# SOCIAL–DEMOGRAPHIC INFLUENCE ON FIRST BIRTH INTERVAL IN CHINA, 1980–1992

ZHENG ZHENZHEN

*Institute of Population Research, Peking University, Beijing 100871, China*

**Summary**. This study examines the delay between first marriage and first live birth in China among a sample of women who married between 1980 and 1992. Most couples in China only use contraception after the first child is born. Most sample women had their first child within 2 years of marriage. However, there are significant rural–urban differences in the first birth interval, indicating that there was most probably deliberate fertility regulation after marriage among many urban couples. Survival analysis shows that place of residence, level of education, age at first marriage and marriage cohort affect the first birth interval.

## Introduction

Contraceptive prevalence has increased rapidly in China since the 1970s, reaching 83% in 1992 (Li, 1996). The total fertility rate (TFR) has decreased, from 5·8 in 1970 to 2·3 in 1980, and has stayed at approximately the same level thereafter (Yao, 1995). Although these changes in contraceptive prevalence and fertility rate are dramatic, timing of first birth and lifecycle contraceptive patterns have remained almost the same. Most newly married couples do not use contraception until their first child is born, which usually happens within 2 years after marriage. The mostly commonly used contraception methods are sterilization and the intrauterine device (IUD), for the purposes of stopping, or in the case of the IUD, spacing pregnancies. Most couples have just one or two children, as indicated by the TFR of near 2 and as dictated by official family planning policy. Given the near replacement level TFR, the timing of first live birth becomes a more important factor in determining the rate of population growth. The longer the interval between marriage and first birth, the slower the rate of population growth, if the age of marriage is kept constant. A couple who intend only to have one or two children may also want to lengthen the spacing between marriage and first birth in order to better establish their life as a couple or to be more financially secure at the time of first birth. Thus lengthening the interval between marriage and first birth may be an important goal of the state, and may also be in the interests of individual couples.

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The purpose of this paper is to examine the pattern of first birth intervals in China, and the possible related social–demographic factors. Innumerable research papers have discussed fertility (related to number of children born and sex ratio of the children) and contraception issues in China; however, very little attention has been paid to the timing of first birth and its determinants. An exception is Wang & Yang (1996), which covers the period 1970–85. The current paper covers the period 1980–1992.

## Data and methods

*Data*

The data used for this study are from the 1992 National Fertility and Family Planning Survey of China, conducted by the State Family Planning Commission of China (SFPC) in September 1992. The survey interviewed a sample of 380,000 residents, including 77,000 married women of childbearing age (15–49). The sampling design is a two-stage stratified cluster sampling, by county level for all provinces and residential units for each selected county. The sampling is representative nationwide, with very small sampling errors for most measures (Hao & Gao, 1996). Trained female interviewers collected the data through home visits. Prior to the survey, the sample households were officially informed and reassured by SFPC that the information would be kept confidential. The respondents were again reassured on confidentiality during home visits. The completed questionnaires were processed in SFPC, Beijing (Chen & Wang, 1997).

The data provide information on the woman's place of residence (rural or urban), year and month of her birth, number of siblings, education, if she lives with her parents or in-laws, year and month of first marriage, number of live births and living children, birth and death records for last four live births, contraceptive method currently used, and reasons for not using contraception.

The eligible cases for this research are 46,209 married women. Only those who got married during or after 1980 are considered, to eliminate the effects of policy change and contraception availability. Since there are only records for the last four live births, women who had more than four live births are excluded. Also excluded are those who suffered infertility and never had a live birth.

The first live birth is defined as the event. Since only the year of each birth was recorded, the interval of first birth can only be represented approximately. The birth interval is defined by subtracting the calendar year of first birth from the calendar year of first marriage. Month of marriage is not used in this definition. The birth interval of women whose first birth was in the same calendar year as their first marriage is defined as zero. Cases where the woman is not infertile but has no children are dealt with as right censored.

*An analytical framework*

Traditionally, Chinese couples sought to have children as soon as possible after marriage. Most rural communities still follow this tradition. Young couples without children 1 or 2 years after marriage are looked upon as abnormal by relatives and

neighbours, and are assumed to have fertility problems. This pattern, however, appears to be changing in some urban areas where young couples prefer not to have their one child too soon for their own reasons, such as in order to accumulate consumer items before having their child. Since abstinence is not common among newly married couples, most delayed first births are related to the use of contraception. However, most of China's family planning services are concentrated on couples who already have a child. China's nationwide contraception mixture in 1992 was: 53·5% male/female sterilization, 40·1% IUD, 6·4% other methods. These rates differ between rural and urban locations. The use of methods other than sterilization and the IUD (sterilization is, of course, inappropriate for delay the first birth, while using the IUD before having children is very uncommon in China) was 4·3% in rural and 15·0% in urban areas.

There are a number of reasons to expect differences in first birth intervals between rural and urban households. The employment situation of women differs substantially between rural and urban areas. Most urban women have a job while most rural women work not far from home, on the farm or household sideline industries, or as a housewife. Housing is a major concern for newly married couples in urban areas, but less so for those in rural areas. These employment and housing differences mean that the desire to plan or delay first birth will be different for rural and urban couples. Therefore place of residence should be an important factor affecting first birth interval.

Level of education is another factor that should be related to first birth interval as it affects knowledge and awareness of contraception, and is linked to a woman's occupation. Women who have graduated from high school are more likely to have a paid full-time job, even in rural areas. Four levels of education are considered: illiteracy, primary school, middle school, and high school or higher.

Living with members of the older generation may discourage delay of first birth, because of their stronger traditional values and eagerness to see their grandchildren. For young parents, living with older relatives may also ease the burden of taking care of their infant. Therefore, living with parents or in-laws would be expected to reduce the interval between marriage and first birth.

Age at marriage also needs to be considered. In China, the legal marriage age for women is 20, and those who marry after 23 are considered late marriages. Late-married women may have their first birth sooner, but with most couples only having one or two children, age at marriage may be less of an influential factor than it once was.

Since birth interval in the current data is defined only by the difference in calendar years, the month of marriage is expected to be an important predictor of measured birth interval. Assuming low premarital conception, which is still a reasonable assumption in China, only those married between January and March have the possibility of recording a zero birth interval. Likewise, those married late in the year have a much-reduced probability of recording a birth interval of one. If there were no difference in month of marriage patterns between rural and urban couples, this data-driven relationship might well be ignored, but the distributions of marriage by month do appear quite different between rural and urban couples (see Table 3). 'Month of marriage' dummies are used to account for these differences. Since the
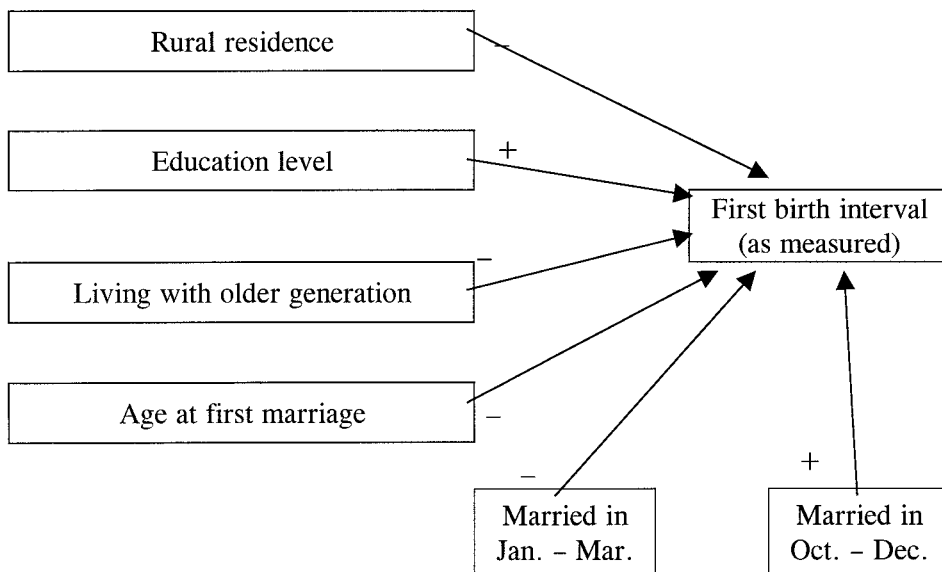
**Fig. 1.** An analytical framework on some determinants of first birth interval.

month of marriage data are available even if the month of birth is not, it seems wise to make use of the data in this way.

Given the information available in 1992 survey, the included determinant factors and their directions of effect on first birth interval are shown in Fig. 1.

### Methods of analysis

The dependent variable is timing of first birth after first marriage, and this interval ranges from 0 to 12 (in years). Life table analysis is used to compare the intervals of different groups with different characteristics. The assumptions underlying life table analysis are that censored cases do not differ from those that remain under observation, and survival experience does not change during the course of the study. It should not be a problem for this analysis, assuming that the timing pattern of first birth has not changed very much during the 12 years of the survey. Cox regression on duration of first marriage to first birth is also used, to look at the effects of several independent variables together. The assumption for fitting a Cox model holds in this situation, since the survival curves are mostly parallel throughout the duration.

The statistical analyses were attained using SPSS 6·1 (Norusis, 1994).

### Results

### General description

Table 1 summarizes the major variables, as well as their distribution by place of residence. Significant differences are found between rural and urban women. Rural women get married earlier and have first children earlier: 95% of women married

**Table 1.** Major variables of 46,209 married women aged 15–49 in China, 1992

| Variable | Frequency | Distribution % | Rural % | Urban % |
|---|---|---|---|---|
| Place of residence | | | | |
|   Rural | 36,023 | 78·0 | | |
|   Urban | 10,186 | 22·0 | | |
| Education | | | | |
|   Illiteracy | 7185 | 15·5 | 19·2 | 2·3 |
|   Primary school | 14,535 | 31·5 | 38·3 | 7·3 |
|   Middle school | 16,734 | 36·2 | 35·2 | 39·7 |
|   High school or higher | 7755 | 16·8 | 7·2 | 50·7 |
| Living with older generation | | | | |
|   Yes | 12,402 | 26·8 | 26·3 | 28·8 |
|   No | 33,807 | 73·2 | 73·7 | 71·2 |
| Age at first marriage | | | | |
|   15–19 | 7324 | 15·8 | 19·2 | 3·9 |
|   20–24 | 31,705 | 68·6 | 70·2 | 62·9 |
|   25–29 | 6684 | 14·5 | 9·9 | 30·7 |
|   30+ | 476 | 1·1 | 0·7 | 2·4 |
| Children ever born | | | | |
|   0 | 5199 | 11·3 | 11·0 | 12·1 |
|   1 | 22,291 | 48·2 | 40·4 | 75·8 |
|   2 | 13,998 | 30·3 | 35·8 | 10·7 |
|   3 | 3939 | 8·5 | 10·6 | 1·3 |
|   4 | 782 | 1·7 | 2·1 | 0·2 |
| First birth interval (year)* | | | | |
|   0 | 4131 | 10·1 | 10·6 | 8·2 |
|   1 | 26,236 | 64·0 | 63·7 | 65·0 |
|   2 | 7859 | 19·2 | 19·2 | 19·1 |
|   3 | 1747 | 4·3 | 4·2 | 4·6 |
|   4 | 552 | 1·3 | 1·3 | 1·7 |
|   5+ | 485 | 1·2 | 1·1 | 1·5 |

*Excluding the women who had no live birth.

before age 20 are rural residents, and 90% of them gave birth to their first child within 2 years of marriage.

The average age at first marriage, average age at first live birth, and average first birth interval (excluding censored cases) for rural and urban areas are listed in Table 2. For each variable there is a significant difference between rural and urban women ($p<0.001$ by t test).

Age at marriage and level of education are not strongly correlated. The Spearman correlation coefficient is 0·138 for overall correlation controlled for place of residence.

Month of marriage is not uniformly distributed throughout the year. Weddings usually take place in January and February (New Year and Chinese New Year), May

**Table 2.** Comparison of mean age at first marriage, first live birth, and mean first birth interval between rural and urban, China, 1992

|  | Rural | Urban | Rural/urban difference Rural–Urban | $p$ value of t test |
|---|---|---|---|---|
| Mean age at first marriage | 21·1 | 23·2 | 2·1 | <0·001 |
| Mean age at first live birth | 22·7 | 25·0 | 2·3 | <0·001 |
| Mean first birth interval (year)* | 1·26 | 1·32 | 0·06 | <0·001 |

*Excluding the women who have had no live birth.

**Table 3.** Distribution of marriage month, 46,209 women married during 1980–92, China (%)

| Place of residence | Month of marriage | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Rural | 19·1 | 11·6 | 6·3 | 4·5 | 4·7 | 2·8 | 3·0 | 4·2 | 5·5 | 10·9 | 11·0 | 16·3 |
| Urban | 15·7 | 8·6 | 5·5 | 7·3 | 12·7 | 4·2 | 3·4 | 4·8 | 7·1 | 15·2 | 5·5 | 9·9 |

(Labour Day), October (National Day), and December (close to New Year). The distributions are different in rural and urban areas. The marriage months of rural couples are more concentrated in the winter when there is less demand for their time in the fields, while urban couples tend to get married around national holidays. Table 3 shows the distribution of marriage month of the studied women. Among those who got married in January and February, 29·8% of rural women gave birth to their first child in the same calendar year, and the percentage for urban women is 27·5%. Again this provides evidence that more rural than urban women get pregnant soon after marriage.

*Findings of survival analysis*

   Table 4 shows the results of the life table analysis. The total cases are divided into subgroups by place of residence, level of education, age at marriage, and month of marriage. The cumulative proportions not having their first birth by the end of the year after marriage are calculated for each subgroup. The table only presents the result up to a 5-year duration, since there are very small proportions not having their first birth after 5 years. The median survival time is the time point by which half of the women are expected to have their first birth. Because of the limitations of the data in terms of the measured birth interval, as discussed above, it is better not to take the

**Table 4.** Cumulative proportion not giving first birth at the end of the year and estimated median survival time, by different characteristics, 1980–92, China

| | Cumulative proportion not giving first birth at the end of year | | | | | | Estimated median first birth interval |
|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | |
| **Total** | 0·9083 | 0·2949 | 0·0934 | 0·0415 | 0·0233 | 0·0136 | 1·67 |
| **Rural** | 0·9033 | 0·2909 | 0·0875 | 0·0374 | 0·0204 | 0·0114 | 1·66 |
| Education | | | | | | | |
| Illiteracy | 0·9120 | 0·3407 | 0·1174 | 0·0520 | 0·0296 | 0·0191 | 1·72 |
| Primary school | 0·9024 | 0·2884 | 0·0862 | 0·0361 | 0·0192 | 0·0101 | 1·66 |
| Middle school | 0·9039 | 0·0706 | 0·0733 | 0·0296 | 0·0158 | 0·0076 | 1·64 |
| High school or higher | 0·8811 | 0·2671 | 0·0796 | 0·0410 | 0·0226 | 0·0125 | 1·62 |
| Age at marriage | | | | | | | |
| 15–19 | 0·9242 | 0·3413 | 0·1191 | 0·0537 | 0·0291 | 0·0149 | 1·73 |
| 20–24 | 0·8970 | 0·2704 | 0·0738 | 0·0294 | 0·0152 | 0·0082 | 1·63 |
| 25–29 | 0·8837 | 0·2845 | 0·0850 | 0·0428 | 0·0290 | 0·0203 | 1·64 |
| 30+ | 0·9298 | 0·3924 | 0·1486 | 0·0628 | 0·0554 | 0·0475 | 1·80 |
| Month of marriage | | | | | | | |
| Jan.–Mar. | 0·7556 | 0·1827 | 0·0632 | 0·0268 | 0·0151 | 0·0018 | 1·45 |
| Apr.–Sept. | 0·9846 | 0·2514 | 0·0776 | 0·0355 | 0·0194 | 0·0032 | 1·66 |
| Oct.–Dec. | 0·9899 | 0·4131 | 0·1155 | 0·0482 | 0·0259 | 0·0032 | 1·85 |
| **Urban** | 0·9259 | 0·3088 | 0·1099 | 0·0559 | 0·0335 | 0·0217 | 1·69 |
| Education | | | | | | | |
| Illiteracy | 0·9009 | 0·2959 | 0·1062 | 0·0731 | 0·0585 | 0·0488 | 1·66 |
| Primary school | 0·9100 | 0·2659 | 0·0839 | 0·0455 | 0·0296 | 0·0231 | 1·64 |
| Middle school | 0·9274 | 0·2836 | 0·0925 | 0·0432 | 0·0276 | 0·0175 | 1·66 |
| High school or higher | 0·9282 | 0·3358 | 0·1277 | 0·0665 | 0·0373 | 0·0230 | 1·72 |
| Age at marriage | | | | | | | |
| 15–19 | 0·9270 | 0·3202 | 0·1285 | 0·0824 | 0·0553 | 0·0327 | 1·70 |
| 20–24 | 0·9269 | 0·3185 | 0·1075 | 0·0507 | 0·0272 | 0·0169 | 1·70 |
| 25–29 | 0·9236 | 0·2724 | 0·1027 | 0·0537 | 0·0350 | 0·0221 | 1·65 |
| 30+ | 0·9130 | 0·3856 | 0·1882 | 0·1324 | 0·1233 | 0·1233 | 1·78 |
| Month of marriage | | | | | | | |
| Jan.–Mar. | 0·7713 | 0·2074 | 0·0830 | 0·0392 | 0·0245 | 0·0038 | 1·48 |
| Apr.–Sept. | 0·9875 | 0·3032 | 0·1183 | 0·0621 | 0·0375 | 0·0083 | 1·71 |
| Oct.–Dec. | 0·9961 | 0·4099 | 0·1248 | 0·0638 | 0·0372 | 0·0063 | 1·85 |

median survival time as an accurate time point, but simply for the purpose of comparison among subgroups.

Wilcoxon tests are used to compare the differences within rural and urban subgroups separately, and to compare the rural–urban differences for each level of education and each marriage age group. The results of the Wilcoxon test show that

**Table 5.** Cox model estimation of six independent variables and their significance

| Variable | Coefficient | (Standard Error) | Significance (*p* value) |
|---|---|---|---|
| Place of residence | | | |
|   Rural | 0·0549 | (0·0198) | 0·0048 |
|   Urban | (reference) | | |
| Education | | | |
|   Illiteracy | − 0·0887 | (0·0163) | <0·0001 |
|   Primary school | − 0·0132 | (0·0133) | 0·3101 |
|   Middle school | (reference) | | |
|   High school or higher | − 0·0686 | (0·0167) | <0·0001 |
|   (Rural)*(high school or higher) | 0·0804 | (0·0324) | 0·0131 |
| Age at marriage | | | |
|   15–19 | − 0·0964 | (0·0132) | <0·0001 |
|   20–24 | (reference) | | |
|   25–29 | 0·0054 | (0·0177) | 0·7604 |
|   30+ | − 0·2312 | (0·0588) | 0·0001 |
|   (Rural)*(25–29) | − 0·0886 | (0·0350) | 0·0112 |
| Live with parents or in-laws | − 0·0143 | (0·0119) | 0·2278 |
| Month of marriage | | | |
|   Jan.–Mar. | 0·1731 | (0·0127) | <0·0001 |
|   Apr.–Sept. | 0·1498 | (0·0127) | <0·0001 |
|   Oct.–Dec. | (reference) | | |
| Marriage cohort | | | |
|   1980–84 | 0·1789 | (0·0169) | <0·0001 |
|   1985–89 | 0·2079 | (0·0165) | <0·0001 |
|   1990–92 | (reference) | | |

the rural–urban differences of overall, middle school and high school or higher education, and the 20–24 marriage age group are very significant.

A Cox model shows that level of education, age at marriage, place of residence, marriage cohort and month of marriage (coded as 1: Jan.–Mar., 2: Apr.–Sept.; and 3: Oct.–Dec.) each have a significant effect on observed marriage–first birth duration. Marriage cohort is included in the analysis to control for any long-term trend in the data, which spans 12 years. These results show that birth intervals in the 1990s were significantly longer than in the 1980s. Living with parents or in-laws is not significant. The interactions of rural residence and the highest educational category, and of rural residence and the 25–29 marriage age group are significant, showing the difference between rural and urban subgroups in the effects of these variables on birth intervals. The estimated parameters and their significance are shown in Table 5, where a negative coefficient means a lower probability of having the first birth in the year, which is an implication of longer first birth interval, and a positive one means a higher probability, with other variables controlled.

## Discussion

*Rural–urban difference*

Since few first birth intervals are longer than 2 years, the difference between rural and urban women is very small. However, the small difference is statistically significant. Urban women tend to wait longer to have their first child. An investigation in the urban area of Shanghai in the late 1980s showed that of 8000 newly married couples, 46% did not want to have children soon (Guo *et al.,* 1996). The contraceptive behaviours of married women who have never given birth is significantly different between rural and urban women of the 1992 survey data: only 3·6% of rural women use contraception, compared with 12·9% of urban women. Desire to delay parenthood is the most likely explanation for this observed difference in contraceptive use and for this study's finding of a longer interval between first marriage and first birth. As argued earlier, these differences may be the result of differences in tradition, culture, beliefs and/or more practical reasons, such as living conditions and costs (economics, time, career and opportunity). In most rural areas, married couples without children after 2 years would be a topic of gossip among the neighbours. Young rural couples also lack a motive to delay first birth since most women do not need to work away from home, the cost of raising a child is less than for an urban family, and housing is seldom a problem. Differences in desired fertility level (two vs one) and concerns about the sex of children may also contribute to the shorter birth intervals in rural areas.

Desire to delay parenthood might result in terminating the first pregnancy by induced abortion, but supporting empirical data are lacking. Two small scale surveys in 1993 and 1994 found that among urban women who had induced abortions, 30–40% were first pregnancies (Kang, Yang & Wang, 1996; Zheng, 1996). There are no studies that have measured the percentage of rural women's first pregnancies that are terminated by induced abortion. The current data do not help here as only live births were observed. While there is no evidence that rural women terminate first pregnancies any less often than urban women, given the stronger normative push for children soon after marriage and the reduced access to medical facilities for rural women, it is a possible explanation.

Of course, an alternative explanation to the conscious desire to delay pregnancy on the part of some urban women is a biological one – that it takes urban women longer to get pregnant. Difference in the frequency of intercourse or differences in fecundity could account for the observed difference in birth interval but not in the observed difference in contraceptive use. Information on the frequency of sexual intercourse and fecundity are not available from these data. However, according to a 1989 sampling survey involving 21,500 men and women and covering fifteen provinces in China, rural couples did have more frequent sexual intercourse than urban couples. It was estimated at 4·66 per month for urban couples on average, compare with 5·43 for rural couples (Liu, 1995). Though this includes all couples, not just newly married ones, it may be that rural women have a shorter time of waiting for conception than urban women. On the other hand, the 1992 National Fertility and Family Planning Survey shows that 0·4% of 188,797 women of childbearing age had problems with infertility, and 78·6% of these were of rural residence. Based on these data, fecundity

difference would work in the opposite direction of the observed differential. In conclusion, while biological differences are possible, a conscious decision to control fertility through the use of contraception or induced abortion seems to be a more likely explanation for the observed rural–urban difference in the length of the first birth interval.

### Effect of educational attainment

Educational level is a significant variable overall, but more useful in explaining the variations among urban residents. The first birth interval of urban women who have a high school education or higher is significantly longer than women of the other three groups. The delaying of first birth in urban women may relate to their concerns about continuation of education, promotion and retention of a good job. Previous investigations have revealed that one key factor affecting the contraceptive behaviour of newly married couples is knowledge of contraception (Guo *et al.*, 1996). Those who have a higher education are more able to find ways of delaying pregnancy through contraceptives that are more appropriate for delaying first birth than other available methods. However, there are more contraception delivery channels in cities. Although there are very well organized family planning networks in rural areas, they are more effective in service delivery aimed at spacing and stopping, rather than delaying first birth. In most rural area, condoms and oral pills are not encouraged, and not very easy to obtain. The rhythm method is not a popular choice in rural areas either. As a result, higher education in rural areas has little effect on the timing of first births.

Comparing rural–urban differences for women with the same level of education, only those who have middle school education and high school or higher are significant. The significance level is 0·0010 for middle school level, and less than 0·0001 for higher level education. This suggests stronger individual variations in the city, and limited variability in rural areas based on an individual's educational level.

### Living with the older generation

While a study using the same data has shown that women living with the older generation tend to have a higher fertility (Guo & Li, 1995), it does not seem to be an important factor in the timing of first birth. Living with the older generation has little effect on the interval for both rural and urban residents. The effect of this factor is not significant, either by life table analysis or by Cox model fitting.

### Age at marriage

Age at first marriage has a peculiar effect on the timing of first birth. Those who got married before they were 20 had longer intervals than those who married just after the legal age. It is possible that the time waiting for conception is longer for early-married women. However, another possible explanation is that, restricted by legal marriage age, women who got married earlier than 20 years old may not report their birth earlier than the legal age. Basu (1993) found that longer first birth intervals for early-married women in North India could be explained by a lower frequency of intercourse and long periods of abstinence when the wife visits her

parental home. However, such marriage and kinship patterns are not common in China.

While the difference between marriage age groups 20–24 and 25–29 in rural areas was not found to be significant, the interval is significantly longer for the younger marriage age group compared with the 25–29 group in urban areas. This indicates a delay in first birth among urban women who get married between 20 and 24. The extremely uneven distribution of 15–19 and 30+ marriage age groups makes a rural–urban comparison impossible, since the early-married women are mainly rural residents while the late-married women are mainly urban, and both groups have very few cases. However, a large significant difference ($p<0.0001$) exists between rural and urban areas for those who married at age 20–24. It is the only pair that has a significant difference in rural–urban comparison on age at marriage, based on the Wilcoxon test in the life table analysis. It suggests that urban women may aim to have their child at a certain age. Those who married at a younger age waited a longer time to have their first child. This difference would be difficult to explain except for a conscious desire to delay parenthood among the younger (at age of marriage) urban women.

*Month of marriage*

The month a couple marries would not be expected to affect their first birth interval if exact birth intervals had been recorded. However, it is a factor that significantly affects the measured first birth interval in this specific data set, since the month of first birth is unknown. Furthermore as discussed above, the month of marriage is not uniformly distributed through the year in China, and the pattern varies between rural and urban subgroups. The life table analysis (Table 4) shows the difference in median first birth interval among different months of marriage, and the Cox model fit (Table 5) shows that month of marriage is a significant determinant variable in the measured first birth interval.

Some demographers have discussed the possibility of under-reporting of the most recent 2 years of births in rural areas (Zeng, 1996). However, such an under-reporting is not common for first births, but more likely to happen for higher parity births. Therefore the author believes that it hardly influences the current results, at most making the average first birth interval a little longer than it should be in the early '90s for rural women. Information about other factors, such as age and date of marriage, is reported to be reliable (Hao & Gao, 1996).

## Conclusion

Although having children as soon as possible after marriage was once traditional in China, it is no longer universal, especially in the cities. Multiple effects influence the timing of first birth: social background and environment, culture and tradition, women's education and occupation, family income, the couple's knowledge of contraception and their fertility desire, the availability of contraceptive methods and services, and so on. Even in the case of planned timing, unexpected accidents such as contraception failure would result in having children sooner. Since the data were not

collected for the purpose of this study, the effects of some of these factors remain unclear.

The major findings of this paper are: firstly, the variations in timing of first birth differ between urban and rural areas; rural women's first birth intervals are, in general, shorter, with little influence from education and age at first marriage; secondly, more urban women delay their first live birth, especially those with a higher level of education, or who marry relatively early.

The findings suggest that there are more consciously delayed first births in urban areas. It also indicates that there may be some unmet needs in rural areas for contraception options for delaying first births. More education and counselling for newly married couples and a greater variety of available contraception in rural areas would help newly married couples delay their first birth, if they so choose. It would also achieve the goal of further reducing the momentum of population growth in China, even with the total fertility rate remaining low.

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