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6

A Decade of the One-Child Policy: Achievements and Implications*

Wang Feng

The one-child policy, one of the most ambitious and controversial social experiments in contemporary Chinese history, has survived for over a decade, while many other bold social and economic experiments have been abandoned. This chapter reviews the evolution of the one-child policy and evaluates its success using survey data. It attempts to explain why fertility, after a decade of impressive decline, leveled off during the 1980s, even in the presence of the one-child policy, and what the consequences of the policy may be, given its performance during the last decade.

To understand why the one-child policy came into being after an already remarkable fertility decline in China and why the policy has been kept in place even after strong resistance from rural people, it is necessary to understand the context of the modernization drive in the late 1970s and the economic and political reforms of the 1980s.

The One-Child Policy and the Modernization Drive of the Late 1970s

Before the inception of the one-child policy in 1979, China had already achieved a remarkable fertility decline. With the exception of a small dent in the fertility curve in 1980, the year following the announcement of the one-child policy, the total fertility rate in China in the 1980s hardly declined. According to one group of analysts, "the total fertility rate shows no overall trend since the late 1970s, fluctuating around 2.4 children per woman" (Feeney et al., 1989). One might thereby conclude that the one-child policy has been unnecessary.

A counterargument can be advanced, however: Without the one-child policy, fertility in China would have rebounded to above its 1979 level. In fact, this argument has been used as a rationale among some policymakers in

China for continuing the one-child policy. How sound is this argument? To what extent does State policy affect the behavior of individual couples in China?

China's one-child policy was a product of the post-Mao modernization drive of the late 1970s. During the ten-year Cultural Revolution, the political goal of preventing the restoration of capitalism and revisionism was given top priority; economic development became a secondary goal, intended only to serve political ends. Hundreds of millions of people were called upon to engage in political studies and attend criticism meetings, while economic production was neglected. The economic and political bureaucracy that had gradually been established during the 1950s and the early 1960s to carry out economic planning and implementation was also severely shaken. But after a decade of chaos and economic stagnation associated with the Cultural Revolution, most ordinary citizens in China were eager to see their standard of living increase. This return to economic concerns was endorsed by Mao's successors who instituted the Four Modernizations (the modernization of industry, agriculture, science and technology, and national defense) in the late 1970s.

By then, family planning programs were firmly in place in China, and the TFR had dropped dramatically.[1] Nevertheless, the leaders of the post-Mao era were still concerned about the low per capita GNP. In the simple calculation of per capita GNP, social planners have two ways of increasing the quotient: to expand the numerator (total national product) and to shrink, or at least to restrict the growth of, the denominator (total population). It was apparent to China's leaders that the rapid population growth in the 1960s and 1970s and the momentum for further growth, if not checked, would make their promise of increasing per capita income hard to keep. This kind of simple numerator/denominator analysis was reflected in the theoretical foundation of China's population control program. Chinese officials formulated it in Marxist terms: "to grasp two kinds of productions," material production and human reproduction, "simultaneously."

More specifically, policymakers in Beijing had three reasons for launching the ambitious and, to many observers, inconceivable one-child per couple population policy: (1) an already huge population base of 1 billion by the end of the 1970s, (2) the shift of the focus of the Party's work from revolution to developing the economy (modernization), and (3) the fact that a rapid fertility decline had already proved possible (Zhang, 1985).

The second of these three justifications has already been briefly discussed, but the first and third also merit attention. In the late 1970s, China's enormous population and its pressure on the country's infrastructure gained public attention as people were allowed to express their dissatisfaction with their living conditions. Those conditions included a serious housing shortage, crammed public transportation, severely underdeveloped

communication networks, and poor educational facilities. Every one of these problems could be linked with the fact that China had too many people.

Even if these problems could be alleviated by reducing the population base so that per capita consumption could be increased, many of the problems facing the Chinese in their daily lives were not caused by too many people. The housing shortage is an example. Between 1952 and 1978, average per capita floor space in urban areas declined from 4.5 to 3.6 square meters. During that period, the State's investment policy, which favored heavy industries, allocated on average only 6.2 percent of total construction funds to urban housing (Lee, 1988). By contrast, between 1980 and 1985 the average percentage of investment in housing increased more than 25 percent per year (China's Statistical Yearbook, 1988), and by 1987, per capita floor space for urban Chinese was 8.5 square meters, twice that of a decade earlier. In rural areas, between 1979 and 1987, the per capita floor space increased from 8.1 to 16 square meters. Yet during the 1980s, even with the rapid fertility decline, more people were born each year on average than in the 1970s, owing to the larger population base.[2] Clearly the relation between population growth and per capita consumption level is not a simple mathematical one.

The success of family planning programs in the 1960s and the 1970s provided proof for some policymakers that a further reduction in fertility could be made. Their thinking was linear: If the total fertility rate could drop relatively effortlessly from 6 to 3 in a decade, why could it not be further reduced to below 2? In making such linear assumptions, framers of the one-child policy misunderstood the causes of the rapid fertility decline in the 1970s and ignored the basic needs of the most basic social institution in China, the individual family.

China's population policy by the end of the 1970s was simplified into one goal and one slogan. The goal was to keep China's total population size from exceeding 1.2 billion by the year 2000, and the slogan was "One Couple, One Child." Officials did not make public why the population ceiling was set at 1.2 billion for the year 2000. But it was speculated that, to achieve a per capita income of $1000 (later changed to $800) by the end of the century, the total population should not exceed 1.2 billion. Knowing the target population and knowing the population age structure and mortality level at that time, it was possible to calculate a fertility schedule to achieve this population goal.[3] The result of the calculation was the recommendation to keep the TFR below 1.7. In order to leave margins for policy implementation and to make the policy implementation egalitarian to each couple, a one child per couple policy was formulated in 1979. The implementation of this policy was urged in a series of Party and government documents, such as the 1980, 1981, and 1982 Government Working Reports to the People's Congress, and in "The Open Letter to all Communist Party and Communist Youth League Members on Controlling Population Growth" by

the Central Committee of the Chinese Communist Party in September 1980.

The One-Child Policy and Economic Reforms

This extremely strict policy of controlling population growth was only one of a host of measures adopted by the Chinese government to increase the standard of living. Many other policies and goals of the late 1970s were later found to be unrealistic and thereafter either abandoned or modified. A vivid example of unrealistic goals was the Communist Party's call in the late 1970s to mechanize all agricultural production by 1985. Not only has the mechanization of agriculture never been realized, but the intensity of agricultural machinery use is now less than what it was before the end of the 1970s, since most farming in China is now accomplished by individual families on contracted small plots of land.

Yet, despite meeting strong resistance, the one-child policy has remained in force. One reason for its continued existence is that the economic and political reforms, especially in rural areas during the 1980s, have been thought to have a potentially serious detrimental effect on the government's effort to reduce population growth. Just to maintain at the fertility level of the late 1970s, a strict policy, even if unrealistic, may be somewhat effective in curtailing population growth. In addition, the one-child policy was quite successful in urban areas. Later discussion will consider whether urban people have complied with the policy and why the urban experience cannot be extended to rural areas, where most of China's births occur.

The effects of the political and economic reforms on fertility can be conceptualized at both the organizational and the individual household level. At the organizational level, the return to family farming greatly reduced the power of political hierarchies associated with collective farming, which may have played a key role in the earlier fertility decline.[4] On the one hand, the local Party and government administrators no longer have the economic leverage they once had to implement policies issued from above. On the other hand, able individuals who served local social functions, such as implementing family planning programs, were no longer interested in working in the communities, especially in promoting causes that are likely to elicit antagonism from fellow villagers. They saw their skills and experiences more profitably used in family farming and nonagricultural activities that generated income.

At household level, the picture is less clear. Popular wisdom assumes that the family farming system would result in a desire for more labor in the household and therefore higher fertility, but no empirical evidence has been established to prove this link. The effect of the family farming system, or of the household responsibility system, on the fertility desires of rural couples

may actually be the opposite; farmers may decide that having a few educated children is more important than having a large number of uneducated ones. Many of the publicized economic success stories were about families who had higher-quality laborers, not a large number of laborers. Furthermore, Chinese farmers recognized that the fastest way to get rich was by participating in nonagricultural activities, such as trading and transportation, which required at least literacy and the ability to collect and utilize information about economic opportunities.

The withdrawal of collective responsibility for individual household welfare also made childbearing more expensive for the family, which may lessen the desire for more children. After individual households are allotted their own parcels of land, they do not qualify for additional land if they have more children. Therefore, with the demand for land exceeding the supply in most rural areas, additional labor may not necessarily be a blessing to farmers. Even if farming couples calculate that additional labor were an advantage to them, the advantage could not be realized for some years, since babies cannot solve a current labor shortage. On the contrary, they worsen the labor shortage. With the demise of the collective farming system, the opportunity cost of childbearing for farmers has increased tremendously.

Since its inception in 1979, the one-child policy has been modified several times. From the start, exceptions were made, for example, for minority ethnic groups, remarried couples without their own children, and couples with retarded or handicapped children. A major relaxation of the policy occurred in 1984, when in many rural areas couples with only one female child were allowed to have a second birth, and in mountainous and extremely poor areas, all couples were allowed to have a second birth.[5] Nevertheless, the policy remains fully implemented in urban areas and, wherever possible, in rural areas.

Desired Number of Children

Because a major argument for a stricter policy of population control over the past decade has been that the recent economic reforms have increased farmers' desire for more labor and thus more children, the starting point of our investigation is whether the desired number of children has increased among rural Chinese.

Because of the short history of representative social surveys in China, we have no data on the desired number of children before the 1980s. Only survey results after the economic reform of the early 1980s therefore can be used to evaluate the desired number of children of Chinese families and to reexamine the assumption that the fertility level would rebound without a strict family planning policy.

The results of survey after survey reveal that most Chinese, regardless of their socioeconomic status, desire to have two children (a boy and a girl). Whyte and Gu (1987), for example, compared results on the desired number of children obtained from nine surveys in rural or suburban areas of nine provinces between 1982 and 1985. They reported the mean number of children preferred to be 1.96. In urban areas, based on six surveys between 1983 and 1985, the desired number of children was 1.58.[6] Although these surveys were mostly of pre-selected areas and therefore may not have been representative of the entire Chinese population, more recent representative sample surveys have given similar results. The 1985 In-Depth Fertility Survey in Hebei and Shaanxi provinces found that the average number of children preferred among women with one surviving child was 2.1 and 2.3. To avoid biased responses by women who had already had more than one birth, only women with one surviving child were included. The small family sizes desired by these women do not seem to support the argument that there has been an increase in the demand for children; it is unlikely that the desired number of children before the reform could have been lower than those found in above-cited surveys.

Table 6.1 shows the distribution of the number of children desired by residence type, educational attainment, and the status of signing the one-child certificate among women with only one surviving child in Hebei and Shaanxi provinces. In both provinces, the majority of women preferred to have two children (in Hebei 74 percent, and Shaanxi 69 percent). In rural areas, 19 percent in Hebei and 32 percent in Shaanxi desired to have three or more children. The educational attainment of the respondents has a negative relation to the desired number of children, with illiterate women desiring the largest numbers. However, even among illiterate women, 65 percent in Hebei and 53 percent in Shaanxi reported a desired number of two.

Between 1979, when the one-child policy was announced, and 1985, a substantial proportion of urban couples signed the one-child certificate and thus committed themselves to having only one child. By signing the certificate, a couple becomes eligible for certain privileges, such as a small cash bonus, longer maternal leave, priority in getting public childcare, and schooling for the only child in urban areas. Urban couples who violate the one-child policy, however, are subject to penalties in promotion, housing assignments, and sometimes in their wages. Even though a small percentage of couples have reneged on the pledge, most of those who signed the certificate have kept their pledge. Economic incentives were also tried in rural areas, but with the dissolution of the collective farming system in the early 1980s, most of those incentives were dropped.

On average, about one-third of all women in these two provinces with only one child had signed the certificate. Most of those who had signed were from urban areas; 52 percent of signers in Hebei and 63 percent in Shaanxi

TABLE 6.1 Number of Children Desired, by Residence Type, Education, and the Status of Signing the One-Child Certificate Among Women with One Child: Hebei and Shaanxi Provinces, 1985

	Number of Children Desired						Mean No. Desired
	1	2	3	4	5+	Total	
			Hebei				
Total	9.5	73.8	14.7	2.0	0.1	100 (1,010)	2.1
City	20.8	76.8	1.7	0.6	0.0	100 (173)	1.8
Town	3.7	68.3	25.6	2.4	0.0	100 (82)	2.3
Rural	7.6	73.6	16.4	2.3	0.1	100 (755)	2.1
Illiterate	11.0	64.7	23.0	1.1	0.4	100 (283)	2.2
Primary School	6.4	78.9	13.6	1.2	0.0	100 (251)	2.1
High School+	10.3	76.5	10.3	2.9	0.0	100 (476)	2.1
Signed	22.2	68.5	8.4	0.9	0.0	100 (333)	1.9
Not Signed	3.4	77.0	17.1	2.4	0.2	100 (639)	2.2
			Shaanxi				
Total	6.2	69.4	17.5	6.2	0.8	100 (667)	2.3
City	13.9	81.9	3.0	1.2	0.0	100 (166)	1.9
Town	0.0	81.0	16.7	2.4	0.0	100 (42)	2.2
Rural	3.9	63.8	22.9	8.3	1.1	100 (459)	2.4
Illiterate	4.8	52.7	30.1	11.6	0.7	100 (146)	2.5
Primary School	3.3	62.8	22.2	9.8	2.0	100 (153)	2.4
High School+	7.9	78.8	10.6	2.5	0.3	100 (368)	2.1
Signed	13.8	76.1	7.3	2.8	0.0	100 (247)	2.0
Not Signed	1.9	64.0	25.1	7.7	1.3	100 (375)	2.4

Note: Numbers of women by status of signing the certificate do not add up to the total given in each province because of missing cases.

lived in urban areas (cities and towns), even though urban couples accounted for only 18 and 27 percent, respectively, of the total sample in the two provinces. However, a further examination of the desired number of children by status of signing the certificate reveals that even for those who had already signed, 69 and 76 percent actually desired two children (see Table 6.1). These proportions are not very different from the proportion of all couples in the sample who desired two children.

These data reveal that regardless of residence, educational attainment, or whether they had already made a commitment to the one-child policy by signing the certificate, most people in China desire two children. If we take into consideration their desire for a balanced sex ratio, a simple calculation tells us that in order to allow most couples (93.75 percent) to have at least one boy and one girl, a total fertility rate of 2.87 would have to be reached; alternatively, allowing 87.5 percent of couples to have at least one boy and one girl, a TFR of 2.75 would be necessary. China's total fertility rate in recent years has been lower than 2.75. It is so because some couples stopped childbearing after having the first or the second birth, regardless of the sex composition of their children even while some couples continued to give birth after having a boy and a girl.

The One-Child Policy: Who Complies?

Most urban residents made the commitment to have only one child (90 percent in Hebei and 81 percent in Shaanxi). Why did these urban residents commit themselves to the one-child policy? Some rural couples also signed the certificate; who were these couples? To answer these questions, data from the first phase of the In-Depth Fertility Survey collected in China in 1985 is used.[7]

Because the survey was conducted in 1985, it reflects the experience of only the first six years under the one-child policy. Yet these were the years when the policy was most strictly enforced. Therefore, we can learn most from those years about how the policy was implemented.

In addition to the urban versus rural difference, the analysis here includes such individual-level factors as woman's (respondent's) education, sex of the surviving child, and the desired number of children, sex preference for children, and reproductive goals. We also include a household factor that indicates living arrangement, measured by the number of months lived with the husband's parents after marriage, and three community-level factors for rural areas: whether there was electricity in the community, the average household income in 1984, and whether there was a family planning clinic in the community at the time of the survey.

The analysis excludes from the sample women who were likely to be

given exemptions from the one-child policy -- that is, minority women, women who had had more than one marriage, women who had adopted children, and women whose first child had died. In studying the occurrence of the second and third births, the sample includes only births occurring between 1980 and 1985 to women who had had either one birth (for the analyses of the second birth and the acceptance of the one child certificate) or two births (for the analysis of the third birth). It does not exclude women who lived in remote mountainous areas and women whose first child was a girl, even though those women may have been exempted from the one-child policy after the policy was relaxed.

The results of logistic regression analyses on the probability of accepting the one-child certificate are presented in Table 6.2. For each province, three models are presented. The first applies to all respondents; the second includes only urban respondents; and the third includes only rural respondents. The coefficients are expressed in logit format, but they can be viewed as similar to ordinary regression coefficients, both in the sign (negative or positive) and in magnitude.

When urban and rural samples are combined for analysis, for Hebei province the statistically significant factors are city residence (with people residing in city more likely to accept the one-child certificate), primary school education (women with only a primary school education more likely to accept the certificate than women with a high school education), surviving child being a boy, and the number of children desired (the larger the desired number, the less likely to accept the certificate). For Shaanxi, education is not a significant factor, but living in towns makes one more likely to accept the certificate.

In both provinces, the dominant factor affecting the acceptance of the one-child certificate is city residence, which has the largest coefficient and t-statistic. Women's education has some role in Hebei, but generally it is not significant. The sex of the first child and the desired number of children are also significant in both provinces, even with the effect of urban residence controlled.

Who were the few urban residents who did not accept the one-child certificate? In Model 2, which includes only urban residents, education (with the exception of one category in Shaanxi), and, more importantly, the sex of the first birth are not significant factors in affecting acceptance of the certificate. The desired number of children reported by the respondents is still significant. In urban Shaanxi, postmarital residence with parents-in-law is also significant. These findings reveal two seemingly paradoxical phenomena: The one-child policy has been implemented with great success in urban China; its impact has overridden the effects of such normally potent factors as education and sex of the first child. Concurrently, some urban residents still wanted more children, and did not accept the certificate.

TABLE 6.2 Logistic Regression Analysis of the Factors Affecting the Acceptance of One-Child Certificate: Hebei and Shaanxi Provinces, 1980-85

	Hebei			Shaanxi		
Parameter	Total	Urban	Rural	Total	Urban	Rural
City vs. Rural	3.58*			2.56*		
	(11.89)			(9.71)		
Town vs. Rural	-0.47			1.20*		
	(1.35)			(3.75)		
Illiterate vs. High School	0.12	-1.01	0.34	0.10	-18.76	0.17
	(0.58)	(1.02)	(1.69)	(0.42)	(0.01)	(0.51)
Primary vs. High School	0.43*	0.35	0.63*	0.03	-2.51*	0.39
	(2.10)	(0.43)	(3.11)	(0.12)	(3.68)	(1.29)
First Child Boy	0.51*	-0.19	0.50*	0.46*	-0.13	0.77*
	(2.88)	(0.31)	(2.89)	(2.40)	(2.49)	(2.90)
Desire Number of Children	-0.84*	-1.50*	-0.41*	-0.60*	-1.51*	-0.73*
	(4.78)	(2.22)	(2.61)	(3.76)	(2.49)	(3.49)
Time Living with Parents		0.00	-0.003*		-0.01*	0.001
		(0.43)	(2.39)		(2.37)	(0.30)
Electricity			0.48			-0.23
			(1.68)			(0.81)
Average Income			0.04			0.23
			(0.80)			(1.09)
Family Planning Clinic			-0.15			-0.65*
			(0.83)			(2.52)
Constant	0.01	5.45	-0.95	0.01	5.58	0.19
	(0.03)	(3.39)	(1.96)	(0.02)	(4.06)	(0.27)
-2 times Log Likelihood Ratio	353.46	8.67	40.91	194.75	32.27	32.35
Degree of Freedom	6	5	8	6	5	8
Number of Cases	972	177	772	663	166	389

Note: An asterisk (*) indicates the coefficient is statistically significant at the 5% level or higher. Numbers in parentheses are t-statistics.

In the rural areas of the two provinces, the picture is different. In addition to the desired number of children, sex of the first child is a significant factor: Women whose first child was a boy were more likely than others to accept the certificate. This may reflect the government's relaxation of the one-child policy by 1984, so that women whose first child was a girl were allowed to have a second child. However, as analysis of the occurrence of the second birth between 1980 and 1985 shows, this sex-preference effect is not primarily due to policy relaxation. Throughout the first five years of the one-child policy, couples whose only child was a girl were much more likely than other couples to have a second birth. More likely, therefore, the policy relaxation came after difficulties in implementation.

In addition to the general difference between urban and rural areas, the analysis also reveals differences between the rural areas of the two provinces. In economically more developed Hebei province, education has some effect, with more educated women being more likely than less educated women to accept the certificate. In rural Shaanxi, education does not play a role. In rural Hebei, the length of postmarital residence with parents-in-law has a negative effect, but again, not in rural Shaanxi. With one exception, the three community factors are not significant. In rural Shaanxi, having a family planning clinic in the community appears to have a negative effect on the acceptance of the certificate, but further examination of the data reveals that this result comes from the effect of extreme cases in rural Shaanxi, and the finding should not be considered the norm.

Table 6.3 presents results of analyses of the acceptance of the one-child policy using a different criterion -- the occurrence of the second birth. This measure is different from the measure of certificate acceptance in two respects: It measures the successful implementation of the policy by examining whether a woman gives birth to a second child during the one-child policy era, and it better represents the experience of women in these two provinces for the entire five years rather than just at the time of the survey.

The statistical method used for analyzing the occurrence of the second birth is the Cox Proportional Hazard Model, in which the dependent variable is the hazard, or the risk, of having a second birth. Table 6.3 presents the effects of various independent factors in terms of relative hazard. Independent factors used here are the same as the ones used in studying the acceptance of the one-child certificate.

In both Hebei and Shaanxi provinces, urban residence, sex of the first child, and desired number of children are significant factors in determining whether a woman has had a second birth during the one-child policy era. In Hebei, a woman's education and her living arrangement after marriage also play significant roles, more education being associated with less likelihood of having a second birth and longer residence with parents-in-law being associated with a higher risk of having an additional birth. In Shaanxi province, however, these last two factors are not important (see Total column in Table 6.3).

When urban and rural samples are analyzed separately, we see that in urban Hebei, the sex of the first child is again not significant. Significant are education and desired number of children. In urban Shaanxi, the picture is basically the same, except that postmarital living arrangement is also significant.

Our results for the urban areas of these two provinces show the

TABLE 6.3 Relative Hazard (in Percent) for Having a Second Birth: Hebei and Shaanxi Providences, 1980-85

Parameter	Hebei			Shaanxi		
	Total	City	Rural	Total	City	Rural
City vs. Rural	-72*			-60*		
Illiterate vs. High School	18	475	8	-8	240*	-21*
Primary vs. High School	32*	435*	20	-10	20	-21
First Child Boy	-28*	-0.13	-29*	-33*	-20	-28*
Desired Number of Children	48*	126*	45*	29*	309*	25*
Time Living with Parents	0.2*	0.2	.02*	0	0.4*	-0.1
Electricity			11			-4
Average Income			7*			-4
Family Planning Clinic			2			-22*

Note: Column (1) gives the estimated coefficient and t-statistics and column (2) gives relative hazards in percentage.
* Statistically significant at the 5% level.

successful implementation of the one-child policy. Most urban couples had accepted the certificate and stood by their commitment by not having a second birth. Other characteristics being the same, a woman who was living in a city was 72 percent (in Hebei) and 60 percent less likely (in Shaanxi) to have a second birth than her rural counterpart (Table 6.3). The most interesting finding, however, is that sex preference, an otherwise important driving force for a large number of births in Chinese society, is consistently not significant in urban areas. The women who violated the policy (15.6 percent in Hebei and 24.6 percent in Shaanxi) were generally less educated and desired a large number of children. The lack of a sex-preference effect and the success of the one-child policy in urban China reflect both the strong organizational control in urban areas and the long-term social transformations that have changed the function of children and reduced the traditional

preference for sons.

Traditional values regarding children are clearly more prevalent in rural areas. In both Hebei and Shaanxi, the desired number of children and the sex of the first child are the most significant determinants of a second birth (Rural columns of Table 6.3). By contrast, women's education is not significant in rural Hebei. In rural Shaanxi, the result is anomalous, for less education is associated with less likelihood of having a second birth, after other factors in the model are controlled.

The three indicators used to represent local rural community characteristics -- average household income in the community (normally the village), availability of electricity, and location of a family planning clinic in the village -- have different effects in the two provinces. In Hebei, only higher average household income is associated with higher probability of having a second birth; in Shaanxi, the only significant indicator at the community level is the existence of a family planning clinic, with women living in villages with a family planning clinic 22 percent less likely to have a second birth, once the effects of other factors are controlled.

The overall results of these statistical analyses are ambivalent. Although in both provinces having a male first birth is associated with lower risk of having a second birth and desiring a large number of children is associated with higher risk, the effects of other factors differ. In rural Hebei, living with parents-in-law after marriage and having higher than average household income in the community are associated with higher risk of a second birth, whereas in Shaanxi these factors do not matter. In rural Shaanxi, more educated women (who represent only a small proportion of the sample) are actually more likely than others to have a second birth, and the existence of a family planning clinic reduces the occurrence of a second birth. The positive relations between education, average household income, and second birth do not necessarily mean that education and income level counteract the effective implementation of fertility control, because the occurrence of a second birth constituted only a minor violation of the one-child policy in rural areas. As we shall see shortly, these relations are not present when the occurrence of the third birth is examined. In general, differences in women's educational attainments in rural China are not strongly associated with their fertility differentials in the early 1980s. More important are the desired number of children and the gender of children already born.

Higher-Parity Births in China: Who and Why?

In rural areas a second birth in many instances was allowed during the 1980s, even though it was discouraged. Having a third birth clearly constituted a violation of government policy. Nevertheless, between 1980

and early 1985, among women who had already had two births, 22 percent in rural Hebei and 28 percent in rural Shaanxi had a third birth. Who were these women?

Table 6.4 presents the results of hazard model analysis of the third birth for rural Hebei and Shaanxi. The occurrence of the third birth in the rural areas of the two provinces is *not* associated with a woman's personal socioeconomic characteristics, such as her educational attainment. Rather, in both provinces, having a third birth is strongly associated with the sex composition of existing offspring and the desired number of children. In analyzing the occurrence of the third birth, the model includes an additional variable, the survival status of the first two births (coded 1 if there was a death among the first two births, 0 otherwise). This factor has the strongest effect on the occurrence of the third birth. The likelihood of having a third birth for a woman who experienced an infant or child death is more than two times higher than that for a woman without such an experience.

Having a high-parity birth (third birth in this case) in rural China is thus closely related to a strong desire to have a certain number of surviving children, preferably two or more, and at least one surviving son. This desire can be seen clearly from the results in Table 6.4. The three most important factors are desired number of children, infant or child mortality experience, and the sex composition of previous births. Here the difference does not lie in the individual's socioeconomic status, but rather is determined by whether a woman has achieved her desired minimum number and the sex composition of (surviving) children. Women with no boy among the first two births were 1.7 (Hebei) and 1.9 (Shaanxi) times more likely to have a third birth in the rural areas of these two provinces.

This strong desire for a minimum number of surviving children and at least one male offspring is deeply rooted in the socioeconomic realities of rural China. It is not simply a matter of a "feudal" mentality. The link between socioeconomic realities and high-parity births can be seen empirically in the case of rural Shaanxi. The two community-level factors, availability of electricity and family planning services, both affect the occurrence of the third birth. Compared with women living in villages with electricity and family planning clinics, those who lived in villages without such basic facilities were about 60 percent more likely to have a third birth. In the more developed province of Hebei, 91 percent of those at the risk of having a third birth lived in villages with electricity and 71 percent lived in villages with family planning facilities. With such high prevalence of electricity and family planning facilities, the variation in the occurrence of the third birth is not explained by the differences in the existence of these facilities. By comparison, in rural Shaanxi, 42 percent of the sample had no electricity in their villages and 48 percent had no access to family planning clinics within the community. So the larger effect of these community

TABLE 6.4 Estimates of Proportional Hazard Models and Relative Hazard for Having a Third Birth: Rural Hebei and Shaanxi Provinces, 1980-85

	Hebei		Shaanxi	
Parameter	(1)	(2)	(1)	(2)
Illiterate vs. High School	-0.20 (1.03)	-18	-0.04 (0.17)	-4
Primary vs. High School	-0.21 (1.04)	-65	-0.37 (1.58)	-31*
Having two girls	1.01 (7.93)	174*	1.08 (7.91)	194*
Having and Infant/Child death	1.12 (5.47)	207*	1.17 (6.59)	223*
Desired Number of Children	0.81 (10.84)	125*	0.01 (0.90)	1
Time living with Parents	0.001 (1.65)	0	0.000 (0.04)	0
Electricity	-0.05 (0.28)	-5	-0.36 (2.57)	-30*
Average Income	0.01 (0.32)		-0.13 (1.06)	-12
Family Planning Clinic	0.07 (0.51)	7	-0.34 (2.54)	-29*
Log Likelihood	-1834		-1404	
Number having birth	298		242	
Number of Cases	1372		880	

Note: Column (1) gives the estimated coefficients and t-statistics and column (2) gives relative hazards in percentage.

* Statistically significant at the 5% level.

characteristics and the generally higher occurrence of second and third births in Shaanxi are not surprising.

A Decade of the One-Child Policy: Implications

The impressive fertility decline in the 1970s came to a halt in the 1980s. Demographically, this halt was caused by two elements: a decrease in the age of first marriage, and the levelling off, or even slight increase of second and third births.[8] The current analysis has dealt with only the second element. In 1986-87, 81 percent of the women in China with one child went on to have a second birth, and 44 percent of those with two children had a third birth (Feeney et al., 1989). It is ironic that this halt in the fertility decline occurred after the government adopted the one-child policy, not before.

Many theories have been proposed to interpret China's fertility decline of the 1970s. These have usually focused on the respective roles of socioeconomic development versus family planning programs (H. Y. Tien, 1984; Poston and Gu, 1987; and Wang, 1988). Equally interesting and important, however, are interpretations of the stagnation of fertility change in the 1980s under the one child-policy, since they may shed light on the causes of the fertility decline in the 1970s.

Here I propose that a fruitful perspective is to examine the relation between mortality decline and fertility decline, between individual families and the State, and the State's strengths and limitations in affecting individual behavior.

Mortality Decline, Basic Needs of the Family, and the Role of State Policy

The impact of China's rapid mortality decline on the fertility decline in the 1970s and the 1980s should not be underestimated. Between 1949 and the early 1970s, China gained on average over 1.5 years of life expectancy annually. This record mortality decline "has apparently been two to three times as fast as the norm over a very extended period" and "has been matched in only a few small nations or regions" (Banister and Preston, 1981: 2).

In rural China, the effort to eliminate hunger and illiteracy, and the effort to control diseases by establishing basic health service facilities from the 1950s to the 1970s, laid the foundation for the rapid fertility decline. Elimination of starvation and the drastic decline in mortality, especially infant and child mortality, provided millions of people with a new context in which to "plan" their lives. With the rapid decline in mortality, couples' calculation of the mortality risk their own children faced may have changed dramatically as well. Under a demographic regime with a life expectancy of about 35

years, nearly one-third of all births die before the age of five, and only 60 percent reach age 20.[9] With a life expectancy of about 70, only 4 percent of all children die before age five and 95 percent reach age 20. Perspectives about mortality are bound to be different in these two very different contexts. Similarly, the improvement in female education prepared a new generation of rural women to be more receptive to new ideas transmitted via modern communication channels. The State thus played a role by providing communication channels, education, and services.

Because of the rapid mortality decline, even with a drastic cut in fertility, most families still have more surviving children than they had under the high mortality and high fertility regime. In fact, the traditional ideal of the extended family, if there was one, can be *better* achieved under a low mortality and low fertility regime (Hammel et al., 1989). Couples came to realize they could achieve their desired number of surviving children -- two -- while having fewer births in total. This was perhaps what happened in the 1960s in urban China and in the 1970s in rural China.

After the 1970s, the situation changed. The "surplus" births resulting from the rapid mortality decline had largely been absorbed. The further decline desired by the government required a change in the basic family and kinship structure. By the 1980s, with the exception of women from the most destitute areas and with no education, most Chinese couples desired two surviving children, and sometimes that meant having more than two births. The Chinese family planning program was thus stalled in the 1980s because it attempted to alter one of the most fundamental social institutions in Chinese society, the family.

The analysis of the occurrence of the third birth presented in this paper demonstrates the link between mortality and fertility at the individual level. Earlier work analyzing factors affecting the number of children ever born and contraceptive use in China at the individual level also found the infant mortality experience to be almost always the most important factor (Tien, 1984; Wang, 1988). The implication drawn from these studies is that in rural China, in order to achieve a further fertility decline, efforts must be made not merely to provide family planning facilities, but, more importantly, to improve basic living conditions by eliminating poverty and providing better health services to further reduce infant and child mortality.

The decade of the one-child policy has thus taught us that the policy can be effective in the long run only if it satisfies one of two conditions: First, it must not conflict with the basic values of individual families. Second, it must be backed by the State's ability to compensate individuals for negative consequences. In rural China, the State can hardly claim to have such an ability. Individuals in rural China realize that in the long run they must rely on themselves, and they make their reproductive decisions accordingly. The situation in urban China differs.

Differential Dependency on the State: Why Do Urban Couples Comply?

In the 1980s, then, a dichotomized reproductive world, urban and rural, emerged. For the country as a whole, the one-child policy has not been successfully implemented, but in urban areas it has been very successful. Between mid-1986 and mid-1987, only 20 percent of urban women with one child had borne a second child, compared with rural areas where the percentage was as high as 94 percent (Feeney et al., 1989: 311). The analyses presented here show that in urban China only a small proportion of women did not comply with the one-child policy. In comparison, in rural areas, both the desired number and sex preference for children played key roles in determining second and third births.

The sharp difference between urban and rural China in acceptance of the one-child policy vividly illustrates a central feature of contemporary Chinese society: the very sharp differentiation between urban and rural areas. In urban China, under a predominant State-owned economic system and a single-party political system, the lives of millions of individuals are woven into and dependent upon the political, economic, and social organizations controlled by the State. From cradle to grave, urban people are under the State's "protection" and control. Because the majority of urban residents work in the State and collectively owned enterprises and agencies, government control extends from the conception of the baby (pre-natal health care), to child's birth registration (which entitles the child to an urban household registration with lifetime benefits, such as heavily subsidized food, housing, and medical care), to enrollment in kindergarten and schools, to parents' promotion and housing assignments. Violation of the one-child policy in urban areas is easily traceable and punishable.

Therefore, although high and roughly equal proportions of urban and rural women expressed a desire for two children, most urban residents complied with the one-child policy regardless of their socioeconomic characteristics or the sex of their first child. This incongruity between their family size preference and their actual behavior demonstrates the effectiveness of the State power in urban areas.

In addition, the urban socioeconomic structure addded importantly to the success of the one-child policy. Until the urban economic reforms of the mid-1980s, urban individuals' dependency on the State was virtually all-encompassing. In urban areas, the State controlled not only the means of production, with more than 70 percent of all urban employees working in the State-owned enterprises and agencies, but also the means of consumption. Housing, basic food supply, and health care were all provided by the State in direct or indirect (subsidized but rationed) forms. Between the two institutional poles of the society, the State and the family, individuals in

urban China were being pulled toward the State in a way that has been unprecedented in Chinese history. The State, through its control over prices and markets, has squeezed food and raw materials from the hands and even mouths of the majority, the peasants, and used them in expanding both production and consumption facilities in urban areas.

Urban residents have benefited disproportionately from this biased developmental policy: They have enjoyed basically guaranteed full employment, including the employment of women, free housing and medical care, a pension system, and much better health services; they also have much better access to higher educational and other cultural and recreational facilities at no or very low cost. These benefits have not accured without costs. By enjoying the benefits controlled and provided by the State, urban residents have also become increasingly obligated to and dependent on the State. When a policy like the one-child policy is being implemented, no matter whether urban residents like it or not, they have little choice. They have many reasons to comply and little room to resist. In a sense, they can and must trust the State's protection.

In rural areas, however, there is no such State protection. Even during the most collectivized years, rural people's livelihood depended mostly on the outcome of their own labor at the village level. Even though between the 1950s and the 1970s Chinese peasants engaged in production outside the family, the collective system was only a slightly enlarged risk protection blanket; it could offer very limited protection, mostly in the form of basic necessities of life. Health services in most rural areas remained very poor, and few local collectives could offer anything comparable to the urban retirement pension system to their elderly members. Under such circumstances, a one-child policy is highly problematic. It is not difficult, therefore, to understand why rural electricity and basic family planning services are so crucially related to the occurrence of the third birth and why most rural people desire two or more children and preferably at least one son.

Implications of the Generation of One-Child Families in Urban China

The high percentage of urban couples who have complied with the one-child policy has contributed to the deceleration of China's population growth rate, but the sharp urban--rural dichotomy in family size resulting from the limited success of the policy in rural areas will have profound implications for Chinese society in the future. Major changes can be expected in the socialization of only children in urban areas, the social mobility patterns of rural and urban youth, such family interactions like support of the elderly by their grown children among urban families, women's status, and the

State's financial burden in providing support to the elderly.

Between 1979 and 1987, the number of urban retirees and the State expenditure for their welfare increased greatly. The number of retired urban employees rose from about 6 million to nearly 20 million, and in State-owned enterprises and government agencies the proportion of retirees' expenses (pensions and welfare) of total wages increased from 5.5 percent to more than 12 percent. In 1979, there were 16.3 current employees for every retired urban employee. By 1987, the ratio dropped to 6.8 to 1. In 1987, the expenditure for pension and welfare for retirees in State-owned enterprises and agencies mounted to more than 20 billion Yuan (about US $ 533 million), which was about the same as the total expenditure on national defense, one third more than the State expenditure on all agricultural activities, and about half of the State total expenditure on education, scientific research, and medical services combined.[10]

The most serious implications of the single-child generation in urban China will not be seen until early in the 21st century, when the current generation of parents of single children reach retirement age and the State will face much more severe financial burdens than it does now. From the standpoint of the individual, a whole generation of adults without siblings is unprecedented. No society has ever experienced such a radical change. As long as children raised without siblings are young and under their parents' protection and supervision, the effects of the change will not be strongly felt. After the turn of the century, however, these children will enter institutions of higher education and the labor market and themselves become parents; a large segment of Chinese society will then differ markedly from the rest.

The failure of the one-child policy in rural China may be a blessing in disguise for Chinese society. In the early 1980s, when the economic reform in China began to take shape, one economist commented thoughtfully that the failure of the State to collectivize 80 percent of the Chinese people's housing in the 1950s was perhaps the most fortunate thing ever to happen to the government. Imagine if the State were now also responsible for all Chinese peasant housing, what a reform task that would be! In view of this historical experience, the failure of the one-child policy in rural China may be another instance in which Chinese peasants have saved China from disaster.

Notes

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1. Urban family planning programs were begun as early as the 1950s and gained in popularity during the 1960s and 1970s. The government's family planning policy was implemented in rural areas, beginning in the early 1970s, with the slogan of "later, longer, fewer" (later marriage, longer birth intervals, fewer births). Couples were encouraged to limit their number of children to two in cities and no more than three in rural areas. These early programs, which were based mostly on voluntary participation and were largely dependent on individuals' own motivation to control their fertility, facilitated a rapid fertility decline in urban areas where the TFR dropped from 6.3 in 1963 to 3.2 by 1970, and in rural areas a decade later, where the TFR dropped from 6.3 in 1970 to 3.1 by 1979.

2. During the 1970s, the average number of births per year was 21.8 million; during the 1980s (up to 1987), the average number of births annually was 22.88 million. These numbers are calculated from the total population and the crude birth rate figures given in *Zhongguo Tongji Nianjian* (China's Statistical Yearbook) *1988.*

3. A widely publicized population projection, made by a group of natural scientists, considered four scenarios: (1) total fertility rate declines from the level of 2.63 in 1982 to 2.4 in 1984, to 1.7 in 1990, and to 1.5 in 1995, then maintains this level thereafter; (2) between 1982 and 2000 TFR is the same as in assumption (1) but after the year 2000 rises to 2.0; (3) TFR declines from 2.63 in 1982 to 2.4 in 1984, and to 2.0 in 1990, then remains at this level thereafter; and (4) TFR declines from 2.63 in 1982 to 2.4 in 1984 and maintains this level thereafter. They rejected scenario (4) because that fertility schedule would bring the total population size of China to more than 1.3 billion by the year 2000 and to 2.1 billion in the year 2081. They also rejected scenario (3) because it would also lead to a total population size greater than 1.2 billion in the year 2000 and to one of 1.44 billion in 50 years. They concluded that "it is best to bring the TFR below the level of 1.7, or even below 1.5, so as to stabilize the total population around 1.2 billion and to let the people in the next century decide when to resume a policy of `each couple two children.'" Quoted from Song Jian and Yu Jingyuan (1985), pp.247-48.

4. For a discussion of the role of the Chinese social-economic institutions on implementing population control policy, see, for example, Wolf (1986).

5. For discussions of recent changes in population policy in China, see Greenhalgh (1986); Hardee-Cleaveland and Banister (1988); and Zeng Yi (1989).

6. Calculated from Table 3 in Whyte and Gu (1987). Total sample size for the nine rural and suburban surveys was 10,786; for the six urban surveys the sample size was 3,882. One rural survey reported in Table 3 is excluded

because the number of respondents was not given.

7. For a detailed description of the survey design, see chapters 1 and 2 in *Principal Report, China In-depth Fertility Survey (Phase-I)*, compiled by the Department of Population Statistics of the State Statistical Bureau of China. This first phase survey covered Hebei and Shaanxi provinces and Shanghai municipality. The current study includes only Hebei and Shaanxi provinces. Both Hebei and Shaanxi are typical Chinese provinces, with agriculture as the major sector of employment. In 1987, Hebei province, which is located in northern China, had a population of 57.10 million and Shaanxi, located in the northwest, had 30.89 million. In Hebei province, 77.5 percent of the labor force was engaged in agricultural activities, and in Shaanxi, 79.6 percent. Hebei is economically more developed than Shaanxi. The per capita national income in Hebei province was 673 Yuan in 1987, and in Shaanxi it was 531. These statistics are from *China's Statistical Yearbook 1988* (Beijing: China Statistics Press, 1988).

Data from the 1985 In-Depth Fertility Survey offer a broad range of information about women's marital and reproductive histories and about their socioeconomic characteristics and those of their families and communities. Data from the survey also contain information about respondents' attitudes toward childbearing and certain government policies. Unlike surveys of particular villages or neighborhoods, this survey is a multi-stage random sample survey covering the whole province; information collected from the survey thus represents the general situation in the two provinces.

8. For a discussion of the effect of declining age at first marriage on fertility, see Feeney et al (1989).

9. These are hypothetical numbers taken from Coale and Demeny Model Life Table, West, females, level 7 and level 21, with a life expectancy of 35 and 70 years, respectively. These life expectancy numbers roughly correspond to the morality level for China during the 1930s and the 1980s.

10. These figures are calculated from statistics reported in *Zhongguo Tongji Nianjian* (China's Statistical Yearbook) *1988*, pp. 181 (total wage), 203 (numbers of retirees and expenses), and 756 (State finance).

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PART THREE

HOUSEHOLD AND FAMILY STRUCTURE