



# Has China Outgrown The One-Child Policy?

**Thirty years ago, China launched an unprecedented attempt to put the brakes on population growth. Some social scientists now argue that it's time to scrap the one-child policy altogether**

**SHANGHAI, CHINA**—Elementary schools converted into nursing homes. Lonely only children coddled by parents and grandparents. A generation in which men seriously outnumber women. China's one-child policy may have slowed population growth in the world's most populous country. But it has also produced a rapidly aging population, a shrinking labor force, and a skewed sex ratio at birth, perils that many demographers say could threaten China's economy and social fabric.

As the most spectacular demographic experiment in history, the one-child policy is unprecedented in its scope and extremity. The measure is so sacrosanct that officials who have dared in the past to hint at its dissolution have been quickly silenced. But a growing number of experts contend that the policy, which turns 30 next week, has run its course. "It's time to start experimenting and looking at how to phase out the policy," says Wang Feng, a demographer at the University of California (UC), Irvine.

Over the past decade, Wang and two dozen other Chinese-born demographers, sociologists, and former government officials

have been pushing quietly for the policy's abolition. They have looked at what would happen if birth targets were lifted, and they have put forth schemes for dismantling the policy step by step. At times this informal anti-one-child advocacy group has veered close to heresy, debunking some of the government birth-control lobby's most cherished claims. But they have been left mostly undisturbed to continue their work. "Chinese policymakers have increasingly accepted the fact that fertility has dropped to below replacement level," explains Wang, who is also affiliated with Fudan University here. An internal government debate about the policy's future, he says, has been "going on for some time."

When the country's leaders unveiled the one-child policy in an open letter to members of the Communist Party and Communist Youth League on 25 September 1980, the intervention was not meant to last forever. They foresaw a life span of one generation, explaining that "in 30 years, when the problem of population growth that is especially serious at present has been mitigated," the government could adopt a new policy.

Now, as children of the one-child generation marry and have babies, Wang and his colleagues are taking their campaign public to draw attention to that expiration date. In recent months, they have held seminars, published widely in the Chinese press, and released a study showing that many couples in one part of China are choosing to have only one child, even when given the chance to have another—evidence, they say, that the one-child policy is obsolete.

They have their work cut out for them. They're up against decades of bad science, central government leaders preoccupied with short-term stability, and a bureaucracy of staggering proportions: the National Population and Family Planning Commission, a half-million-person-strong agency responsible for implementing the one-child policy. The quest is taking longer than expected, says Gu Baochang, a demographer at Renmin University in Beijing and former adviser to a Family Planning Commission minister. But his group has a powerful ally: empirical evidence. "We went into the field," Gu says.

## Birth police

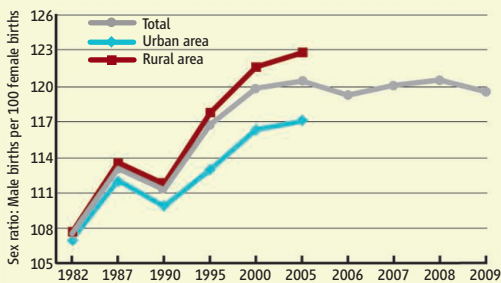
In the 1970s, China emerged from the Cultural Revolution with the memory of famine still acute. Poor central planning had helped cause food shortages, but now attention focused on population as the culprit, and Chairman Mao Zedong, who had once encouraged large families, shifted course.

He wasn't alone in worrying about population growth. In Western countries, too, public health breakthroughs and falling mortality rates had led to a fear of overpopulation, sparking a wave of neo-Malthusianism that culminated in the controversial 1972 report *The Limits to Growth* by the Club of Rome, an international group of scientists. Doomsday projections found their way to China. "Developed countries spread Club of Rome thinking to the developing world," says Liang Zhongtang, an economist at the Shanghai Academy of Social Sciences who participated in deliberations over the one-child policy.

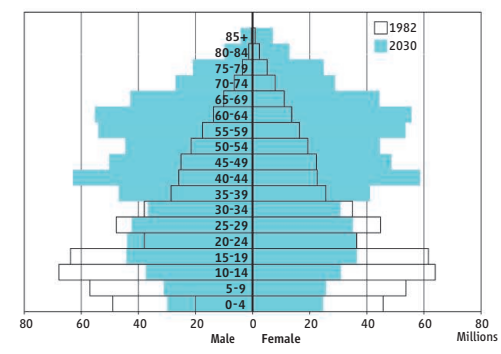
In China, neo-Malthusianism resonated with a government intent on boosting economic growth. The aim was to manipulate population dynamics under the planned economy. China experimented with birth planning throughout the 1970s, when the government pushed a "later, longer, fewer" approach that encouraged Chinese to marry later, wait longer between children, and have fewer babies. As a result, according to World Bank estimates, the country's total fertility rate declined from 5.5 in 1970 to 2.7 in 1979.

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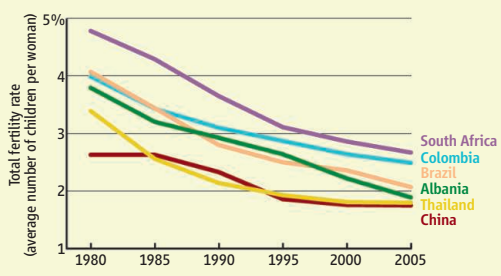
## Too Many Boys?



## A Graying Population



## Having Fewer Babies Anyway



**Serious consequences.** Chinese couples' desire to make their one child a son has led to sex-selective abortions, skewing the sex ratio (*top*). Declining fertility rates will result in a lopsided age structure by 2030 (*middle*); other countries saw similar drops without strict birth planning (*bottom*).

SOURCES: (TOP TO BOTTOM) SHUZHUO LI; CAI YONG/UNIVERSITY OF NORTH CAROLINA; WORLD BANK

The advocacy group calls this the “golden age” of China’s fertility transition: a successful, moderate policy with a low impact on age structure and sex ratio at birth. But at the time, the country lacked trained demographers who could point to the wisdom of staying the course. So when missile scientists put forth wild projections of a population explosion by 2080 (see sidebar, p. 1460), policymakers responded with an extreme plan.

The one-child policy was a group decision reached under Deng Xiaoping, China’s paramount leader from 1978 to 1992. The open letter called for bringing China’s natural growth rate, or the difference between its

crude birth and death rates, down to 0.5% by 1985—a precipitously low goal for a young country.

To implement the policy, the government beefed up its birth planning infrastructure, adding thousands of workers and launching propaganda campaigns. Enforcement was flawed from the beginning: The central government assigned stringent birth quotas to local governments but left them to shoulder a portion of the costs. Some local officials intent on meeting targets forced pregnant women to abort and sterilized men against their will. Others issued offending parents outrageous fines to recover program costs.

The drive sparked a backlash, fueling discontent among peasants. It also led to a rash of female infanticide among Chinese hoping to make their sole child a boy—a prelude to sex-selective abortions that later became widespread. The central government responded in 1984 by issuing *Document 7*, which handed provincial governments the power to adapt the policy to local circumstances.

That decentralized structure, which still stands, has yielded a clunky policy that is comparable in complexity to the U.S. tax code, says Wang. To discourage sex-selective abortion, many provinces allow rural parents whose first child is a girl to try again for a boy, an exception sometimes called the “1.5-child policy.” All told, there are 22 exceptions qualifying a couple for more children, ranging from one partner being disabled to one being a miner. The policy’s intricacies help explain, in part, why few within China’s scientific community tried to combat it for the first half of its life. Then in the late 1990s, a generation of young scholars trained abroad came of age, and China finally had world-class demographers. They began to speak up.

China’s rapidly aging population was an early theme. The country has benefited from a “demographic dividend”—a surfeit of young workers born during a 1960s baby boom—that will dry up as China gets old before it gets rich. From 2010 to 2020, the number of Chinese aged 20 to 24 will drop by a whopping 45%, from 125 million to 68 million. “The U.S., Japan, and Europe are talking about a pension crisis,” says Cai Yong, a demographer at the University of North Carolina, Chapel Hill, and a member of the advocacy group. “China’s situation is going to be much worse, because it will happen at a faster pace and with much less cushion.”

Other scholars turned their attention to the skewed sex ratio at birth. Shortly after the one-child policy was introduced, ultrasound machines became widely available across China, allowing pregnant women to scan the sex of their fetuses and abort females. The government outlawed sex identification and sex-selective abortion, but enforcement took a back seat to birth targets, and local officials often looked the other way when late-term pregnancies ended inexplicably. China’s ratio of male to female births—now 119 boys born for every 100 girls—has been “really intensified by the family-planning policy,” says Shuzhuo Li, a demographer at Xi’an Jiaotong University. The gender imbalance is projected to yield 30 million more men than women by 2030, heightening the risk of social instability.

Such concerns spurred the advocacy group’s formation in 2000. The time was ripe for a full-scale critique. The expiration date laid out by the open letter was nearing, allowing the scholars and former officials to argue that by pushing for the policy’s abolition, they were remaining true to its architects’ original vision. But the deadline also led to a new question: What next?

## Baby boom time?

The group coalesced from conversations among Wang, Gu, Peking University demographer Guo Zhigang, and others. Eventually, their discussions turned on what would happen demographically if the policy were lifted.

Government leaders assumed that the one-child policy had avoided hundreds of millions of births, and that if it were relaxed it would lead to a baby boom that would strain schools, hospitals, and the future job market. But China’s shrinking birthrate had coincided with a rapid drop in fertility rates in many other developing countries. From 1970 to 1990, World Bank data shows that China’s fertility rate fell from 5.5 to 2.3, Thailand’s

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Mara Hvistendahl.

dropped from 5.6 to 2.1, and Brazil’s from 5.0 to 2.8. The scholars suspected that the one-child policy was not primarily responsible for China’s rapid fertility drop. But they wanted tangible evidence, one way or the other.

In 2001, they called together experts for a meeting here. Some participants objected to the coercion and human-rights abuses carried out in enforcing the policy. (Forced abortions had become rarer, but they still occurred in isolated areas.) Others worried about how the sex ratio at birth and lopsided age struc-

ture might affect the country's stability. Still others believed birth planning remained necessary but that China needed to overhaul its existing policy.

In the years that followed, Gu, Wang, Guo, and retired Family Planning Commission official Zhang Erli collected data from all of China's 450 prefectures. Wading through the 22 policy exceptions, they calculated how many couples in each prefecture were eligible to have more than one child. They found that the

term "1.5-child policy" was misleading; 63% of couples were still restricted to one.

A thornier question was the actual fertility rate. China's 1992 National Fertility Survey found a total fertility rate for the previous year of 1.65 children per woman. When all the exceptions are taken into account, the policy implies a target rate of 1.47, and the 1992 figure meant China was close to achieving that. But over the following decade, political incentives for concealing further declines grew,

because continuing the one-child policy rested in part on a high fertility rate. In recent years, even as Chinese left farms in droves and settled into middle-class lifestyles, China's reported total fertility rate went up—supposedly to account for couples who had second children and did not register them. In 2009, U.N. estimates drawn from a government survey listed a rate of 1.77 children per woman.

By comparing official statistics with school registration data and other methods of retroactively estimating births, Gu and colleagues determined that the Family Planning Commission's fertility rates were inflated by an average of 25%. China's actual fertility level, Gu says, is closer to 1.5, putting it between those of countries like Switzerland and Canada.

Even as they claim a high birthrate, Chinese officials argue that 3 decades of birth planning have avoided 400 million births—a number touted at last year's climate summit in Copenhagen as one of China's environmental contributions. The advocacy group says this figure assumes China's fertility rate had stayed at its 1970 level instead of falling steadily over the 1970s. The actual number of births avoided over 30 years is closer to 100 million, says Cai.

The advocacy group now had evidence to debunk critical arguments used in defense of the policy: that most Chinese were no longer subject to the policy and that it had not yet achieved its goal. They assumed leaders would respond to empirical reasoning. But the policy is "not rational," asserts Joan Kaufman, a former Ford Foundation and U.N. Population Fund representative in China who has advised the group. Criticizing it is tricky, she warns: "They're all operating at a certain amount of professional risk."

### Overcoming inertia

In 2004, the advocacy group distributed a report detailing its findings within the Family Planning Commission and other agencies. The document, whose 18 signatories included the former head of statistics for Shanghai's family-planning commission, the vice president of the Shanghai Academy of Social Sciences, and seven directors of university demography programs, detailed the results of the group's years of fact-finding. Graphs depicted the aging population and skewed sex ratio at birth in stark detail.

The group hoped the proposal would lead to experimental zones in which couples could have two children. Instead, the government response, says Gu, was "not very

## Of Population Projections and Projectiles

China's one-child policy may appear to be a case of ideology trumping science. But the policy was based on the projections of a 1970s missile scientist and adopted in an atmosphere of renewed faith in empiricism and openness to the West.

A key figure in the policy's adoption was Song Jian, a Soviet-trained military scientist and specialist in cybernetics, or the control of machine systems. A former People's Liberation Army soldier, Song was a protégé of Qian Xuesen, Mao Zedong's trusted science adviser. Qian's backing helped Song rise to an influential post in China's Ministry of National Defense.

From his perch in the Seventh Ministry of Machine Building, a missile laboratory, Song moved into the unlikely field of population analysis—in part because other Chinese scientists had been persecuted during the Cultural Revolution. Sociology and demography were "essentially demolished under Mao," explains Susan Greenhalgh, an anthropologist at the University of California, Irvine, who outlines Song's story in the book *Just One Child: Science and Policy in Deng's China*. But "most defense scientists were able to continue working."

Beginning in 1970, China encouraged late marriage and childbirth spacing and asked couples to stop at two children. The approach was remarkably effective, halving China's birthrate over the next decade. However, says Greenhalgh, China's leaders wanted to be on par with the industrialized world—by reducing the number of mouths they had to feed.

A critical moment came in 1975, when Song joined a Chinese delegation to Europe. At the University of Twente in Enschede, the Netherlands, he met Geert Jan Olsder, a specialist in differential game theory. Over beers at a pub, Olsder told Song about a series of equations he had developed to control population on a fictional island. The key variable, calculated per time unit, was number of births. "He immediately became enthusiastic," recalls Olsder, who says his equations were theoretical. Olsder gave Song a paper explaining the equations, *Population Planning: a Distributed Time Optimal Control Problem*.

Song put the methods of Olsder and other European mathematicians to use. By 2080, they predicted, China's population would top 4 billion—a projection resting on unreliable data, says Greenhalgh. But it wowed Chinese leaders, propelling them toward another of the team's prognoses: that the only way to avert catastrophe was to reduce fertility to one child by 1985 and maintain that level for 20 to 40 years.

Liang Zhongtang, a Shanghai Academy of Social Sciences economist who took part in early discussions about the one-child policy, corroborates much of Greenhalgh's account but says she assigns too much importance to Song. "Many people felt the one-child policy was China's only choice at the time," says Liang, who was among the plan's few critics in the 1970s. Song's group provided data to justify the policy, Liang says, but they "weren't the ones who came up with it." He agrees, however, that Song's calculations dazzled policymakers, making the policy appear to be good science.

Song went on to become president of the Chinese Academy of Engineering. Olsder says the two kept in touch, last meeting in the Netherlands in 2004, but he never realized the role he had inadvertently played in the adoption of the one-child policy until a journalist alerted him to Greenhalgh's book in 2008.

—M.H.



**Population bomb maker.** Missile scientist Song Jian, shown here with Geert Jan Olsder (right) in 2004.





favorable.” Among the rebuttals was that the one-child policy is critical to maintaining low fertility. Leaders still feared a baby boom. But the most vexing reaction was that China had spent years putting a birth planning infrastructure in place, and scaling that back would prove too complicated.

The Family Planning Commission has steadily broadened its mandate, so that it now handles issues such as the skewed sex ratio and aging population along with reproductive health. “The agenda of the population commission is getting bigger and bigger,” says Susan Greenhalgh, an anthropologist at UC Irvine who has documented the policy-making process. Although this change in focus is ostensibly positive, it has also increased the commission’s power.

As of 2005, the family-planning bureaucracy had swollen to 509,000 employees, along with 6 million workers who help with implementation. Those stakeholders are “risk-averse,” says Wang. “They pay no cost for doing nothing.” For now, doing nothing is exactly the right policy, says Yu Xuejun, a commission spokesperson. “Birth planning cannot be turned on and off,” he says. “We must maintain continuity and stability.”

**Wedded to one child?**

Although bureaucratic inertia is difficult to combat, the advocacy group realized that another contention—that scaling back the policy would lead to a baby boom—could be tested. The generation born under the policy had grown up, and an exception allowing couples who are themselves only children to have two children meant that they had more options than their parents. The scholars went back into the field in 2006, seeking to answer a question that now seemed critical to the policy’s future. “Once people can have a second child, will they want [one]?” says Gu.

They focused on Jiangsu, a province north of Shanghai that permits couples in which

**Demographic detectives.** Cai Yong and Li Yuzhu interview a woman in Jiangsu about her childbearing plans (*far left*). Advocacy group members (*above, from left*) Zhang Erli, Xie Zhenming, Guo Zhigang, Wang Feng, and Gu Baochang; their 2004 petition (*right*) asked leaders to abolish the policy. Zheng Zhenzhen (*top right*) led a study on how ending the one-child policy might affect the fertility rate in one province.

one parent is an only child to have two children. That allowance made provincial family-planning officials keenly interested in data on childbearing behavior and, unlike other arms of the birth-planning bureaucracy, willing to cooperate. In six counties representing a range of levels of economic development, the group interviewed 18,638 women of childbearing age, asking how many children they felt were ideal. More than one-fourth of those surveyed were eligible to have two.

The results are striking, says Zheng Zhenzhen, a demographer at the Chinese Academy of Social Sciences, who led the survey: “A large proportion of women do not intend to have a second child.” Especially telling were the figures for women eligible to have two children. That group reported an average ideal family size of 1.46 children, with a majority—55%—saying one child is best.

Earlier this year, the scholars returned to the survey area to see how many of the women planning to have a second child actually did so. Only a fraction of women followed through. Although the results do not represent the nation, Zheng cautions, the study suggests that scaling the policy back will not spark a baby boom in the economically robust east. The top reason women gave was the very middle-class concern that two children burdened family resources. Mothers would rather spend on education for one.

For now, the advocacy group is nudging the Chinese government to unveil experimental two-child zones and commit to later change once the zones prove successful. Group members differ on exactly what shape such reforms should take. Li favors a universal two-child policy with relaxed restrictions for groups now excluded by childbearing regulations in many provinces, like unmarried women and gay couples. Wang, too, advocates a two-child policy but stresses that it should evolve into

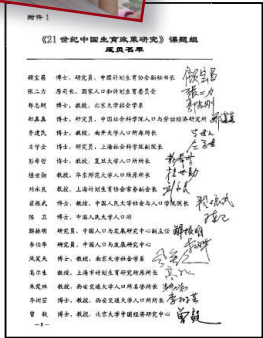
a system of free choice. And demographer Zeng Yi of Duke University in Durham, North Carolina, has calculated the effects specific schemes would have on China’s birthrate, labor force, pension deficit, and marriage market. He favors a gradual transition: a two-child policy with required intervals between births until 2014, when spacing requirements could be removed, then further relaxation until 2030 to 2035, when birth targets could be lifted entirely.

The group warns that abolishing the one-child policy is not a panacea. Allowing Chinese to have more children may ease the country’s gender imbalance, for example, but it won’t fix the problem, which is also tied to factors like inheritance—because daughters marry into their husbands’ families, couples see sons as a form of social security—and a high abortion rate. “The government should also pay attention to the pension and senior health care systems and to creating more gender-sensitive policies,” says Li.

Coaxing the government to rethink the one-child policy is a challenge. The advocacy group submitted another proposal to leaders in 2009, urging that policy experimentation begin in developed areas like Shanghai and Jiangsu. So far, there has been no official response. “In the next 5 years, there will be no significant changes” to the policy, says the commission’s Yu. But Wang claims that his group’s decade-long quest is having an impact. Government officials, he says, have begun soliciting outside opinion on a possible transition. “They are discussing relaxing the policy,” he says. “The process is just very slow. For now.”

**—MARA HVISTENDAHL**

Mara Hvistendahl is a journalist based in the Netherlands. Her book *Unnatural Selection*, on sex-ratio imbalance in Asia, is due out in 2011.



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