

Demographic Consequences of China's One-Child Policy

Christine Chan, Melissa D'Arcy, Shannon Hill and Farouk Ophaso
April 24, 2006

Prepared for the International Economic Development Program,
Ford School of Public Policy, University of Michigan

Executive Summary:

Our paper examines reproductive policies in China, and the societal consequences that have resulted from them. In particular, we examine the history of the one-child policy and the current gender inequity and age demographic shift that is anticipated in the future. China's economic transition will continue to influence the birth rate and demographics of the country. This paper focuses on the projections for future demographic changes in light of the economic progress that China is making. Using models from neighboring countries like Japan and South Korea we also make predictions for effective governmental policies and strategies to combat some of the more severe consequences of the one-child policy, such as gender inequity and an aging population. Our recommendations for future government action in terms of reproductive policy and the one-child policy are to further investigate the consequences of this policy and the possible alternatives. After comparing the benefits and risks associated with the current one-child policy, a new two-child policy proposal and an incentive driven system we conclude that the institution of a new two-child policy is the best approach for China's future.

I. Introduction

In the first half of the 20th century the Chinese leadership faced what seemed to be an insurmountable problem: a fast rate of population growth for a large, rural, poor population. Birth and population planning policies were first implemented during the Maoist era and they have been in effect in varied form since then. The first set of policies aimed at increasing the population in order to meet the goal of rapid industrialization. Policies since this time, however, have targeted low population growth using a variety of programs to encourage contraception and discourage the birth of children in excess of the centrally-mandated target population. This

paper will focus on the demographic consequences of such birth and population planning policies.

The initial section of the paper will review the policies implemented in the second half of the 20th century, focusing on the form and implementation of the one-child policy first enacted in 1979. The second part will consider both demographic and social consequences of the policy. Next, we will review some of the policies used in Japan and South Korea to address several of these consequences. The final section will look at ways in which China has addressed, or is considering addressing, these consequences.

II. Background

20th Century Birth and Population Planning Policies

Birth, or population, planning in China did not begin with the one-child only policy of 1979; instead, the one-child only policy was the culmination of a series of policies begun in the 1950's which aimed at lowering the rate of population growth. The policies had this goal in common but varied in the methods by which they proposed to meet this goal and the degree of severity with which they were enforced. In the 1950's, policies focused on achieving economic development by improving maternal and child health. From 1962-1966 educational campaigns urged families to plan for later births, longer spacing between them, and smaller families and increased women's access to contraceptives and abortions. The third phase, from 1971-1979, emphasized education and access as well, but also introduced national and provincial level targets for births which, in theory, also translated into targets at the local level (Riley, 2004, 11-12). Finally, the one-child policy was introduced in 1979 and is in effect at present.

The preceding paragraphs provide a concise overview of the birth and population policies which achieved the desired result of increasing maternal and child health, radically lowering the

average number of children per couple from an average of six to three, and lowering the population growth rate. An overview of the policies would be incomplete without a discussion of their uneven implementation. Difficulties with implementing and enforcing the birth and planning policies are indicative of ways in which the system of centralized planning has tended to break down at the local level and ways in which policies, and outcomes, are quite different in urban and rural locations in China.

Implementation of Birth and Population Planning in China

The one-child policy has been implemented via a system of incentives for compliance, such as preference in educational opportunities, health care, housing and job assignments, and disincentives for lack of compliance, such as fines and loss of access to education and other privileges (Riley, 2004, 12). Despite this incentive structure, the policy has never been strictly enforced uniformly across time or space in China. Prior to 1984 the official goal was to keep the Chinese population under 1.2 billion and local cadres were supposed to enforce the policy in order to meet this goal. The primary methods for doing so were the promotion of contraception (primarily Intra Uterine Devices or IUDs) and enforced sterilizations (Greenhalgh, 1994, 7). Some of the most strict enforcement measures during this time included state-mandated IUD insertion for all women with one child and sterilization of couples (usually of the woman) with two or more children (Greenhalgh, 1994, 8).

Partially in response to largely-peasant resistance to the one-child policy, in 1984 “Document 7” was issued, allowing local cadres to “adapt policy to local circumstances and to avoid heavy-handed enforcement methods” (Riley, 2004, 13). In addition to the official permission given them, local cadres also have tended to negotiate with women and their families over birth planning due to their own cultural values which are generally akin to those of their communities. Community norms for family size and composition – generally at least one male

child and preferably two male or one male and one female - derive from both cultural traditions and “economic exigencies”; local cadres often share these views (Greenhalgh, 1994, 11).

Women, themselves, often resist the policies, most frequently through the unauthorized removal of IUDs and noncontraception (Greenhalgh, 1994, 16-18). The implementation of birth and population policies results from a negotiation between women, representative of community norms, and local cadres, with preferences shaped by their membership in the communities and their role as an official in the state apparatus (Greenhalgh, 1994, 13).

III. Demographic Consequences

Although the one-child policy has been estimated to have reduced population growth in the country by as much as 300 million over its first twenty years, it has also brought about a host of unintended consequences. These effects include a high sex imbalance, with males outnumbering females, sex-selective abortion, infanticide, and a future social safety net problem.

Increasing Sex Ratio

Probably the most well-known consequence of the one-child policy is China’s sex ratio. The sex ratio at birth (defined as the proportion of male live births to female live births), ranges from 1.03 to 1.07 in industrialized countries (Davis & Gottlieb, 1998). Before the implementation of the policy in 1979, the reported sex ratio in China was 1.06 nationwide. This grew to 1.11 in 1988 and 1.17 in 2001 (Kang & Wang, 2003) . The ratio is one that varies significantly by region and level of development, with ratios of up to 1.3 in rural areas of Anhui, Guangdong and Qinghai provinces.

The traditional preference for male children has prompted actions leading to the sex imbalance. Some argue that at least in larger metropolitan areas, this sentiment is changing more equal valuation of male and female children. However, the most recent large-scale survey of

reproductive health and fertility provides evidence to the contrary showing that the increased sex ratio continues to be present in both rural and urban areas. The marked gradient across birth order shows a sex ratio for first births at 1.05 in rural areas and rising steeply thereafter. In urban areas, the sex ratio is 1.13 for the first birth and is as high as 1.30 for the second birth (Kang & Wang, 2003). So it seems that some urban Chinese are performing sex-selective abortion with the first pregnancy, since they are only allowed one child. In rural areas, however, since most couples are permitted to have a second child (especially if the first is female), if the second child is female, the pregnancy often “disappears” in order to allow the couple to have another male child.

Sex-selective abortion, infanticide and abandonment

What exactly happens to all of the missing girls is largely a matter of speculation. While some newborn girls are being adopted by neighboring families or hidden to avoid reporting to authorities, others are victims of infanticide or abandonment. Despite regulations against the use of prenatal sex determination for abortion, there has been a growth in the use of ultrasound B machines, which were introduced in China in the 1980's; every county is equipped with high-quality machines advanced enough to identify the sex of a fetus (Zeng & Ping, 1998). Although actual figures are impossible to obtain, given the illegal nature of sex-selective abortion, the use of ultrasound technology and subsequent abortions are believed to account for a large proportion of the decline in female births (Merlie & Raftery, 2000).

The Future: Lack of a Social Safety Net

While some of these consequences have already, or are beginning to materialize, some of them have not yet reached a stage of urgency. The rapid decrease in birth rate, combined with stable or improving life expectancy, has led to an increasing proportion of elderly people and an increase in the ratio between elderly parents and adult children. The percentage of the

population over the age of 65 years was just 5 percent in 1982, and currently stands at 7.5 percent (World Bank, 2006). In just 30 years, people aged 65 or older are projected to make up 22 percent of China's population. With the reduction of some, and elimination of other state-provided social services, these older adults will have to count on their children to provide for their retirement, since children are expected to be the primary providers of support and care for their retired parents, grandparents and parents-in-law. However, in what has come to be known as the "4:2:1 problem," every child born under the one-child policy will have to care for two parents and four grandparents. With largely one-child families and no national social security plan, this responsibility will likely fall on a younger Chinese generation that is unable to fulfill it.

Other Consequences

One of the more visible and worrisome of the countless other unintended consequences of China's one-child policy is the "Little Emperor" Syndrome, which refers to some of the psychological effects for the population of only children. These children grow up as the pride and joy of adoring parents and grandparents and are beginning to be known as the spoiled generation. Somewhat linked to the Little Emperor Syndrome is the rising rate of childhood obesity among Chinese children. Due to a confluence of factors, including fewer children and the tendency to spoil them, children's diets have changed for the worse. These children are growing up on diets more similar to those of the West, with negative influences from fast food establishments. It is estimated that by 2010, one in five children in China will be overweight (James, 2006). This diet and health change will have enormous health consequences in a country whose population has traditionally been known for its good health and dietary practices.

Another consequence of the sex imbalance between Chinese men and women is that it is increasingly difficult for young men to find women to marry. This has brought about a trade in kidnapped women; 110,000 kidnapped women were freed during a recent crackdown, and

Chinese gangs continue to traffic Vietnamese and North Korean women for would-be Chinese husbands. Some sociologists argue that the increasing sex ratio imbalance, with men outnumbering women, will eventually bring about an increase in crime and violence, if the trends continue. Chinese police researchers say crime has indeed grown among the millions of men of marrying age.

Looking Back: Foresight in Policy Implementation?

Given the current situation, it is reasonable to wonder whether the Chinese government anticipated any of these consequences before it implemented the one-child policy, and whether or not it had a plan for dealing with them. According to Gu Baochang, a Chinese demographer and professor at Renmin University in Beijing, the Chinese did in fact recognize that they would have to deal with some of these demographic and social ramifications of the one-child policy. While they did not consider specific plans or policy responses to deal with the consequences, Gu asserts that the Chinese government had the confidence that it would be able to handle the situation when it came about. At the time the policy was implemented, the focus was on strengthening and expanding the economy. It was predicted that a strong economy would eventually enable the government to respond to the negative effects of the one-child policy.

IV. Aging Population: The Model of Japan and South Korea

Around the world, populations are living longer, more fulfilling lives than ever before as a result of the unprecedented advances in modern health care and technology. These improvements in life expectancy are changing the demographic relationship between different generations of the population in all nations. This section will examine the recent strategies employed by Japanese and South Korean governments to combat the economic strain of changing demographics and aging populations.

It is recommended that the Chinese government take the successes and failures of these countries into account as it attempts to outline an achievable solution to this troublesome imbalance. Japan may provide a fruitful model as it has already experimented with some solutions to the aging demographic shifts. These programs are being monitored for successful outcomes and applicability to other nations. Japan could also serve as a functional model for China because there are many cultural similarities between the countries that will affect how reforms are carried out.

Japan and South Korea's Approach to the Demographic Shift

Japan is an extreme case of demographic shifting: the median age of Japanese citizens is currently the oldest in the world at 42.9 years old (Global Fund News, 2006). In response, the Japanese government directly increased the number of workers in the labor market by increasing the government employee retirement age from 60 to 65. The Japanese government and corporations have also made attempts to encourage women to seek employment and participate in the workforce in higher numbers (Kakuchi, 2005). To entice women into the labor market they have attempted to tailor job opportunities to women and improve their working conditions. Some examples of these changes are increases in child care leave and flexible work-at-home options. These amenities are also offered to those women who already hold positions in an effort to discourage them from resigning (Kakuchi, 2005).

Additionally, Japan's immigration researchers are recommending a policy of opening its borders to foreign workers to decrease the labor gap and support the elderly population (McNeill, 2006). This strategy of increasing immigration is actively being explored in Europe as well, where there is also an anticipated labor shortage. However, the acceptance of foreign workers will be more difficult to implement in Japan than other reforms because of national ethnic pride.

In Japan, the liberalization of immigration policies has met strong public opposition and the government has been cautious in proceeding (McNeill, 2006).

In South Korea the emphasis has been on increasing employment opportunities, specifically for the elderly; they are attempting to provide jobs in the healthcare service sector that are “elderly to elderly” positions (Cheong-won, 2006). In the year 2006 South Korea plans to create 33,000 new jobs in the healthcare sector, a growing field that is charged with taking care of the rapidly aging population. These healthcare positions focus on the elderly who need individualized assistance, like those suffering Alzheimer’s and other degenerative diseases (Cheong-won, 2006). By 2009 the country plans on creating 300,000 jobs in this sector to employ the South Koreans over the age of 60 who are increasingly looking for work to help pay bills (Cheong-won, 2006). In addition to the jobs created in the healthcare sector, the government is also encouraging the elderly to seek jobs in environmental preservation, traffic and parking regulation, and maintenance (Cheong-won, 2006). There is a concerted effort to create new positions and open more positions in these areas to employ a greater number of the Korean elderly. All of these employment opportunities are civil service positions that provide benefits both to the individual senior citizens and to the society as a whole, maximizing the government’s effectiveness.

Challenges to the Use of this Model in China

The largest difference between the Japanese and South Korean solutions to the age demographic shift and their applicability to China is the health of the economy. Last year the annual per capita income in Japan was close to \$36,000 (Mukherjee, 2006). This money is taxed by the government to provide the funds needed to sustain social welfare policies that support the growing elderly population (Mukherjee, 2006). In South Korea the projected per capita income in the year 2025 is \$52,000, when 50 percent of the working population will be too old or too

young to work (Mukherjee, 2006). The average expected income of a South Korean is more than four times that of a Chinese worker in the year 2030, when the estimated per capita income will be \$11,000 in China (Mukherjee, 2006). The average income in China will not reach the levels needed to sustain a taxation policy necessary for supporting the aging population that will reach a 70 percent dependency ratio (10 workers supporting 7 non-workers) by the year 2050 (Mukherjee, 2006).

Recommendations

China predicted this age imbalance as a result of the one-child policy, however, the country has not yet taken steps to directly combat the economic strain of an aging population with increasing dependency ratios. Modeling programs based on those in Japan which encourage women to enter the workforce in higher numbers and increase the retirement age may provide a short-term solution to the Chinese dilemma. The progress of South Korea should be monitored as well and the possibility of creating new jobs in the healthcare field should be examined in China as a method of increasing employment, and thus incomes, of the elderly.

Cultural Valuations of Gender: Japan as an Example

In many Asian countries women have not yet achieved equality with their male counterparts in society. Despite the strong traditional preference for males in Asian culture and its influence on the preference for male children, in contrast to China Japan provides an example of a country where women are not equally valued by society, yet there is not the prevalence of sex-selected abortions, or female infanticide and abandonment (Banister, 2004). China could learn from these changes in patterns of belief and values that have occurred in Japanese society as it has industrialized that now result in families favoring female children. Recent assessments report that up to 75 percent of young families surveyed prefer a female baby over a boy (Efron, 1999). The pressure to produce males has not been eliminated completely; in some rural areas

families still have a desire to produce at least one male child to validate the mother's contribution to the family (Efron, 1999). Nevertheless, some progress has been made in terms of altering cultural values and thus, choices around preference of children's gender.

In Japan, there is an emerging preference for female children, but the reasons for this change are not entirely clear. There are even consumer industries that have capitalized on the preference for female babies providing books, advice, and a variety of over the counter medical supplies that will "determine" the baby's sex (Efron, 1999). Even though public opinion expresses a preference for daughters, there has been no noticeable change in the male to female birth rate ratio. Although abortions are legal in Japan, unlike in China, the practice of sex-selected abortion is not possible because physicians are prohibited from revealing the sex of the baby until after the time that an abortion would be legal.

Some families have expressed a preference for female children because a daughter will be more likely to take care of her parents when they are old. This is a great concern for many Japanese parents as their population ages and the demographics shift so that the working members of society have an increasing population of elderly and young to support. Japanese families might view a female daughter as an additional form of social insurance to protect them and care for them in old age. This is based on increasing worries that the Japanese pension system will be over-burdened by the retiring baby boomer generation.

China faces similar concerns in the next century, when the demographic shift will result in an overburdened working population. However, it is unlikely that Chinese families will make the same shift to preferring females unless they also believe that females are more likely to care for them in old age. Due to lasting gender inequalities in China it is not clear whether or not female children are actually more able to care for their adult parents better than male children.

An additional reason for which people might not begin to value female children equally with males is that families may not see the need to rely on their children for support if the state occupies that role in the future. However, if the state is unreliable, and families see that daughters are better future care-takers, there may be a similar shift in Chinese parent preferences for female children.

The most immediate action the Chinese government could take to combat the unequal sex birth rates is to monitor and control the use of technology to reveal the sex of fetuses. If women are not permitted to abort a fetus based on the sex of the child, China may see a decrease in the gender imbalance at birth. However, caution should be used because the problem of female infanticide and abandonment may still exist. To remedy these problems entirely will require drastic changes in cultural preferences that are likely to occur naturally as China continues to modernize and advance economically. When women gain further equality as members of society, parents will see equal opportunities existing for their child, regardless of his or her sex.

V. Responses of the Chinese Government to the Consequences of the One-Child Policy

Although China has benefited economically from the one-child policy, a reconsideration of those benefits is needed because of the impact of the unintended consequences on China's current social conditions. The Chinese government has addressed the unintended consequences of the one-child policy in several ways and is considering other options, such as further relaxing or eliminating the one-child policy. Although each of these policies addresses the unintended consequences caused by the one-child policy, each has its unique strengths and weaknesses.

Relaxing the One-Child Policy

Professor Gu Baochang of Renmin University claims that one method of addressing the unexpected consequences of the one-child policy, such as the current gender imbalance problem,

is by officially relaxing the one-child policy. This would require the central government to begin to allow families, especially in high density areas like Beijing and Shanghai, to have more than one child. Allowing families in high density areas to have more than one child would normalize the policy across the country, since currently only those in rural areas are allowed to have more than one child. Therefore, any relaxation of the one-child policy would essentially mean doing away with the initial policy; allowing more than one birth contradicts the one-child policy's initial structure and allows families across the country access to the same two-child policy.

Doing away with the one-child policy could potentially fix the unexpected consequences in the long term. However, this would not be a viable short term solution. This policy would not address the current gender imbalance problem, because it does not promote the birth of more female babies in order to balance out the 114:100 ratio. Instead, this policy would still require the Chinese citizenry to change its deeply rooted preferences for male children over female children. Similarly, it would not stop the trafficking of women into China nor would it address the increase in neglect, abandonment, and infanticide of females. Additionally, relaxing or eliminating the one-child policy would not immediately fix other problems, such as the current social safety net crisis, which is complicated by the aging population.

Two-Child Policy

The two-child policy, first implemented in urban areas, allows for couples comprised of only children from the one-child only generation to have two children. The purpose of this policy is the prevention of a dramatic population decrease while allowing couples the possibility of having one male and one female child. It is believed that allowing couples to have two children will discourage them from discriminating against female babies. The focus of this policy has mainly been in urban areas and has been successful so far (Baochang, 2006).

This option appears to deal with the unintended consequences of the one-child policy in the most viable way. The two-child policy would allow the birth rate to double while closing the ratio gap between grandparents, parents, and children. More children would mean more investment in the social safety net systems which would provide the elderly with a greater standard of living near the end of their lives. Furthermore, by allowing two children, families would be less likely to not want to keep female children. This would slowly close the gender imbalance. Having two children would also reduce the “Little Emperor” Syndrome as doting parents and grandparents would have two children to attend to. The only downside to this policy is that these benefits would be realized in the long run. It is not an immediate solution, but it would be difficult to reverse a thirty-year old population control policy within only a few months.

The two-child policy is different from a relaxation of the one-child policy in that the two-child policy still puts a limit on how many children couples can have. A relaxation of the one-child policy may lead to a rapid increase in births whereas the two-child policy can still maintain predictable birth rates. This plan offers a more structured approach to population control and also has the least amount of risk for the Chinese economy.

Incentive Plan

A final option that the Chinese government is trying to implement is an incentive program designed to keep families small, but still allow rural residents the option of having more than one child. By following three rules a family is guaranteed 600 Yuan once a year for life from the federal government. People aged 60 and above in families with only one son or daughter, two daughters, or deceased children are eligible to receive the incentive money. Additionally, families must not have violated the family planning policies between 1973 and 2001. The purpose of this plan is threefold: Chinese officials hope this plan will “humanize” the

one-child policy, encourage family planning among rural residents, and provide social security for senior citizens (China's Reverse Baby Bonus, 2004).

The incentive plan mostly encourages rural women to cap their births at two children. It also encourages citizens to follow state policies by rewarding "good behavior." Although this plan can be seen as paternalistic, there are some benefits. Rural women receive a monetary award and are allowed to have more than one child, so that it also captures the benefits of the two-child policy. The difference between this plan and the two-child policy is that under this plan only certain people are eligible, whereas under the two-child policy people in urban areas can have two children under any circumstance. The disadvantage of the two-child policy is that it does not apply to rural citizens.

VI. Conclusions

Population policies were introduced in China in order to decrease population growth and thus, contribute to short- and long-term economic development. As a result, the country has, in fact, seen a decline in the rate of population growth. In combination with other strategies, such as concentrated regional development, China is also experiencing unprecedented rates of economic growth. Neither of these strategies comes without additional undesirable, if not unanticipated, consequences. The Chinese government must now begin to address these consequences or face serious new policy dilemmas. Some of the most alarming consequences of the one-child policy are the birth rate sex imbalance, abortion, infanticide, and abandonment of females, and the social implications of spoiled only children and young men unable to find marriage partners.

This paper has presented some of the current options under consideration by the Chinese government for addressing these consequences. Relaxing the one-child policy and creating a “two-child” policy is being considered both for the urban population in general and for the limited circumstance of couples consisting of only children. An incentive plan, which would not alter the current policy, would try to address the problem of caring for the elderly. Since other countries are facing similar challenges in terms of the demographic shift to an older population, we have looked at Japanese and South Korean policies and made recommendations on which of them might have the greatest desired effect in China.

China has experience with creating and implementing policies to tackle important issues and it now faces several looming problems should it not alter the one-child policy in the near future. In the policymaking process Chinese decision makers do analyze the proposed policies and their potential consequences. It is now time to carefully and wisely consider which policies may do the greatest good, and the least harm, in addressing the consequences of the one-child policy. It is a positive sign that the government has begun to employ “new” tactics, such as public education campaigns on the value of female children, which are meant influence thoughts and beliefs and thus, behavior. This process will occur over time, however, so it is imperative that the government also devise a more comprehensive and immediate plan to prepare for the 4:2:1 problem and the financial burden it will place on the working population.

Ultimately, in addition to current Chinese efforts to promote gender equal views in China, we recommend the enactment of the two-child policy in China. This will not only help continue China’s economic growth and success in the way that the one-child policy did, but it will also prevent a significant population growth. Additionally, a two-child policy would reduce

the stigma of having girls and thus decrease abortions, infanticide and neglect of Chinese girls. This would also have a positive impact on the current sex imbalance in China.

Further research will be needed to model and analyze how the different options suggested in this paper might affect the problems facing China today and in the future. However, this paper has begun to tease out the interconnectedness of policies and the importance of considering the ramifications of policies in one sphere on other spheres. In discussing the impediments to addressing the consequences of the one-child policy, the paper points to the importance of cultural values which inform people's behavior and are often the most difficult to influence, despite government incentive and disincentive plans.

Bibliography

- Baochang, Gu. Lecture, Renmin University. March 1, 2006.
- Banister, Judith. 2004. Shortage of Girls in China Today. *Journal of Population Research*. 21: 19-45.
- Cheong-won, Kim. February 2, 2006. "Government to Create 80,000 Jobs for Elderly" *Korea Times*. Retrieved April 22, 2006, from LexisNexis Academic database.
- "China's Reverse Baby Bonus" China Daily. August 5, 2004 www.chinadaily.com.cn also found at: <http://www.cpirc.org.cn/en/enews20040805.htm> Checked on 31 March 2006.
- Davis, DL, Gottlieb MB, Stampnitzky JR. 1998. Reduced ratio of male to female births in several industrial countries: a sentinel health indicator. *Journal of the American Medical Association*. 279: 1018-1023.
- Dr. Philip James, chairman of the International Obesity Task Force, quoted in "Study Foresees Soaring Rate of Childhood Obesity," March 6, 2006. *Xinhua News*. http://news.xinhuanet.com/english/2006-03/06/content_4263297.htm.
- Efron, Sonni. November 15, 1999. Japanese Couples Think Pink: Girls Have Become the Gender of Choice Among Those Trying to Conceive, A Reversal Rooted in the Profound Social Changes Affecting the Country, Besides, Explains One Young Mother, 'Boys Don't Listen.' *Los Angeles Times*. Retrieved April 22, 2006, from LexisNexis Academic database.
- Global Fund News. January 23, 2006. Global Demographic Trends: Key Implications. *Business Monitor International*. Vol. 11, No.39 Jan., 1-3. Retrieved April 22, 2006, from LexisNexis Academic database.

- Greenhalgh, Susan. 1994. Controlling Births and Bodies in Village China. *American Ethnologist*, Vol. 21, No.1 Feb., 3-30.
- Kakuchi, Suvendrini. May 16, 2005. Japan: Dwindling Workforce Gives Women the Break They Want. *IPS-Inter Press Service*. Retrieved April 22, 2006, from LexisNexis Academic database.
- Kang C, Wang Y. 2003. Sex Ratio at Birth In: *Theses Collection of 2001 National Family Planning and Reproductive Health Survey*. Beijing: China Population Publishing House, 88-98.
- Kang C, Wang Y. 2003. Sex Ratio at Birth In: *Theses Collection of 2001 National Family Planning and Reproductive Health Survey*. Beijing: China Population Publishing House, 88-98.
- McNeill, David. March 21, 2006. The Doomsday Doctor. *The Japan Times*. Retrieved April 22, 2006, from LexisNexis Academic database.
- Merlie MG, Raftery AE. 2000. Are births underreported in rural China? Manipulation of statistical records in response to China's population policies. *Demography*. 37: 109-126.
- Mukherjee, Andy. February 17, 2006. Will China Grow Old Before it Has a Chance to Get Rich? *The International Herald Tribune*. Retrieved April 22, 2006, from LexisNexis Academic database.
- Riley, Nancy. E. 2004. China's Population: New Trends and Challenges. *Population Bulletin*, June, Vol. 59, 3-35.
- World Bank Health Nutrition and Population Division. Development data. Accessed Friday, April 7, 2006. www.worldbank.org/hnpstats.
- Zeng Yi, Tu Ping et al. 1993. Causes and Implications of the Recent Increase in the Reported Sex Ratio at Birth in China. *Population and Development Review*, Vol. 19, No. 2, 291.