

China's Local and National Fertility Policies at the End of the Twentieth Century

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CHINA'S FERTILITY DECLINE is widely considered to be the product of a draconian birth control policy interacting with socioeconomic change. Yet, no systematic quantitative summary of China's fertility policy has been undertaken. Instead, for over two decades, China's national fertility policy has been mostly referred to as a one-child policy. Such a characterization originates from at least three sources. First, since 1980, China's fertility policy has required that a substantial segment of the Chinese population follow a one-child-per-couple rule. Second, while important modifications have been made to the initial policy over the past two and half decades, most such modifications have been made at the local level, which makes it difficult to summarize and accurately describe the policy at the national level. The Chinese government, not wishing to appear to bow to international criticism of its birth planning program, has done little to clarify its policy or to publicize policy modifications. Third, a systematic depiction of China's fertility policy requires measurement and analysis of local-level fertility policy data that have until recently been unavailable.

In this article we survey variations in China's fertility policy as of the late 1990s, in an attempt to describe local policy and the implications of the aggregation of local policies for national policy. Following a brief discussion of the politics of population policymaking in contemporary China, we summarize fertility policy regulations within China's provinces.¹ Our survey illustrates the intricacies and complexities of the population control process in China

and serves as a background for our detailed analysis of the policy-stipulated fertility level in China based on local fertility policies. Using data collected on fertility policy for 420 prefecture-level units in China, the administrative level below the province, we estimate fertility levels that would obtain locally if all married couples had births at the levels permitted by local policy. Chinese birth control officials term this fertility level as “policy fertility” (*zhengce shengyulu*). We compute the average provincial and national policy fertility levels implied by policy fertility at the prefecture level and map the geographic and demographic distributions of policy fertility in China. This policy fertility level is a quantitative summary of China’s current fertility policy, informing what is pursued in terms of population control nationally, on the basis of diverse local policies. Policy fertility serves as a reference for evaluating China’s fertility policy implementation, and as a starting point in evaluating the necessity and feasibility of continuing China’s current fertility policy.

Localization: The politics of population policymaking in China

Announced in 1980 (Peng 1997: 16–17), China’s one-child-per-couple policy was formulated in the wake of the Cultural Revolution (1966–76) as an emergency measure to slow rapid population growth and to facilitate modernization goals (Bongaarts and Greenhalgh 1985; Croll 1984; Croll, Davin, and Kane 1985; Wang 1996, 2005). This draconian policy met with strong resistance, especially in China’s vast rural areas where the peasant family remains the primary locus of economic activity and old-age support. A few years after the announcement of the policy, a quiet but significant retreat took place to modify the radical and unrealistic stance. In China’s privileged urban sectors, the population continued to be subject to the one-child policy; however, relaxations of the policy in other parts of China commenced as early as 1984 (Hardee-Cleaveland and Banister 1988; Greenhalgh 1986, 1993; Zeng 1989). Couples in rural China were allowed to have two children if they met certain criteria, most notably if they lived in a poor area or had only a daughter. Exemptions to the one-child rule often came with a spacing requirement, stipulating a minimum of four or six years between the first and second birth. As a result, while the fertility of China’s urban population with a nonagricultural household registration status, who account for no more than 30 percent of the total population, has remained near the level of one child per couple, the majority of rural couples who have one child go on to have a second birth (Feeney et al. 1989; Gu and Yang 1991; Feeney and Wang 1993; Feeney and Yuan 1994; Gu 1996a).²

Since the early days of the one-child policy, its implementation has varied from one locale to another, often down to the level of rural villages (Greenhalgh 1986, 1993; Short and Zhai 1998; Merli, Qian, and Smith 2004;

Scharping 2003). Although population control remains basic state policy, the central government has refrained from implementing a set of uniform policies across the country. China's central legislative body, the National People's Congress, struggled for two decades to draft and pass a national family planning law (Winckler 2002). When China's first Population and Family Planning Law was finally enacted in September 2002, it "advocated," rather than "required," that each couple have only one child. Modifications to the state policy of population control have been left to each province, under the general principle of slowing down population growth and encouraging only one child per couple.

Localization of one of the country's most important national policies is by no means unprecedented in China's political process. Decentralization is a key feature of the Chinese political system and a recurring governing strategy of the central government (Lieberthal 1995). This practice has become more prominent during the last two decades and more relevant to population control, as the government's capacity to regulate population reproduction has been challenged by the increasing liberalization of economic production (Greenhalgh and Winckler 2005). While past studies have documented the localized nature of policy implementation (Scharping 2003), the localized nature of policymaking has rarely been studied.

The localization of birth control policy can be traced to 1984, with the policy shift known as "opening small holes" (Greenhalgh 1986). In March of that year, China's State Family Planning Commission submitted a report to the central leadership of the Chinese Communist Party (CCP), appealing for a more realistic birth control policy. The report suggested "opening small holes" by allowing more couples to have a second child, and "closing big holes" by further limiting births of parity three and higher as well as unauthorized second births. The report came in the wake of mounting difficulties in enforcing a nationwide one-child policy and a backlash against the sterilization and forced induced abortion campaigns of 1983. The report was approved by the CCP's Central Committee on 13 April 1984, in the form of Document No. 7 (Peng 1997: 24). In addition to agreeing that more exceptions should be made to allow for a second child and appealing for less forceful methods of birth control, the document also recognized the diversity of demographic and socioeconomic conditions across China and stipulated that regulations regarding birth control were to be made in accordance with local conditions and to be approved by the provincial Standing Committee of the People's Congress and provincial-level governments. Throughout the 1980s, most provinces in China drafted their own birth control regulations.

Lack of research on localized policies has resulted in much confusion over China's *de facto* fertility policy. Population professionals and even the general public know that China does not enforce a strict one-child policy for all. Some observers have mistakenly interpreted relaxation of the initial

one-child policy to mean that the one-child policy is no longer operative at all. With the presence of multiple policies in numerous locales, a national policy-targeted fertility level has eluded not only the Chinese government, but also those who attempt to understand the demographic dynamics of China. A few scholars have touched on this topic, but without quantification. For instance, Feng and Hao (1992) examined China's fertility policy by reviewing the 28 local family planning regulations according to a person's residence type (urban or rural), nationality, and marital status. Short and Zhai (1998) and Attané (2002) also noted the diversity of fertility policy in China. Based on local policies, Lin and Lu (1996) in their population projection for China estimated the completed fertility required by the policy at 1.7, but they provided neither data sources nor computation methods.³ Moreover, whereas it is recognized that China's fertility policy is localized, little information is available on the demographic distribution of these localized policies. In other words, it is unclear what proportion of China's population is subject to each category of localized birth control policies.

Fertility policy: A look at provincial birth control regulations

The localized nature of China's fertility policy can be seen in the birth control regulations designed by each of China's provinces. Throughout the 1990s, under the general guidelines of and with the permission of the national birth control agency, China's State Family Planning Commission (now renamed the National Population and Family Planning Commission), provinces revised their own regulations on the number of children a couple could have and the conditions under which exceptions could be made to the one-child-per-couple rule. These regulations were drafted by provincial Family Planning Commissions and discussed in and adopted by the provincial People's Congresses. After adoption by the provincial People's Congresses, these birth control regulations were published in local newspapers and, more recently, on websites.⁴ Altogether, these regulations contain more than 100 articles concerning the allowable number of children and criteria for exemptions. From this large list of articles, we identify 22 unique exemptions for allowing a second child. Table 1 presents a breakdown of provincial fertility policy regulations, including exemptions for second and third births.

The large number of exemptions contained in the provincial-level birth control regulations reflects considerations of rationales for and feasibility of implementation. These exemptions can be grouped into four broad categories, from the most general to the most specific.

1) *Gender-based/demographic*. Exemptions under this category include rural couples with only one daughter, as well as exemptions conferred on individuals who are only children themselves. Allowing a second birth when

the first child is a girl has created the broadest category of exemptions to the one-child rule in most parts of rural China. But it has to some extent contributed to increasing the sex ratio at birth in recent decades, caused mostly by sex-selective induced abortion (Chu 2001).

2) *Economic*. These exemptions recognize the need for family labor or encourage participation in certain risky occupations. Exemptions in the latter category include miners who work underground, fishermen, farmers in mountainous or poor areas, and those deemed to have economic difficulties. Concern with rural/urban differences is the most important factor prompting such exemptions.

3) *Political/ethnic/social*. Exemptions are granted to persons who belong to an ethnic minority population group, those in a uxorilocal marriage (a man marrying into a woman's family, but only one son per family is allowed), returning overseas Chinese, and persons with the status of being the single child of a revolutionary martyr.

4) *Entitlement/replacement*. Couples are allowed to have a second child if their first child has died or is physically handicapped. Pregnancy and childbirth is also allowed after adopting a child following an initial diagnosis of infertility (such a condition requires a five-year observation following marriage and a medical certificate from a city or a higher-level hospital), as is childbearing in a remarriage (for those divorced or widowed). Being the only fecund son in a family of multiple children (in a rural setting) also falls into this category.

According to the fertility policies in effect at the provincial level, the 31 mainland Chinese provincial-level administrative regions can be classified as follows. First, there is an urban–rural differentiation. For Chinese with an urban (nonagricultural) household registration status, one child per couple is the rule. Second, for the majority of the Chinese population with rural or agricultural household registration status, provincial-level fertility policy can be grouped into three categories: 1) One-child policy; in six provinces, Beijing, Tianjin, Shanghai, Chongqing, Jiangsu, and Sichuan, almost all residents are expected to follow the one-child-per-couple policy. 2) “1.5-children” policy; in 19 provinces, rural residents are allowed to have a second child after a specified birth interval if the first birth is a girl. 3) Two-children policy; in five provinces, Hainan, Ningxia, Qinghai, Yunnan, and Xinjiang, all rural couples are allowed to have two children.

In provinces that require a one-child or a 1.5-children policy, married couples who are only children themselves can have more than one child. Twenty-six provinces have a policy that allows a second child if both husband and wife are single children. In addition, five provinces among the 26 have a two-children policy if one member of the couple is a single child and if the second birth follows a specified interval. For other couples who are not only children themselves, a variety of special exemptions allows a second child.

TABLE 1 Provincial fertility policies, China, late 1990s

Province/ population (millions)	One child per couple	Exceptions for second child	Exceptions for third child	Date policy formed/ revised
Beijing (12.57)	Yes	Yes, 9 categories, 1-4, 6, 8, 13-15	None	January 1991/ May 1999
Tianjin (9.59)	Yes	Yes, 11 categories, 1-6, 8, 10, 13-15	None	November 1988/ July 1997
Hebei (66.14)	Yes	Yes, 11 categories, 1-7, 11, 12, 15, 19	None	March 1989/ September 1997
Shanxi (32.04)	Yes	Yes, 11 categories, 1-5, 7, 11, 12, 14, 15, 22	None	September 1989/ April 1999
Inner Mongolia (23.62)	Yes, Han population only	Yes, for all ethnic minority couples, and 6 categories for Han population, 1, 3, 4, 6, 12, 19	Yes, agricultural status Mongolian couples with two daughters, certain minority couples, remarried minority couples	October 1990/ November 1999
Liaoning (41.71)	Yes	Yes, 10 categories, 1, 2, 4, 6, 7, 10, 12, 14, 15, 20	None	May 1988/ September 1997
Jilin (26.58)	Yes	Yes, 9 categories, 1-7, 12, 14	None	September 1993/ November 1997
Heilongjiang (37.92)	Yes	Yes, 8 categories, 1-5, 7, 12, 18	Yes, certain ethnic minority couples	May 1994/ December 1999
Shanghai (14.74)	Yes	Yes, 10 categories, 1-6, 8, 10, 15, 19	None	March 1990/ December 1997
Jiangsu (72.13)	Yes	Yes, 14 categories, 1-6, 10, 13-17, 19, 21	None	October 1990/ July 1997
Zhejiang (44.75)	Yes	Yes, 11 categories, 1-5, 7, 12, 15, 16, 19, 21	None	December 1989/ September 1995
Anhui (62.37)	Yes	Yes, 11 categories, 1-7, 10, 12, 15, 19	None	October 1988/ June 1999
Fujian (33.16)	Yes	Yes, 14 categories, 1-7, 11, 12, 14-16, 19, 21	Yes, for ethnic minority couples with both members single children, or remarried, or with one handicapped child	April 1988/ October 1997
Jiangxi (42.31)	Yes	Yes, 13 categories, 1-7, 12, 14-16, 19, 21	None	June 1995/ June 1997
Shandong (88.83)	Yes	Yes, 13 categories, 1-7, 12, 14, 15, 19-21	None	July 1988/ October 1996
Henan (93.87)	Yes	Yes, 11 categories, 1, 3-7, 11, 12, 15, 19, 21	None	April 1990
Hubei (59.38)	Yes	Yes, 8 categories, 1, 3-6, 12, 15, 16	None	December 1987/ March 1997
Hunan (65.32)	Yes	Yes, 12 categories, 1-7, 12, 14-16, 21	None	December 1989/ August 1999
Guangdong (72.70)	Yes	Yes, 8 categories, 1-5, 7, 12, 19	None	February 1980/ September 1997
Guangxi (47.13)	Yes	Yes, 11 categories, 1-4, 6, 7, 12, 14, 15, 18, 21	None	September 1988/ December 1997
Hainan (7.62)	Yes, urban couples only	Yes, 7 categories, 1-5, 7, 9	Yes, rural minority couples in minority- concentration areas	March 1989/ October 1995

TABLE 1 (continued)

Province	One child per couple	Exceptions for second child	Exceptions for third child	Date policy formed/revised
Sichuan (85.50)	Yes	Yes, 13 categories, 1-7, 11, 13-16, 21	Yes, special policy in areas with minority autonomy	July 1987/ October 1997
Chongqing (30.75)	Yes	Yes, 13 categories, 1-7, 11, 13-16, 21	None	September 1997/ March 1999
Guizhou (37.10)	Yes	Yes, 8 categories, 1-5, 7, 12, 15	Yes, rural minority couples with one child handicapped	July 1987/ July 1998
Yunnan (41.92)	Yes, non-agricultural couples only	Yes, 9 categories, 1-7, 9, 11	Yes, rural minority couples in border areas	December 1990/ December 1997
Tibet (2.56)	Yes, Han couples only	Yes for non-Han populations; 5 categories for Han couples, 1-4, 6	Yes, Tibetan rural couples	May 1992
Shaanxi (36.18)	Yes	Yes, 10 categories, 1-7, 11-12, 15	None	March 1991/ August 1997
Gansu (25.43)	Yes	Yes, 8 categories, 1, 3-7, 12, 15	None	November 1989/ September 1997
Qinghai (5.10)	Yes, urban couples only	Yes, 8 categories, 1-7, 9	Yes, herders belonging to minority population	February 1992/ November 1999
Ningxia (5.43)	Yes, urban couples only	Yes, 8 categories, 1-5, 7, 9, 19	Yes, rural couples with handicapped child; rural minority couples in southern mountainous areas	December 1990/ June 1999
Xinjiang (17.74)	Yes	Yes, 11 categories, 1-7, 9, 13, 19, 21	Yes, herders belonging to minority population; certain urban minority couples	August 1991/ November 1997

NOTE: Exceptions for second child:

1. First child medically diagnosed as handicapped
2. Both members of the couple are only children
3. Previously medically determined to be infertile and pregnant after adopting a child
4. Remarried couples
5. Returned overseas Chinese or residents of Hong Kong, Macau, and Taiwan
6. One member of the couple is handicapped
7. Minority couples, including one member of the couple belongs to an officially recognized minority population group
8. Job transfer residents of ethnic minority origin or from frontier regions who had previously received permission to have a second child
9. Rural couples
10. One member of the rural couple is an only child
11. Peasants in mountainous or low-density areas
12. Peasants with one daughter
13. Rural couples in special areas (mountainous, semi-mountainous, etc.) with one daughter
14. Peasant families with two or more brothers but only one couple is fertile and with only one child, other brothers have not adopted children
15. Rural male marries to live with parents-in-law
16. One member of the couple is from a two-generation single-child family
17. Rural husband from a family with one son and one daughter, who has only one daughter
18. Border residents
19. Underground miners and fishermen
20. Both members of a couple are island residents
21. One member of the couple is an only child from a revolutionary martyr's family
22. Areas of family planning experimentation and research

SOURCES: See note 4. The data on year-end population by province in 1999 are from Zhuang and Zhang (2003).

Provinces with exceptions allowing a second child place restrictions on the timing of the second birth. In Beijing, for example, the regulation stipulates an interval of no less than four years between the first and second birth and a minimum age of 28 for the mother. Almost all provinces used to require a four-year interval between the first and second birth, but the interval requirement has been repealed in recent years in some provinces. Jilin, Shanghai, and Hainan provinces were the first to remove the spacing requirement, in 2002, followed by Gansu and Xinjiang in 2005. Fewer categories of exemptions do not mean a stricter policy. In Shanxi province, for instance, all couples with agricultural household registration status who have one daughter qualify under the blanket policy allowance to have a second child.

Policy fertility: Constructing a quantitative indicator

After two decades of modifications of the one-child policy, and with a wide variety of exemptions for having a second child, what is the desired or expected fertility level implied by these policies for each of China's provinces and for China as a whole? We use fertility policy information from local areas to estimate the level of policy fertility for China in the late 1990s.

In 1990, to formulate the national and provincial Eighth Five-Year Population Plan, China's State Family Planning Commission introduced the quantitative indicator "policy fertility" to summarize the fertility levels required by local fertility policies. Local birth control officials were required to report what the average number of children per woman would be in the area under their jurisdiction if childbearing rigorously followed fertility policy. Population planning, however, was not formulated simply according to the policy fertility reported; it also took into account the actual fertility level and the expected further fertility decline, among other factors. As a result, although the estimated policy fertility for the country as a whole in 1990 was 1.64, the targeted total fertility for 2000 in the Eighth Five-Year Population Plan was set at 2.0. Based on this fertility level, the population of China was projected to be below 1.3 billion by 2000 (Gu 1996b: 122).

To estimate policy fertility for China requires information at the local rather than the provincial level. Provinces in China range from a few million to nearly 100 million people, and each province has a high degree of geographic, economic, and demographic heterogeneity. The two administrative levels below the province are prefecture and county. Prefectures or prefecture-level units are directly under the jurisdiction of the province: China had over 300 prefectures as of the late 1990s. The level below the prefecture is the county, of which China has over 2,000.⁵ Fertility policy information at the county level would provide the best source for our calculations, but collecting county-level information was deemed impractical in our research,

given time and resource constraints. Instead, we chose the prefecture as our local-level unit for data collection and analysis. With the assistance of national and provincial statistical personnel associated with birth control, we collected information on fertility policy for each prefecture-level administrative unit in China as of 1999, including the type of fertility policy (one, two, and more than two children) in the prefecture and the proportion of the population covered by each policy.

To obtain the policy fertility level for each prefecture, we first estimate the number of people in each prefecture falling under different policies. This is done by multiplying the proportion of prefecture population under each policy, as provided by local family planning offices, by the total number of people in each prefecture, which we projected separately based on China's 1990 census. For each prefecture, the policy fertility level is the weighted average of fertility under different policies (summation of the products of policy and the proportion of population under each policy).⁶ For policy fertility in areas with a policy that allows couples whose first birth is female to have a second child, we also take into account the sex ratio at birth. Assuming a sex ratio at birth at the normal level of 107, which is the sex ratio among first births in China's 2000 census, the proportion of first births that are female is 0.483.⁷ This implies an average completed fertility for the population under this policy of 1.483. Adjusting policy fertility for each prefecture by the factor of 1.06, taking into consideration circumstances that allow additional births (e.g., infant and child mortality, divorce, severe birth defects), we obtain an adjusted policy fertility level for the prefecture.⁸ By aggregating populations under different policies of all prefectures within a province, we obtain population composition by policy for each province. Finally, in addition to provincial policy fertility levels, we calculate a national average policy fertility by aggregating populations under different policies in all prefectures.

Policy fertility at the national level

Policy fertility calculated for each of China's prefecture-level administrative units allows us to obtain provincial and national policy fertility levels. The geographic distribution of policy fertility across China's prefecture-level administrative units, however, cannot be translated directly into the distribution of the population under different types of fertility policies because prefectures vary by population size. Prefectures with more stringent policies are likely to be densely populated; those with more relaxed policies tend to be located in remote and sparsely populated areas. Moreover, while each aggregate administrative region has its own fertility policy, not all individuals in that region follow the same policy. It is therefore necessary to know how individuals are affected by different fertility policies across the country. As discussed above, policy fertility for each prefecture is derived by taking the weighted average

of the population under different policies within that prefecture. Populations calculated on the basis of these approximations may differ from the actual populations covered by each policy. In this section, we change our unit of analysis from the prefecture to the individual, and calculate the actual population under different fertility policies. As described above, for each prefecture we have information on proportions of the population under different fertility policies. To derive the actual populations covered under different policies, we aggregate populations in each category. The demographic distribution of policy fertility can also be grouped into four categories: 1) one-child policy (one child per couple), 2) 1.5-children policy (those whose first child is a girl may have a second child), 3) two-children policy (two children per couple), and 4) three-children policy (three children per couple).

In Table 2, we estimate the population distribution by policy fertility for China as whole. Slightly above a third of the population (35.4 percent) fall into the one-child policy category. Over half of the national population (53.6 percent) fall into the 1.5-children policy category. Combined, these two categories encompass nearly 90 percent of China's population, who are subject to a below-replacement fertility policy. Only about 10 percent of the population fall into the two-children category, and a mere one percent fall into the three-children category. The result of our calculation is that, at the end of the 1990s, fertility policies at local levels in China implied a national policy fertility level of 1.47 children per couple.

What proportion of China's population would be restricted to one child if they followed the policies as summarized above? The answer is determined by the proportions under both the one-child rule and the 1.5-children rule, because the 1.5-children policy is conditional. Under such a policy, a couple is allowed to have two children only if their first surviving child is a girl. Assuming a sex ratio at first birth of 107, only 48.3 percent of all couples in the 1.5-children policy areas can have two children. Taking the one-child couples in the 1.5-children policy areas into account, we find that 63 percent of all couples in China could end up with only one child, 36 percent with two children, and only one percent with three or more.

TABLE 2 Demographic distribution of policy fertility, China, late 1990s

Policy	Population (millions)	Percent
One child	438.83	35.4
1.5 children	664.44	53.6
Two children	120.24	9.7
Three children	16.12	1.3
Total	1,239.63	100.0

SOURCE: Authors' estimation.

Geographic and demographic distributions

Distributions by province and economic region

By aggregating population under the different policies of all prefectures within a province, we obtain population composition by policy for each province. Table 3 presents estimated policy fertility levels for China's provinces and observed total fertility levels as reported in China's 2000 census (NBS 2003). The average policy fertility among Chinese provinces varies widely, from 1.06 in Shanghai and Jiangsu to 2.37 in Xinjiang. The provinces can be grouped into four categories by policy fertility level. The six provinces in category one have a policy fertility level less than 1.3. These are the four municipalities under the direct jurisdiction of China's central government, plus Jiangsu and Sichuan, both having a province-wide one-child-per-couple policy. The 12 provinces in category two have policy fertility above 1.3 and less than 1.5. The seven provinces in category three have policy fertility above 1.5 and below 2.0. Finally, five provinces are in category four, where policy fertility exceeds 2.0. All but one of these last provinces (Hainan) are in the West region of China.

At the provincial level, policy fertility and census-observed fertility are very close to each other. As seen in Table 3, while only six of China's 30 mainland provinces (excluding Tibet) have a policy fertility level of 1.2 or lower per couple, 12 provinces in the 2000 census reported a fertility level of 1.2 or lower. The differences between policy fertility and census-observed fertility for the 30 provinces are generally small. Relatively large differences (above 0.5 children) are found only in three provinces.

Subnationally, distribution of policy fertility follows a gradient of economic development level, from east to west. In Table 4, we present the distributions of policy fertility, prefectures, and population for three broad regions. The economically most developed East region has the largest shares of prefectures and population and also the highest share of the population falling under the requirement of the one-child rule (69.6 percent). The overall policy fertility level for this region is only 1.39. The economically least developed West region has the second largest share of prefectures but the smallest share of the national population. Overall the policy fertility requirement is also the most lenient, allowing over 40 percent of the population to have two or more children. Figure 1 depicts this policy gradient by provinces classified by broad economic/geographic regions.

Distribution by prefecture

The national average number of births allowed under policy fertility, 1.47, is the result of aggregating local-level fertility policies. The local level used for aggregation here, as explained above, is the Chinese prefecture. Table 5

TABLE 3 Policy fertility and recorded fertility of China's provinces, circa 2000

Province	Population (millions)	Policy fertility	Recorded fertility	Difference (P – R)
Between 1.0 and <1.3	225.28			
Shanghai	14.74	1.06	0.7	0.36
Jiangsu	72.13	1.06	1.0	0.06
Beijing	12.57	1.09	0.7	0.39
Tianjin	9.59	1.17	0.9	0.27
Sichuan	85.50	1.19	1.4	-0.21
Chongqing	30.75	1.27	1.5	-0.23
Between 1.3 and <1.5	607.07			
Liaoning	41.71	1.38	1.1	0.28
Heilongjiang	37.92	1.39	1.0	0.39
Guangdong	72.70	1.41	1.1	0.31
Jilin	26.58	1.45	1.0	0.45
Shandong	88.83	1.45	1.3	0.15
Jiangxi	42.31	1.46	2.0	-0.54
Hubei	59.38	1.47	1.1	0.37
Zhejiang	44.75	1.47	1.2	0.27
Hunan	65.32	1.48	1.5	-0.02
Anhui	62.37	1.48	1.5	-0.02
Fujian	33.16	1.48	1.1	0.38
Shanxi	32.04	1.49	1.7	-0.21
Between 1.5 and <2.0	329.47			
Henan	93.87	1.51	1.7	-0.19
Shaanxi	36.18	1.51	1.3	0.21
Guangxi	47.13	1.53	1.8	-0.27
Gansu	25.43	1.56	1.3	0.26
Hebei	66.14	1.59	1.5	0.09
Inner Mongolia	23.62	1.60	1.2	0.40
Guizhou	37.10	1.67	2.4	-0.73
2.0 and above	77.81			
Yunnan	41.92	2.01	2.0	0.01
Qinghai	5.10	2.10	1.7	0.40
Ningxia	5.43	2.12	1.8	0.32
Hainan	7.62	2.14	1.8	0.34
Xinjiang	17.74	2.37	1.7	0.67

NOTE: 2000 census reported the TFR for Tibet at 2.4 (NBS 2003).

SOURCE: Recorded fertility is from the 2000 population census (NBS 2003), in which the national total fertility rate was reported at 1.4.

shows the distribution of Chinese prefectures by their adjusted policy fertility. Of China's 420 prefecture-level units included in our study, the policy fertility level ranged from one child (1.06 policy-targeted fertility) to three children (3.02). About 20 percent of China's prefectures had a strict one-child

TABLE 4 Distribution of policy fertility and population by China’s major regions

Region	Policy fertility (%)			Overall policy fertility	Prefectures		Population	
	One child	Two children	Three children		No.	(%)	(millions)	(%)
East	69.6	30.1	0.3	1.39	156	37.1	463.62	37.4
Central	61.1	38.9	0.0	1.47	110	26.2	419.00	33.8
West	56.9	39.1	4.0	1.56	154	36.7	357.01	28.8
National	63.1	35.6	1.3	1.47	420	100.0	1,239.63	100.0

NOTE: For provinces in each region see note 9.

policy, and over two-thirds had a policy fertility below 1.5. At the same time, however, 10 percent of China’s prefecture-level units had a policy allowing two or more children.

To highlight the geographic diversity of fertility policy across China, Figure 2 illustrates policy fertility for China’s prefectures. Tibet is excluded from the calculation and mapping owing to lack of data on fertility policy at the subprovincial level. For the sake of simplicity, we group policy fertility into

FIGURE 1 Policy fertility level by provinces classified by broad economic/geographic regions, China, late 1990s



SOURCE: Authors’ estimation.

TABLE 5 Frequency distribution of prefecture units by policy fertility, China, late 1990s

Fertility level	Cumulative percentile
Between 1.0 and <1.3 (121)	
1.06	5
1.06	10
1.06	15
1.10	20
1.24	25
Between 1.3 and <1.5 (138)	
1.33	30
1.38	35
1.41	40
1.43	45
1.45	50
1.47	55
1.48	60
Between 1.5 and <2.0 (124)	
1.50	65
1.51	70
1.53	75
1.56	80
1.67	85
2.0 and above (37)	
2.00	90
No. of prefecture units 420	
Fertility level	
Median 1.45	
Maximum 3.02	
Minimum 1.06	

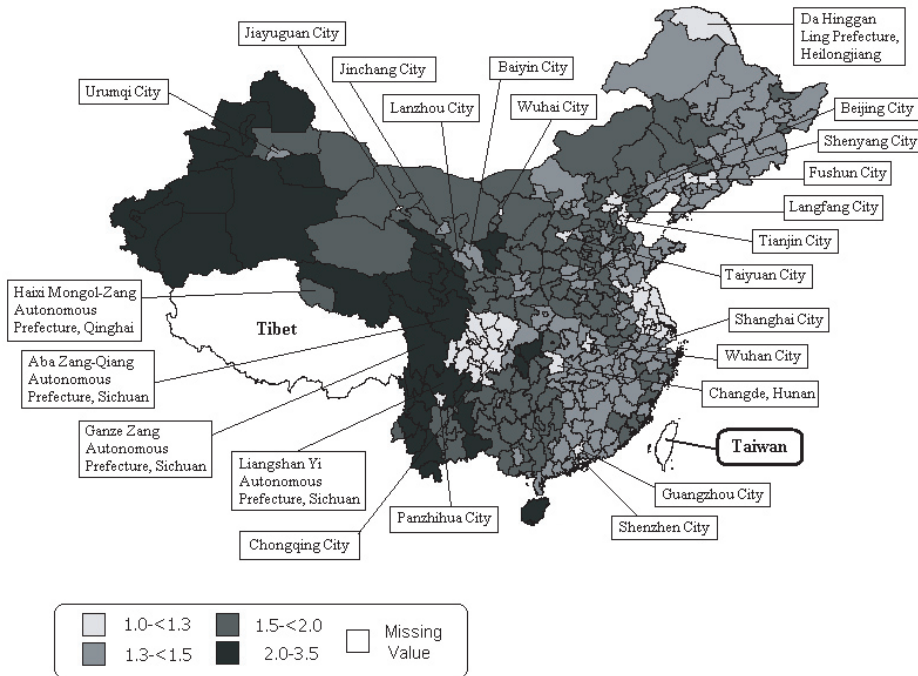
NOTE: Figure in parentheses is number of prefectures.

SOURCE: Authors' estimation.

four categories: 1) 1.0–<1.3, corresponding to regions with a predominately one-child policy; 2) 1.3–<1.5, corresponding to areas with a mixture of one-child and 1.5-children policies; 3) 1.5–<2.0, corresponding to areas with 1.5- and two-children policies; and 4) 2.0 or higher, for areas with policies permitting two or more children.

The four shades of the map represent different levels of policy fertility, from the lowest (1.0–<1.3) to the highest (2.0–3.5). The areas with the most stringent fertility policy are mainly the municipalities directly under the jurisdiction of the central government, provincial capital cities such as Taiyuan, Wuhan, Guangzhou, Shenyang, and other cities such as Fushun,

FIGURE2 Geographic distribution of policy fertility at the prefecture level, China, late 1990s



Shenzhen, and Panzhihua. Chongqing city and rural areas of Jiangsu and Sichuan provinces also fall into this category. Moreover, the low-policy-fertility area also includes places such as Changde prefecture of Hunan province and the forest prefecture of Da Hinggan Ling. These areas are either urban localities with relatively advanced levels of socioeconomic development or areas with concentrated employment in state-owned sectors, both categories subject to strict birth control policies. At the same time, not all provincial capital cities fall under the most stringent policy category. Most prefectures with a policy fertility of 1.3 – <1.5 are located in Central and East China, whereas most prefectures with the highest policy fertility (above 2.0) are distributed in the Central and West regions of the country.⁹ These are mostly areas with a high concentration of minority populations.

Conclusion

China’s fertility and population control policy, while a national priority for over two decades, has evolved to contain highly localized features. Localization of the national policy is a reflection of China’s heterogeneous demographic and socioeconomic conditions, and it has facilitated policy implemen-

tation by creating a sense of shared responsibility between China's central and local governments. Policy modification and localization, however, have also created confusion over the precise nature of China's fertility policy.

Relying on policy and demographic information collected from China's 420 prefecture-level administrative units, this study attempts to provide a systematic and more accurate quantitative summary of fertility policy implemented in China during the late 1990s. To quantify fertility policies in various localities and populations across the country, we applied the term used by Chinese birth control officials, policy fertility, as a quantitative indicator summarizing the fertility level implied by the fertility policies implemented in a given region.

Two main conclusions can be drawn from the results of this study, and they seem to provide a glimpse of China's fertility policy from opposite viewpoints. First, China's fertility policy encompasses much variation, both geographically and demographically. At both the prefecture and province levels, policy fertility ranges from the one-child rule to a policy that allows two children and more. At the same time, birth control regulations drafted and implemented by China's provinces allow numerous kinds of exemptions to the one-child rule, based on considerations ranging from the demographic to the political. These results highlight the complex nature of Chinese birth control policymaking and implementation. Both regional and demographic distributions of policy fertility show that the mode of the policy falls into the category of 1.3 to 1.5 children per couple (38 percent of the prefectures and 53 percent of the population, respectively). The majority of the Chinese population (more than 70 percent) live in areas with a policy fertility level at 1.3 to 2.0 children per couple.

Second, despite local variations and exemptions to the one-child rule, the one-child policy remains a core element of China's fertility policy and continues to have an impact on China's demographic processes. The one-child rule applies to nearly 30 percent of China's prefecture-level administrative units and to over a third of China's national population. Moreover, in locales that allow couples with a first-born daughter to have a second child, which contain over half of China's population, about half of all couples are also effectively under the one-child rule. Should all couples under various policy regimes follow the current fertility policies fully, more than 60 percent of all Chinese couples would end up with only one child. Based on local fertility policies and corresponding population distributions, we estimate that the overall average fertility targeted by the fertility policies for China as a whole is 1.47 at the end of the 1990s. This level is far below replacement.

Despite difficulties in estimating fertility level in China in the 1990s given the lack of reliable demographic data, several recent assessments have approached a consensus that China's national fertility level had declined to a total fertility rate of around 1.5 by the late 1990s (Cai 2005; Retherford et al. 2005; Zhang and Zhao 2006). Our comparisons between provincial-level

policy fertility and census-observed fertility show a similar correspondence. If these estimates hold true, our study of policy fertility serves as an independent source of verification that levels of government-mandated fertility and achieved fertility have converged in China.

Such a convergence between policy and reality is extraordinary, even for China where the political will of the leadership in controlling fertility is virtually unparalleled in the world. But if fertility in China has indeed dropped far below the replacement level, and if, as we believe, fertility policies play an important role in checking fertility—though socioeconomic change has played an ever greater role over time, especially since the early 1990s—our results suggest a compelling need for Chinese policymakers to reexamine current fertility policy (Wang 2005). In keeping with the spirit of ICPD in 1994, China has made efforts to reorient its population and family planning program from a demographically driven to a client-friendly approach under the concept of quality of care (see Gu et al. 2002; Kaufman et al. 2006). Nevertheless, if China wishes to avoid serious negative consequences associated with below-replacement fertility in the long run, its policymakers ought to consider new policies that allow more Chinese couples to have more than one child.

Notes

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1 We use the term province in this article to represent all provincial-level administrative units of mainland China. The 31 such units directly under the central government include four municipalities (Beijing, Tianjin, Shanghai, Chongqing), five minority autonomous regions, and 22 provinces.

2 The parity progression ratio from the first to the second child, that is, the proportion of rural women with one child who went on to have a second birth, exceeded 90 percent for most of the 1980s. It dropped to 77 percent in 1991 (Feeney and Yuan 1994).

3 They even footnoted that “strictly speaking, the national completed fertility ac-

ording to the policy is 1.62.” No details are given in their study of the basis for such a statement.

4 We gathered provincial-level birth control regulations from a variety of websites, some containing a collection of regulations for several provinces (e.g., «<http://jsw.xx.gov.cn/zcfg.htm>») and others covering a single province (e.g., «http://www.cpirc.org.cn/acfg/azcfg_detail.asp?id=2245» for Gansu). A complete list of these websites is available upon request to Gu at bcgu@263.net.

5 China in 2000 had 331 prefecture-level governments and 2,109 county-level units (China Statistical Yearbook 2001). Our study has 420 prefecture-level units owing to our inclusion of prefecture-level city districts in municipalities such as Beijing and Shanghai.

6 Specifically, it was calculated as Policy fertility = $1 \times k_1 + 1.483 \times k_{1.5} + 2 \times k_2 + 3 \times k_3$ where k is the proportion of the population under a given policy indicated by the subscript.

7 This number is calculated as 100 female births / (107 male births + 100 female births).

8 Even in locales with only a one-child policy and assuming perfect compliance,

true policy fertility is actually above one. To achieve a fertility level of one child per couple, more than one child needs to be born on average, owing to replacement of infant and child mortality and to special demographic circumstances such as remarriage. We estimate such incidences to be at 6 percent of all births and add 0.06 to the one-child requirement.

9 In a classification commonly used in China, the 31 mainland provincial units are divided into three broad economic/geographic regions primarily according to the development level of each province: the most

developed "East" region, which includes the 11 provinces of Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Hainan; the least developed "West" region, which includes the 12 provinces of Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Inner Mongolia, and Guangxi; and an intermediate "Central" region, which contains the 8 provinces of Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, Hunan.

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