Abstract

Cohabiting before marriage has become an increasingly popular way to start conjugal life in China. This change in the pathway toward marriage, however, did not raise the attention of scholars who have maintained a long-term interest in the relationship between the Chinese family systems and family formation outcomes. This article examines the role of cohabitation in the family formation process. Multinomial logit model shows that cohabitating union has not become a common place for childbearing in China. But compared to individuals who marry directly, individuals who cohabit before marriage are more likely to conceptualize their first child outside marriage. In addition to the pathway to parenthood, discrete-time logit model shows that cohabiting before marriage also delays childbearing within marriage, and the delaying effect is greater for individuals at the lower end of the educational spectrum. The effect of cohabitation on childbearing is also mediated through age at first marriage. Individuals who cohabit before marriage marry later, and later marriage is associated with increased chance of deviating from the traditional pathway to parenthood. A delay in marriage is associated with increased odds of childbearing for individuals coming of age in the 1970s and 1980s, but it signals a retreat from parenthood for the more recent cohorts of Chinese.

Cohabitation and family formation in China

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Childbearing is an important family formation process. Marriage, which according to family theorists lawfully licenses parenthood (e.g., Davis, 1939; Malinowski, 1964), has gradually lost this unique institutional status in several Western countries (Cherlin, 2004). Comparative studies of the role of cohabitation in the family formation process suggest that cohabitation functions as an alternative to marriage in some societies, but serves as a precursor to marriage in other societies (Heuveline & Timberlake, 2004). The strength of the association between marriage and childbearing also varies between different demographic groups. In the United States, for example, cohabitation is not only more prevalent among blacks and the poor, but also less likely to result in marriage for them. Ethnic minorities and the low-income population are also more likely to use cohabitation as the venue for bearing and raising children (Bumpass & Lu, 2000).

As Western demographers and family sociologists are closely monitoring the union behaviors of their citizens, it has become clear that nonmarital cohabitation has rapidly increased in several eastern Asian societies. This demographic trend has been accompanied by several other family behavior changes that characterized the second demographic transition in Western industrial countries (Kiernan, 2001), including marriage delays, increases in non-marriages and nonmarital births, and declines in fertility. These changes around the institution of marriage have caught the attention of several scholars seeking to

better understand the emergence of cohabiting unions and their relationships to marriage and childbearing. Their studies of cohabitation in Japan and the Philippines (Raymo, Iwasawa, & Bumpass, 2009; Williams, Kabamalan, & Ogena, 2007) have made important contributions to the ongoing debate about the nature of cohabitation and the generalizability of the second demographic transition in non-Western societies.

Nonmarital cohabitation is a relatively new phenomenon in China. Less than 1% of Chinese of marriageable age are cohabiting at any given point of time (Pan, 2000; Li, 2008). Because consensual unions are usually short-lived, cohabiting individuals probably have married before the survey date. Estimation based on married individuals shows that cohabitation has become an increasingly popular way to start conjugal life among the more recent cohorts. Between 1980 and the early 2000 the percentage of marriages that began with cohabitation has increased from 5% to 30% (Li & Bian, 2006). This change in the way how Chinese people start their conjugal life, however, did not raise the attention of scholars who have maintained a long-term interest in the relationship between the Chinese family systems and fertility outcomes. Cohabitation is still narrowly understood as an alternative to dating restricted to a segment of enlightened college students. Public concern over cohabitation is limited to its relations to out-of-wedlock births. Although it is generally agreed that cohabitation grows out of globalization, its demographic implications are often evaluated in isolation from other demographic behaviors that emerge as China becomes more integrated into the world economy, notably marriage delays and fertility declines (Cai 2008; Guo 2004, 2009; Morgan, Guo, & Hayford 2009). Although evidence suggests that the demographic behavior changes arising from the global forces of socioeconomic development

have replaced the one-child policy as the driving force for China's transition to below-replacement fertility (Gu, Zheng, Wang, & Cai 2007; Cai 2010), no question has been asked whether the emergence of this very low fertility regime has to do with the simultaneous change in the way how Chinese people start their conjugal life.

Drawing data from the 2006 Chinese General Social Survey, this article examines the role of cohabitation in the family formation process. Three specific questions are explored:(1) Does the emergence of cohabitation as a step in the progression toward marriage signal a fundamental shift in the timetables regulating the reproductive behaviors of the Chinese women? (2) Does the direction of the change imply the embarking on the path toward the second demographic transition? (3) Are the demographic implications of this departure from the traditional family life course the same for different demographic groups? The observed relationship between cohabitation and fertility is evaluated in the context of globalization and a trend of convergence in demographic behaviors. This study contributes to the debates over the nature of cohabitation in relation to China's transition from a traditional toward a modern family system. The unique institutional context of the Chinese society also provides an invaluable opportunity to explore the generalizability of the second demographic transition.

Background

Attempts at understanding the role of cohabitation in the family formation process identified four possible stages of a cohabitation transition (Lesthaeghe, 1995; van de Kaa, 1987). Classifications of the stages of a cohabitation transition are based on a package of union

behaviors changes, among which the institutional basis of childbearing is a central concern. In the first stage, cohabitation is a deviant or at best avant-garde behavior and is limited to a relatively small minority of couples. In the second stage of transition, cohabitation is a prelude to marriage during which a partnership can be tested. Living together served as a precursor to marriage when conception occurs (Manning, 1993). As cohabitation becomes a viable alternative to marriage at stage three, marriage and childbearing largely become two independent events. In the last stage of the transition, marriage and cohabitation become indistinguishable.

Empirical studies motivated by this broad classification of the stages of a cohabitation transition suggest several possibilities regarding the role of cohabitation in the family formation. In the early stage of a cohabitation transition, the effect of cohabiting before marriage on the process of family formation is mainly reflected in the timing of birth. But evidence for the direction of the influence is less consistent. Raymo, Iwasawa, and Bumpass's (2009) study of cohabitation in Japan shows that cohabiting before marriage is not related to the risk of the out-of-wedlock births. The influence of premarital cohabitation on fertility is mainly reflected in a higher proportion of bridal pregnancies among cohabiters. Non-marital conception is a particularly important mechanism linking cohabitation to marriage and fertility for Japanese women at the lower end of the educational spectrum. There are no significant differences in the cumulative probabilities of parenthood between Japanese women who cohabited before marriage and who marry directly. But cohabiters are more likely to delay childbearing within marriage. This is particularly true for Japanese women who have attended vocational school or university. The timing effect of premarital

cohabitation on the first marital birth was also observed in the early stage of the evolution of cohabitation in the French family system. In an analysis of a sample of 4,091 French men and women married between 1968 and 1984, Leridon (1990) found that the timing of first marital birth is different for couples who begun their matrimonial career outside marriage and couples who marry directly. The probability of first marital birth peaks at the six months' duration of marriage and the 9-12 months' duration respectively for couples who marry directly, but only at the six months' duration for couples whose marriages are preceded by cohabitation.

By contrast, cohabiting before marriage has no effect on the timing of childbearing within marriage in the United States. Bridal conceptions serve as a mechanism linking cohabitation to marriage only for White cohabiting couples. Instead, as cohabitation becomes more social acceptable, having a child no longer provides a sufficient motive for marriage. Conceptions promote marriage only for White cohabiting couples (Manning, 1993, 2004). A considerable proportion of non-marital births were actually planned (Musick, 2002). Births within cohabitation are only weakly associated with marriages between the child's parents (Carlson, McLanahan, & England, 2004). Manning's (2004) study actually finds that children born into cohabiting unions reduce the likelihood of marriage for Latinas and increase the odds of separation for their parents once they marry one another. In Cherlin's (2004) words, the progression of cohabitation in the American family system is a process of the deinstitutionalization of marriage.

Because increases in the percentage of unions that began with cohabitation are often accompanied by a delay in marriage (Goldstein & Kenny, 2001), age at first marriage

therefore is an important mechanism that must be accounted for in examining the role of cohabitation in the process of family formation in societies where the reproductive activities are primarily concentrated within marriage. In Japan, the postponement of marriage and childbearing is partially compensated by the high likelihood of premarital conceptions among cohabiters. But Japanese women who cohabit before marriage tend to delay childbearing within marriage. Although China and Japan share many similarities, China is unique in the implementation of the one-child policy. Evidence from a study of birth interval in China shows that Chinese people who marry late compensate use less time to complete their transition to parenthood (Wang & Yang 1996). But the finding is based on a sample of women married before the late 1980 when cohabitation is rare. It is unclear whether this conclusion still holds as in the following three decades cohabitation has becomes an increasingly popular way to start the conjugal life and the total fertility rates have dropped to below-replacement level.

Comparative studies provide an additional insight that the role of cohabitation in the process of family formation cannot be completely understood in isolation of the family systems and the religious and cultural backgrounds in which cohabitation first finds its place of existence (Heuveline & Timberlake 2004; Le Bourdais & Lapierre-Adamcyk 2004). For example, cohabitation began at a very similar level in Quebec and the rest of Canada in the 1970s. But the evolution of cohabitation took a very different course in Quebec from the rest of Canada. By the turn of the century, cohabitation has become widely accepted as form of conjugal life in which to test the strength of the relationship before marrying, but not yet accepted as an environment in which to become a parent in Canada outside Quebec.

The progression of cohabitation is far more advanced in Quebec. Quebec has completed the third stage of Kierman's (2001) model of partnership transition, with cohabitation being the most popular union to give birth. It appears now that transition to the last stage of development is well under way in Quebec.

Cohabitation emerges on the halfway of China's transition from a traditional to a modern family system. The incomplete nature of the transition suggests that where to place cohabitation in the ongoing transforming family system is critical for understanding its role in the process of family formation. If cohabitation is an outgrowth of the traditional family system, the prenatal nature of the traditional marriage implies that premarital sex may advance the timing of first marital birth. This proposition is supported by the classical fertility theory, according to which coital frequency early in marriage is a critical determinant of fertility rates (Bongaarts & Potter 1983). Increased coital frequency early in marriage due to the decline of the arranged marriage introduced a decline of first birth intervals in East Asia (Wang & Yang 1996). Cohabitation represents a significant improvement in the freedom of mate selection. Establishing an independent household before marriage also gives the couples additional time to build up the warm spousal relations conductive to sexual intimacy and higher rates of coital frequency early in marriage. The plausibility of this proposition is further supported by the finding that Chinese couples are less likely to use any contraception before the birth of their first child.

On the other hand, the growing number of marriages preceded by cohabitation may also signal the embarking on the path toward a more companionate form of marriage. In the new form of marriage, companionship, intimacy, and privacy embedded in a marital relation are

more valued than the reproductive function of marriage. People cohabit before marriage to test the compatibility of a relationship that is expected to last lifelong as divorce is virtually impossible in China. Extended process marriage often leads to marriage delays. But unlike the traditional marriage in which family life is centered on bearing and rearing children, marriage delay may not introduce a catch-up effect in marital fertility. In fact the childless state may be purposefully extended to accommodate the change of fertility goal. For these pioneers, marriage is more representative of the culmination of a companionate relationship rather than a sanction of parenthood.

Available evidence supports this alternative proposition. Attitudinal data collected in several national surveys show that the central place of children in marriage has declined. More than two thirds rural residents coming of age in the 1990s and the early 2000s "disagree," or "completely disagree" with the statement that "the purpose of marriage is bearing children" (Li & Luo 2009). At the national level, the ideal family size has declined to around 1.7 children in 2006 (NPFPC 2007). Between 7-10% of participants in the other two national surveys prefer a childless marriage (Wang 2006; Cao et al., 2010). The reasons they give is very similar to the individualism underlying the second demographic transition in late-marriage, low-fertility Western societies, such as difficulties in maintaining a balance between career and family, costs for raising and educating children, potential individual sacrifices, and concerns over the negative impacts of childbearing on health and beauty, and potential negative effects of children on the quality of marital life (Cao et al., 2010; Clarkberg, Stolzenberg, & Waite, 1995; Thornton, Axinn, & Hill, 1992). According to Cai (2010), the family planning program provides institutional support for this ideational shift from resisting

to embracing the "small family" ideal (McNicoll 2001; Merli & Smith 2002), whereas the driving forces is economic development and globalization which introduce to China a new wave of sexual imagery and familial ideals, including romance, love, companionship (Lavely 2007).

Although there is no direct evidence that people who cohabit before marriage give birth to their first child later than people who marry directly, recently released statistic suggests that this assumption is plausible. The timing of the plunge in the total fertility rates coincides with the onset of a sharp increase in the percentage of marriages what are preceded by cohabitation. The total fertility rates have declined the most in urban cities where nonmarital cohabitation is more common and individualism has a broader population base of followers. The percentage of DINK families, families that have double incomes and no kids, have increased from 1.2% in 2002 to 6.2% in 2013. In Beijing, Shanghai and Shenzhen, one out of ten married couples have no children. The demographic profile of the DINK couples are very similar to those pioneers who have led an ideational shift towards marriage in the United States: urban residents growing up in more recent times, who have received at least some professional education and are employed in professional sectors. They are also more likely to meet their spouse themselves and host a more permissive attitude toward premarital sexuality.

A final consideration that must be accounted for in examining the role of cohabitation in the family formation process is growing economic inequalities. The demographic experiences of the United States and several European countries suggest that increasing economic inequality is associated with a divergence in the pathways towards parenthood

(McLanahan, 2006; Cherlin, 2009). In the United States, for example, cohabitation serves as an alternative to marriage for the less well educated and blacks, but is a precursor to marriage for the college educated and whites. Delaying marriage and parenthood until completing schooling and becoming established in steady work is viewed by the college educated and whites as a surer way to attain the middle-class lifestyle to which they aspire (Sassler & Cunningham, 2008), whereas marriage and childbearing are two independent events for poor Americans who often regarded parenthood as one of the best routes to self-fulfillment (Edin, Kefalas, & Reed, 2004; Gibson-Davis, Edin, & McLanahan 2005). Growing economic inequality between different educational groups is also becoming a distinctive feature of the Chinese stratifying system. People from different educational groups also vary in the extent of exposure to and acceptance of the elements in the companion marriage. It is reasonable to expect that the role cohabitation plays in the process of family formation also varies between different educational groups.

Methodology

Data

The data for the analyses are drawn from the 2006 China General Social Survey (CGSS). The CGSS is the first large-scale national comprehensive survey. The survey started in 2003 and was conducted annually until 2006; thereafter it was conducted every other year. As of August 2011, a total of six surveys have been completed. In each survey, about ten thousand randomly selected Chinese aged 18 or above were interviewed. The questions that were regularly asked include demographic information, the occurrence and timing of

important demographic events, and educational and labor market experiences. The participants of the CGSS were also asked to provide basic demographic information of other household members, which enables researchers to track their birth histories. The goal of the survey is to monitor long run trends in the social and economic development of Chinese society in addition to patterns of change in individual lives.

Compared to previous survey waves, the 2006 CGSS is unique in that for the first time in large-scale national surveys, respondents were asked to provide information about their dating and cohabiting experiences, attitudes towards marriage and cohabitation, as well as a number of issues related to gender and sexual relations. According to the design of the survey, these questions are targeted at 2,572 married people randomly selected from the participants of the 2006 CGSS. An examination of the demographic characteristics of respondents who participated in the family survey showed that in general they are representative of the participants of the 2006 CGSS except that nonreligious Chinese, Han nationality, urban residents, and the college-educated are oversampled. Given that marriage, cohabitation, and sexual relations are still considered as sensitive questions to discuss in a public survey in China, respondents who did answer these questions constituted a distinctive group of people who probably are opinion leaders and are readily available for surveys on sensitive issues such as cohabitation, marriage and sex. They will therefore provide a useful barometer for any future changes in attitudes and behaviors.

The analysis of the role of cohabitation in the family formation process is restricted to the information provided by people who married only once and whose spouse is also in the first marriage. This sample selection is justified by the marriage and family literature which

shows that pre- and postmarital cohabitations differ substantively from one another (Brown, 2000). People married before the implementation of the one-child policy are also excluded from the analysis, because cohabiting before marriage is nearly invisible before the 1970s. The family formation behaviors also undergo considerable changes in response to the one-child policy and changes in the normative environments. Exercising these two restrictions leaves a total of 2,194 people for the final analysis.

Measurements

Family formation outcomes are measured with several variables. The first variable measures age of marriage. The second variable is a four-category variable distinguishing four possible outcomes related to the first birth: out-of-wedlock birth, birth conceptualized outside marriage but born within marriage, birth conceptualized and born within marriage, and no birth. The identification of each category is based on the age of marriage and the age at giving the first birth. The information for the age at giving the first birth is inferred from the birth year of each household member and their relationship to respondents. If a child is identified as the oldest one in the family, then the age of the respondent when the child is born is recognized as the age for first birth. Because both age of marriage and age of birth are measured in years, we cannot determine whether children born in the same year of marriage is a marital birth conceptualized within marriage, an out-of-wedlock birth, or a marital birth conceptualized outside marriage. Given that nonmarital birth is rather rare in China, I take a more conservative strategy and define a birth as an out-of-wedlock birth when the age for giving birth to the child is younger than the age for marriage. But it is very

possible the child born in the same year of marriage is conceptualized outside marriage. To explore this possibility, I follow the coding practice of Zheng (2000) and define the child born in the same year of marriage as conceptualized before marriage when the month of marriage is after February. The rest of births are recognized as births conceptualized and born within marriage. Men and women who did not give birth to any child fall into the category childless.

The third variable measures the timing of first marital birth. It is defined as the number of years between the age of marriage and the age at giving the first birth. This study focuses on the first birth interval for several reasons. First, due to the one-child policy most of the couples having more than one child are from rural China where cohabitation is rare and the union behaviors are relatively uniform. Second, in contemporary China the total fertility rate is most strongly affected by the incidence and timing of first birth. China's transition to below-replacement fertility is mainly due to a postponement in first birth and an increase of the number of couples without any children. Third, the determinants of first birth interval are likely different from those for higher-order births. Limiting the analysis to the transition to first marital birth could significantly reduce the complexity of the study.

In the analysis of the timing of parenthood, an individual stays at risk of experiencing the event (e.g., first birth) or being censored by interview. The retrospective information collected in the survey tacked the first birth event as far as the twentieth year of marriage. The length of observation varies depending on the date of marriage. This study reduced the window of observation to the first seven years of marriage. Men and women who gave birth to their first child later than this point are censored by the end of the seventh year of marriage.

The loss of information due to this redefinition of the censoring point will not substantively change the conclusion, because over 96% of the first births are concentrated in the first seven years of marriage. If cohabiting before marriage has a significant effect on the timing of the first birth, it is legitimate to believe the effect should have released by the seventh year of marriage. Information regarding the first birth experience is complied in term of person-years of risk exposure starting at the date of marriage until the date of first birth or censoring. The 2,086 people included in the analysis contributed a total of 5,968 person-years. The timing of parenthood is estimated using discrete-time logistic regression models because the outcome variable is dichotomous (giving birth or not).

The 2006 CGSS has two questions measuring respondents' cohabitation experiences. The first question asked if respondents are currently cohabiting with an opposite sex partner; the second question asked married respondents whether they cohabited with their current spouse before marriage. The current study chooses the second question to measure the role of cohabitation in the process of formation for two considerations. First, previous studies have shown that the prevalence of cohabitation is very low in China. Preliminary analysis confirms this finding, showing that less than half percent of Chinese participated in the 2006 CGSS report living with an opposite sex partner at the time of the survey. Second, although couples cohabit for a variety of reasons, attitudinal data suggests that cohabitation mainly serves as a prelude to marriage in contemporary China. Focusing the analysis on premarital cohabitation therefore may not lead to a loss of much information, while helping reduce the heterogeneities in cohabiting unions.

It should be noted that the 2006 CGSS does not contain information that enables

researchers to calculate the length of time the couple lives together prior to marriage. If the duration of cohabitation has an impact on marital fertility, the association between premarital cohabitation and the timing of first marital birth are likely to be underestimated. Prior studies, however, suggest that this measurement issue will not seriously distort the results, because the duration of premarital cohabitation is generally short in societies that are in the first or the second stage of the second demographic transition (Bumpass & Lu, 2000; Raymo, Iwasawa, & Bumpass, 2009). Further, there is no evidence that the length of time the couple lived together before marriage has an effect on marital fertility (Leridon, 1990; Manning, 1995).

Cohabitating before marriage emerges when the environments in which an individual grows up have undergone tremendous changes and the process of union formation demonstrates several characteristics which have important ramifications for fertility behaviors. In the analysis of the process of family formation, this study distinguishes two dimensions of environment. The first dimension measures the normative environments one comes of age. It is represented by four dummy variables distinguishing four birth cohorts: those born prior to the 1960s, those born in the 1960s, those born in the 1970s, and those born in the 1980s. The second dimension refers to the family environment one grows up. It is represented by parental education and numbers of siblings. It is assumed that more educated parents provide their children a more liberal environment conductive to the development of individualism and nontraditional behaviors. The childbearing behavior of parents could also influence their children. Previous studies have shown that children born into a large family also have more children themselves. Under the one-child policy,

preference for larger families may be translated into an early birth.

Union characteristics are captured by two variables. The first variable measures the degree of freedom in mate selection. It is assumed that people who meet their current spouse by themselves have greater freedom in organizing their family life and are less subject to the influences of conventional norms for early marriage and early birth. The second variable measures the age of marriage. In traditional societies where marriage is centered on bearing and rearing children, marriage delays may introduce a catch-up effect in marital fertility. Empirical evidence shows that this is the case in China at least until the late 1980s. Chinese women who married late followed a faster pace of transition into parenthood (Wang & Yang 1996). Conversely, when the central place of children declines, marriage delays may not necessarily accelerate the transition to parenthood.

This study also controls for several demographic characteristics in the multivariate regression analysis. Educational attainment is recoded into a four-category variable, including primary education or less, junior middle school, high school, and some college or above. The data used in this study do not contain detailed information about an individual's religious affiliations. I use a dummy variable to distinguish people who believe in at least one religion and those who do not believe in any religion. Religious persons generally are more conservative and are more likely to conform to traditional norms in organizing their private lives (Treas, 2002). A more recent study of Chinese's attitudes towards marriage and cohabitation (Liu, 2010), however, suggests the influence of religion on family formation behaviors probably is less obvious in China, as the majority of religious Chinese are affiliated with folk religions which do not contain rigorous codes against deviation from traditional

track. China is a multinational country with a total of 55 ethnic minorities. Compared to Han nationality ethnic minorities generally have distinctive cultural values and norms regarding family and reproduction. Under the one-child policy, ethnic minority Chinese are also allowed to have more than one child. In the interest of parsimony as well as for the consideration of cultural and policy differences in family formation, ethnic origin is measured with a dummy variable distinguishing Han nationality (which accounts for more than 90% of the Chinese population) and ethnic minority Chinese. The sex of respondents is represented with a dummy variable.

[Table 1 is inserted here]

The basic analytical strategy is to estimate a series of multivariate models and to examine the role of cohabitation in the family formation process. First, the effect of cohabiting before marriage on age at first marriage is assessed. Second, the effect of cohabiting before marriage on the pathway to parenthood is assessed. Based on the literature, four possible outcomes are considered: out-of-wedlock birth, birth conceptualized outside marriage but born within marriage, birth both conceptualized and born within marriage, and no birth. The last step of analysis focuses on evaluating the role of cohabitation in the timing of first marital birth. The time matrix that measures the transition to parenthood is years of marriage. In each of these analyses, tests for interactions between educational attainment and premarital cohabitation experience are conducted.

Results

Age at First Marriage

Table 2 presents the Ordinary Least Squares (OLS) regression estimate of the effect of cohabitation on age at first marriage. Individuals who cohabit before marriage marry six months later than individuals who marry directly. There is no evidence that cohabitation interacts with education and affects age at first marriage (results not shown). The effects of the remaining covariates largely operate in the expected directions. Males, urban citizens, and Han nationality marry later than females, rural residents, and ethnic minorities, respectively. Education is associated with increased age at first marriage, whereas party membership is associated with earlier marriage. Individuals who met their spouse by themselves marry later than those who were introduced to their current spouse by match-makers, relatives, parents, and other traditional mechanisms. Individuals coming of age in the 1970s and the early 1980s marry later than those who came of age in the 1990 and the early 2000; and the youngest cohort (1980-1988) marries at the youngest age. This cohort pattern emerges because the marriage formation of the oldest cohort was disrupted by the "cultural revolution" and the campaign "wan xi shao", whereas the youngest cohort is still very young and the majority of them have not completed their marriage formation by the time the data for the current study were collected.

[Table 2 is inserted here]

Pathways to Parenthood

The next step of analysis examines the pathways to parenthood. Four possible outcomes are identified: (1) transition to parenthood outside marriage, (2) bridal conception, (3) traditional pathway, i.e., both conception and childbearing took place within marriage, and (4) childless. The traditional pathway is chosen as the reference category in the multinomial regression

analysis of the pathways to parenthood. Table 3 presents the effects of cohabitation on the odds of experiencing each of the nontraditional outcomes as opposed to the traditional pathway. Model 1 estimates the main effect of cohabitation, and Model 2 presents the interaction effects between cohabitation and education.

The first column of Table 2 shows that cohabiting before marriage does not increase the odds of experiencing an out-of-wedlock birth. In fact, individuals who cohabit before marriage are 66% less likely to experience an out-of-wedlock birth than individuals who marry directly. In contrast to the finding in contemporary Japan and the United States in the 1980s, the second column of Table 2 shows that cohabiting before marriage does not significantly increase the odds of experiencing bridal conception. The third column of Table 2 shows that individuals who cohabit before marriage is twice as likely to stay childless compared to individuals who marry directly. Cohabitation also affects the pathway to parenthood through age of marriage. Cohabiting before marriage increases age at first marriage by half year (Table 2), which translates into an 8% increase in the odds of having an out-of-wedlock birth, a 4% increase in the odds of having a bridal conception, and a 6% increase in the odds of staying childless, respectively.

The fourth to the sixth columns of Table 3 present the interaction effect between cohabitation before marriage and education. Note that interaction terms that are not statistically significant and that do not improve the fit between model and data are excluded from the final model. The sixth column of Table 3 provides moderate evidence that the effect of cohabiting before marriage on the odds of staying childless is greater for individuals who have only completed primary education than for individuals from the other three

educational groups. For example, cohabiting before marriage is associated with more than three times increase in the odds of being childless for individuals who have only completed primary education; but the magnitude of the effect of cohabitation is nearly halved for individuals from the other four educational categories. There is no evidence that cohabitation interacts with education and affects an individual's likelihood of experiencing the other two nontraditional pathways to parenthood.

With respect to the other covariates, the last three columns of Table 3 show that age at first marriage is associated with increased odds of experiencing either one of the nontraditional pathways to parenthood or staying childless. Compared to the college educated, individuals who completed primary education but did not go beyond high school are more likely to conceptualize their first child outside marriage. Party members and Han nationality are more likely to conceptualize outside marriage than non-party members and ethnic minorities. Mother's education increases the odds of being childless, whereas numbers of siblings promote childbearing. In contrast to the public image, urban residents are no more likely than rural residents to give birth to their first child outside marriage. In fact, they are less likely to do so. The more recent cohorts are more likely to conceptualize their first birth outside marriage. The oldest cohort is more likely to stay childless than individuals coming of age in the 1980s, but they are no more or less likely than the second youngest cohort. The youngest cohort is the most likely to stay childless.

[Table 3 is inserted here]

Timing of First Marital Birth

The final step of analysis evaluates the role of cohabitation in the timing of first marital birth. The analytical sample is restricted to 2,086 individuals who either give birth to their first child within marriage or who stay childless. The relationship between cohabiting before marriage and the timing of first marital birth is evaluated based on the birth activities in the first seven years of marriage. Individuals giving birth later than this time point are censored by the end of the seventh year of marriage. The effect of marriage time is represented by seven dummy variables. Table 4 presents the discrete-time logistic regression estimates of the effect of cohabitation on the timing of first marital birth. Model 1 estimates the main effect of cohabitation, and Model 2 presents the interaction effect between cohabitation and education.

The first column of Table 4 shows that cohabitating before marriage is associated with a 22% reduction in the odds of childbearing. The negative effect of cohabitation on the timing of birth is greater for individuals who did not complete primary school than for people from the other educational groups (column two of Table 4). For example, cohabiting before marriage is associated with about a 20% reduction in the likelihood of childbearing for individuals who have completed at least primary education, but it reduces the odds of childbearing by 80% for individuals who did not complete primary education. The effect of marriage duration on the likelihood of childbearing assumes a quadratic form. An individual's likelihood of experiencing a birth event peaks in the second year of marriage, and then decreases monotonically in the following five years. Party members are more likely to delay parenthood than non-party members, whereas the number of siblings is associated with increased odds of childbearing. Consistent with the observation in Wang

and Yang (1996), age of marriage increases the odds of transition to parenthood. As shown in the second column of Table 4 one year increase in the age of first marriage is associated with a 4% increase in the odds of childbearing.

[Table 4 is inserted here]

Discussion

Cohabiting before marriage has become an increasingly popular way to start conjugal life in China. This change in the process of family formation is associated with a fundamental shift in the timetables for marriage and childbearing, and the magnitude of the change in the timetable for childbearing varies between different educational groups. The direction of the change in these timetables suggests a convergence in demographic behaviors as China becomes more integrated into the world economy.

Similar to Japan and other societies in the second stage of the development of cohabitation, cohabitating union has not become a place for childbearing in China. In fact, individuals who cohabit before marriage are less likely to make transition to parenthood outside marriage. But compared to individuals who marry directly, individuals who cohabit before marriage are more likely to conceptualize their first child outside marriage and legitimate premarital conception through marriage. This finding contradicts to that found in contemporary Japan but is largely consistent with the observation in the United States. Although cohabitation before marriage has no significant effect on the cumulative probability of parenthood in Japan, this is not true in China. Chinese people who cohabit before marriage are more likely to stay childless. In addition to the pathway to parenthood,

cohabiting before marriage also affects the timing of birth within marriage. The direction of the influence is very similar to that observed in Japan: Individuals who cohabit before marriage tend to delay childbearing within marriage. The magnitude of the effect of cohabitation depends on education. Japanese women who have attended vocational school or university are particularly likely to delay childbearing if they cohabit before marriage. But the negative effect of cohabiting before marriage on the timing of birth is greater for Chinese at the lower end of the educational spectrum.

The effect of cohabitation on childbearing is also mediated through age at first marriage. In general individuals who cohabit before marriage marry a half year later than those who marry directly. Marriage delay in turn increases the chance of deviating from the traditional pathway to parenthood and the likelihood of remaining childless. In respect to the transition to parenthood within marriage, an interaction effect between cohabitation and birth cohort is observed. Consistent with a previous study of birth interval in China (Wang & Yang 1996), late marriage is associated with increased odds of transition to parenthood for the two oldest cohorts coming of age in the 1970s and 1980s. But for the more recent cohorts, cohabitation and later marriage seem signal a retreat from parenthood.

This study contributes to the debates over the generalizability of the second demographic transition in non-Western societies. It shows that global forces of socioeconomic development have led China to embark on the second demographic transition. At the current stage of the demographic transition cohabitation is a prelude to marriage in which a relationship that is expected to last lifelong especially when children are involved is tested. Marriage remains the principle institution for childbearing. But the central place of

children in marriage has been challenged. Cohabiting before marriage and marriage delays in conjunction with the one-child policy have contributed to China's transition to a below-replacement fertility regime.

Table 1 Distribution of Covariates

	%	M
Cohabiting before marriage	12.8	
Pathways to parenthood		
Nonmarital births	4.2	
Bridal conceptions	8.1	
Marital births	77.3	
No birth	10.4	
Union characteristics		
Age at first marriage		23.9
Free-love marriage	30.7	
Education		
< Primary education	8.1	
Primary education	18.9	
Junior middle school	37.8	
Senior high school	25.4	
Higher education	9.7	
Birth cohorts		
1947-1959	34.6	
1960-1969	31.9	
1970-1979	27.9	
1980-1988	5.5	
Number of siblings		3.2
Mother's education		
< Primary education	85.7	
Primary education	10.5	
> Primary education	3.8	
Demographic characteristics		
Male	42.9	
Ethnic minorities	5.3	
Religion	10.6	
Party member	8.4	
City resident	56.1	
N	2,194	

Note: Source: 2006 Chinese General Social Survey.

Table 2 Ordinary Least Squares (OLS) Regression Estimate of the Effect of Cohabiting before Marriage on Age at First Marriage

	β		S.E.
Cohabiting before marriage	0.52	***	0.20
Free-love marriage	0.43	***	0.15
Education			
< Primary education	-3.22	***	0.37
Primary education	-2.50	***	0.30
Junior middle school	-1.57	***	0.26
Senior high school	-0.70	***	0.26
(Higher education)			
Birth cohorts			
1947-1959	1.12	***	0.17
(1960-1969)			
1970-1979	-0.16		0.17
1980-1988	-1.98	***	0.32
Number of siblings	-0.02		0.04
Mother's education			
(< Primary education)			
Primary education	0.33		0.23
> Primary education	0.37		0.36
Demographic characteristics			
Male	1.41	***	0.14
Ethnic minorities	-0.56	**	0.30
Religion	0.26		0.22
Party member	-0.76	***	0.25
City resident	1.00	***	0.16
Intercept	23.86	***	0.34
Adjusted R^2	0.22		
N	2,194		

Note: Categories of variables in the parentheses are reference groups.

Source: 2006 Chinese General Social Survey. N=2,194

*ρ<.1. **ρ<.05. ***ρ<.01.

Table 3 Multinomial Regression Estimates of Odds Ratios of Cohabiting before Marriage on the Pathway to Parenthood

	Model 1			Model 2		
	Nonmarital birth	Bridal conception	Childless	Nonmarital birth	Bridal conception	Childless
Cohabiting before marriage	0.34**	1.35	2.07***	0.22**	1.31	2.30***
Union characteristics						
Age at first marriage	1.17***	1.08***	1.12***	1.17***	1.08***	1.12***
Free-love marriage	1.03	1.13	1.02	1.03	1.13	1.02
Education						
< Primary education	2.17	1.85	1.17	2.11	1.84	1.23
Primary education	1.68	2.05*	0.63	1.56	1.98*	0.80
Junior middle school	1.23	2.12**	0.85	1.21	2.11**	0.87
Senior high school	1.05	2.08**	1.10	1.04	2.07**	1.11
(Higher education)	1.00	1.00	1.00	1.00	1.00	1.00
Birth cohorts						
(1947-1959)	1.00	1.00	1.00	1.00	1.00	1.00
1960-1969	1.33	1.56**	0.37***	1.32	1.56**	0.37***
1970-1979	1.24	1.62**	1.19	1.23	1.61**	1.21
1980-1988	1.25	2.59**	6.07***	1.23	2.58**	6.27***
Number of siblings	0.93	0.99	0.84***	0.93	0.99	0.84***
Mother's education						
(< Primary education)	1.00	1.00	1.00	1.00	1.00	1.00
Primary education	0.71	1.31	1.56**	0.71	1.31	1.54**
> Primary education	0.40	0.35	2.02**	0.40	0.35	2.01**
Demographic characteristics						
Male	0.89	0.96	0.88	0.89	0.96	0.88
Ethnic minorities	0.65	0.44*	0.70	0.66	0.44*	0.68
Religion	1.32	1.14	1.22	1.33	1.15	1.21
Party member	0.34	1.83**	1.49	0.34	1.82**	1.52
City resident	0.47***	0.77	0.73	0.47***	0.77	0.75
Cohabitation * Primary education				0.53	0.92	2.00*
Likelihood ratio	2,839			2,845		
N	2,194			2,194		

Note: Categories of variables in the parentheses are reference groups. Exponentiated coefficients presented. Source: 2006 Chinese General Social Survey.

*ρ<.1. **ρ<.05. ***ρ<.01.

Table 4 Discrete-Time Logistic Regression Estimates of the Odds Ratios of Cohabiting before Marriage on Timing of First Birth within Marriage

	Model 1	Model 2	Model 3
Marriage duration in years			
1	0.10***	0.09***	0.09***
2	1.44***	1.43***	1.43***
(3)	1.00	1.00	1.00
4	0.71***	0.71***	0.71***
5	0.56***	0.56***	0.56***
6	0.35***	0.35***	0.35***
7	0.32***	0.32***	0.32***
Cohabiting before marriage	0.78**	0.77**	0.81**
Union characteristics			
Age at first marriage	1.04***	0.97	0.97
Free-love marriage	0.94	0.93	0.93
Education			
< Primary education	0.82	0.82	0.88
Primary education	0.96	0.92	0.93
Junior middle school	1.09	1.01	1.02
Senior high school	1.02	1.00	1.00
(Higher education)	1.00	1.00	1.00
Birth cohorts			
1947-1959	0.73	0.05***	0.05***
1960-1969	1.19	0.54	0.53
1970-1979	1.04	1.21	1.22
(1980-1988)	1.00	1.00	1.00
Number of siblings	1.03*	1.02	1.02
Mother's education			
(< Primary education)			
Primary education	0.91	0.92	0.92
> Primary education	0.79	0.80	0.81
Demographic characteristics			
Male	0.99	1.00	1.00
Ethnic minorities	0.85	0.82	0.83
Religion	0.99	1.00	0.99
Party member	0.79**	0.76**	0.77**
City resident	0.96	0.96	0.96
Cohabiting before marriage*Cohort (1947-1959)		1.13***	1.13***
Cohabiting before marriage*Cohort (1960-1969)		1.04	1.04
Cohabiting before marriage* Less than primary education			0.24*
-2 log likelihood	5,856	5,830	5,825
Person-years	5,968	5,968	5,968

Note: Categories of variables in the parentheses are reference groups. Exponentiated coefficients presented. Source: 2006 Chinese General Social Survey. N=2,194. *ρ<.1. **ρ<.05. ***ρ<.01.

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