Did Induced Abortion Associate with Family Planning Policy in China?*

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Abstract

The objective of this paper is to reflect the levels and changes of induced abortions over the whole period of family planning programs in China and to mirror the differences of the levels and causes of induced abortions between rural and urban areas and Han and minority nationalities on whom different family planning policies were imposed. Using the data from China's Ministry of Health and the data from the 1997 National Population and Reproductive Survey, we found that the peaks of induced abortions occurred around the years 1983 and 1991. The rate of induced abortions in rural areas was much lower than that in urban areas, even though the implementation of family planning was heavily emphasized in rural areas, and the rate of induced abortion for Han nationality women was much higher than that for minority nationality. In general, the main cause of induced abortions was "unexpected pregnancy," but the main cause of induced abortions in rural areas and for minority nationality was "inconsistency with the requirements of family planning policy." The number and sex of children a woman ever had influenced the results of sex ratio at birth and the rate of induced abortions simultaneously, which proved that the voluntarily sex-selected induced abortion widely existed in China. The incidences of induced abortions per ever-conceived woman and the proportion of induced abortions per conception caused by inconsistency with the requirements of family planning were quite low. Such incidences and proportions were higher in urban areas and Han nationality than in rural areas and minority nationality.

* This research was supported from the grant for Research and Writing from the John D. and Catherine T. MacArthur Foundation. Grant # 01-71472-GSS.

Introduction

Debates about whether induced abortions in China associate or associate to some extent with the family planing policy have been taking place since the beginning of the program (Crane and Finkle 1989), for it is recognized that China is the only country in the world that has penalized people specifically and directly for violating population policy (Li 1995). Some research has provided evidence that induced abortion was widely and involuntarily undergone during the period from 1980 to 1984 of restricted one-child policy, which was quoted and adopted as a "remedy" measure (Hardee-Cleaveland and Banister 1988) to meet the requirement of periodically issued quotas on the number of births given by the higher-level authorities. Zhong-Hui Feng and Charles H. C. Chen (1983) described the situation of induced abortions that happened at Xian City around the late 1970s and the early 1980s. They found that, among women with no children, relatively few abortions were performed. Once a woman had a child, her likelihood of having an abortion became very high; among such women, the proportion of pregnancies ending in abortion rose from 39 percent in 1977 to 88 percent in 1981. Of women with two or more children who became pregnant in 1981, 96 percent had an abortion. The report concluded that induced abortions had become a very important fertility control method in China, which was trying to encourage couples to have only one child, and the wide use of induced abortion had certainly contributed to the success of family planning around the late 1970s and the early 1980s. Ping Tu and Herbert L. Smith (1995) focused on the analysis of the determinants of induced abortions of women aged thirty-five and younger, who were selected from four counties in North China and were pregnant during the 1985–1990 period. The authors concluded that women had a high risk of undergoing abortions after their first live births because most (82 percent) had become pregnant again without meeting the official requirements for the time between the first and second births. The likelihood that a pregnancy would be aborted was strongly determined by official family planning policy and regulations; the probability for a pregnancy to end in an abortion increased significantly with a woman's parity. Almost no induced abortions were found for pregnancies before the first live birth, and almost all pregnancies ended in abortions after the birth of the second child.

The analysis above shows that, from the late 1970s to the late 1980s, induced abortion strongly associated with family planning policy in China. It was used as an efficient and effective tool to curb the increase of the number of births. With such a situation in mind, one might think that the extent of induced abortions might have been strengthened following the deepening of the family planning program in China. Unfortunately, the changing of family planning in China was rarely explored empirically. In fact, the direction and the way of family planning in China have greatly changed since the early 1990s. It is rare to see papers that explore reproductive health and family planning in China in the 1990s. Especially since the International Conference on Population and Development (ICPD) in 1994, the Chinese government has issued substantial documents pertaining to the reform of the family planning program and has adopted a series of new measures in light of the ICPD Program of Action (Peng 1998). The objective of this paper is to reflect the levels and changes of induced abortions over the whole period of the family planning program in China and to mirror the differences of the levels and causes of induced abortions between rural and urban areas and Han, the majority, and minority nationalities, on whom different family planning policies were imposed.

Background

Induced abortion has been legal in China since the "Regulation of Contraceptive and Induced Abortion" was issued by the central government in August 1953 to secure the rights of women in health and working conditions (Chui 1981). Induced abortion on demand during the first ten weeks of pregnancy was legalized in 1957 by a directive from the Ministry of Health (Aird 1972). Under this policy, induced abortion beyond the gestation limit of ten weeks was permitted only under special circumstances relating to health or other factors (Henshaw 1990).

Before the nationwide family planning programs began, the decision to seek induced abortions was made exclusively by couples based on their own health, working status, and the number of previous children. Since the family planning programs were implemented, induced abortions have been influenced by the requirements of the policies and their implementation, and these influences varied under different policies. To understand the situation of induced abortions during the implementing period of family

planning programs, one must know and understand the relevant policies and their resultant changes. China's family planning policy and its implementation can be classified into four periods, which have produced different results in births and induced abortions.

The first period (1973–1980)

The national family planning program formally began in 1973, symbolized by the establishment of the State Family Planning Leading Group. In fact, family planning propaganda and explanation work started in most urban areas and some rural areas before 1973, and the fertility rate has decreased since 1968.[1] At the beginning of the program, the total fertility rate (TFR) was about 5. People were encouraged, but not required, to have two children, and those with special considerations had three children. The implementation methods of family planning depended mainly on persuasion and explanation of the importance of family planning to the country and the obligation of lowering the number of children in families. Very effective results had been produced, dropping the TFR to 2.2 in 1980 (see Table 1), less than half of the level in 1973, because the policy, which was flexible and reasonable, was easily accepted by most families, including the families in rural areas.

Table 1. Total Fertility Rate (TFR) and Crude Birth Rate (CBR), 1971–1998

Year	Total Fertility Rate (TFR)	Crude Birth Rare (CBR) (‰)	Year	Total Fertility Rate (TFR)	Crude Birth Rare (CBR) (‰)
1971	5.44	30.65	1985	2.20	21.04
1972	4.98	29.77	1986	2.42	22.43
1973	4.54	27.93	1987	2.59	23.33
1974	4.17	24.82	1988	2.52	22.37
1975	3.57	23.01	1989	2.35	21.58
1976	3.24	19.91	1990	2.31	21.06
1977	2.84	18.93	1991	2.16	19.68
1978	2.72	18.25	1992	2.00	18.24
1979	2.75	17.82	1993	1.98	18.09
1980	2.24	18.21	1994	1.94	17.70
1981	2.63	20.91	1995	1.87	17.12
1982	2.87	22.28	1996	1.86	16.98
1983	2.42	20.19	1997	1.82	16.57
1984	2.35	19.90	1998	1.76	16.03

Sources: CBR is from *China Statistical Yearbook 2001;* TFR before 1990 comes from Yao and Yin 1994, p. 144; TFR after 1990 was estimated from CBR by Qiao (1999).

[1] Yao and Yin 1994, Tables 3–7, p. 144.

The second period (1980–1984)

Because of the effectiveness of the implementation of the policy in the first period, an idea of further decreasing the birthrate was formed among some national leaders. That idea was proved and supported by some cybernetic scientists in 1979, who applied the control theory to controlling the fertility behavior of human being (Qiao 1991). The one-child policy, in which only one child was required and allowed in a family, regardless of whether the couple lived in rural or urban areas, was released by the central government in 1980[2]. This elicited the toughest period for both the people and the family planning personnel. Resistance by the people in rural areas to the policy was very strong and pervasive, because the policy was far below the number of children needed by the families in rural areas. The difference in implementing the program in this period from the previous period was that compliance with the policy was rigorously enforced. Contraceptives, especially IUDs and sterilization, were forced, and unplanned pregnancies were aborted. The primary feature of the policy in this period was that it was nationally consistent in both rural and urban areas. Although the policy was so restrictive, the TFR unexpectedly increased during this period. It reached 2.9 in 1982 and 2.4 in 1984. This meant that the expected goal of the one-child policy had not been reached, especially in rural areas where about 80 percent of the Chinese population lived in the early 1980s. The continuity of the rigorous one-child policy was quite difficult and seemed impossible. This led the central government to change the policy again.

The third period (1984–1991)

In 1984, the government suddenly proposed that the family planning policy in rural areas should be more lenient to mitigate conflict between the people and government personnel regarding to the family planning program[3]. However, due to diverse situations among the provinces, the central government allowed provincial governments to make their own family planning policies, differentiated for rural and urban areas and for Han and minority nationalities, based on the guidance of national policy. Until 1991, twenty-eight provinces, excluding Xinjiang and Tibet, issued the provincial regulation of family

[2] Guang Ming Daily published the Open Letter provided by the Central Government at Sept. 25, 1984. It said: "In order to control China's population to 1.2 billion at the end of this century, the State Council called to all the people in China, advocating that one couple only has one child."

[3] It was mentioned by the Document No. 7 of the Central Government issued in April 13, 1984.

planning based on the national policy and the concrete situation of the provinces. The implementation of family planning in local areas was fully based on the regulation formulated by provinces, rather than the general policy issued by the central government. The structure of the policies were that the one-child policy was universally applied to the families in urban areas among all the provinces, as was the policy during the second period; for rural areas, five provinces still followed the one-child policy, eighteen provinces allowed women having a second child if their first child was a girl and with four to five years spacing, and five provinces allowed two children; for minority couples, most of the provinces allowed two children, some allowed three children, and four provinces had no regulation at all (Feng and Hao 1992). The regulations also included some administrative policies that influenced the frequency of induced abortions, such as taking a contraceptive if application of having births had not been approved. Fourteen provinces stipulated that women who had one child should have an IUD, and couples that had two children should be sterilized. Twenty-four provinces stipulated that remedy measures, such as stopping gestation, should be taken to eliminate unplanned conceptions (Feng and Hao 1992). Such regulations were mostly carried out in rural areas but were not formally carried out in urban areas. This was because the emphasis of family planning in China was on rural areas in terms of controlling the number of births. The composition of contraception between rural and urban areas and between Han and minority nationalities was quite different (see Table 2).

Table 2. Contraceptive Method Distributions (s. e.) by Rural and Urban Areas and by Nan and Minority Nationalities, 1997 (%)

Method	Total	Rural Areas	Urban Areas	Han	Minority
No contraceptive	16.17	15.76	17.58	15.43	23.36
	(0.33)	(0.37)	(0.72)	(0.34)	(1.24)
Male sterilization	7.71	9.41	1.82	7.73	7.5
	(0.24)	(0.30)	(0.25)	(0.25)	(0.77)
Female sterilization	33.52	39.90	11.41	34.31	25.92
	(0.42)	(0.50)	(0.60)	(0.45)	(1.28)
IUD	36.42	31.77	52.53	36.35	37.08
	(0.43)	(0.47)	(0.94)	(0.45)	(1.41)
Condom	3.40	1.06	11.48	3.51	2.3
	(0.16)	(0.10)	(0.60)	(0.17)	(0.44)
Others	2.79	2.10	5.17	2.68	3.85
	(0.15)	(0.15)	(0.42)	(0.15)	(0.56)

Pr = 0.000 by chi-square test for both rural and urban areas and Han and minority nationalities.

Source: 1997 Reproductive Health Survey data.

After the one-child policy was eliminated in most rural areas, the crude birthrate (CBR) increased significantly from 19.9 per thousand in 1984 to 23.3 per thousand in 1987, and the TFR increased from 2.2 in 1985 to 2.6 in 1987. Due to the reverse bounce of fertility, the new policy was publicly and strongly criticized by the cybernetic scientists (Liu 1988), who had supported and proposed the one-child policy before 1980. Even then, the government still believed that allowing couples in rural areas to have more than one child was appropriate in contemporary China. According to the fourth population census data, the CBR and TFR in China in 1990 were 21.1 per thousand and 2.3, respectively.

The fourth period (1991–now)

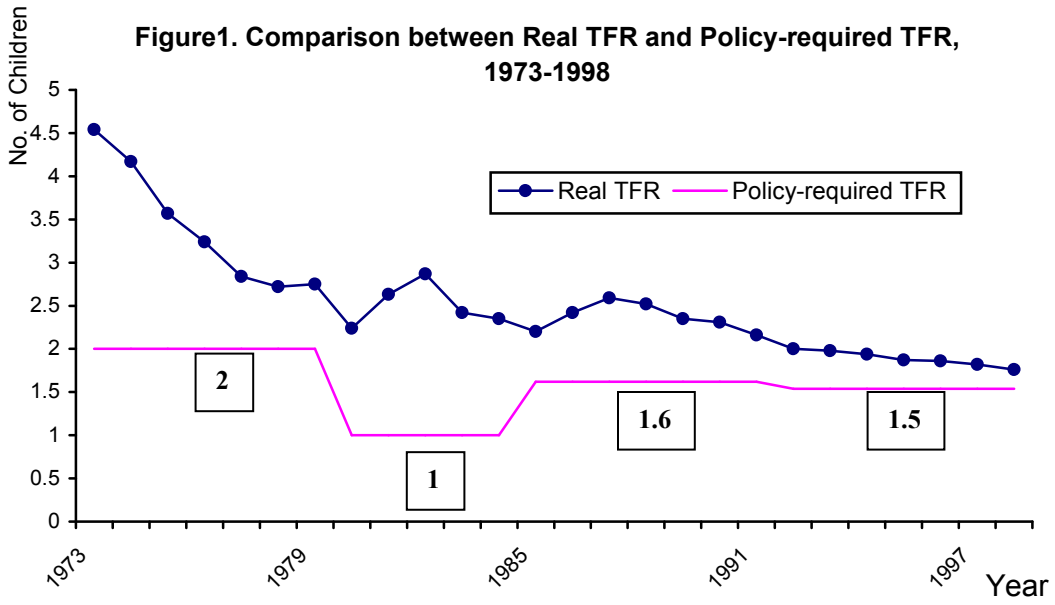
Since 1991, family planning programs have gone through two transitions, even though the family planning policy dealing with the number of children per family has not been explicitly changed except for minor restriction adjustments by some provinces. One transition was that the leaders and staffs working in family planning realized that it was inappropriate to merely pursue controlling of the number of births in the family planning program. In order to convert the number-centered family planning into human-centered family planning and direct restrictions into an indirect instruction, the State Family Planning Commission stated to family planning personnel that "family planning should basically develop under the condition of caring and securing the right and interest of rural people; . . . it must be prevented from and corrected to any inappropriate action and the action to which caused an aversion of the people."[4] In addition, the State Family Planning Commission issued a document briefly called "Seven Prohibitions" to regulate the behavior of grassroots personnel, so some of the adverse actions were prohibited to some extent in family planning work since then. Another transition was to integrate the family planning program with the economic development of rural families and reproductive health. The national government and local governments issued substantial documents to establish priorities in financial support to family planning families. Since the ICPD, reproductive health has been introduced into the family planning program in China, and the improvement of reproductive health has been considered the priority of the family

[4] Editorial, *China Population Daily,* April 19, 1993. This official newspaper is authorized by the State Family Planning Commission.

planning program. In March 1995, the State Family Planning Commission initiated a trial of the quality of service of family planning in six counties in which the informed choices of contraceptives, the quality of service of reproductive care for people, and a family planning program without quotas was introduced (Zhang et al. 1996). The number of trials increased to 11 counties in 1997, and it was extended into 660 counties in 2000 (Zhang 2000). In brief, such changes were called "the transitions of ideas and means of family planning work" proposed by the State Family Planning Commission since 1995. During this period, nationwide birth rates decreased in an unbelievable margin. The State Family Planning Commission published its adjusted fertility rates based on the 1992 National Fertility Survey with a TFR of 1.7 in 1992 (Zeng 1995). Based on the One-Percent National Population Survey conducted by the State Statistical Bureau, the TFR in 1995 was directly estimated as 1.46[5] (Zhang 1997). However, officially published data have been adjusted upward since 1991. In 1997, the published CBR was 16.6 per thousand, and the relevant estimate of the TFR was 1.8 (Qiao 1999; Qiao 2005).

In summary (see Figure1), the policy in the first period, from 1973 to 1979, was lenient, that is, the policy-required average number of children per family was two nationwide. The policy followed was the most rigorous one, that is, a one-child policy for both rural and urban areas. After 1985, the enforcement of the implemented family planning program was moderated, and the national policy-required number of children increased to around 1.6. The reform of family planning program that started in the early 1990s led to the implementation of a family planning program that was completely different from the work in the 1980s. Due to some slight policy adjustments in some provinces, the nationwide policy-required total fertility rate (TFR) declined slightly during the fourth period. After the ICPD, family planning was shifted from controlling the number of births to improving reproductive health. From the comparison of the real TFR and the policy-required TFR in Figure 1, we can directly see the impact of the policy on the changes of fertility and the validation of the impact. The tendency of the real TFR is approaching to the policy-required number of children per family, which means that the goal of lowering the fertility rate has almost been reached.

[5] The adjusted and published CBR in 1995 was 17.12 per thousand, and the corresponding TFR was 1.87.



Data and Method

A potential way to portray the change of the induced abortion rate in China is to use both officially reported registration data, which was reported through lower to higher administrative levels, and data from the national sampling survey. The Chinese government regularly published the number of induced abortions undertaken annually through the administrative data reporting system. Combining that with the published national number of births, we can estimate the ratios of induced abortions over the number of births each year.

For detailed analysis, the data from the National Population and Reproductive Health Survey, conducted by the State Family Planning Commission between September and November 1997, were used. This was the first national survey that particularly focused on reproductive health, including nationwide induced abortions in China. This survey was divided into two phases. The first phase was conducted from September 10 to September 20, 1997. The goal of the first phase was to cover all people on a sample basis in all thirty-one provinces. A sample of 1,000 resident groups consisting of 180,000 people was enumerated, and a few general questions were asked during this phase. From

the sample of women established during the first phase, a sub-sample of 15,213 valid women of reproductive ages was drawn for the second phase to collect reproductive health information. This phase of the survey was conducted around November 15, 1997. In the second phase, a questionnaire concerning reproductive health was administered to women aged fifteen to forty-nine. The data from the second phase, which were nationally representative, were used to complete this paper. In the survey, information about induced abortions was collected in two ways. First, a detailed conception history was asked. The history records describe the outcome of each conception, including induced abortion, according to the time of conception for each woman. For each conception, there were six potential choices for the outcome of conception: 1) live birth boy, 2) live birth girl, 3) stillbirth, 4) spontaneous abortion, 5) induced abortion, and 6) current pregnancy. For each conception or outcome, the ending date of the pregnancy was also recorded. Second, separate questions about the last induced abortion were asked to obtain the detailed characteristics of this abortion. These questions included the cause of the last induced abortion, whether or not a B-ultrasonic detector was used prior to conducting an induced abortion, and the period of gestation, etc.

This paper primarily used the data concerning the conception histories of women and their histories of induced abortions as well as the information about their last induced abortions. Of the 15,213 respondents, 12,519 women were married. Of the married women, 12,157 responded to the questions on conception history. Because only the married women were allowed to answer the questions on conception history, the induced abortions in this survey only reflect the situations of married women. We used the conception history data described above to obtain the number of conceptions, live births, and induced abortions in each year.[6] We directly calculated the ratio of induced abortions by comparing the number of induced abortions relative to one hundred live births that occurred in the same year based on the reported data. We also calculated the less-truncated rate of induced abortions by calculating the proportion of the induced abortions

[6] There are only 10.5 months of data available in 1997. Because women were in the age group 15–49 at the time of the survey in 1997, reproductive behaviors for earlier calendar years are progressively truncated. For example, the events that occurred in 1990 would include women's experiences around ages 8–42.

from the total number of conceptions ending in the same year,[7] excluding the women who were pregnant at the time of the survey.

Changes of induced abortions over the whole period of family planning

Based on the reported data, we found that the changes of the level of induced abortions were closely correlated with the intensity of the implementation of family planning programs directed by relevant population policies in different periods (see Table 3 and Figure 2). In 1971, while the advocacy of the national family planning program was just beginning, the total number and the ratio of induced abortions were lower, that is, 3.9 million and 15.2 percent (relative to the number of live births). The ratios of induced abortions steadily increased from 1972 to 1979, during the period of lenient policy, after the national family planning policy was formally proposed. Even then, the number of induced abortions did not monotonously increase, which was associated with the increase of the number of births. There was a big jump in both the number and the ratio of induced abortions in 1979, when the rigorous policy was proposed. Since the nationwide one-child policy was formally issued through administrative documents, the implementation of family planning work was immediately strengthened. Because there was a great discrepancy between the requirements of the government and the anticipation of the number of children per family, the family planning personnel at the grassroots level adopted whatever means to prevent the additional births above the requirements of the one-child policy. There were two potential methods universally used at that time to reach the target, as designated by higher administrators. Those were increasing the contraceptive coverage and efficiency for childbearing couples and undergoing induced abortion after conception if the conception was not in compliance with local regulations. At the grassroots level, the personnel tried all methods to decrease the number of births to meet the strict requirements. This led to the number and ratios of induced abortions being boosted enormously. In 1982 and 1983, the total number of induced abortions reached 12.4 million and 14.4 million, and the ratios of induced abortions were 55.5 percent and 69.8 percent, respectively. The induced abortion level reached its peak in 1983. Because

[7] It should be noted that the definitions of the rate and the ratio of induced abortions used are different from relevant papers in which the rate of induced abortions is abortions among women aged 15–44 and the ratio of induced abortions is abortions among pregnancies (Henshaw, Susheela, and Taylor 1999). We have adopted the definitions used by Shryock and Siegel (1973).

of the change in the family planning policy in 1984, which allowed most couples to have a second child if their first child was a girl in most rural areas and allowed couples to have a second child whether their first child was a boy or a girl in some remote and minority nationality areas, there were many women who immediately got pregnant. This was due to fear that the policy might be changed back or resumed at anytime. All the indicators, such as TFR, CBR, and the number of births, increased after the year 1985. Even though the number of induced abortions was still higher, the ratio of induced abortions decreased. The ratio lowered to 41.6 percent in 1987. After a few years of chaos and debate,[8] the efficient work started resuming following the change of the leadership of the State Family Planning Commission. During this period of time the ratios of induced abortions moved up and down and then reached a second peak in 1991, with 14.1 million women undergoing induced abortions and a 62.4 percent ratio of induced abortions. Since then, the ratios of induced abortions reported from the local governments have decreased in a general trend with a few small waves.

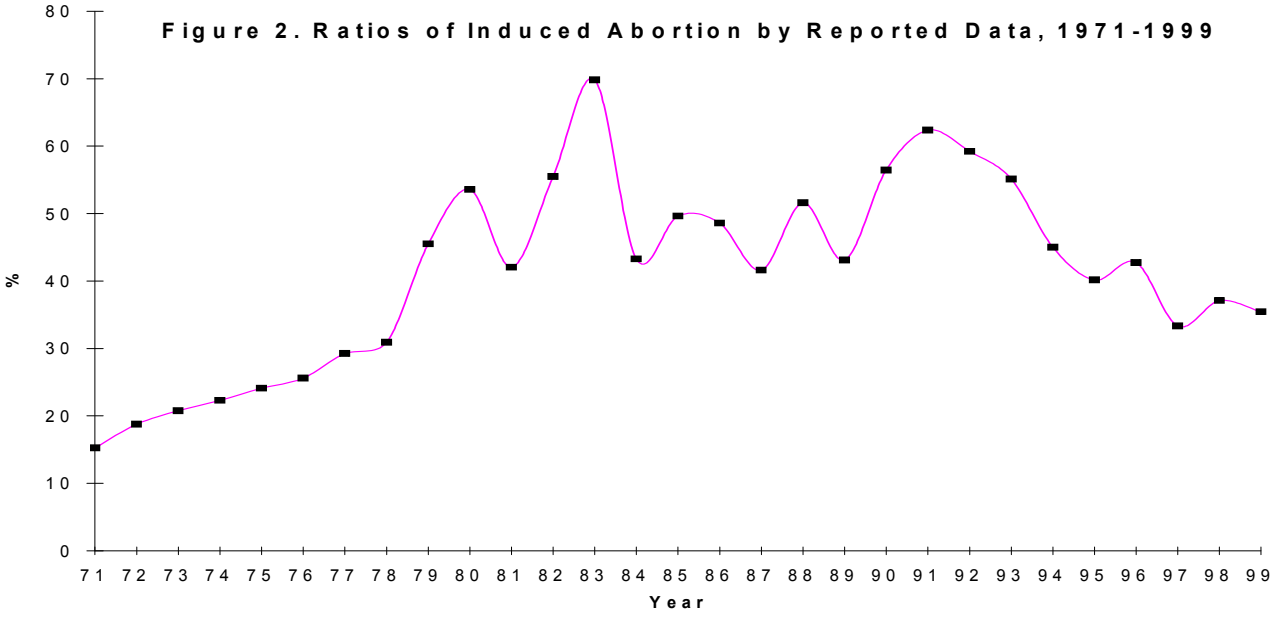
Table 3. Ratios of Induced Abortions in China Calculated by Reported Data, 1971–1999

Year	Number of Induced Abortions[1] (Ten Thousand)	Number of Births[2] (Ten Thousand)	Ratio of Induced Abortions[3] (%)	Year	Number of Induced Abortions (Ten Thousand)	Number of Births (Ten Thousand)	Ratio of Induced Abortions (%)
1971	391	2,567	15.23	1986	1,158	2,384	48.57
1972	481	2,566	18.76	1987	1,049	2,522	41.59
1973	511	2,463	20.75	1988	1,268	2,457	51.59
1974	498	2,235	22.30	1989	1,038	2,407	43.12
1975	508	2,109	24.11	1990	1,349	2,391	56.44
1976	475	1,853	25.60	1991	1,409	2,258	62.38
1977	523	1,787	29.26	1992	1,042	1,759	59.22
1978	539	1,745	30.90	1993	950	1,723	55.12
1979	786	1,727	45.49	1994	947	2,104	45.00
1980	953	1,779	53.56	1995	748	1,863	40.14
1981	870	2,069	42.03	1996	883	2,067	42.74
1982	1,242	2,238	55.49	1997	659	1,979	33.31
1983	1,437	2,058	69.83	1998	738	1,991	37.09
1984	889	2,055	43.26	1999	676	1,909	35.43

[8] This indicates that some of leaders and scholars spoke out strongly against the decision "opening of the policy," which was made by the central government, by publishing essays and papers, and they condemned the leaders who changed the policy as having made a bad decision and judged the new policy as a prominent fault of national policies (Liu 1988).

1985	1,093	2,202	49.64

1. These numbers came from the 1988 and 2000 *China Health Yearbook.* There was a lack of data for Heilongjiang, Guangdong, and Sichuan Provinces among the 1992 data; a lack of data for Xinjiang, Neimeng, Sichuan, Guizhou, Shannxi, and Ningxia Provinces among the 1993 data; a lack of data for Hebei, Shanxi, Tibet, and Shannxi Provinces among the 1995 data; and a lack of data for Shanghai and Shannxi Provinces among the 1997 data.
2. According to the lack of data in some provinces given in note 1, the number of births from relevant provinces was eliminated from the national data. The number of births in such provinces was calculated from crude birthrates and the total population in the provinces, which was published in the 1995 and 2001 *China Population Statistical Yearbook.* The national data for the number of births came from the 2001 *National Population Statistical Yearbook.*
3. The ratios of induced abortions were calculated by dividing the number of induced abortions by the number of births after the data of induced abortions and births had been adjusted.



It would not be enough to analyze the induced abortions if only general trends of induced abortions were shown according to the different periods of family planning policies. As the overall levels of induced abortions between the two data sources from 1993–1997 were close, we shifted to used the survey data to calculate the rate of induced abortions and to classify the level of induced abortions by rural and urban areas and by majority and minority nationalities.

Trends and differentials in induced abortion rates

Comparing the ratios of induced abortions calculated by the national reported data with those calculated by the survey data (see Table 4), we found that, even though the tendencies of the ratios between the two data sets were not exactly the same in each year during 1993–1997, the overall level of the ratios between the two data sources over five

years was very close, that is, the rate of induced abortions was 43.0 percent for the reported data and 42.4 percent for the survey data from 1993 to 1997.[9] Their consistency implies that it is appropriate to employ the survey data to reflect the level of induced abortions in China and to conduct in-depth analysis in induced abortions.

Table 4. Ratios of Induced Abortions by Reported and Survey Data, 1993–1997 (%)

Year	Reported Data	Survey Data
1993	55.1	42.9
1994	45.0	43.6
1995	40.1	49.0
1996	42.7	38.2
1997	33.3	37.8
Total	43.0	42.4

Source: Government-reported data and 1997 Population and Reproductive Health Survey data

The rates of induced abortions were calculated by dividing the total number of induced abortions undergone in the specific year by the number of pregnant women who ended the pregnancy in the same year (see Table 5). Like the trend of the ratios of induced abortions, the rate of induced abortions was 28.7 per 100 pregnancies ending in 1993 and then gradually increased to 31.4 percent in 1995. In 1997, it decreased to 26.0 percent. Pooling all the five-year induced abortions and pregnancies together, we obtained the general rate of induced abortion over the five years from 1993 to 1997, that is, 28.3 percent.

Table 5. Rates of Induced Abortions (s. e.) by Rural and Urban Areas, Han and Minority, 1993–1997 (%)

Year	Total	Rural	Urban	Han	Minority
1993	28.7	24.3	46.5	29.8	20.9
	(1.3)	(1.4)	(3.2)	(1.4)	(3.3)
1994	28.7	25.3	41.8	29.9	20.1
	(1.4)	(1.5)	(3.3)	(1.5)	(3.5)
1995	31.4	26.1	52.3	32.5	23.3
	(1.4)	(1.5)	(3.4)	(1.5)	(3.7)
1996	26.0	22.6	41.0	27.0	19.2
	(1.4)	(1.5)	(3.6)	(1.5)	(3.5)
1997	26.0	23.1	36.8	27.8	14.2
	(1.5)	(1.7)	(3.7)	(1.7)	(3.4)

[9] We calculated the ratios of induced abortions from 1993 to 1997, rather than prior to 1993, to avoid truncation. Because the women aged 15–49 in 1997 would be aged 11–45 in 1993, the truncation in having given birth and undergoing an induced abortion from 1993 to 1997 can be ignored.

Total	28.3	24.4	44.2	29.6	19.8
	(0.6)	(0.7)	(1.5)	(0.7)	(1.6)

Source: 1997 Population and Reproductive Health Survey data.

Table 5 also shows the rates of induced abortions classified by rural and urban areas and by Han nationality (majority) and minority nationality. However, the differences of the rates of induced abortions between rural and urban areas were large. Pooling the five years together, the rates were 24.4 percent for rural areas and 44.2 percent for urban areas. The differences of the rates between rural and urban areas were marked, that is, 19.8 percentage points. As we know, the focus of the work of family planning is on rural areas, so if induced abortions were universally used in family planning, the level of induced abortions in rural areas should be much higher than that in urban areas. However, the situation was just the opposite. It seems that the more the work is strengthened, the less the induced abortion is carried out. This led to the consideration that the induced abortion might be less relevant to the work of the family planning program in 1993–1997.

As we mentioned above, the family planning policies are different between Han nationality and minority nationality in China, that is, the policy is more lenient to minority couples, especially in rural areas, who are allowed to have two or three children. The result is that the rates of induced abortions were lower for minority nationality than for those of Han nationality, the majority. On average, the rates were 29.6 percent for Han and 19.8 percent for minority nationality, and their difference was also 19.8 percentage points. Such an outcome was within normal expectations.

In order to compare the differences of the rates of induced abortions between rural and urban areas and the Han and minority nationalities by controlling other characteristics; we used a logistic regression model. In the model, the response variable is coded as 1 if a conception that ended in 1997 resulted in an induced abortion and 0 otherwise. We also used the rural and urban areas, nationalities, age groups at the time of observation, educational status, and marital status of pregnant women as explanatory variables. Table 6 provides descriptions of the region (rural and urban areas) and the nationality variables in terms of the absolute number of pregnancies ending and induced abortions occurring in 1997, the distribution of pregnancies in each of the variables, and the proportion of induced abortions among them.

Among the pregnancies ending in 1997 (787), 25.7 percent (202) were of women who had undergone induced abortions in 1997. The proportion of pregnancies was 79.0 percent in rural areas and 21.0 percent in urban areas, with the corresponding proportion of aborted pregnancies of 22.5 percent in rural areas and 37.6 percent in urban areas. It was clear that induced abortions occurred in urban areas at much higher levels than in the rural areas of China. In China, the requirements of family planning policies for minority races is more tolerant than for the Han nationality (the majority race), so the proportion of aborted pregnancies for minorities was 12.5 percent, lower than that of the Han nationality (27.7 percent).

Table 6. Description of the Data of Induced Abortions in 1997

Variable	Number of Pregnancies Ending in 1997	Proportion among Pregnancies Ending in 1997 (%)	Number of Induced Abortions in 1997	Rate of Induced Abortions in 1997 (%)
Total	787	100.00	202	25.67
Rural and urban areas				
Rural	622	79.03	140	22.51[a]
Urban	165	20.97	62	37.58[a]
Nationality				
Han (majority)	683	86.79	189	27.67
Minority	104	13.21	13	12.50

a. These proportions are not the same as the rates in Table 5 because 21 women underwent abortions twice within the year 1997, and we have to keep the last induced abortion in the data file, dropping out the first one.
Source: 1997 Population and Reproductive Heath Survey data.

Table 7. Comparison of the Rates of Induced Abortions by Controlling Age, Education, and Marital Status, 1997

Explanatory Variables	Levels Relative to One (Odds Ratio)	P-value	Confidence Intervals of Odds Ratio	
			Lower Bound	Upper Bound
Urban/Rural	2.204	0.002	1.343	3.616
Minority/Han	0.432	0.011	0.225	0.827

Pearson χ^2 (52) goodness-of-fit test = 39.36; P-value = 0.9015; and Log likelihood for the full model = -398.67, P-value = 0.000.
Source: 1997 Population and Reproductive Health Survey data.

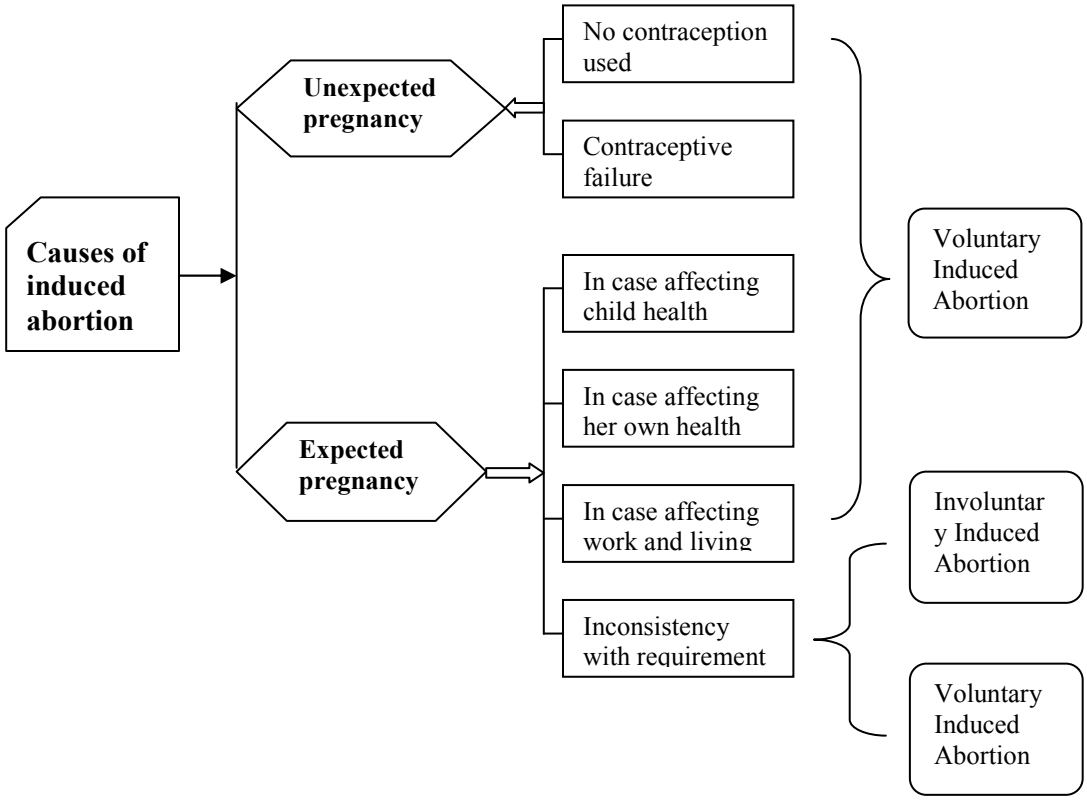
Table 7 presents the results from the logistic regression model, the differences of induced abortions between urban and rural areas and the minority and Han majority by

controlling for age, education, and marital status. The rate of induced abortions for urban areas was 2.2 times the rate of induced abortions for rural areas. The rate of aborted pregnancies in minority woman was less than that of Han nationality women because the odds ratio of minorities is only 0.4.

The causes of induced abortions

In order to explain the causes of induced abortions, a question inquiring the reasons for the last induced abortion was asked in the survey. Six causes were given in the questionnaire: 1) unexpected pregnancy, 2) fear of affecting the health of the child due to unexpected problems during gestation, 3) fear of affecting the health of the mother, 4) changing ideas affecting working and living conditions, 5) inconsistency with the requirements of family planning regulations, and 6) other reasons.

Figure 3. The classification of the causes of induced abortions



Based on the causes given in the questionnaire, we can divide the causes of induced abortions into two general parts, that is, induced abortions due to unexpected and expected pregnancies (see Figure 3). Because unexpected pregnancy was one of the six causes listed in the questionnaire, it meant that the other five causes might belong to the expected pregnancy. The unexpected pregnancy might be caused by no contraception used before conception or contraceptive failure. Due to a lack of relevant information in the survey, we could not decompose the causes of unexpected pregnancy from each other. The expected pregnancy meant that a woman had intended to conceive in advance. However, after conception, some of them might change their minds and want to stop the pregnancy due to concerns about the health of the conceived child, their own health, and their working and living conditions, which were listed in the questionnaire. This meant that all the induced abortions caused by such reasons were consciously and voluntarily undergone. The induced abortions due to inconsistency with the requirements of the family planning program might be caused by either involuntary or voluntary reasons.

Table 8. Proportions of Cause of Last Induced Abortion (s. e.) by Rural and Urban Areas and by Han and Minority Nationalities, 1997 (%)

Causes	Total	Urban Areas	Rural Areas	Han Nationality	Minority Nationality
Unexpected pregnancy	39.86 (0.77)	46.10 (1.29)	36.24 (0.95)	40.55 (0.80)	31.48 (2.66)
In case of affecting the health of the child	3.09 (0.27)	4.04 (0.51)	2.54 (0.31)	3.16 (0.29)	2.3 (0.86)
In case of affecting her own health	1.98 (0.22)	1.41 (0.31)	2.31 (0.30)	1.87 (0.22)	3.28 (1.02)
In case of affecting working and living conditions	11.47 (0.50)	11.91 (0.84)	11.22 (0.62)	11.07 (0.51)	16.39 (2.12)
Inconsistency with the requirements of family planning	36.08 (0.76)	25.84 (1.14)	42.03 (0.98)	35.92 (0.78)	38.03 (2.78)
Other reasons	7.52 (0.41)	10.70 (0.80)	5.67 (0.46)	7.44 (0.43)	8.52 (1.60)

P-value = 0.000 for testing the difference between urban and rural areas; P-value =0.004 for testing the difference between Han and minority nationalities.

Source: 1997 Population and Reproductive Health Survey data.

Table 8 presents the proportions of causes for the last induced abortion by total, by rural and urban areas, and by Han and minority nationalities. The highest proportion of the causes of induced abortions for the total respondents was unexpected pregnancies, which accounted for 39.9 percent. The second highest proportion, 36.1 percent of induced abortions, was due to inconsistency with the requirements of family planning regulations, which means that over one-third of the induced abortions were convinced by the family planning institutions.[10] The remaining groups, fear of affecting the health of the child due to unexpected problems during gestation, fear of affecting her own health, and changing the plan in cases affecting working and living conditions, could be recognized as self-determined induced abortions. Most of these (11.5 percent) were related to working and living situations. The proportion of induced abortions resulting from fear for the child's health or for her own health was very small, only 5 percent. Comparing the causes of induced abortions between rural and urban areas, we found that the differences between areas of residency were highly significant. In rural areas, the prominent cause for undergoing an induced abortion was inconsistency with the requirements of family planning regulations, which accounted for 42.0 percent, compared with the 36.2 percent related to unexpected pregnancies. In urban areas, the main cause of induced abortions was unexpected pregnancy (46.1 percent), compared with the 25.8 percent related to inconsistencies with the requirements of family planning policies. This means that the rate of family planning–related induced abortions in rural areas was stronger than in urban areas. Compared with minority nationality, women of Han nationality had a smaller proportion of induced abortions caused by inconsistency with the requirements of family planning policies than by unexpected pregnancy. This means more Han women wanted to follow the requirements of family planning policy than minority women, even though Han women confronted more restricted requirements in the number of children.

Decomposition of induced abortion

The comparisons of induced abortions between urban and rural areas and Han and minority nationalities above are all based on cross-sectional perspectives, using the data

[10] It should be noted that induced abortions caused by inconsistency with the requirements of family planning did not mean that undergoing such induced abortions was forced. Most pregnant women agreed to undergo induced abortions after being convinced, but some were forced at the grassroots level.

closed to the reference time of the survey. Now let's consider the level of induced abortions by observing the cohort of women in each age group. Table 9 shows the average number of times of occurrence of induced abortion by ever-conceived women of each age cohort (total number of induced abortions was divided by the total number of ever-conceived women). The trend, in general, is very clear, that is, the older the women, the higher the level of induced abortions, except at the highest age, 45–49. The differences of induced abortions between urban and rural areas were still quite high, that is, 0.79 times per ever-conceived woman in urban areas and 0.39 times in rural areas. The difference of induced abortions between Han and minority nationalities was less than the difference between urban and rural areas. From this result, it is likely that women aged 45–49 might, on average, almost undergo induced abortion once (0.95) in their childbearing period in urban areas, whereas the risk of undergoing induced abortion for rural women aged 45–49 was lower than 0.5. In general, women of Han nationality underwent a higher rate of induced abortions than those of minority nationality, even though there were some exceptions and fluctuations among age groups.

Table 9. Average Number of Induced Abortions per Ever-Conceived Woman (s. e.)

Age	Total	Urban	Rural	Han	Minority
<25	0.205	0.283	0.196	0.217	0.131
	(0.007)	(0.029)	(0.007)	(0.008)	(0.012)
25–29	0.377	0.569	0.332	0.386	0.302
	(0.007)	(0.025)	(0.007)	(0.008)	(0.019)
30–34	0.494	0.767	0.421	0.504	0.398
	(0.009)	(0.032)	(0.009)	(0.010)	(0.024)
35–39	0.554	0.842	0.441	0.560	0.500
	(0.013)	(0.037)	(0.012)	(0.014)	(0.040)
40–44	0.589	0.935	0.471	0.608	0.364
	(0.013)	(0.040)	(0.012)	(0.013)	(0.028)
45–49	0.502	0.952	0.367	0.495	0.599
	(0.011)	(0.045)	(0.010)	(0.012)	(0.051)
Total	0.475	0.794	0.386	0.485	0.380
	(0.004)	(0.015)	(0.004)	(0.005)	(0.011)

Source: 1997 Population and Reproductive Health Survey data.

Some processes are required to progress from a non-conceived state to having a child. In fact, to avoid more births, the family planning personnel set three blocks. Firstly, they educated people to make them consciously follow the requirements of the family planning policy. Secondly, they increased the coverage and validity of contraceptive methods to avoid both intended and unintended conceptions. Lastly, if not successfully blocked by the first two barriers, women getting pregnant were convinced to undergo induced abortions. Some accepted, and some did not. Even though the central government claimed that the first and second blocks were the priorities in the work of family planning and tried to avoid using the third method,[11] the induced abortion was widely used in the 1980s and was sometimes used in the 1990s at the grassroots level in compliance with the quota required by higher administrators.

Potentially, contraception could prevent unintended conception as well as intended conception, and induced abortion could avoid unintended birth as well as intended birth. We cannot say anyone who conceived was intending to have a child and cannot say anyone who underwent induced abortion was forced as well. The causes vary. We found that women in urban areas and women of Han nationality had a higher probability to undergo induced abortions than those in rural areas and of minority nationality. What caused the differences? Was the high rate of induced abortions in urban areas caused by the failure of contraceptives because the contraceptive methods used by urban people were less efficient than the methods used by rural people? It seems that the result was beyond our imaginations. Furthermore, one may like to know how many times an ever-conceived woman underwent induced abortions caused by inconsistency with the requirements of family planning. We used a decomposition approach to deal with such questions. The decomposition relations[12] follow:

[11] Since the middle of the 1980s, the State Family Planning Commission has proposed "three first principles" in the work of family planning, that is, put the propagating and educating first (relative to coercion), contraception first (relative to induced abortion), and day-to-day work first (relative to temporary work).

[12] The decomposition included all the cohorts of women. Even though some young women have not completed the conception and induced abortion processes (truncation), it would not influence the relative results of comparisons between urban and rural areas and Han and minority nationalities.

$$\frac{\text{Times of Induced Abortion}}{\text{Ever-Conceived Women}} = \frac{\text{Times of Conception}}{\text{Ever-Conceived Women}} \times \frac{\text{Times of Induced Abortion}}{\text{Times of Conception}}$$

$$\frac{\text{Times of Induced Abortion Caused by Inconsistency}}{\text{Ever-Conceived Women}} = \frac{\text{Times of Induced Abortion}}{\text{Ever-Conceived Women}} \times \frac{\text{Times of Induced Abortion Caused by Inconsistency}}{\text{Times of Induced Abortion}}$$

$$\frac{\text{Times of Induced Abortion Caused by Inconsistency}}{\text{Times of Conception}} = \frac{\text{Times of Induced Abortion}}{\text{Times of Conception}} \times \frac{\text{Times of Induced Abortion Caused by Inconsistency}}{\text{Times of Induced Abortion}}$$

Table 10 shows the results. Totally there were 0.48 times of induced abortion per ever-conceived woman in the survey, 2.54 times of conception per ever-conceived woman, and 0.19 times of induced abortion per conception. Comparing the induced abortions per ever-conceived woman in urban areas with those in rural areas, we found that the times of induced abortions per ever-conceived woman was 0.79 in urban areas and 0.39 in rural areas, twice as frequent in urban areas compared with rural areas. What caused the rate of induced abortions per ever-conceived woman to be so much higher in urban areas than in rural areas? It was not caused by the times of conception because that was lower in urban areas, 2.22 times, than in rural areas, 2.62 times. It was caused by the rate of induced abortions per conception. There were 0.36 induced abortions per conception in urban areas and only 0.15 in rural areas. This means that the women in urban areas had fewer times of conception and higher rates of induced abortions after conception than the women in rural areas. The right answer should be that the high frequency of induced abortions among urban women was caused by a high rate of induced abortions per conception, rather than the high rate of conceptions. This result was similar to the difference between Han and minority nationalities. Han nationality had a lower conception rate and a higher abortion rate than minority nationality. Combining the two results, the times of induced abortion per ever-conceived woman were higher for Han women than for minority women.

To construct the second and third decomposition relations, we need to have the proportion of times of induced abortion caused by inconsistency with the requirements of family planning. If we assume that this proportion equals to the proportion of the last

induced abortion caused by inconsistency with the requirements of family planning listed in Table 8, then we get the results shown in Table 10.

Table 10. Estimates of the Proportions of Induced Abortions (s. e.) Caused by Inconsistency with the Requirements of Family Planning

	Conception per Ever-Conceived Woman	Induced Abortion per Conception	Induced Abortion per Ever-Conceived Woman	Proportion of Induced Abortion by Inconsistency (Assumption)	Times of Induced Abortion by Inconsistency per Ever-Conceived Woman	Proportion of Induced Abortion by Inconsistency per Conception
Total	2.536	0.188	0.475	0.361	0.172	0.068
	(0.023)	(0.001)	(0.004)	(.008)	(0.002)	(0.000)
Urban	2.224	0.357	0.794	0.258	0.205	0.092
	(0.043)	(0.005)	(0.015)	(0.011)	(0.004)	(0.001)
Rural	2.624	0.147	0.386	0.420	0.162	0.062
	(0.027)	(0.001)	(0.004)	(0.010)	(0.002)	(0.000)
Han	2.501	0.194	0.485	0.359	0.174	0.070
	(0.024)	(0.001)	(0.005)	(0.008)	(0.002)	(0.000)
Minority	2.874	0.132	0.380	0.380	0.144	0.050
	(0.086)	(0.002)	(0.011)	(0.028)	(0.004)	(0.001)

Source: 1997 Population and Reproductive Health Survey data.

Table 10 also shows that there were, on average, 0.17 times of induced abortion per ever-conceived woman and 0.07 times of induced abortion per conception, which were intervened by inconsistency with the requirements of family planning in China. In the comparison between urban and rural areas, we found that both times of induced abortion per ever-conceived woman and proportion of induced abortion per conception caused by inconsistency with the requirements of family planning were higher in urban areas than in rural areas, that is, 0.21 versus 0.16 and 0.09 versus 0.06, respectively. The higher proportion of times of induced abortion caused by inconsistency per ever-conceived woman in urban areas was due to the higher proportion of induced abortions per ever-conceived woman, which was 0.79 in urban areas and 0.39 in rural areas, rather than the proportion of induced abortions caused by inconsistency. Similarly, the higher proportion of induced abortions caused by inconsistency per conception in urban areas was due to the higher rate of induced abortions in urban areas than in rural areas, that is, 0.36 versus 0.15. Such results were also true for the comparison between Han nationality and minority nationality. But the data also show that induced abortions caused by inconsistency with the requirements of family planning still existed for minority people.

Induced abortion as competing risk of sex-selected births

Influenced by conventional ideas, Chinese families have a strong son preference as well as a preference to have at least a son and a daughter. One of the reasons that women voluntarily underwent induced abortions, no matter whether bearing a child violated the requirements of family planning or not, was that they had known the sexes of their fetuses in advance, and they were not of the women's expectations. We traced the reproductive courses of the married women aged 35–49, who had almost completed their childbearing, to see if there were competing relations between the sex ratio at birth and the rate of induced abortions, given that the numbers and sexes of children ever-born were known before the births. Of the total sample of married women aged 35–49, 99.2 percent had gotten pregnant before (see Table 11). Of the first-time conceptions, only 1.7 percent of pregnant women underwent induced abortions. The sex ratio of the live birth of the first conception was 103.9, which seems around the normal range.[13] The conclusion that the sex ratio at first parity is normal or near normal in China was drawn consistently in previous research (Hull 1990; Johansson and Nygren 1991; Zeng et al. 1993). It seems to reflect that women who have never had a child would be less likely to undergo induced abortions and less likely to select the sex of their first child due to less pressure with having the first child by family planning policy. Of the women whose first child was a boy, 91.1 percent conceived a second time. Due to the requirements of the one-child policy in some areas, some women who had already had one boy had to undergo induced abortions, and the proportion of induced abortions for the second pregnancy was 25.0 percent. On the other hand, the corresponding sex ratio at birth was abnormally lower, that is, 98.3 percent. It implied that there were girl preferences for the women who had already had a boy, and some male fetuses were aborted. This increased the rate of induced abortions for the women who had already had one boy. Of the women whose first child was a girl, 93.7 percent conceived second time. The rate of induced abortion was 20.4 percent, which was lower than that of women whose first child was a boy. Conversely, the sex ratio at birth was abnormally higher for the women whose first child was a girl. Such results were even stronger with the third conception, that is, a higher rate of induced abortions and a lower sex ratio at birth for the women whose first

[13] Based on Shryock and Siegel 1976, p. 109, the sex ratios at birth in most countries had fallen to 104–107.

two children were both boys, and a lower rate of induced abortions and a higher sex ratio at birth for the women whose first two children were both girls. It is clear that the level of induced abortions and the sex ratio at birth under the condition of a given number and sex of children were a trade-off with each other. It is also means that both the rate of induced abortions and the sex ratio at birth were correlated and were affected simultaneously by the number and sex of the children women had ever had.

Table 11. Rate of Induced Abortions and Sex Ratio at Birth by the Number and Sex of Children before the Conception of Married Women Aged 35–49 at the Time of the Survey (%)

Children Ever-Born before the Conception	Proportion of Conceptions (s. e.)	Sex Ratio at Birth (s. e.[14])	Proportion of Induced Abortions (s. e.)
Total			
No child	99.23 (0.11)	103.92 (0.20)	1.67 (0.17)
One boy	91.06 (0.54)	98.26 (0.32)	24.96 (0.86)
One girl	93.67 (0.47)	116.93 (0.39)	20.36 (0.80)
Two boys	56.62 (1.65)	91.71 (0.66)	25.34 (1.92)
One boy and one girl	59.04 (1.11)	103.50 (0.50)	21.02 (1.80)
Two girls	81.49 (1.30)	157.69 (1.03)	11.08 (0.92)
Urban Areas			
No child	98.89 (0.27)	112.25 (0.44)	3.64 (0.48)
One boy	79.56 (1.50)	115.38 (1.21)	63.54 (2.01)
One girl	79.69 (1.58)	136.90 (1.49)	57.98 (2.18)
Two boys	49.52 (4.88)	100.00 (3.33)	63.46 (6.68)
One boy and one girl	59.22 (3.42)	107.69 (2.11)	52.46 (4.52)
Two girls	66.67 (5.14)	240.00 (7.59)	35.71 (6.40)
Rural Areas			
No child	99.35 (0.12)	101.31 (0.22)	1.00 (0.15)
One boy	95.06 (0.48)	96.39 (0.33)	13.74 (0.77)
One girl	98.05 (0.30)	114.84 (0.41)	10.76 (0.69)
Two boys	57.55 (1.75)	91.30 (0.67)	21.04 (1.90)
One boy and one girl	59.02 (1.17)	103.23 (0.51)	17.31 (1.18)
Two girls	83.04 (1.33)	154.02 (1.03)	9.01 (1.11)
Han Nationality			
No child	99.25 (0.12)	103.90 (0.21)	1.78 (0.18)
One boy	90.79 (0.57)	98.43 (0.34)	26.26 (0.91)
One girl	93.41 (0.50)	118.35 (0.42)	21.31 (0.85)
Two boys	55.08 (1.74)	90.00 (0.69)	25.56 (2.06)
One boy and one girl	57.20 (1.17)	100.00 (0.51)	21.79 (1.29)
Two girls	80.90 (1.39)	158.57 (1.09)	10.96 (1.23)
Minority Nationality			
No child	98.94 (0.47)	104.21 (0.71)	0.43 (0.30)
One boy	94.17 (1.57)	96.74 (1.01)	10.48 (2.11)
One girl	96.73 (1.22)	103.53 (1.12)	9.66 (2.05)
Two boys	70.79 (4.82)	104.35 (2.18)	23.81 (5.37)

[14] This is the standard error of the sex ratio. The calculation based on the formula in Lohr 1999, formula (3.7), p. 68. Through simplification, such as ignoring the finite population correction (fpc) and (n-1)/n, using the sample average instead of the population average, the formula used is as follows: $SQRT((M+SR^2*F)/(F^2*100)$, where M denotes the total number of the sampling of new boys, F denotes the sampling of new girls, and SR denotes the sex ratio at birth (number of boys per 100 girls).

One boy and one girl	77.22 (3.13)	131.25 (1.89)	15.33 (3.08)
Two girls	87.06 (3.64)	150.00 (3.06)	12.16 (3.80)

Source: 1997 Reproductive Health Survey data.

Now let's compare the differences in induced abortions and sex ratio at birth between urban and rural areas. From the results of the total respondents, we found that the sex ratio at birth of the first parity was 103.9, which was almost in the normal range. However, we found that the sex ratio at birth of the first parity was 112.3 in urban areas and 101.3 in rural areas. It seems that the male selection in urban areas and the female selection in rural areas started even in the first parity. These are plausible choices if people in urban areas favor a son under the one-child policy and people in rural areas favor one son and one daughter under the policy that women are allowed to have a second child if the first child is a girl and are not allowed to have a second child if the first child is a boy. Even though the induced abortion rates for the first conception were all lower in both urban and rural areas, the level was markedly higher in urban areas than in rural areas. After having a first child, high proportions of women still conceived in both urban and rural areas, almost 80 percent in urban areas and over 95 percent in rural areas for women who have either one boy or one girl in the first birth. Because of the policy differences in urban and rural areas, the rates of induced abortions for the second pregnancy were quite different between urban and rural areas, that is, around 60 percent in urban areas and a little higher than 10 percent in rural areas. It meant that most of the women who conceived had their second child in rural areas. In addition, the pregnant women whose first child was a girl still had lower induced abortion rates than the women whose first child was a boy in both urban and rural areas did. In rural areas, the sex ratios of the second parity were lower, 96.4, conditional on one boy and higher, 114.8, conditional on one girl than the normal level, 104–107, which means that there were both male and female selections in the second child in rural areas. In the urban areas, the situation seems different. The sex ratios of the second parity were all higher than the normal level, no matter whether the first child was a boy or a girl but higher for having one boy than for having one girl. It seems that people in urban areas were more likely to have boys than the people in rural areas, who were more likely to have one boy and one

girl. The proportions of conceptions markedly decreased for the women who had two children in both urban and rural areas[15], except among the women whose two children were both girls, that is, 66.7 percent in urban areas and 83.0 percent in rural areas. This clearly reflected that the women who had two girls had a strong desire to have a boy through the third conception. This can be proved by the very low induced abortion rates and very high sex ratios at birth in both urban and rural areas compared with other conditional results. The differences between Han and minority nationalities also reflected the impact of the differences of the policies imposed on them; that is, minority people were allowed to have two or even three children. Hence the rate of induced abortions for the second conception was much lower for minority nationality than for Han nationality. Also, male selection occurred in the second conception for Han nationality, that is, the sex ratio of the second parity conditional on one girl was 118.4. Male selection occurred in the third conception for the minority nationality, that is, the sex ratio of the second parity conditional on one girl was only 103.5. The sex ratios of the third parity conditional on one boy and one girl and two girls were 131.3 and 150, respectively.

Summary

Unlike in other countries, in China induced abortions have their own characteristics, direct intervention in the processes of childbearing, in correspondence with the government-driven family planning program. Through the analyses above, we found that the level of induced abortions had an association with the strictness as well as with the differences of the family planning policies between urban and rural areas and Han and minority nationalities. The induced abortions are gradually becoming more voluntary than involuntary. We revealed that the rates of induced abortions were higher in urban areas than in rural areas and higher for Han nationality than for minority nationality, and tried to find the reasons why the times of induced abortion per ever-conceived woman were higher in urban areas and for Han nationality. The findings were that high induced abortion rates per ever-conceived woman were not caused by the frequencies of

[15] One of the focuses of the family planning policy is on preventing the third party. The principle of the national family planning policy can be expressed in three words, that is, advocating having one child per couple; allowing having two children to couples with certain difficulties; firmly preventing from having the third child.

conceptions but were caused by the rate of induced abortions per conception. A plausible explanation is that the requirement on the number of children by the policy led to such results, that is, the more restrictive the policy, the higher the rates of induced abortions per conception. This means that, if the policy in urban areas (or for Han nationality) were the same as the policy in rural areas (or for minority nationality), the rate of induced abortions in urban areas (or for Han nationality) would not be higher than that in rural areas (or for minority nationality). Does it mean that there were many cases of induced abortions that were caused by unmet requirements of the family planning policy? The result given above shows that totally 6.8 out of 100 conceptions aborted were due to inconsistency with the requirements of the family planning policy. Among the 6.8 cases of induced abortions, some (but we do not know how many) were voluntarily decided by pregnant women due to sex-selected induced abortions or acceptance of complying with the requirements of the policy. We believe that the cases of enforcement of induced abortions existed to some extent at the grassroots level, but they were not universal, especially after the middle of the 1990s. The higher rate of induced abortions caused by inconsistency with the requirements of family planning in urban areas than in rural areas provided the evidence that most induced abortions in China were not forced. Most urban people favor one child, and almost all the induced abortions undergone by women in urban areas were voluntary. In contrast, to avoid or eliminate induced abortions, the Chinese government made a great effort to increase the coverage and validity of contraceptive methods used by married couples. Such work has avoided substantial unintended conceptions and induced abortions.

Entering the new century, the family planning policies in China have made some crucial changes. In regard to the number-oriented policy, the Chinese government proposed a new policy in March 2000 to stabilize the current fertility level rather than continuously decreasing the fertility rate. In regard to the change of the implementation and focus of the family planning program, the People's Congress released a law concerning Chinese Family Planning. The main aims of the law are to regulate the work at the grassroots level and to take the reproductive health service into the family planning agenda, rather than strengthen the means to control the number of births, because all the previous family planning regulations made by the provinces were much more restrictive

in controlling the number of children and much less emphasis in improving the reproductive health than the national law. China has almost finished its work in controlling the number of births. The shift and reform of the conventional family planning program is inevitable.

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