplan-Meier survival curves of transitions to first marriage
for urban residents by education]

(2) Cohabitation

Using data from four China Censuses (1982, 1990, 2000, and 2010) and two Mini-Censuses (2005 and 2015), in Figure 4 we present the proportions of men and women between ages 20 and 29 who were currently in inferred cohabitation status. To better understand the role of cohabitation among Chinese youths, we show the overall cohabitation rate as well as that among unmarried men and women. We observe a significant increase in the cohabitation rate

over time. In 1982 and 1990, cohabitation was almost absent in China. Cohabitation began to emerge in 2000, when 0.3 and 0.6 percent of single men and women were in cohabitation status. The cohabitation rate rose in 2005 and again in 2010. In 2010, the overall cohabitation rate was 1.0 and 0.9 percent among men and women, constituting 1.6 and 1.9 percent of unmarried men and women.

[Figure 4 Currently cohabiting rate of men and women
between 20 and 29 years old at different year]

For most cohabiting couples in China today, cohabitation is a transitory status of relatively short duration, leading to marriage. Cross-sectional observations only capture a small proportion of the cohabiting group. We thus show the proportion of men and women who had ever cohabited before marriage by birth year in Figure 5, drawing data from the 2010, 2012, 2014, and 2016 CFPS. The figure reveals a steadily increasing trend of premarital cohabitation over time. The increase was relatively slower among individuals born between 1920 and 1960, but it accelerated among the cohorts born after 1960. Of the men and women born in the 1980s, almost 30 percent had cohabited before marriage. There are large regional variations in the cohabitation rate due to economic and cultural factors. In the CFPS data, the proportions of those who had cohabited were very high in Shanghai, the most metropolitan city of China, with 35.4 percent of men and 39.8 percent of women born between 1980 and 1984 having cohabited. The corresponding numbers for the same birth

cohort were only 13.1 and 11.2 in Gansu, a western inland province with a concentration of ethnic minorities.

[Figure 5 Premarital cohabitation (ever) rate by gender and birth year (CFPS)]

To gain a better understanding of the role of cohabitation in the family system in China, we analyze the timing of first marriage premarital pregnancy. In Table 1, we present the median marriage age and proportion experiencing premarital conception for each birth cohort by a premarital cohabitation experience. For both men and women, the timing of first marriage was postponed by those who had cohabited before marriage. Median marriage age was delayed by cohabitation for about 1.5 years among men born between 1950 and 1979, and for about 0.5 years among women born before 1960 and women born in the 1970s. These results suggest that for many young Chinese cohabitation was an alternative to early marriage. Since CFPS does not directly ask about premarital conception, we compare the birth date of the eldest child and marriage date for a proxy. If the birth date of the woman's first child is less than 9 months from her first marriage date, the woman is considered as having premarital conception. As shown in Table 1, the proportion experiencing premarital conception was much higher among women who had cohabited before marriage. The premarital conception rate among women who had cohabited was almost twice the level of those who had not across all birth cohorts. We can also observe an increase in premarital conception rate over time. For women born before 1950, the overall premarital conception

rate was 8.0 percent, while about a quarter of women born in the 1980s conceived before marriage.

[Table 1 Consequences of Premarital Cohabitation]

(3) Divorce

We compare the crude divorce rate (i.e. the number of divorces during the year per 1000 People) in China to those in selected countries in Figure 6. From 1989 to 2002, the crude divorce rate in China increased slowly and remained lower than 1. In 2003, the State Council of China issued the “Regulations on Marriage Registration,” which largely simplified the divorce procedure, abolishing the permission requirement from the wife’s *danwei*. As a consequence, the crude divorce rate has increased substantially. In 2017, the crude divorce rate in China (at 3.2) was one of the highest in the world, higher than those in other East Asian countries such as Japan (1.7), South Korea (2.1) and Singapore (1.9), as well as those in many European countries like the United Kingdom (1.7), Italy (1.5) and Norway (2.0), and the United States (2.9). By the crude divorce rate, we may be tempted to jump to the conclusion that marriages in China are very unstable. Indeed, such sensational claims are widely circulated in the mass media (Guo 2016). However, the crude divorce rate is not an accurate measurement of divorce, as it is highly subject to cohort size and age-specific marital status. To gain a better estimation of divorce in China, we employ the data from Chinese Family Panel Study, which contains detailed information about marriage duration

and birth year.

[Figure 6 Crude Divorce Rate of China and Selected Countries]

Figure 7 shows the Kaplan-Meier survival curves of divorce by birth cohort based on the CFPS data. We observe that men and women born before 1970 had stable marriages, as their cumulative divorce rate for 30 years was lower than 4 percent. For those born in the 1970s, risk of divorce was higher than for previous birth cohorts, with the divorce rate within 20 years exceeding 5 percent among men. For the 1980-89 birth cohort, the survival rate of marriage declined faster and earlier, with the divorce rate within 10 years at about 5 percent for men and women. However, by international standards, Chinese marriages are relatively stable. For example, the above duration-specific divorce rate (i.e., 5 percent within 10 years) in China is lower than that in the United States, as 15 percent of marriages of the same birth cohort in the United States had ended by divorce or separation in 2010 (Kennedy and Ruggles 2014).

[Figure 7 Kaplan-Meier survival curves of divorce by cohort]

To further compare our results with those of past studies, we change the perspective from birth cohorts to marriage cohorts and present a survival analysis of divorce by marriage cohort in Figure 8 using the CFPS data. Previous studies showed that the divorce rate within 10 years exceeded 10 percent in Japan and Korea among those married in the 1980s. For the

same marriage cohort in China, the divorce rate within 10 years was only a fifth, at 2 percent. Moreover, scholars suggested that about one quarter of Korean and Japanese marriages after 2000 would end in divorce (Park and Raymo, 2013; Raymo, Bumpass, and Iwasawa 2004). According to Figure 8, more than 94 percent of marriages formed between 2000 and 2006 remained intact after 10 years. Taken together, we believe that from the life-course perspective, marriages are still relatively stable in China, at least more so than in Korea, Japan, and the United States. The strikingly high crude divorce rate of China reported earlier is misleading, being attributable to a combination of a composition effect – a large number of married persons at risk for divorce – and the concentration of divorces of married couples from different birth (or marriage) cohorts within a narrow period.

[Figure 8 Kaplan-Meier survival curves of divorce by cohort]

(4) Nonmarital Fertility

The China Censuses and Mini-censuses have collected information about the fertility histories of married women only. We resort to CFPS data to estimate the extent of nonmarital childbirth by constructing the two following measures: (1) the ratio of women who ever had given birth before marriage to all women in the same birth cohort; and (2) the ratio of single women who gave birth and remained single (until the time of survey) to all women in the same birth cohort. We refer to the first as premarital childbirth and the second as nonmarital childbirth.

We show the results in Table 2. We observe that across different birth cohorts, about 5 percent of women had given birth to a child before marriage. However, 93.0 percent of these mothers got married afterward. Almost half of those mothers married within 10 months after the childbirth, and more than 70 percent married within 36 months. Due to data limitation, we do not know whether these mothers married the biological fathers of their children. However, we do know that many engaged couples in China are engaged in unprotected sex before marriage and prepare for pregnancy before marriage. Some of them obtain marriage registration permits first and hold wedding ceremonies after the childbirth. Hence, our premarital fertility measurement may severely overestimate the extent of nonmarital childbirth in China.

[Table 2 Proportion of Women Having Premarital Childbirths]

The proportion of women who ever gave birth to a child and remain unmarried is much smaller, and the proportion is less than 0.2 percent in our data across all women born before 1975. For the more recent cohorts, the proportion of unmarried mothers increased slightly. In addition to improved tolerance of nonmarital childbirth over time, another possible explanation is that the duration between childbirth and date of interview is too short to observe the eventual marital status of the mothers. Taken together, our data show that nonmarital childbirth is quite rare in China, and marriage is still the primary institution of childbearing.

Childlessness is a key indicator of the SDT, as it implies a shift away from the child-centered mode of the family (Zaidi and Morgan 2017). Scholars have observed increased voluntary childlessness in many societies experiencing the SDT (Merz and Liefbroer 2012; Potârca, Mills, and Lesnard 2013; Rosero-Bixby, Castro-Martín, and Martín-García 2009; Rowland 2007; Sobotka, Zeman, and Kantorová 2003). The total fertility rate in China declined after the implementation of the Family Planning Policy and remained about 1.6 for over 20 years, even after the universal two-child policy was launched in 2015 (Cai, Wang, and Shen 2018). Although much research has focused on low fertility in China resulting from the one-child policy, little attention has been paid to childlessness. Using 1990, 2000, and 2010 Chinese Census and 2005 Mini-census data, we provide estimates of the childless rate by age group in different years in Table 3. The results show that childlessness is quite rare among married couples in China, about 1 percent among married women ages 45 to 49 across all years, confirming that childbearing is nearly universal for married women. In addition, we observe that the timing of childbearing had been slightly postponed between 1990 and 2010. In 2010, about 80 percent of married women had given birth to a child before they turned 30 years old and almost 95 percent before they reached 35 years old. In summary, in contrast to Western societies with a low fertility rate, we have not yet observed a marked degree of fertility postponement and a substantial increase of childlessness in China.

[Table 3 Childless Rate among Married Women by Age Group and Year]

5. Summary and Discussion

In the past two decades, the SDT has been one of the primary theoretical frameworks with which to understand the sustained below-replacement fertility and family behaviors in the world. While scholars have studied the SDT in Western and Latin American countries, East Asia has seldom been included in the comparative literature. As a Confucian society that has experienced dramatic economic and social changes in recent decades, China provides us with a rare opportunity to consider how modernization and ideational changes have influenced a traditional family system. To facilitate the interpretation of our findings, we present the summary results of the SDT indicators by cohorts in Table 4.

Our results reveal a postponement of the first-marriage age for both men and women. The median marriage age increased from 21.2 for men and 20.8 for women born before 1950 to 25.3 for men and 23.4 for women born in 1980-1984. Moreover, among men and women born in 1975-1979, 16.8 and 7.0 percent have not married by 30 years of age. For the population as a whole, however, the definitive nonmarriage rate was low, with 0.8 percent of men and 4.0 percent of women born between 1960 and 1969 not having entered marriage before age 40.

[Table 4 Cohort changes of the Second Demographic Transition indicators in China]

The cohabitation rate in China increased sharply across cohorts. For men and women born before 1960, premarital cohabitation was almost absent (less than 3 percent), while about one quarter of Chinese born in the 1980s had cohabited before first marriage. In addition, we observe large regional variations of cohabitation rates in China, primarily driven

by economic development. We also analyzed the potential consequences of cohabitation, including the first marriage age and premarital conception. There is a marriage-delaying effect of cohabitation in China. Moreover, cohabitation is associated with premarital conception, although cohabiting women would soon get married after becoming pregnant. Taken together, our results suggest that although cohabitation resembles marriage for some Chinese, childbearing remains limited to the formal institution of marriage.

Masked by the fast-growing, high crude divorce rate, the “real” increases in the divorce risk across both birth cohorts and marriage cohorts in China are relatively small. As shown in Table 4, the cumulative divorce rate, for men and women within 10 years of marriage, increased from 0.4 and 0.8 percent respectively to 2.5 and 3.5 percent over the successive birth cohorts. Thus, in contrast with the United States and other East Asian countries, marriages in China remain relatively stable.

In Table 4, we present the average number of childbirths, the proportion having nonmarital childbirths, and the proportion childless by cohort of women. As in previous studies, we observe a decline in the number of childbirths across cohorts. Despite a high premarital conception rate, nonmarital childbirth remains quite rare in China. Among women born between 1985 and 1989, only 1.5 percent gave birth to a child and remained single in 2016. Moreover, our previous analysis shows that although a small proportion of children were born out of wedlock, more than 70 percent of their mothers married before the children reached 3 years old. In addition to the preservation of the traditional function of the family, government policy is also an important reason for the few out-of-wedlock childbirths. Up to the present time, the Family Planning Policy in China has required that mothers pay a large

social compensation fee for a nonmarital childbirth, and they often encounter difficulties in securing public services for children born out of wedlock such as *hukou* registration, school enrollment, health care, and other aspects of social welfare. Therefore, for most Chinese, marriage is still the legitimate institution for childbearing in China. Despite the low fertility level, we have not observed a substantial increase in childlessness among married women. Among women in their 40s, only 1.2 percent never gave birth to a child in 2010. Moreover, our results show that the timing of fertility remained quite early among married women, and more than 90 percent of them bore a child before age 35.

6. Conclusion

Capitalizing on census and nationally representative survey data, we provide estimates of major SDT indicators and cohort trends in China. Our results indicate a unique development trajectory of the SDT in China, characterized by changes and continuities.

Changes. Driven by modernization, the rise in individualism, and the improvement of women's education and social status, Chinese people now practice more individualized family behaviors than before, including delays in marriage, an emergence of singlehood, and common premarital cohabitation. While the singlehood rate is still lower in China than in other East Asian societies (Raymo et al. 2015), there is a systematic pattern of nonmarriage by SES and gender, higher among less-educated men and highly-educated women. With a persistent hypergamy tradition and continuation of women's high education attainment, we expect singlehood to increase in China's future.

Continuities. Confucian family values, especially the importance of maintaining family lineage and raising children, have played a role in preserving the Chinese family's

traditional functions. As evidence of this, we have not observed substantial increases in two important elements of the SDT: nonmarital childbearing and childlessness. Marriage is still the primary institution for childbearing in China, and extramarital childbirth has not been widely accepted. In addition, childlessness remains rare among married Chinese women, and most married couples choose to have at least one child to carry on the family lineage. Despite tolerant attitudes among Chinese people towards divorce today, marital dissolution, especially among couples having children, remains at a relatively low level compared with rates of marital dissolution in other societies experiencing the SDT.

By extending the discussion of the SDT to a society characterized by the coexistence of both rapid modernization and traditional Confucianism, our research reveals that social changes in different family behaviors are neither simultaneous nor sequential. Such findings lend support to the proposition that there might be a distinctive Chinese model of the Second Demographic Transition. Although we are not positioned to generalize our results to other countries, we invite future research to examine whether our proposition of a Chinese model of the SDT could be generalized to other East Asian societies influenced by Confucianism, by studying dissimilarities and differences across East Asian societies and between East Asian societies and Western societies.

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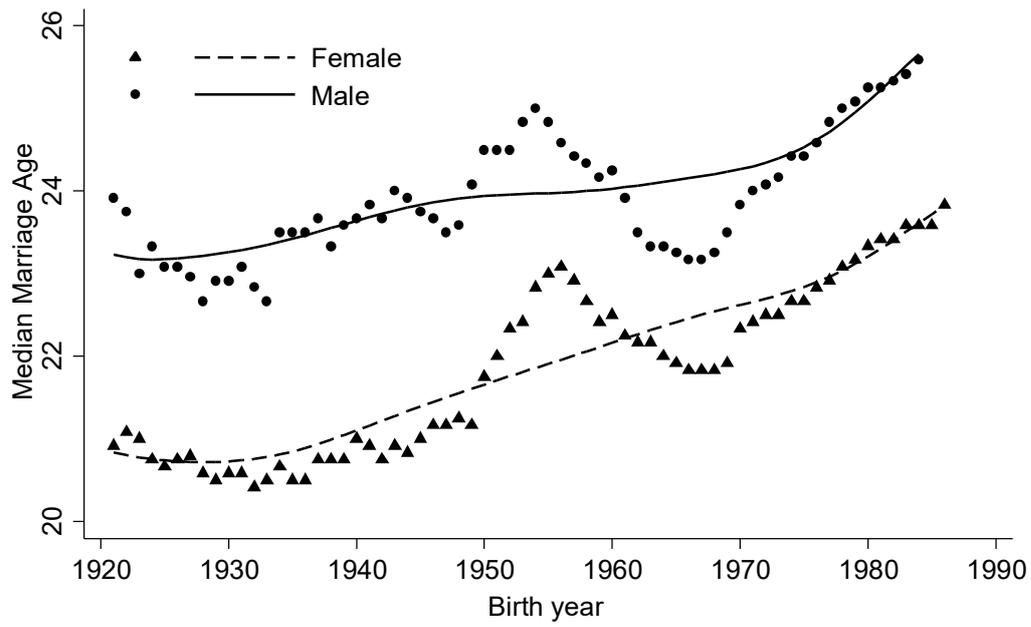


Figure 1 Median marriage age by gender and birth year
 SOURCES: Authors' calculation based on 2010 Chinese Census.

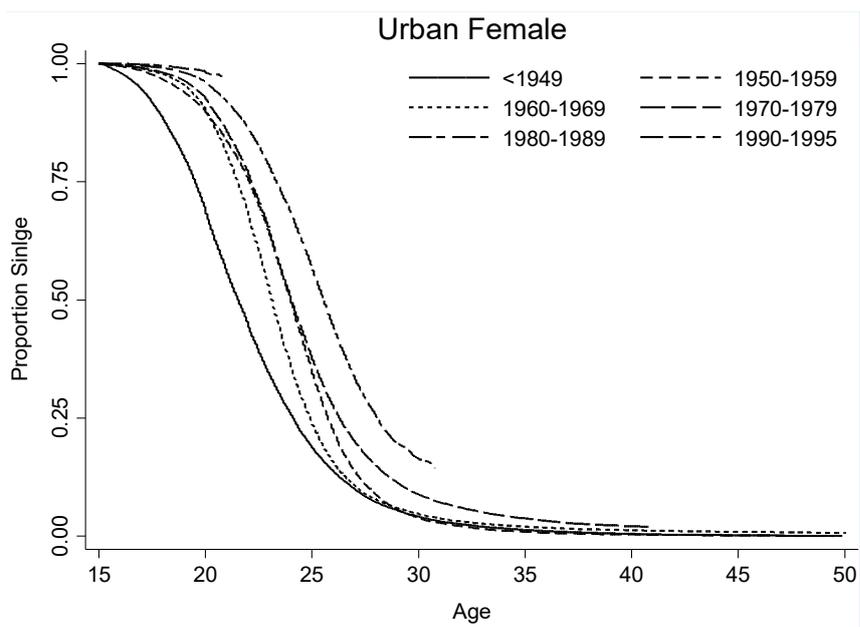
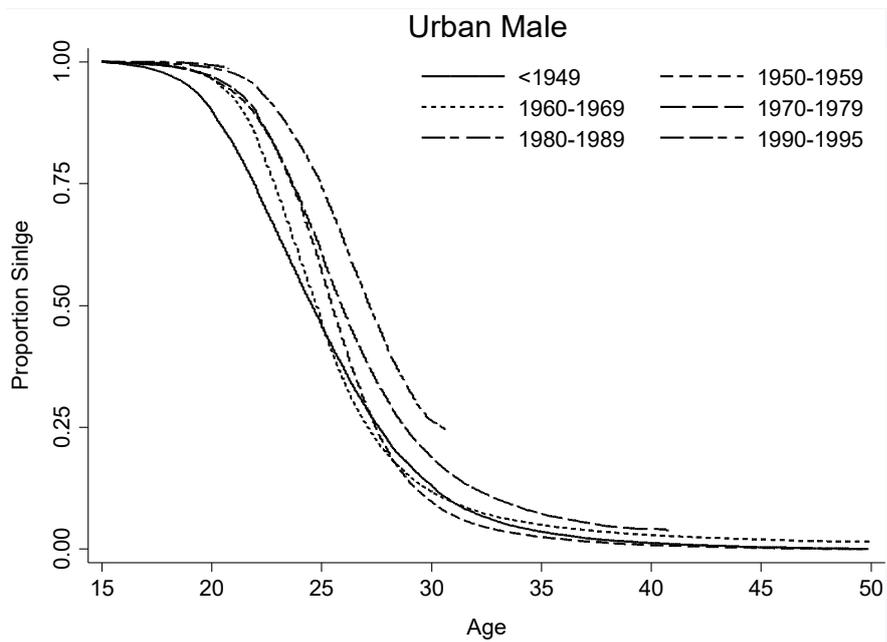


Figure 2 Kaplan-Meier survival curves of transitions to first marriage for urban residents by cohort

SOURCES: Authors' calculation based on 2010 Chinese Census.

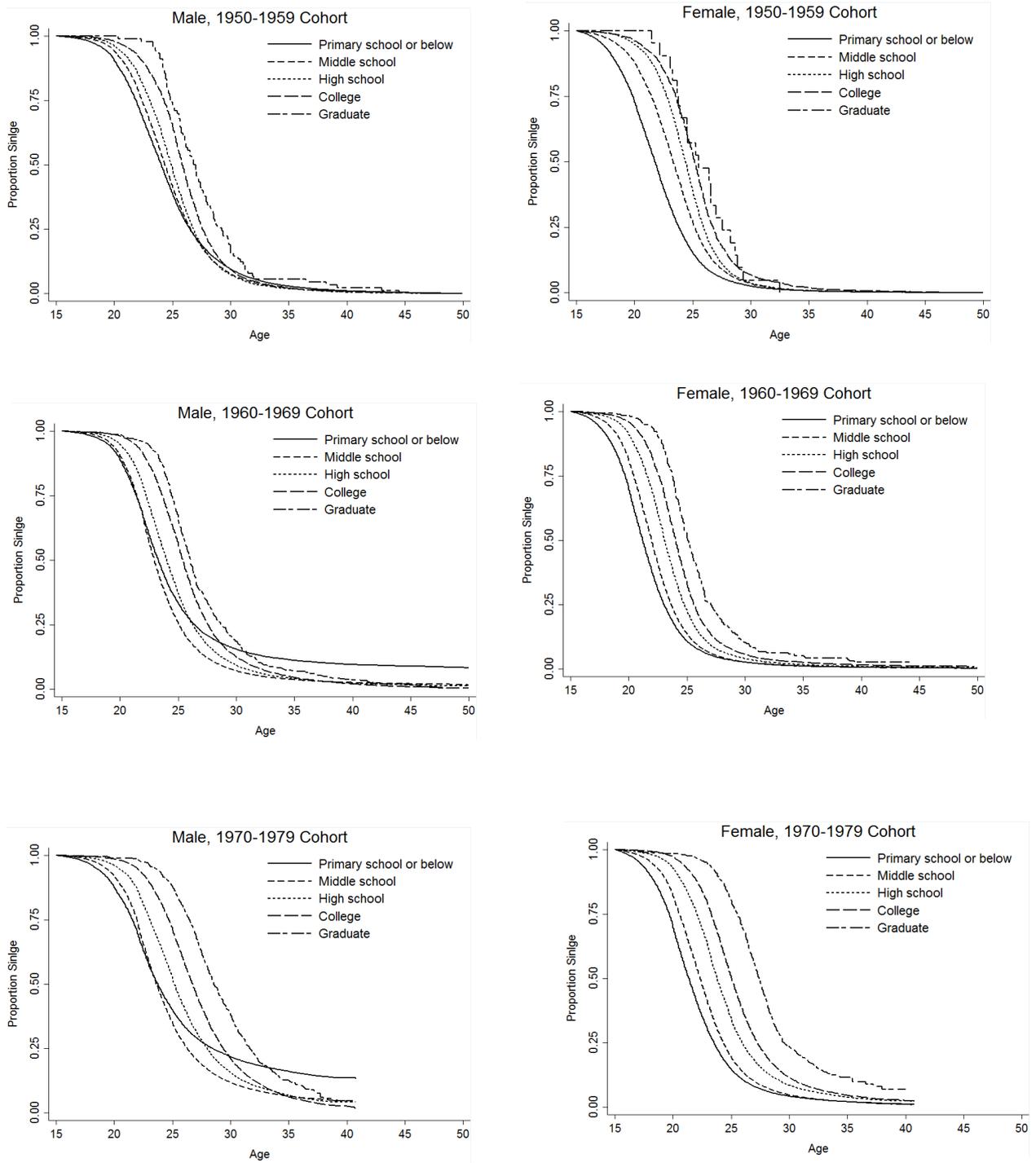


Figure 3 Kaplan-Meier survival curves of transitions to first marriage for urban residents by education

SOURCES: Authors' calculation based on 2010 Chinese Census.

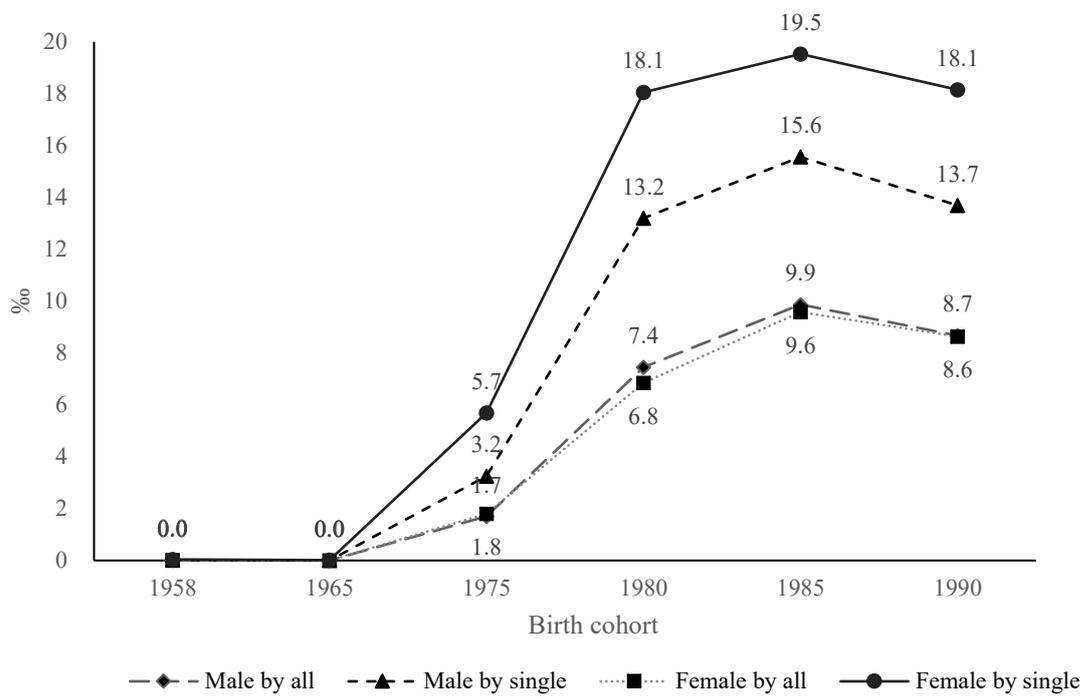


Figure 4 Currently cohabiting rate for men and women between 20 and 29 years old in different years

SOURCES: Authors' calculation based on Chinese Census (1982, 1990, 2000, and 2010) and Mini-Census (2005, 2015).

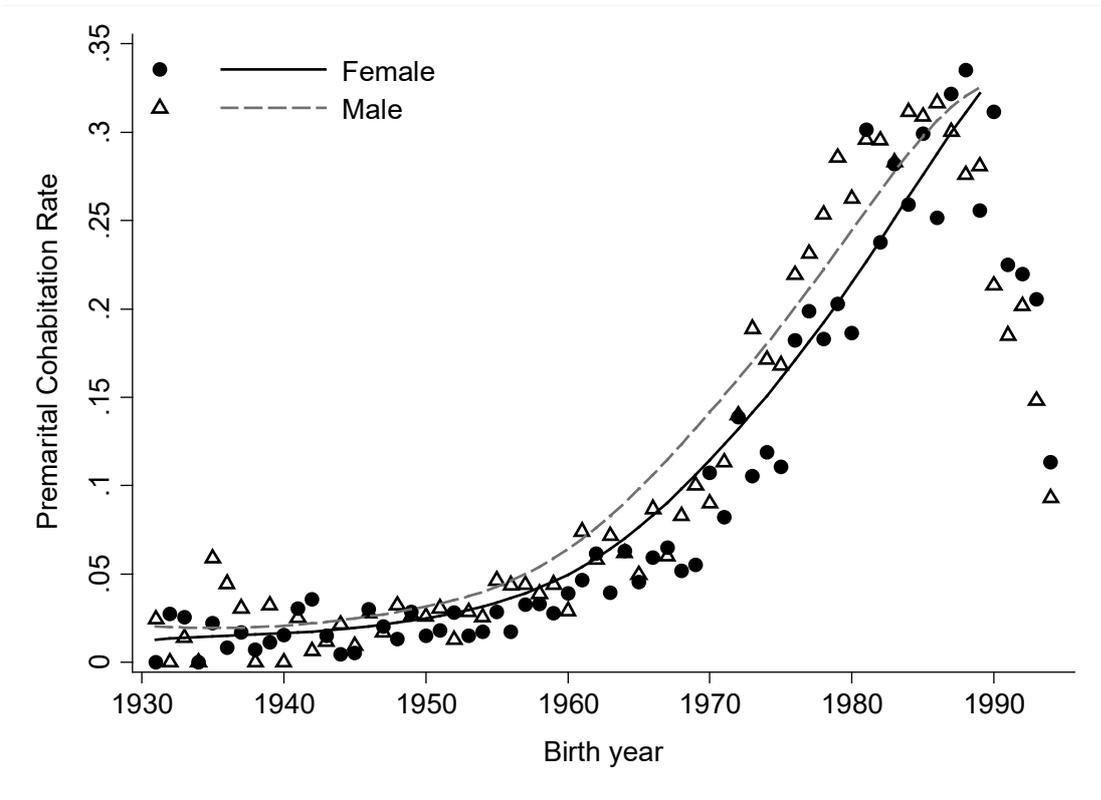


Figure 5 Premarital cohabitation (ever) rate by gender and birth year
 SOURCES: Authors' calculation based on CFPS 2016.

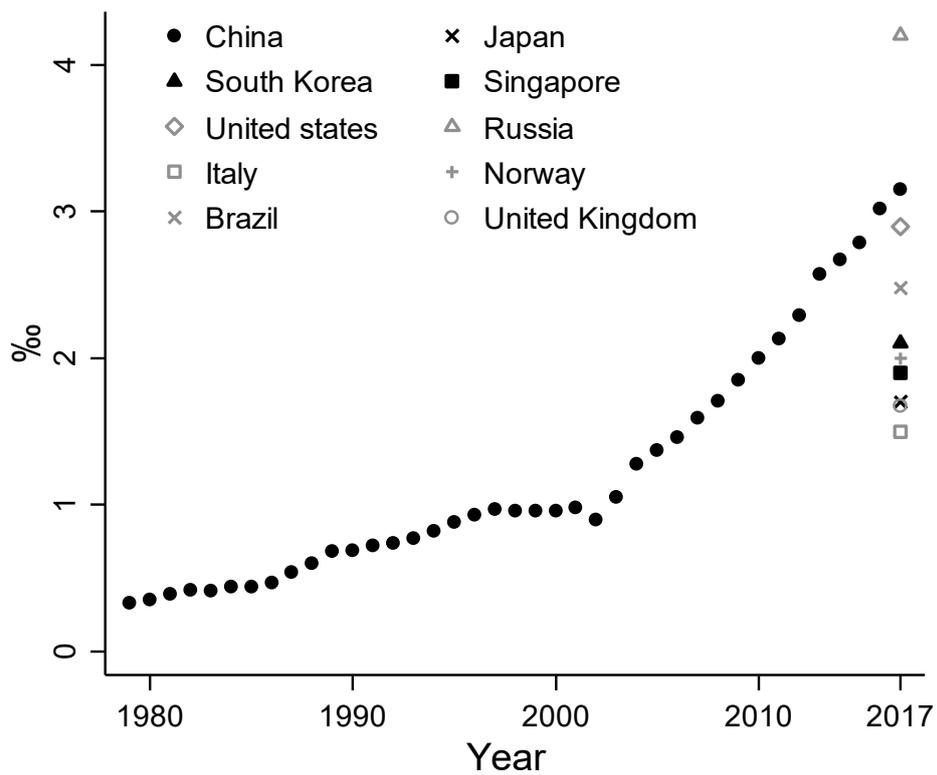


Figure 6 Crude Divorce Rate of China and Selected Countries

SOURCES: China Civil Affairs' Statistical Yearbook 1980-2017; Statistical Handbook of Japan 2017; Singapore Department of Statistics; Statistics Korea; CDC/NCHS National Vital Statistics System; Office for National Statistics of the United Kingdom; Federal State Statistics Service of the Russian Federation; The Brazilian Institute of Geography and Statistics; OECD Family Database.

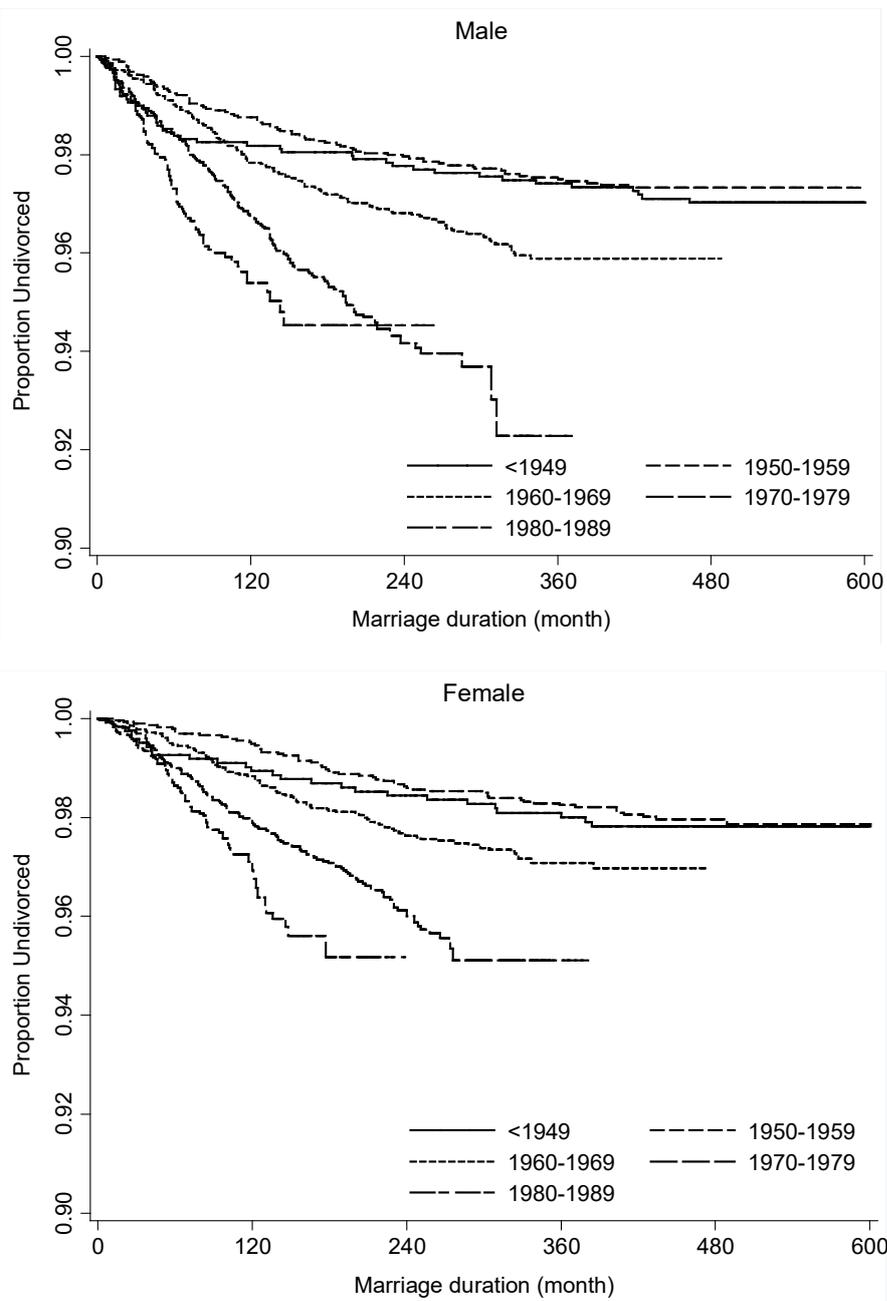


Figure 7 Kaplan-Meier survival curves of divorce for men and women by birth cohort
 SOURCES: Authors' calculation based on CFPS 2016.

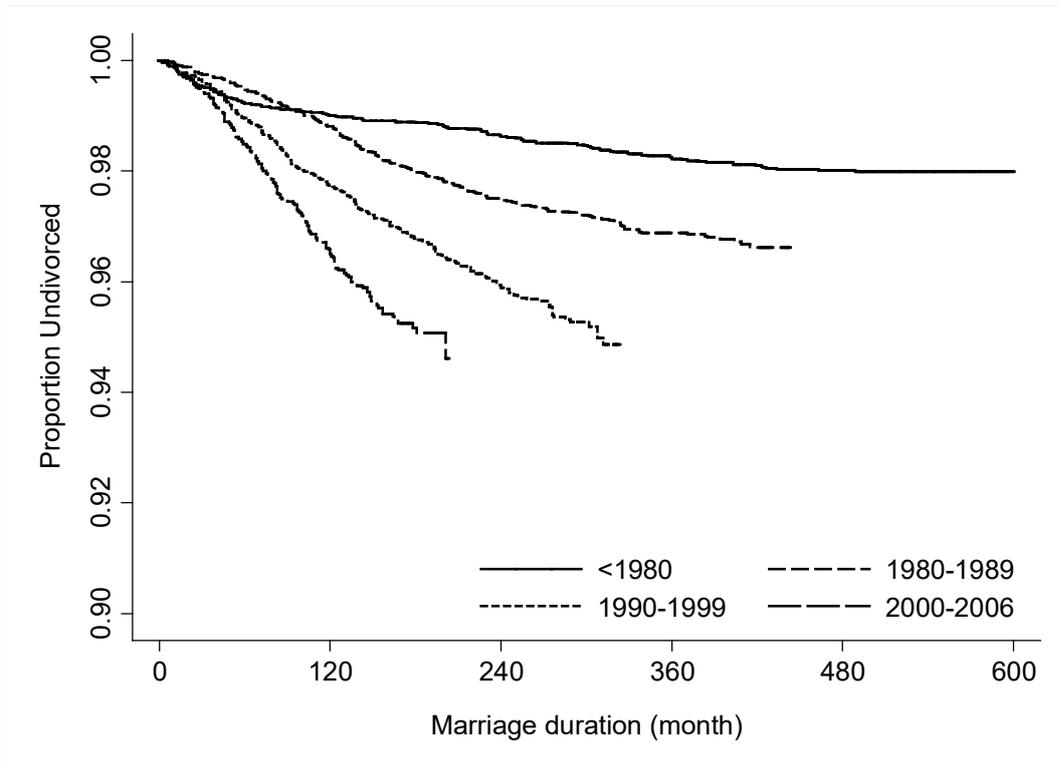


Figure 8 Kaplan-Meier survival curves of divorce by marriage cohort
 SOURCES: Authors' calculation based on CFPS 2016.

Table 1 Consequences of Premarital Cohabitation

Birth cohort	Median marriage age (years old)				Premarital conception (percentage)		
	Male		Female		Female (9-month window)		
	Cohabitation		Cohabitation		Cohabitation		Overall
	Yes	No	Yes	No	Yes	No	
<1949	23.5	23.2	20.3	19.9	13.2	8.4	8.00
1950-59	25.7	24.4	22.6	22.0	27.3	14.7	14.9
1960-69	25.0	23.6	21.8	21.8	36.1	18.4	19.2
1970-79	25.3	23.8	22.7	22.2	33.7	20.2	21.8
1980-89	25.4	25.2	23.4	23.3	43.2	20.8	26.3

SOURCES: CFPS 2016.

Table 2 Proportions of Women Having Premarital Childbirths

Birth cohort	Premarital Childbirths		Observations
	Ever gave birth to a child before marriage	Ever gave birth to a child and remain unmarried	
<1949	4.0%	0.2%	3214
1950-59	5.3%	0.0%	3328
1960-69	5.8%	0.2%	3952
1970-79	5.9%	0.3%	3604
1980-89	6.1%	1.2%	4258

SOURCES: CFPS 2016.

Table 3 Childless Rate among Married Women by Age Group and Year

Age group	Year			
	1990	2000	2005	2010
20-29y	16.5	16.4	20.0	21.0
30-34y	1.4	2.3	3.9	5.9
35-39y	0.9	0.9	1.5	2.4
40-44y	0.4	0.6	0.9	1.3
45-49y	1.0	0.6	0.8	1.1

SOURCES: Chinese Census (1990, 2000, and 2010) and Mini-Census (2005).

Table 4 Cohort changes of the Second Demographic Transition indicators in China

	Female					
	<1949	1950-59	1960-69	1970-74	1975-79	1980-84
Marriage						
25 percentile marriage age	19.3	20.5	20.3	20.5	20.8	21.3
Median Marriage Age ^a	20.8	22.6	22.0	22.5	22.9	23.4
75 percentile marriage age	23.3	24.8	23.8	25.5	26.3	/
Marriage rate before 30 ^b	95.5%	96.8%	96.9%	94.9%	93.0%	/
Marriage rate before 35	98.1%	98.9%	98.7%	97.7%	/	/
Marriage rate before 40	98.9%	99.4%	99.2%	/	/	/
Cohabitation						
Premarital cohabitation rate ^c	1.1%	1.9%	4.9%	11.1%	17.7%	24.0%
Divorce						
Divorce rate within 10 years ^d	0.4%	0.4%	1.1%	1.7%	2.5%	/
Childbearing						
Average number of childbirths ^e	2.7	2.1	1.8	1.7	1.7	1.6
Nonmarital childbirth rate ^f	0.2%	0.0%	0.2%	0.1%	0.6%	0.8%
Childless rate ^g	0.9%	0.6%	1.2%	/	/	/
	Male					
	<1949	1950-59	1960-69	1970-74	1975-79	1980-84
Marriage						
25 percentile marriage age	21.2	22.4	21.8	22.1	22.5	22.9
Median Marriage Age	23.6	24.6	23.4	24.1	24.7	25.3
75 percentile marriage age	27.1	27.0	25.8	27.0	28.1	/
Marriage rate before 30	85.9%	88.5%	90.3%	86.2%	83.1%	/
Marriage rate before 35	93.1%	94.3%	94.5%	92.6%	/	/
Marriage rate before 40	95.2%	95.8%	96.0%	/	/	/
Cohabitation						
Premarital cohabitation rate	1.7 %	2.6 %	6.0%	12.9%	21.8%	24.4%
Divorce						
Divorce rate within 10 years	0.7%	1.1%	1.9%	2.3%	3.5%	/

Note:

a. Median marriage age is calculated based on the 2010 Chinese Census data.

b. Marriage rates before 30, 35, and 40 are calculated based on the 2010 Chinese Census data.

c. Premarital cohabitation rate is calculated based on 2014 Chinese Family Panel Survey data.

d. Divorce rate with 10 years is calculated based on 2014 Chinese Family Panel Survey data.

e. Childless rate is defined as the proportion of childless women among married women between 40 and 50 years old using 1990, 2000, and 2010 Chinese Census data.

f. Number of childbirth is calculated based on the 2010 Chinese Census data.

g. Extramarital childbirth rate is defined as the number of unmarried women having children divided by the number of women in the same birth cohort, using 2016 Chinese Family Panel Survey data.