

FAMILY PLANNING ENFORCEMENT IN RURAL CHINA: ENDURING STATE-SOCIETY CONFLICT?

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China's family planning policies have been both celebrated and vilified. They have received widespread praise for staving off Malthusian apocalypse and for bringing economic and environmental benefits to the world's most populous country. At the same time, they have been intensely unpopular both among those people whose family size is subject to their control and among outside observers who criticize official enforcement practices. Even their most ardent proponents recognize that the policies have contributed to some of China's growing pains, most notably a gender ratio unbalanced by millions of "missing girls." While much is already known about the policies' demographic costs, in this chapter I consider their costs in state-society friction. Findings I present from the first large-scale survey on the topic suggest that, over time, the policies and their painful consequences will become increasingly irrelevant as fertility levels continue to drop for socioeconomic reasons unrelated to family planning enforcement.

I have two goals in this chapter. First, I attempt to quantify the volume of conflict spawned by the policies and, in particular, the degree to which they prompted popular discontent with the local political leaders charged with their enforcement. While qualitative accounts and case studies abound, I use unique survey data to measure the extent and consequences of top-down policy enforcement and bottom-up policy resistance in rural China. I aim to fill a conspicuous gap in the scholarship both on rural Chinese society and on China's family planning policies by assessing the prevalence of family planning conflict in these areas and the extent to which it damages state-society relations. The survey data paint a vivid portrait of local governments devoting enormous energy to family planning enforcement, in ways that have been often contested and have significantly eroded popular trust in local government.

Second, I aim to assess the extent to which sustained economic development has affected this dynamic. We will see that the decline in fertility rates accompanying ongoing economic development in rural China will continue to alleviate this important source of state-society conflict in the future. I conclude by arguing that a series of rural socioeconomic policies introduced several years after the completion of the survey on which this chapter is based have likely

decreased family planning conflict. Family planning enforcement practices are a transitional feature of rural China that are rapidly being outgrown.

Family Planning Policies

China's current family planning policies date back to 1979, although similar policies had been attempted in earlier years.² The popular "one-child policy" moniker is misleading in two important respects. First, there is no unified, monolithic policy, but rather a wide array of local policies exhibiting tremendous regional variation.³ Second, although the policies encourage couples to limit their fertility to one child, they also provide many opportunities for rural couples to have two (or more) children.

Policy Properties

Only in urban—and in some highly developed suburban—areas is the limit to a single child per couple a general rule.⁴ Although family planning policies vary by region, most in the countryside include conditions under which it is acceptable to have two children. For example, miners, owing to their significantly higher mortality rates, and couples who live in low-population-density locales are often permitted to have two children.⁵ Members of officially recognized ethnic minorities are likewise typically permitted to have two children, sometimes even three if they live in remote border areas. But by far the most salient exception to the one-child rule applies to rural couples whose first child is a girl.⁶ According to Gu et al.,⁷ in the late 1990s this particular exception applied to 664 million people, over half of China's total population.⁸

Because "fertility policy" (*zhengce shengyu*) translates to 1.5 children in most parts of rural China, here the so-called "one-child policy" should be called the "one-son-or-two-child policy"⁹ or "1.5-child policy."¹⁰ This policy represents the official recognition that social security in rural areas is provided not by the government but by the family. More specifically, it reflects the paramount importance of sons in ensuring both old-age support and the continuity of the family line.¹¹ Assuming no exemptions to the general 1.5-child rule, the following two situations would constitute policy noncompliance, known idiomatically as "excess births," "above-quota births," or "out-of-plan births" (*chao sheng*): (1) giving birth to a second child after a firstborn son and (2) giving birth to more than two children. Let us consider policy implications.

Policy Benefits

By many accounts, the policies have been highly successful in realizing their overriding goal of slowed population growth. Fanfare surrounds reports that, since their inception in the early 1970s, these policies have prevented anywhere from 250–300 million¹² to 400 million births.¹³ If these claims are true, the policies have undoubtedly helped China avert potentially calamitous population

growth. Family planning policies have long been viewed as a source of economic benefits for poor, developing countries in general¹⁴ and for China in particular.¹⁵ According to Potts, family planning in China “was a source of great pain for one generation, but a generation later it began to yield important economic benefits.”¹⁶ Beyond their alleged economic benefits, the policies have also been attributed with making contributions to environmental protection: “Prevention of unwanted births today by family planning might be one of the most cost-effective ways to preserve the planet’s environment for the future.”¹⁷ According to some estimates, the prevention of 300 million births in China translates into “1.3 billion metric tons of avoided carbon dioxide emissions.”¹⁸

Policy Costs

Instead of crediting the policies with easing China’s growing pains, however, other observers have blamed the policies for aggravating them. The well-documented social and political costs of the policies include a yawning childhood gender imbalance; coercive and sometimes violent official enforcement; popular noncompliance, resistance, and conflict with state agents; and popular discontent with local governments.

Gender imbalance

No different from other parts of Asia,¹⁹ the preference for a son in China has deep historical roots and persists owing to enduring cultural values and immediate practical necessity.²⁰ Only 5 percent of China’s rural elderly have retirement pensions.²¹ In the absence of a comprehensive social security system in rural China, the vast majority of the elderly rely on family for old-age support.²² A study funded by the United Nations Development Programme (UNDP) found that the most important source of old-age support was children, followed by personal savings.²³ Because daughters in China tend to marry out of their natal villages, sons and their wives are expected to assume responsibility for supporting and caring for elderly parents. China’s family planning policies allow, in most instances, a maximum of two attempts to bear a son. “The 1.5-child policy in fact implicitly tells peasants that one boy is sufficient for family welfare but one girl is not and that they need to have another child.”²⁴ By creating enormous pressure to produce a son in the first or second attempt, the family planning policies have contributed to a grave gender imbalance.²⁵ With only two chances to produce a boy, the most important perceived source of old-age security in rural China, many couples do not leave the gender of their offspring to fate.

The most important proximate mechanisms of the gender imbalance are gender-selective abortion and female infanticide and neglect.²⁶ Over time the former mechanism has eclipsed the latter thanks to the diffusion of ultrasound technology widely accessible to ordinary villagers,²⁷ even though fetal gender testing has been outlawed since 1994.²⁸ Zeng estimates that the proportion of couples whose first child was a boy and who “underwent prenatal sex

determination and sex-selective abortion to have a boy as a second child” was more than four times higher in 1.5-child policy areas than in 2-child policy areas (19.1 percent versus 4.6 percent).²⁹

The demographic consequences of these motives and mechanisms have been thoroughly documented. According to government census data, the gender ratio at birth in 1980, 1990, and 2000 was 107, 111, and 120 boys per 100 girls, respectively, for the country as a whole.³⁰ The gender imbalance was not only far greater in rural areas than in urban areas,³¹ but was also far greater among second- and thirdborn children than among firstborn.³² Census data show that China’s skewed gender ratio is almost entirely an artifact of the 1.5-child policy: in areas with a 1.5-child policy, the gender ratio is 125 boys per 100 girls at birth—far higher than the ratio of 112:100 in places with a strict 1-child policy and 109:100 in places with a 2-child policy.³³

The gender imbalance and the conditions that have spawned it were publicly acknowledged by President Hu Jintao as early as 2004,³⁴ and remain a major priority of his administration. According to census data, boys under the age of fifteen outnumbered girls in the same age group by over eighteen million in the year 2000.³⁵ This demographic problem carries severe social implications. In a speech at the 10th National People’s Congress in 2004, a high-ranking official of the Chinese People’s Political Consultative Conference predicted that the current widespread use of prenatal gender tests, by creating as many as forty million bachelors unable to find wives by the year 2020, will “trigger such crimes and social problems as mercenary marriage, abduction of women and prostitution.”³⁶ Indeed, some scholars have grimly predicted intensifying crime and violence within China, and even of an increasingly ominous Chinese military presence beyond its borders, caused by the growing population of unmarried men.³⁷

Family planning enforcement

The state family planning administration reaches as far as the township (which averages about twenty thousand people), but extends into the village (which averages about one thousand people) in a significant but less formal capacity.³⁸ The performance of local cadres is evaluated to an important measure by their success in meeting birth targets.³⁹ In order to keep local fertility levels within these fixed targets, couples wishing to have a child are required to apply for a birth permit. Birth permits are issued only to applicants who satisfy policy conditions—if the local birth quota for the year has not been reached. In other words, every birth is supposed to be authorized, or “on the plan.”⁴⁰ In reality, however, not every couple applies for authorization before having a child.⁴¹ While some unauthorized births are registered retroactively, many births escape detection.⁴²

From the late 1970s through the early 1980s, the policies were zealously enforced through the birth-permit system, mandatory birth control, induced abortions to terminate unauthorized pregnancies, and a series of infamous “shock attack” sterilization campaigns.⁴³ Policy violators were often punished

by hefty fines and property confiscation.⁴⁴ When targets of enforcement fled the village, their homes were sometimes nailed shut⁴⁵ or dismantled.⁴⁶ Unauthorized children (known as “black children,” or *hei haizi*) were sometimes deprived of state benefits, such as collective land distribution.⁴⁷ In addition to these forms of punishments policy violators were often required to undergo sterilization surgery—women far more often than men.⁴⁸

Policy noncompliance

To say that villagers did not easily acquiesce to policy enforcement practices is an understatement: unauthorized births as a proportion of all births remained above 30 percent into the mid-1990s. Indeed, the policies have created a population of “excess-birth guerrillas” (*chaosheng youji dui*) who give birth in hiding outside their home villages.⁴⁹

Family planning disputes

When policy noncompliance was discovered by local state officials, they had at least two options. One was to collude with violators.⁵⁰ Another—and far more common—option was to confront violators in an effort to enforce the policies. In the rural Chinese context, popular resistance against official family planning demands has been an enduring source of disputes.

Discontent with local government

In the mid-1980s, one village party secretary characterized popular sentiment toward the “new policy” in this way: “To be honest with you, all the villagers hate it.”⁵¹ Yet, despite the seemingly universal unpopularity of the policies in rural China, local state cadres, on the whole, have strived to implement and enforce them faithfully. Failing to meet birth quotas would put a big dent into, or entirely eliminate, a cadre’s annual bonus, and possibly even put an end to his or her political career.⁵² From the beginning, villagers have blamed and attacked the primary policy messengers and enforcers—rural cadres.⁵³ Because “the enforcement of state regulations on family planning and cremation fell on the shoulders of village cadres, these cadres bore the brunt of peasant dissatisfaction.”⁵⁴ Indeed, family planning cadres have been subject to harassment, violent physical attacks, and even murder, as well as theft and property damage.⁵⁵ Some hapless victims were guilty of no more than loyal fulfillment of their duty. In other cases, assailants were reacting to “the excessive zeal and the intolerable abuses” of rural cadres.⁵⁶ Suffice it to say that local cadres found themselves caught between an unbending state above and angry peasants below.

Subsequent developments

Reports of coercive enforcement and violent resistance continued into the 1990s and 2000s. For example, the news media reported a violent protest in Guangdong Province in 1997 that involved perhaps a thousand participants.⁵⁷

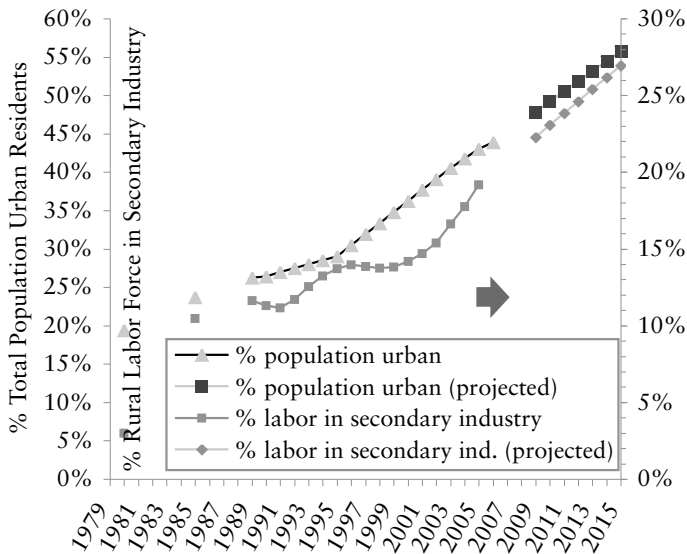
In 2006 a blind legal activist received widespread media coverage for trying to mobilize scores of villagers in the countryside surrounding Shandong Province's city of Linyi in order to mount a legal challenge against local policy enforcement practices.⁵⁸ Such media reports notwithstanding,⁵⁹ the more general trend has been policy relaxation. The national campaigns of the 1980s have since been downsized, shortened, and localized, and policy enforcement methods have become less coercive.⁶⁰ Indeed, a debate has emerged about whether family planning policies should be scrapped altogether.⁶¹

The move away from campaign-style enforcement is at least in part due to natural fertility decline.⁶² As depicted in figure 8.1, between 1979 and 2005, the proportion of the total population residing in rural areas declined from over 80 percent to 57 percent, and the proportion of the rural labor force employed in industry and construction (the census definition of "secondary industry") rose from little more than 0 percent to almost 20 percent. Meanwhile, the proportion of the rural labor force working in off-farm jobs increased from a little more than 0 percent to over 40 percent.⁶³ These changes, perhaps more than any other, have diminished the everyday salience of China's family planning policies.

Economic forces appear to have been at least as decisive as policy enforcement in China's fertility decline.⁶⁴ If it has not done so already, the effect of economic development will soon eclipse the effect of policy enforcement on both fertility levels and policy noncompliance for at least two reasons. First, the exodus of labor out of agriculture has lessened the imperative to bear children. Rural nonfarm employment rates, which rose even faster for women than for men in the 1990s,⁶⁵ have delayed and reduced fertility.⁶⁶ Research suggests that rural migrants, who have grown in number from almost zero to over two hundred million, and a growing proportion of whom are women, have lower fertility levels than nonmigrant villagers.⁶⁷ Second, marketization and labor mobility have weakened the local state's grip on the lives of villagers. The earlier family planning campaigns were virtually inescapable owing to the legacy of Mao-era organized dependence.⁶⁸ Since then, the authority of village government and its ability to enforce state policy have weakened as household farming replaced collective agriculture and as markets supplemented and supplanted state procurement.⁶⁹

Thus, economic development and labor-market transformation have proven to be double-edged swords for family planning policy enforcement. Cutting one way, they have reduced family planning policy evasion by lowering fertility. Cutting the other way, they have also facilitated policy evasion by loosening restrictions on geographic mobility, making noncompliance harder to detect and punish. Despite a greater ability to evade detection, evidence from fertility surveys suggests that policy noncompliance (unauthorized births as a proportion of all births) dropped from almost 50 percent in 1980 to 30 percent in the mid-1990s.⁷⁰

Figure 8.1 Urbanization and Rural Industrialization Trends, 1980–2006, with Projections to 2015



Source: SSA 2007, tables 4–1 and 13–4.

Note: Projections are based on trends beginning in 1998: a 0.78 annual percentage-point increase in urbanization and a 1.32 annual percentage-point increase in rural industrialization.

New policy developments have also helped mitigate family planning disputes. In response to mounting social and political challenges posed by skewed gender ratios, China's central government has introduced new policy initiatives and public awareness campaigns.⁷¹ As part of the official “Care for Girls” campaign (Guan'ai Nühai Xingdong)⁷² family planning authorities announced a shift away from the use of negative sanctions toward the use of positive financial incentives in efforts to encourage families to stop trying for a son after giving birth to a girl. The rewards include old-age pensions for those in compliance with family planning regulations,⁷³ as well as cash, free schooling, and better housing for families with daughters.⁷⁴

Do family planning disputes remain a salient source of conflict in contemporary rural China? Do local governments continue to devote a substantial share of their total efforts to family planning policy administration and enforcement? Do family planning conflicts significantly damage state-society relations? I now attempt to answer these questions.

Plan of Analysis

I use unique household survey data to assess the amount of pain—that is, the amount of state-society conflict and friction—produced by the policies and their enforcement. I divide this assessment into three steps:

1. My first step is to use census data to explore the *determinants* of high fertility and skewed gender ratios. Although I could also use my household survey data to complete this step, I use census data for two reasons. First, because census data provide comprehensive coverage of China's population, they are more credible than my household survey as a source of information about household fertility. Second, replicating this step of the analysis using my household survey data will enhance our confidence in the results reported in steps two and three.
2. I then use my household survey data to explore the determinants of policy noncompliance, policy enforcement effort, policy disputes, and policy-produced discontent with village government. In this step I use my survey data to identify the *consequences* of high fertility and skewed gender ratios.
3. My third and final step is to consider how continued fertility declines might alter the landscape of policy conflict by weakening the conditions that prompt policy noncompliance in the first place.

In all three steps of my analysis I use aggregated data; I aggregate my household survey data because the census data are aggregated to county-level administrative units.

Data and Measures

Together with sociologists at Renmin University of China, I designed and organized the first large-scale survey on real-life grievances and real-life disputing behavior in rural China. In January and early February of 2002, our survey team completed usable interviews of almost three thousand rural households in one county in each of five provinces (Henan, Hunan, Jiangsu, Shaanxi, and Shandong) and one centrally administered city (Chongqing). The 2,902 households included in my analyses are distributed across thirty-seven villages in six provinces: ten villages in Shandong; six villages each in Henan and Hunan; and five villages each in Shaanxi, Jiangsu, and Chongqing. Our original target was five villages per county and a hundred interviews per village, or three thousand households in total. The survey sites were selected not randomly but purposively. The six counties⁷⁵ in which the survey was carried out capture enormous socioeconomic and regional diversity, including relatively prosperous coastal areas. Indeed, one survey site is in the heart of the spectacularly developed Sunan region of southern Jiangsu Province, not far from Shanghai, in which average household incomes approach those of Beijing. At the other end of the spectrum are relatively poor,

interior areas in Henan and Hunan. Because the six survey sites were selected with the goal of maximizing regional and economic variation, the households interviewed are not intended to be representative of rural China as a whole but only of the six counties from which they were sampled. Although we did not select the survey sites randomly, we trained and instructed survey interviewers to select households randomly within villages and to select respondents randomly within households. Information on refusals was not recorded. But all indications suggest that this is a representative sample. Age, education, income, and occupational distributions in the sample closely match official statistics and published findings from nationally representative samples.

The survey questionnaire recorded information on household composition and several dimensions of state-society friction. I used (1) information on household members to estimate village-level fertility and gender ratios, and (2) information on disputes and general attitudes, as communicated by survey respondents, to estimate village-level official enforcement efforts, noncompliance, conflict, and discontent.

Fertility and Gender Ratios

Whereas most studies on family planning policy noncompliance and gender ratios take pregnancies and births as the units of analysis, our survey collected no information on pregnancies, and only seventy-five households (or less than 3 percent of the sample) reported an infant baby (aged one year or less). The survey was designed to collect information on all “household members with whom the respondent shares common life.” That is, the survey enumerated and recorded information about all household members. On the basis of this detailed information, I identified households with children born within the past five years (i.e., with children under age six).

Thus, my measure of *fertility* is the number of children (variously under age fifteen and under age six) per household. Census data confirm that this measure is a reasonable proxy for fertility: among all 2,870 county-level administrative units in the 2000 census, the mean number of children under age five per household is correlated with the crude fertility rate at $R=0.88$.⁷⁶ My measure of *gender imbalance* is the ratio of boys to girls (multiplied by 100) under the age of five years in the census data and under the age of six years in the survey data.⁷⁷

Policy Enforcement

The survey questionnaire asked respondents to report whether or not they approached their villagers’ committee for a variety of reasons, including applying for a birth permit (literally “planned birth quota,” or *jihua shengyu zhibiao*). The following is the complete list, presented to respondents, of nine reasons they may have approached the villagers’ committee: (1) to pay or discuss the costs of agricultural burdens; (2) to discuss a welfare benefit (such as a minimum living allowance or some kind of emergency aid); (3) to obtain or certify a document

for themselves or someone else; (4) to report or discuss a crime; (5) to report or discuss a collective problem (such as water or road infrastructure); (6) to obtain a birth permit; (7) to purchase or obtain emergency goods; (8) to report a neighbor dispute; and (9) to report a family dispute (such as a dispute between a mother-in-law and daughter-in-law). My measure of *policy enforcement effort* is thus calculated as the number of birth permits requested from villagers' committees as a proportion of all reported encounters with these committees. This measure provides an estimate—however rough and imperfect—of the share of the workload of villagers' committees devoted to the administration and enforcement of family planning policies.

Noncompliance

From the subsample of households containing at least one child under age six, I identified households that appear to have violated family planning policies between late 1997 and early 2002. The reason for limiting the operational definition of *policy noncompliance* to this subset of households is that, as we will see below, the operational definition of a family planning dispute is likewise limited to the previous five years. Fifteen percent of respondents reported at least one child under the age of six in the family. Of the families with at least one child under age six, 28 percent reported two, and 2 percent reported three. No families containing at least one child under age six reported more than three children.

Of the six provinces included in our survey, four permitted couples to have a second child if the first was a girl: Henan, Hunan, Shaanxi, and Shandong provinces. But nowhere in the areas surveyed were couples permitted to have three children.⁷⁸ According to census data from the year 2000, over 99 percent of the total population in all six counties was Han.⁷⁹ Thus, although the survey did not collect information on ethnicity, it is fairly safe to assume that no families in the sample qualified for an exemption on the basis of minority status. For the purposes of my analyses, therefore, I infer policy noncompliance (between 1997 and 2002) from the following criteria: (1) the presence of two boys, (2) the presence of a firstborn boy and a secondborn girl, or (3) the presence of three or more children among households containing at least one child under age six. There are several obvious reasons why this operational definition may undercount the true extent of noncompliance.

Family Planning Disputes

The survey questionnaire also contains a battery of questions on everyday disputes: (1) housing land ownership; (2) water use; (3) debt collection; (4) family planning; (5) a major consumer purchase; (6) divorce; (7) neighbor issues; (8) collecting wages; (9) responsibility land (farmland contracted from the village) or township and village enterprise contracting; (10) agricultural taxes and fees; (11) intrafamily issues (for example, elderly care or property division); (12) dealings with a government agency; (13) personal injury (complainant); (14)

property damage or loss; (15) personal injury or property damage (accused); (16) children's education; and (17) other (open ended). The original wording of the question regarding a family planning dispute is: "In the past five years, did a family planning conflict (*maodun*) emerge between you or another family member and village cadres or someone else?" Because the remaining dispute questions were also bound by a five-year time frame, I am able to use this dispute information to estimate the proportion of households experiencing family planning disputes between 1997 and 2002. Thus, my measure of *family planning disputes* is the proportion of households that reported one.

Discontent with Local Government

Finally, I develop a measure of local political discontent using responses to questions about satisfaction with village government. I calculate a "scale of discontent with the villagers' committee" as the sum of the following two items: First, "Overall, are you satisfied with the villagers' committee? (1) very satisfied; (2) somewhat satisfied; (3) neutral; (4) somewhat dissatisfied; or (5) very dissatisfied." Second, "Overall, people's attitude toward villagers' committee cadres is one of (1) great respect; (2) some respect; (3) neutral; (4) some disrespect; or (5) great disrespect." This scale has nine values, ranging from two to ten. The two items are correlated at $R=0.67$ with a Cronbach's alpha of 0.79, meaning they can be combined (with high internal consistency) into a single scale of discontent with the villagers' committee. In order to facilitate the interpretation of the results, I collapsed the full scale into a simplified three-point scale. In this simplified three-point scale, "content" is defined as a value of two to five on the full scale, "discontent" is defined as a value of seven to ten on the full scale, and "neither content nor discontent" is defined as a value of six on the full scale.⁸⁰ Thus, my measure of *discontent with the village government* is the proportion of households reporting "discontent" on this three-point scale.

Additional Independent Variables

To help explain the foregoing policy outcomes, I include in my analyses measures of industrialization, urbanization, Han ethnicity, and education. In the census data, *industrialization* is measured as the proportion of the labor force in secondary industry (manufacturing and construction). In my survey data, industrialization is measured as the proportion of the labor force employed in enterprises. In the census data, *urbanization* is measured as the proportion of the population residing in cities. In the census data, *Han ethnicity* is the Han population as a proportion of the total population. In both sources of data, *education* is measured as the average number of years of education among the population aged six and older. Because my analyses were constrained by measures included in the census, I do not include a measure of income. But since any measures of industrialization and income are highly correlated, industrialization is a reasonable proxy for income. Moreover, industrialization

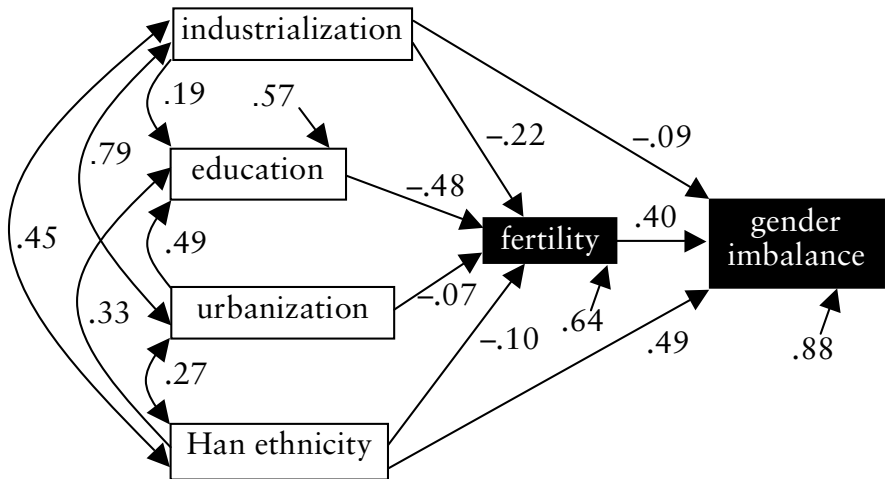
may be more theoretically relevant than income, given that nonfarm work is an important mechanism of fertility decline.

Step One: Findings on Causes of Fertility and Gender Ratios

The 2000 census recorded 37.6 million boys and 31.3 million girls under age five, representing a gender ratio of 120 boys to 100 girls.⁸¹ Assuming a natural gender ratio of 105 boys to 100 girls, this translates into 4.5 million “nominally missing” girls under age five.⁸² My household survey data contain 307 boys and 253 girls under age six, representing a gender ratio of 121 boys to 100 girls.

Figure 8.2 summarizes results from a series of regression analyses of census data on determinants of fertility and child gender ratios. By eroding the imperative to produce children for family agricultural labor and old-age security, economic development is a key component of many theoretical explanations of fertility decline. Thus, figure 8.2 is consistent with decades of research on the role of urbanization and industrialization in demographic transitions throughout history and around the world.⁸³

Figure 8.2 Path Model of Causes of Fertility and Child Gender Imbalance, All County-level Administrative Units, 2000 (standardized OLS regression coefficients)



Source: SSA 2003a.

Note: All coefficients statistically significant at $p \leq .001$, two-tailed tests. $N=2,870$ county-level administrative units. Complete regression results on which this figure is based are in the appendix, table A3 (models 1 and 3). Descriptive characteristics of variables in this analysis are presented in the appendix, tables A1 and A2.

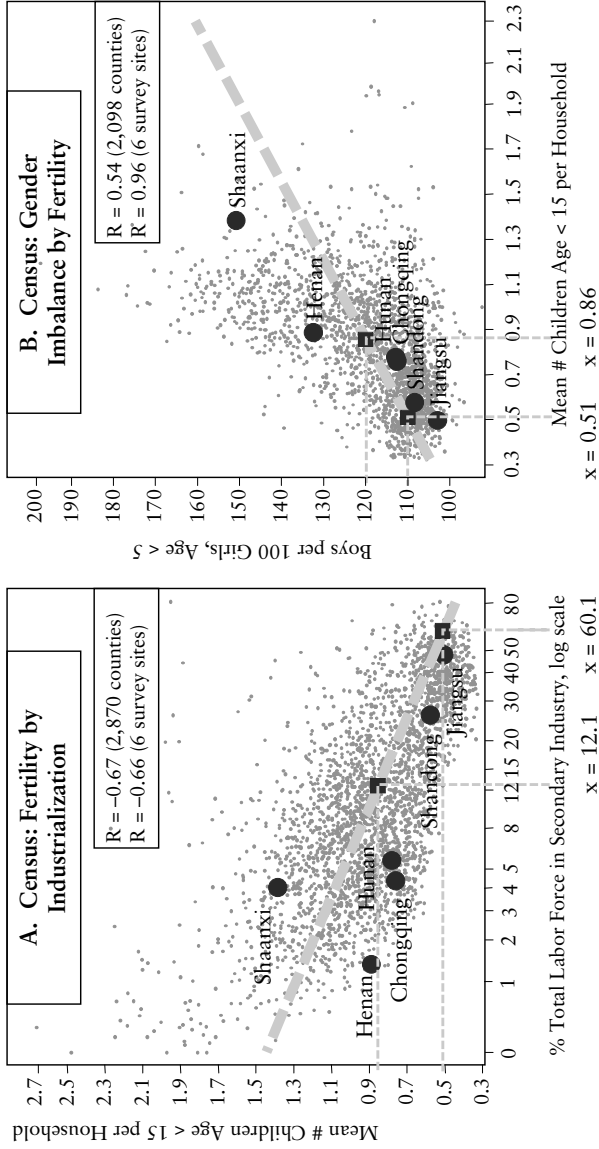
At the same time, figure 8.2 also reveals the unmistakable hallmarks of China-specific state policy on fertility. China's policy-induced demographic transition is reflected in the following two patterns. First, net of controls, Han ethnicity is negatively associated with fertility. Insofar as the policies target Han Chinese, the effect of ethnicity on fertility is a direct artifact of the policies. Second, net of controls, fertility and Han ethnicity have both contributed to China's child gender imbalance. Recall that because the 1.5-child policy imposes pressure on Han couples to produce a son within two attempts, secondborn children are far more likely to be boys than girls, meaning that the incremental addition of children incrementally skews the gender ratio. Thus, positive associations between fertility and child gender ratios and between Han ethnicity and child gender ratios are also direct artifacts of state policy.

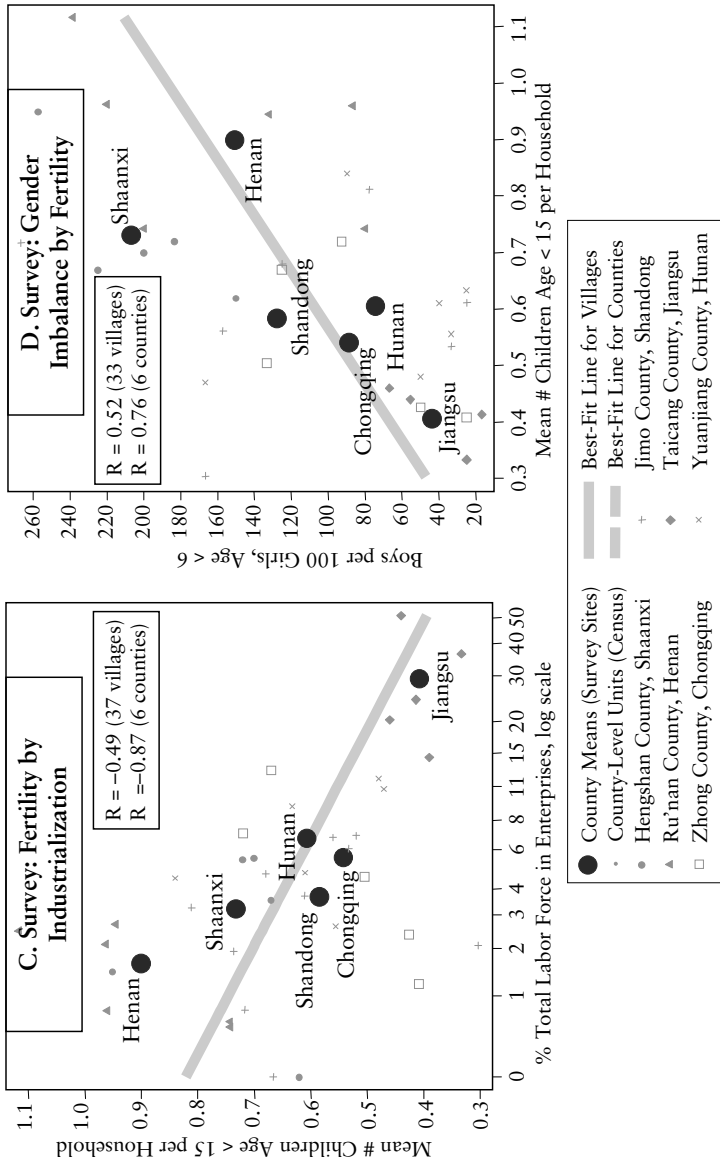
The scatterplots in figure 8.3 serve two purposes. First, they provide a more detailed view of the relationships between industrialization and fertility (figure 8.3a) and between fertility and child gender ratios (figure 8.3b). Second, insofar as these associations also emerge from my household survey data (figures 8.3c and 8.3d), the census data lend credibility to step two of my analytical strategy. To be sure, gender ratios well below one hundred and well above one hundred and fifty in several of the survey sites reflect volatility unavoidable in small sample sizes. Nonetheless, not only do the relationships in my survey data closely mirror those in the census data, but the county survey sites (labeled by their provinces) are similarly arranged. In both the census and my survey, Jiangsu's Taicang County emerges as an extreme case of low fertility and a low boy/girl gender ratio. At the same time, in both sources of data, Shaanxi's Hengshan County and Henan's Ru'nan County appear on the high end of the fertility and gender imbalance distributions. Also, in support of step three (in which I will generalize from the survey data), figures 8.3a and 8.3b show that the six county survey sites span China's full economic and fertility spectra.

Step Two: Findings on Consequences of Fertility and Gender Ratios

Now we move to policy consequences, step two of my three-step plan of analysis. Whereas the path model in figure 8.2 ended with fertility and gender imbalance, the path model in figure 8.4 extends to their consequences. In other words, figure 8.4 picks up where figure 8.2 leaves off. Figure 8.4 replicates the negative effect of industrialization on both fertility and child gender imbalance, the negative effect of education on fertility, and the positive effect of fertility on child gender imbalance. It also shows that fertility exerted strong and positive effects on policy noncompliance, policy enforcement effort, and family planning disputes, and a positive indirect effect on discontent with village government. Let us consider each policy outcome in turn.

Figure 8.3 Scatterplots of Causes of Fertility and Child Gender Imbalance, Six Counties, Rural China, 2002, and All County-level Administrative Units, China, 2000

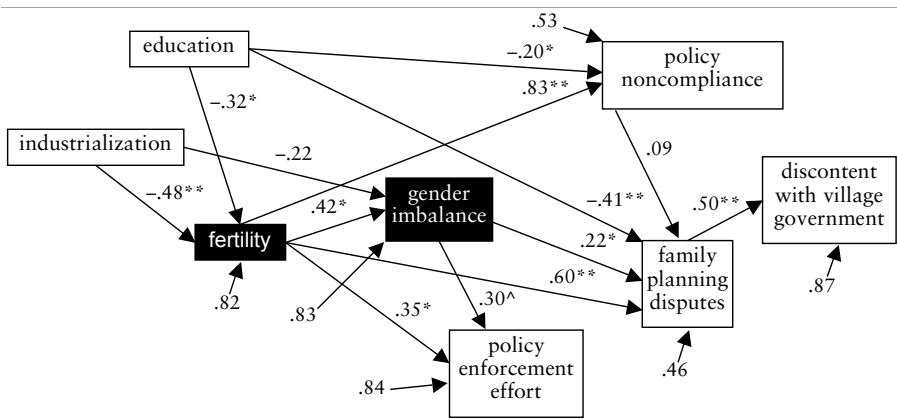




Source: Figures A and B, SSA (2003a); Figures C and D, author's survey.

Note: All correlations are statistically significant at $p \leq 0.01$. Four of the thirty-seven village samples contain no children under age six. Figure B is limited to county-level units with Han populations accounting for more than 90 percent of the total.

Figure 8.4 Path Model of Consequences of Fertility and Child Gender Imbalance, Six Counties, Rural China, 2002 (standardized OLS regression coefficients)



Source: Author's survey.

Note: ^ $p \leq 0.10$, * $p \leq 0.05$, ** $p \leq 0.01$, two-tailed tests. $N=33$ villages. Four of the thirty-seven village samples contain no children under age six. Complete regression results on which this figure is based are in the appendix, table A6 (models 1 and 4), table A7 (model 4), table A8 (model 2), and table A9 (models 1 and 4). Descriptive characteristics of variables in this analysis are presented in the appendix, tables A4 and A5.

Policy Enforcement

Overall, 28.3 percent of the surveyed households reported approaching villagers' committees for birth permits. But the likelihood of requesting a birth permit varied greatly according to the composition of children within households. Among households with no children under age six, among households with one child under age six, and among households with at least one child under age six and a total of at least two children, 24.0 percent, 46.9 percent, and 65.9 percent, respectively, reported approaching a villagers' committee for a birth permit.

In terms of policy enforcement efforts, processing birth permits comprised a nontrivial part of the work of the local government. Overall, birth-permit applications accounted for 13.8 percent of all reported instances of approaching villagers' committees. But in the high-fertility Shaanxi and Henan sites, birth permits accounted for 20.3 percent and 17.8 percent, respectively, of all reported encounters with villagers' committees.

Policy Noncompliance

According to my definition of policy noncompliance, 2.1 percent of all households, 14.7 percent of households with at least one child under age six, and 48.1 percent of all households with more than one child (at least one of whom was under age six) were presumed noncompliant. Figure 8.5a displays the close association between policy noncompliance and fertility. In the high-fertility Shaanxi and Henan sites, 3.0 percent and 7.6 percent of all households (figure 8.5a), 24.2 percent and 26.2 percent of all households with at least one child under age six, and 57.7 percent and 61.3 percent of households with more than one child (at least one of whom was under age six), respectively, were presumed noncompliant.

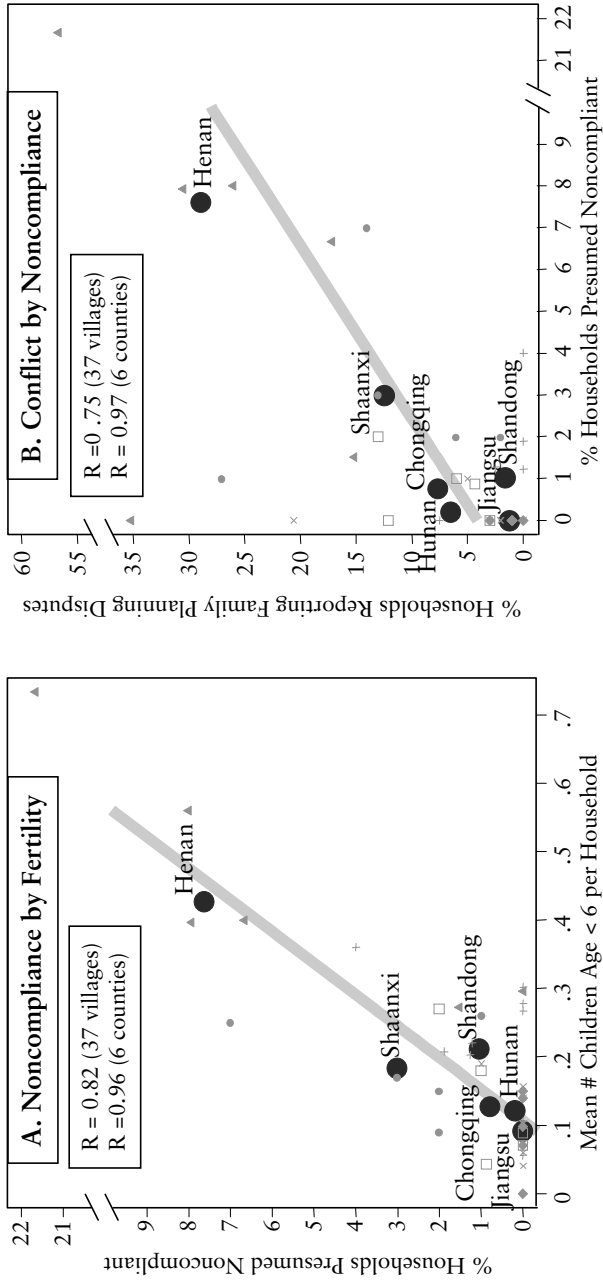
Family Planning Disputes

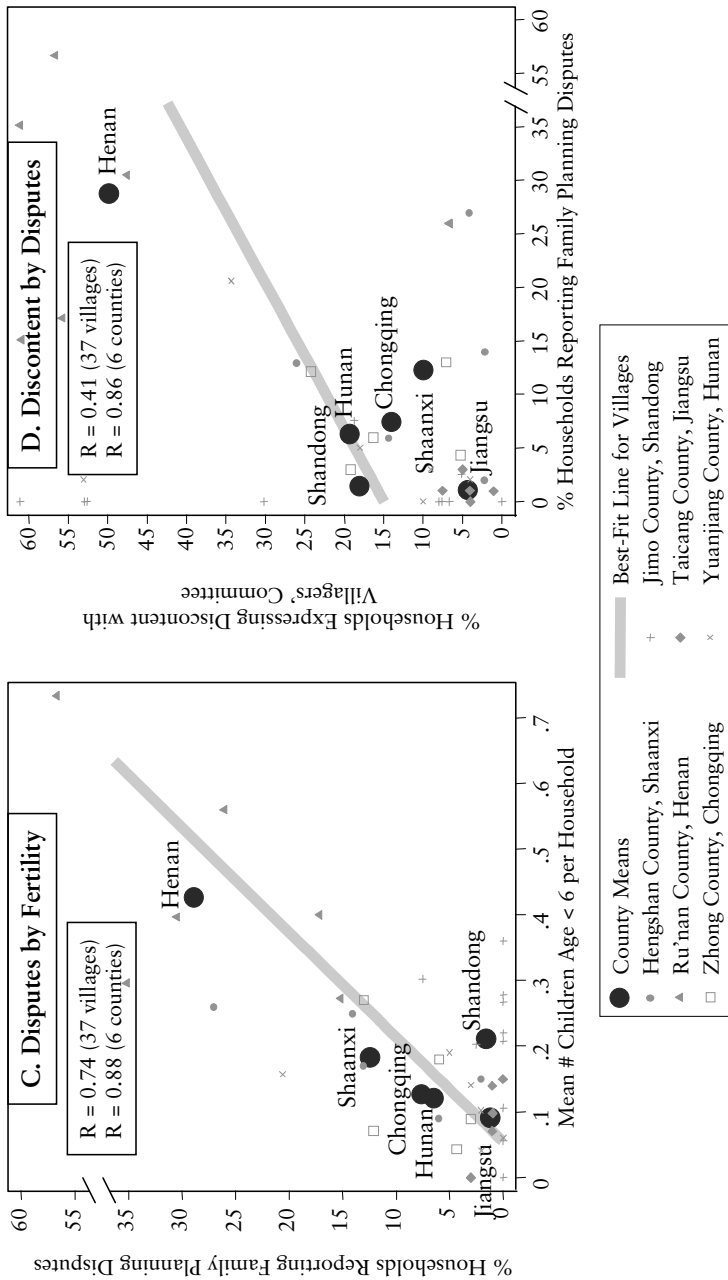
Disputes are another important means by which people encounter the state. Precisely 10 percent of all households in the survey reported family planning disputes. Among all households with at least one child under age six, 24.2 percent reported family planning disputes. And among all households with more than one child (at least one of whom was under age six), 51.1 percent reported family planning disputes. As before, the Shaanxi and Henan sites stand out as hotbeds of family planning conflict. In the Shaanxi samples, 12.4 percent of all households, 21.0 percent of all households with at least one child under age six, and 26.9 percent of all households with more than one child (at least one of whom was under age six), respectively, reported family planning disputes. Meanwhile, in the Henan samples, 28.9 percent of all households, 50.3 percent of all households with at least one child under age six, and 83.9 percent of all households with more than one child (at least one of whom was under age six), respectively, reported family planning disputes.

Figure 8.5b displays the close association between family planning disputes and policy noncompliance. However, the effect of policy noncompliance on family planning disputes is explained entirely by fertility. That is, the effect of policy noncompliance disappears when these variables are introduced into the analysis (see figure 8.4 and the appendix table A7). As we can see in figure 8.5c, the areas with the highest fertility levels are those with the highest incidence of family planning disputes.

If we consider birth-permit applications *and* family planning disputes together, the full extent to which policy enforcement put people in contact with the local state becomes even more apparent. Almost exactly one-third (32.5 percent) of all households reported one or both types of encounters with the local state over family planning disputes. In the high-fertility sites of Shaanxi and Henan, almost half (42.4 percent) and over half (53.3 percent), respectively, of all households reported one or both types of encounters.

206 Figure 8.5 Scatterplots of Consequences of Fertility, Six Counties, Rural China, 2002





Source: Author's survey.

Note: Best-fit lines calculated before breaking axes. All correlations are statistically significant at $p \leq .01$.

Discontent with Local Government

The data also reveal that encounters with the local state in the context of family planning policy enforcement were often abrasive and antagonistic. Overall, 19.3 percent of respondents reported discontent with village government. Family planning disputes dramatically increased the probability of reporting such discontent. Respondents who reported family planning disputes were exactly two times more likely than respondents who did not report family planning disputes (35.3 percent versus 17.6 percent) to express discontent with the performance of the villagers' committee.

Figure 8.5d displays the correlation between planning disputes and discontent with the village government. Note that this relationship persists in household-level regression models that control for every other type of dispute, for life satisfaction (another dimension of discontent), for social connections to village leaders, and for other variables that could potentially explain it away. In other words, the strong relationship between family planning disputes and discontent with village government is robust to controls (details not reported). The Shaanxi survey sites appear anomalous. Despite their relatively high prevalence of family planning disputes, the Shaanxi samples were relatively upbeat about the village government. Perhaps the mere existence of a family planning dispute is not a sufficient condition of discontent with village government. Perhaps the manner in which village leaders handle such disputes—about which the survey collected no information—is also an important determinant of discontent.

Step Three: Discussion of Findings

In the final step of my analysis, I consider the prospects of future declines in policy enforcement efforts, policy noncompliance, family planning disputes, and discontent with village government even if the policies themselves do not change. This extrapolation exercise may be a “fool’s errand” given that (1) the six county survey sites were not randomly selected and were therefore not intended to be representative of rural China as a whole, (2) there are well-known limitations of using cross-sectional data to project the future, and (3) there are imperfections of key measures (such as policy noncompliance) and obvious modeling limitations (including the possibility of endogeneity and unobserved correlates). Although the point estimates I report in this final step of my analysis are far less important than the strength and direction of the relationships I reported in steps one and two, I nonetheless venture this extrapolation exercise in order to establish a baseline for future research. My starting premise in this unorthodox exercise is that fertility will continue to decline in rural China.

Gender Imbalance

In 2000, had China’s gender ratio been 110 boys instead of the observed 120 boys per 100 girls under age five, the population of “missing” girls would be

1.7 million less.⁸⁴ What would it take to reduce the gender ratio this much? According to the bivariate relationship depicted in figure 8.3b, a decline in fertility from 0.86 children to 0.51 children under age fifteen per household could produce such a gender ratio decline of 120 to 110 boys per 100 girls under age five. What would it take to reduce fertility from 0.86 children to 0.51 children under age 15 per household? According to the bivariate relationship depicted in figure 8.3a, an increase from 12.1 percent to 60.1 percent in the proportion of the labor force in manufacturing and construction could produce such a fertility drop. Of course such dramatic growth in the industrial labor force is unrealistic. Table 8.1a contains more realistic scenarios of change based on multiple regression models. If educational change is also factored in (an average increase from 8.0 to 10.5 years), then the proportion of the labor force in secondary industry need only increase to 27.0 percent in order to lower fertility by the same amount.

Turning to the number of children under age five per household, table 8.1b also shows that a decline from 0.21 to 0.08 could also lead to a gender ratio decline of 120 to 110 boys per 100 girls under age five. With respect to the conditions necessary for such a fertility drop, the census data suggest that rising average education (from 8.0 years to 11.2 years) and rising industrialization (from 2.4 percent to 37.0 percent of the labor force in secondary industry) could produce such a fertility decline. While such changes are probably beyond the realm of possibility in the near term, they are not far beyond reach. As we saw in figure 8.1, assuming rural industrialization proceeds according to recent trends, the proportion of the rural labor force in manufacturing or construction could approach 30 percent by 2015. In the remainder of this section I consider the consequences of a drop in fertility from 0.21 to 0.08 children under age five per household.

Policy Enforcement

By reducing policy noncompliance, continued fertility decline could reduce policy-enforcement efforts. Table 8.1c shows that a decline in the number of children under age five per household from 0.21 to 0.08 corresponds to a -19.6 percent change in policy enforcement efforts (that is, a decline in the number of birth-permit applications as a proportion of all reported encounters with villagers' committees from 13.8 percent to 11.1 percent).

Policy Noncompliance

If we draw straight vertical lines on figure 8.5a, connecting 0.21 and 0.08 on the x -axis to the best-fit regression line, we can see that such a fertility decline is associated with a drop in policy noncompliance from 2.2 percent to less than 0 percent. In other words, fertility decline could completely eliminate policy noncompliance. Table 8.1d confirms this self-evident implication of continued fertility decline.

Table 8.1 Estimated Causes and Consequences of Fertility Change

A. Causes of fertility change (Children under age 15 per household)									
Source	Δ years of education		Δ industrialization		Δ kids/hh (age < 15)		Δ boys per 100 girls		to
	from	to	from	to	from	to	from	to	
Fig. 3B					.86	.51	=	120	110
Tab. A3, M3			-0.4%	13.0%	+ .86	.51	=	120	110
Tab. A3, M1	8.0	10.5	+ 6.5%	27.0%	= .86	.51			
B. Causes of fertility change (Children under age 5 per household)									
Source	Δ years of education		Δ industrialization		Δ kids/hh (age < 5)		Δ boys per 100 girls		to
	from	to	from	to	from	to	from	to	
omitted					.21	.08	=	120	110
Tab. A3, M4			3.7%	32.9%	+ .21	.08	=	120	110
Tab. A3, M2	8.0	11.2	+ 2.4%	37.0%	= .21	.08			
C. Effect of fertility change (and concomitant changes) on policy enforcement effort									
Source	Δ kids/hh (age < 6)		Δ boys per 100 girls		Δ enforcement efforts		to		
	from	to	from	to	from	to			
Tab. A6, M1	.21	.08	+ 120	110	=	13.8%	11.1%		

D. Effect of fertility change (and concomitant changes) on policy noncompliance

Source	Δ kids/hh (age < 6)		Δ boys per 100 girls		Δ years of education		Δ households noncompliant		
	from	to	from	to	from	to	from	to	
Fig. 5A	.21	.08			=		2.2%	-0.6%	
Tab. A6, M3	.21	.08	+	120	110	=	2.1%	-0.8%	
Tab. A6, M4	.21	.08	+			7.0	8.0	= 2.5%	-1.9%

E. Effect of fertility change (and concomitant changes) on family planning disputes

Source	Δ kids/hh (age < 6)		Δ boys per 100 girls		Δ households noncompliant		Δ family planning disputes		
	from	to	from	to	from	to	from	to	
Fig. 5B					2.5%	0.0%	= 10.1%	4.2%	
Fig. 5C	.21	.08			=		9.6%	1.6%	
Tab. A7, M4	.21	.08	+	120	110	+ 2.5%	0.0%	= 9.7%	1.9%

F. Effect of fertility change (and concomitant changes) on discontent with villagers' committee

Source	Δ kids/hh (age < 6)		Δ family planning disputes		Δ discontent with villagers' committee	
	from	to	from	to	from	to
Fig. 5D			9.7%	1.9%	= 22.2%	16.8%
Tab. A8, M3	.21	.08	+		= 20.7%	13.7%

Source: Author's compilation.

Note: Calculated using postestimation procedures on linear regression models listed in the column labeled "source." Where unspecified, variable values are set to means presented in the appendix, tables A1 and A4.

Family Planning Disputes

The same exercise shows the possibility of a precipitous decline in the volume of family planning disputes. Assuming the above-derived changes in fertility, gender ratios, and policy noncompliance, the probability of experiencing a family planning dispute could change by as much as -80 percent. According to the best-fit regression line in figure 8.5b, values of 2.5 and 0.0 on the x -axis (policy noncompliance) correspond to values of 10.1 percent and 4.2 percent on the y -axis (family planning disputes). Likewise, in figure 8.5c, values of 0.21 and 0.08 on the x -axis (children under age five per household) correspond to values of 9.6 percent and 1.6 percent on the x -axis (family planning disputes).⁸⁵

Discontent with Local Government

Finally, all the foregoing changes could culminate in dramatically lower levels of popular discontent with village government. The best-fit regression line in figure 8.5d shows that a decline from 9.7 percent to 1.9 percent in the incidence of family planning disputes is associated with a change of -24.3 percent in the incidence of expressing discontent with villagers' committees (from 22.2 percent to 16.8 percent). Table 8.1f, shows that, after adding fertility to the model, a change in the prevalence of discontent could be even greater (-33.8 percent, or from 20.7 percent to 13.7 percent).

Implications and Conclusions

The survey findings I have presented in this chapter suggest that, in 2002, the enforcement of family planning policies preoccupied local cadres in rural China to a great extent. A substantial share of their time and effort was devoted to processing birth permits and to rooting out and punishing policy violators. The family planning policies were a key state-society friction point, and among the most important reasons why villagers made contact with local government leaders. A significant share of state-society interaction was policy-induced and conflict-ridden. My findings reveal heavy policy costs in the form of administrative workloads strained by processing birth-permit requests and by punishing couples who give birth outside local quotas, and in the form of popular discontent with villagers' committees spawned by family planning disputes. In short, in 2002, more than twenty years after the family planning policies were first introduced to rural China, they were still sapping government efforts and energies and exacting a heavy toll on popular satisfaction with local government performance.

Given China's vast rural population, the sometimes modest percentages reported in this chapter translate into an enormous population. If the survey estimate of a 28.3 percent incidence of seeking the villagers' committee for a birth permit is accurate, then, conservatively speaking, fifty million Han households containing almost two hundred million people in rural China experienced such

an encounter. Likewise, consider the survey estimate that 13.8 percent of all instances of seeking the villagers' committees were for birth-permit applications. Given the fact that there were 640,000 villagers' committees in China in 2005,⁸⁶ processing birth permits consumed a colossal amount of time and resources by any standard. A policy noncompliance rate of 2.1 percent between 1997 and 2002 conservatively translates into four million households containing fourteen million individuals. But our measure of noncompliance captures only a small portion of households at risk of coming into direct contact—including direct conflict—with the state because of family planning policy enforcement efforts. Given our estimate that 10 percent of rural Han households experienced family planning disputes, perhaps twenty million households and their sixty-eight million members in rural China were affected by such conflicts between 1997 and 2002. Finally, given that 19.3 percent of respondents were discontent with villagers' committees, perhaps as many as 131 million people in 35 million households were either themselves discontent with the villagers' committee or were living with other individuals who were discontent—in large part because of family planning policy enforcement.⁸⁷

On the one hand, the foregoing extrapolations suggest that state-society conflicts stemming from family planning policy enforcement remain palpable and continue to foment popular discontent in rural China into the new millennium. On the other hand, however, the conditions demanding policy enforcement may be waning—hence recent debates and discussions among scholars and policymakers about the very necessity of the policies in their current form.⁸⁸ What would happen if the policies were rescinded? First, pressure to have a son in the first two attempts would be alleviated and the gender ratio at birth might begin to even out. Second, one of the most important sources of state-society friction and conflict in rural China would be eliminated. Third, family planning disputes would disappear altogether; tens of millions of individuals would be saved from experiencing family planning disputes. Finally, villagers' committees would experience a major boost in popularity as a major source of discontent with their performance would be eliminated.

If the nationwide abolishment of agricultural taxes in 2006 set a policy precedent, a similar move with family planning is not beyond the realm of possibility.⁸⁹ But even if the policies are not scrapped, this source of state-society conflict may still fade away by other means. As China continues to develop economically, farming will continue to diminish in importance relative to urban manufacturing and service-sector jobs. The labor-force changes depicted in figure 8.1 will continue to lower fertility in rural China, which in turn will alleviate family planning conflict. My survey data suggest that the fertility decline accompanying such changes⁹⁰ could reduce state-society conflict over family planning policy to a tiny fraction of its original volume, even in the absence of a family planning policy shift. Survey data collected after my 2002 survey support these predictions. In one study, villagers and cadres were asked to assess the amount of energy cadres devoted to different official tasks in 1997

and 2005. In rankings of official tasks according to time and effort spent by cadres, family planning dropped from first place to third place between these two points in time.⁹¹

Socioeconomic policies introduced since 2006 under the banners of “building a new socialist countryside” and “constructing a harmonious society,” will likely accelerate the diminishing relevance of the family planning policies by strengthening rural social security and in so doing further weakening the importance of having a son for old-age support. Such policies include not only tax relief but also grain subsidies, the expansion of rural health insurance, the elimination of tuition and fees for basic-level education, the introduction of minimum living allowances for the childless elderly, and massive investments in medical and other infrastructure.⁹²

In sum, if the findings I have presented in this chapter are at all accurate, family planning conflict will prove to be a growing pain. Socioeconomic change in rural China, by reducing fertility and—by extension—family planning disputes and discontent with village government, will reduce state-society friction and conflict regardless of whether or not the family planning policies are retooled or abandoned.

Notes

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⁴³ Tyrene White, “Domination, Resistance and Accommodation in China’s One-Child Campaign,” 183–203, in Elizabeth J. Perry and Mark Selden, eds., *Chinese Society: Change, Conflict and Resistance, Second Edition* (London and New York: Routledge Curzon, 2003), 134–48; Potter and Potter, *China’s Peasants*, 234–44.

⁴⁴ Lucien Bianco and Hua Chang-ming, “Implementation and Resistance: The Single-Child Family Policy,” in Stephan Feuchtwang, Athar Hussein, and Thierry Pairault, eds., *Transforming China’s Economy in the Eighties, vol. 1: The Rural Sector, Welfare and Employment* (Boulder, CO: Westview Press, 1988), 147–68.

⁴⁵ Potter and Potter, *China’s Peasants*, 242.

⁴⁶ Huang, *The Spiral Road*, 182.

⁴⁷ Susan Greenhalgh and Edwin A. Winckler, *Governing China’s Population: From Leninist to Neoliberal Biopolitics* (Stanford, CA: Stanford Univ. Press, 2005),

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⁴⁸ Huang, *The Spiral Road*, 181; Huang and Yang "Population Control and State Coercion in China"; Wolf, *Revolution Postponed*, 258–9.

⁴⁹ John S. Aird, *Slaughter of the Innocents: Coercive Birth Control in China* (Washington, D.C.: The AIE Press, 1990), 17; Greenhalgh and Winckler, *Governing China's Population*, 206; Nancy E. Riley, "China's Population: New Trends and Challenges," *Population Bulletin* 59, no. 2 (2004): 19.

⁵⁰ White, "Domination, Resistance and Accommodation," 177–83.

⁵¹ Huang, *The Spiral Road*, 179.

⁵² Davin, "The Single-Child Family Policy in the Countryside," 72; Huang and Yang, "Population Control and State Coercion in China," 208.

⁵³ White, *China's Longest Campaign*, 193–6; Huang, *The Spiral Road*.

⁵⁴ Dali L. Yang, *Calamity and Reform in China: State, Rural Society, and Institutional Change since the Great Leap Famine* (Stanford, CA: Stanford Univ. Press, 1996), 192.

⁵⁵ Davin, "The Single-Child Family Policy in the Countryside," 71; White, "Domination, Resistance and Accommodation," 257; Scharping, *Birth Control in China*, 225; Huang and Yang, "Population Control and State Coercion in China," 218; Jeffrey Wasserstrom, "Resistance to the One-Child Family," *Modern China* 10, no. 3 (1984): 257; Riley, "China's Population," 19.

⁵⁶ Bianco and Hua, "Implementation and Resistance," 149.

⁵⁷ Scharping, *Birth Control in China*, 226.

⁵⁸ Kevin J. O'Brien and Lianjiang Li, *Rightful Resistance in Rural China* (Cambridge and New York: Cambridge Univ. Press, 2006), 8n6; White, *China's Longest Campaign*, 198.

⁵⁹ Also see Jonathan Watts, "Villagers Riot as China Enforces Birth Limit: Official Beaten by Crowd in South-Western Province," *The Guardian*, May 22, 2007, 22; and Clarissa Oon, "Anger in China's Villages: Residents Strike Out in Violence against Harsh Family Planning Campaign," *The Straits Times*, June 4, 2007.

⁶⁰ White, *China's Longest Campaign*, 164–9.

⁶¹ Peng, "Is it Time to Change China's Population Policy?" 135–49; Hesketh, Li, and Zhu, "The Effect of China's One-Child Family Policy"; Zeng "Options for Fertility Policy"; Ching-Ching Ni, "Questions Raised over Future of China's One-Child Policy," *Los Angeles Times*, March 4, 2008, A6; Jane MacArtney, "Bring on the Girls: China Offers Hope of Sisters for Generation of Only Children," *The Times*, February 29, 2008, 35.

⁶² John Wong, "China's Sharply Declining Fertility: Implications for its Population Policy," *Issues & Studies* 37, no. 3 (2001): 68–86; Scharping, *Birth Control in China*, 249–87.

⁶³ SSA (State Statistical Administration), *2006 Zhongguo Tongji Nianjian* [2006 China Statistical Yearbook] (Beijing: Guojia Tongji Chubanshe, 2007), table 13-4.

⁶⁴ Johnson, "Population and Economic Development"; Dudley L. Poston, "Social and Economic Development and the Fertility Transitions in Mainland China," *Population and Development Review* 26 (2000) (Supplement: Population and Economic Change in East Asia): 40–60; Paresh Kumar Narayan and Xiujian Peng, "An Econometric Analysis of the Determinants of Fertility for China, 1952–2000," *Journal of Chinese Economic and Business Studies* 4, no. 2 (2006): 165–83.

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⁶⁸ Jean C. Oi, *State and Peasant in Contemporary China: The Political Economy of Village Government* (Berkeley, CA: Univ. of California Press, 1989).

⁶⁹ See Merli, Qian, and Smith “Adaptation of a Political Bureaucracy,” 237; but for recent trends also see Kim Singer, Scott Rozelle, Jean Oi, Lixiu Zhang, and Renfu Luo, “The Forgotten Side of the China Development Model: How is China Sustaining the Countryside in an Industry-First Development Strategy?” Paper presented to the Sixth International Symposium of the Center for China-US Cooperation, “Washington Consensus’ Versus ‘Beijing Consensus’: Sustainability of China’s Development Model, May 30–31, 2008, Denver, Colorado.

⁷⁰ Scharping, *Birth Control in China*, 221–3.

⁷¹ Greenhalgh and Winckler, *Governing China’s Population*, 172–6.

⁷² Li, “Imbalanced Sex Ratio at Birth.”

⁷³ Alice Yan, “One-Child Policy Adherents Rewarded,” *South China Morning Post*, August 9, 2004, 5

⁷⁴ BBC (British Broadcast Corporation), “Chinese Given Perks to Have Girls: A Pilot Programme in Rural China is Offering Cash and Other Incentives to Families Who Have Daughters,” BBC News, August 12, 2004; Jim Yardley, “Fearing Future, China Starts to Give Girls Their Due” *The New York Times*, January 31, 2005, A3.

⁷⁵ Throughout this chapter I refer to the six survey sites as counties even though, from an administrative standpoint, three are municipalities.

⁷⁶ SSA, *2000 Nian Renkou Pucha Fenxian Ziliao* [2000 Population Census Material Disaggregated by County], Electronic Edition (Beijing: Guojia Tongji Chubanshe, 2003).

⁷⁷ Census data permit me to aggregate children into an age <5 category (by using the age <1 and age 1–4 categories). I aggregate my household survey data into an age <6 category because, given that not a single baby recorded by the survey was reported as zero years old, I suspect many if not most survey respondents reported nominal age (*xu sui*, adding a year at birth and adding a year at each subsequent lunar New Year) as opposed to calendar age (*zheng sui*).

⁷⁸ Huang and Yang, “Population Control and State Coercion in China”; Gu et al., “China’s Local and National Fertility Policies,” 129–48.

⁷⁹ According to the 2000 census data, only 0.6 percent of the total population in the surveyed counties was non-Han. (Most of the non-Han people in these counties belong to the Shui nationality and were concentrated in Chongqing’s Zhong County.)

⁸⁰ More specifically, “content” is defined as a response of “somewhat satisfied” or “very satisfied” to the first item *or* a response of “some respect” or “great respect” to the second item. “Discontent” is defined as an answer of either “somewhat dissatisfied” or “very dissatisfied” to the first item *or* an answer of either “some disrespect” or “great disrespect” to the second item. “Neither content nor discontent” is defined as providing this response to both items (the only possible way to avoid falling into the “discontent” and “content” categories) or as providing contradictory responses to the two items

(which happened in only 6 percent of all interviews).

⁸¹ SSA, 2000 *Nian Renkou Pucha Fenxian Ziliao*.

⁸² Cai and Lavelly (“China’s Missing Girls”) estimate that about two-thirds of “nominally missing” girls are “truly missing.” The difference is accounted for by girls who are concealed by their families and unreported in the census. Because male mortality rates are greater than female mortality rates (Poston and Glover, “Too Many Males,” 123), I use 105 as the “natural” gender ratio at age 0 to 5 instead of Cai and Lavelly’s (“China’s Missing Girls,” 16) value of 106 at birth.

⁸³ For example, John Bongaarts and Susan Cotts Watkins, “Social Interactions and Contemporary Fertility Transitions,” *Population and Development Review* 22, no. 4 (1996): 639–82; Griffith Feeney, “Fertility Decline in East Asia,” *Science* 266, no. 5190 (1994): 1518–23; Karen Oppenheim Mason, “Explaining Fertility Transitions,” *Demography* 34, no. 4 (1997): 443–54.

⁸⁴ Assuming the number of boys under age five remained constant at 37.6 million, a ratio of 110 boys to 100 girls would have meant 34.2 million girls instead of the observed 31.3 million girls. Meanwhile, as we saw earlier, had the gender ratio been the “natural” 105 boys per 100 girls, the population of girls under age five would have been 35.9 million.

⁸⁵ Table 8.1e, shows that these patterns persist in multiple regression models.

⁸⁶ SSA, 2006 *Zhongguo Tongji Nianjian*, table 13-1.

⁸⁷ The above population extrapolations assume that 181.2 million Han rural households and their 678.8 individual members were at risk. I limit the population at risk to the Han rural population because the survey data on which the estimates are based were collected in areas of rural China that are almost exclusively Han. According to the 2000 census tabulations, 91.5 percent of the total population was Han, and 63.1 percent of the total population resided in rural areas. To ensure my estimates are conservative, I assume that the entire non-Han population resides in rural areas. Subtracting the non-Han population from the total rural population yields an estimated 86.6 percent Han population in rural China. Multiplying 86.6 percent by the actual total rural population of 783.8 million individuals in 209.2 million households (in the year 2000) yields my conservative estimates of the number of Han individuals and households at risk. Owing to the fact that non-Han households are, on average, larger than Han households, my estimated number of households at risk (181.2 million) is even more conservative (that is, *ceteris paribus*, a Han population will be distributed among more households than a non-Han population of the same size).

⁸⁸ Peng, “Is it Time to Change China’s Population Policy?”; Hesketh, Li, and Lu, “The Effect of China’s One-Child Family Policy”; Zeng, “Options for Fertility Policy”; Ni, “Questions Raised over Future of China’s One-Child Policy”; MacArtney, “Bring on the Girls.”

⁸⁹ Edward Cody, “In Face of Rural Unrest, China Rolls Out Reforms,” *Washington Post*, January 28, A01; Kennedy, “From the Fee-for-Tax Reform to the Abolition of Agricultural Taxes.”

⁹⁰ Also see White, “Domination, Resistance and Accommodation,” 165–7; and Wong, “China’s Sharply Declining Fertility,” 80.

⁹¹ I thank Scott Rozelle for allowing me to cite this unpublished finding.

⁹² Cheng Chu-Yuan, “China’s New Development Plan: Strategy, Agenda, and Prospects,” *Asian Affairs: An American Review* 34, no. 1 (2007): 47–59; Lu and Feng, “Reforming the Welfare System, 58–80.

Statistical Appendix

Table 8.A1 Descriptive Characteristics of Variables, All County-level Administrative Units, China, 2000

	Mean	St. Dev.	Min.	Max.
Fertility				
Mean # children (age<15) per household	0.884	0.320	0.325	2.660
Mean # children (age<5) per household	0.222	0.100	0.056	0.892
Gender imbalance				
Boys per 100 girls (age<5)	116.633	13.770	89.666	197.291
Education				
Mean years of education (age>6)	7.432	1.514	0.634	11.848
Industrialization				
% Total labor force in secondary industry	16.793	15.931	0.000	81.180
% Total labor force in secondary industry (log)	2.470	0.939	0.000	4.409
% Population Han				
% Total population Han	83.835	28.979	0.219	100.000
Urbanization				
% Total population urban residents	38.430	31.685	0.000	100.000

Source: SSA 2003a.

Note: N=2,870 county-level administrative units.

Table 8.A2 Correlation Matrix of Variables, All County-level Administrative Units, China, 2000

	A	B	C	D	E	F	G
A. Mean # children (age<15) per household	1.00						
B. Mean # children (age<5) per household	0.90	1.00					
C. Boys per 100 girls (age<5)	0.23	0.02	1.00				
D. Mean years of education (age>6)	-0.74	-0.73	0.00	1.00			
E. % Total labor force in secondary industry (log)	-0.67	-0.57	-0.14	0.73	1.00		
F. % Total population Han	-0.48	-0.59	0.25	0.55	0.45	1.00	
G. % Total population urban residents	-0.62	-0.48	-0.19	0.73	0.79	0.27	1.00

Source: SSA 2003a.

Note: N=2,870 county-level administrative units.

Table 8.A3 Determinants of Fertility and Gender Imbalance, All County-level Administrative Units, China, 2000 (unstandardized OLS regression coefficients)

	Fertility (kids/hh) ($\times 100$)		Gender imbalance	
	(Age<15)	(Age<5)	Model 3	Model 4
% Total population Han	-0.115** (0.017)	-0.090** (0.005)	0.232** (0.009)	0.213** (0.010)
% Total population urban residents	-0.071* (0.022)			
% Total labor force in secondary industry (log)	-7.468** (0.729)	-0.651** (0.186)	-1.285** (0.330)	-3.880** (0.312)
Mean years of education (age>6)	-1.081** (0.445)	-3.571** (0.124)		
Mean # children (age<15) per household			17.334** (0.987)	
Mean # children (age<5) per household				17.893** (3.247)
Constant	194.097** (2.355)	57.895** (0.624)	85.055** (1.731)	104.370** (1.648)
R ²	0.595	0.585	0.226	0.152
Adjusted R ²	0.594	0.585	0.226	0.151

Source: SSA 2003a.

Note: * $p \leq 0.01$, ** $p \leq 0.001$, two-tailed tests. Standard errors in parentheses. $N=2,870$ county-level administrative units. “Fertility” is measured as the mean number of children per household. “Gender imbalance” is measured as the number of boys per hundred girls under age five. Urbanization removed from model 2 owing to multicollinearity (causing the effect to flip direction from negative in a bivariate model to positive in a multivariate model).

Table 8.A4 Descriptive Characteristics of Variables, Six Counties, Rural China, 2002

	Mean	St. Dev.	Min.	Max.
Discontent with village government				
% Households expressing discontent with villagers' committee	20.967	20.590	1.042	61.111
Family planning disputes				
% Households reporting family planning dispute	9.903	12.976	0.000	56.667
Policy enforcement effort				
% Reported encounters with villagers' committee for birth permit applications	13.873	8.000	2.837	33.784
Policy noncompliance				
% Households presumed policy violators	2.243	4.233	0.000	21.667
Fertility				
Mean # children per household (age<15)	0.646	0.199	0.304	1.117
Mean # children per household (age<6)	0.219	0.150	0.040	0.733
Gender imbalance				
Boys per 100 girls (age<6)	115.740	77.000	16.667	266.667
Education				
Mean years of education (age>6)	7.348	0.614	6.212	8.706
Industrialization				
% Total labor force in enterprises	7.756	10.891	0.000	50.970
% Total labor force in enterprises (log)	1.700	.926	0.000	3.951

Source: Author's survey.

Note: N=33 villages. Four of the thirty-seven village samples contain no children under age six.

Table 8.A5 Correlation Matrix of Variables, Six Counties, Rural China, 2002

	A	B	C	D	E	F	G	H
A. Mean # children (age<15) per household	1.00							
B. Mean # children (age<6) per household	0.75	1.00						
C. Boys per 100 girls (age<6)	0.52	0.41	1.00					
D. Mean years of education (age>6)	-0.30	0.05	-0.07	1.00				
E. % total labor force in enterprises (log)	-0.48	-0.38	-0.42	-0.02	1.00			
F. Policy noncompliance	0.68	0.82	0.47	-0.15	-0.33	1.00		
G. Policy enforcement effort	0.49	0.48	0.44	0.03	-0.17	0.53	1.00	
H. Family planning disputes	0.71	0.73	0.53	-0.41	-0.31	0.74	0.31	1.00
I. Discontent with villagers' committee	0.46	0.41	0.21	-0.34	-0.29	0.31	0.13	0.50

Source: Author's survey.

Note: $N=33$ villages. Four of the thirty-seven village samples contain no children under age six.

Table 8.A6 Determinants of Family Planning Policy Noncompliance and Enforcement Effort, Six Counties, Rural China, 2002 (unstandardized OLS regression coefficients)

	Policy enforcement effort		% Policy noncompliance	
	Model 1	Model 2	Model 3	Model 4
Boys per 100 girls (age<6)	0.031 [^] (0.017)	0.026 ^{**} (0.009)	0.009 (0.006)	
Mean # children (age<6) per household	18.919* (8.926)		21.466 ^{***} (3.088)	23.602 ^{***} (2.747)
Mean years of education (age>6)				-1.351* (.700)
Constant	6.130* (2.470)	-.745 (1.206)	-3.479 ^{***} (0.855)	7.012 (4.942)
R ²	0.301	0.221	0.701	0.718
Adjusted R ²	0.255	0.195	.682	0.699

Source: Author's survey.

Note: [^] $p \leq 0.10$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$, two-tailed tests. Standard errors in parentheses. $N=33$ villages. Four of the thirty-seven village samples contain no children under age six.

Table 8.A7 Determinants of Family Planning Disputes, Six Counties, Rural China, 2002 (unstandardized OLS regression coefficients)

	Model 1	Model 2	Model 3	Model 4
% Households presumed noncompliant	2.277*** (0.369)	1.317* (0.627)	1.027 (0.627)	0.263 (0.519)
Mean # children (age<6) per household		32.965^ (17.733)	31.825^ (17.146)	51.652*** (14.112)
Boys per 100 girls (age<6)			0.038^ (0.021)	0.037* (0.017)
Mean years of education (age>6)				-8.719*** (1.969)
Constant	4.795** (1.745)	-0.258 (3.196)	-3.737 (3.659)	57.821*** (14.193)
R ²	0.552	0.598	0.637	0.787
Adjusted R ²	0.537	0.571	0.600	0.756

Source: Author's survey.

Note: ^ $p \leq 0.10$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$, two-tailed tests. Standard errors in parentheses. N=33 villages. Four of the thirty-seven village samples contain no children under age six. Dependent variable is “% households reporting family planning disputes.”

Table 8.A8 Determinants of Discontent with Village Government, Six Counties, Rural China, 2002 (unstandardized OLS regression coefficients)

	Model 1	Model 2	Model 3
Mean # children per household (age<6)	56.255* (22.556)		13.086 (32.019)
Family planning dispute in past 5 years		0.789** (0.247)	0.678^ (0.369)
Constant	8.666 (5.947)	13.155** (3.998)	11.391^ (5.921)
R ²	0.167	0.247	0.251
Adjusted R ²	0.140	0.223	0.201

Source: Author's survey.

Note: ^ $p \leq 0.10$ * $p \leq 0.05$ ** $p \leq 0.01$, two-tailed tests. Standard errors in parentheses. N=33 villages. Four of the thirty-seven village samples contain no children under age six. Dependent variable is “% households expressing discontent with villagers' committee.”

Table 8.A9 Determinants of Fertility and Gender Imbalance, Six Counties, Rural China, 2002 (unstandardized OLS regression coefficients)

	Fertility (Kids/HH)		Gender Imbalance		
	Age<15	Age<6			
	Model 1	Model 2	Model 3	Model 4	Model 5
% Total labor force in enterprises (log)	-0.104** (0.032)	-0.061* (0.027)	-34.582* (13.579)	-18.076 (14.370)	-25.490^ (14.232)
Mean years of education (age>6)	-0.101* (0.049)	0.011 (0.041)			
Mean # children (age<15) per household				161.210* (66.873)	
Mean # children (age<6) per household					149.505^ (88.092)
Constant	1.566*** (0.364)	0.244 (0.308)	174.540*** (26.200)	42.356 (6.006)	126.389** (38.107)
R ²	0.325	0.144	0.173	0.307	0.246
Adjusted R ²	0.280	0.087	0.146	0.261	0.195

Source: Author's survey.

Note: * $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$, two-tailed tests. Standard errors in parentheses. $N=33$ villages. Four of the thirty-seven village samples contain no children under age six. Education omitted from "gender imbalance" models owing to multicollinearity (causing the effect to flip direction from negative in a bivariate model to positive in a multivariate model).