IN recent years, the issue of unbalanced sex ratios in China has risen to prominence. While the world average sex ratio at birth is 100 girls to 107 boys, China’s has steadily become more skewed in the last quarter of a century, reaching 100 girls for 117 boys with the 2000 Census.

Demographers have undertaken numerous studies of this issue. While some claim that China’s unbalanced sex ratio is really a return to the historical “norm”, others are much more concerned about the sociopolitical consequences of the imbalance. Hudson and Den Boer, for example, have raised alarmist scenarios about the implications of the imbalanced sex ratio in China and the rest of Asia. For them, the imbalance will not only mean more unmarried men but also, by extension, more crime, greater domestic instability and possibly even dire consequences for China’s international behavior. This alarmist scenario has attracted much attention among theorists of international relations.

In this paper, we assess these different views based on our own analyses of the relevant data and policy developments in China. We note that the “historical norm” view may understate the significance of the current imbalance. Yet, even if we granted Hudson and Den Boer that the increased sex imbalance would have the implications they claimed, we argue that Hudson and Den Boer would remain unduly alarmist about the consequences of this demographic development.

Population Control and Surplus Males

SEXUAL imbalance is not a new phenomenon. Closely associated with the traditional son preference and discrimination against daughters, Chinese population patterns were highly differentiated by sex in the imperial era. A study by Lee and Campbell found that the male-to-female birth ratio in

1 The authors would like to thank Stephan Bisogno for his research assistance.
Liaoning between 1792 and 1840 was about 214.\textsuperscript{2} While infanticide and child abandonment were at times widespread and lingered even in many Western societies,\textsuperscript{3} a comparison of infant and child mortality between three European populations (England, Sweden, and France) and the Qing Dynasty Chinese population revealed that Chinese females died in far larger numbers than Chinese males, thus accounting for the extremely high sex ratio at birth in parts of China.\textsuperscript{4}

The gender bias and sexual imbalance were not mitigated until after 1949. While traditional values and institutions continued to shape Chinese society, the Mao era saw the erosion of the kinship-based patriarchal social order and efforts to raise women’s social-economic status. As a result, infanticide and female child abandonment decreased significantly. In contrast to the abnormally high sex ratios of cohorts born in the first half of the twentieth century, the same ratios for those born in the first decades of the PRC dropped rapidly. Chinese census figures show that in the 1950s and 1960s, sex ratios at birth were relatively stable and normal (Figure 1).

\textbf{Figure 1}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{sex-ratios.png}
\caption{Sex Ratios at birth, 1953-2000}
\end{figure}

\begin{itemize}
\item \textsuperscript{2} James Lee and Cameron Campbell, \textit{Fate and Fortune in Rural China: Social Organization and Population Behavior in Liaoning, 1774-1873} (Cambridge: Cambridge University Press, 1997), 96.
\end{itemize}
Yet the traditional preference for males persisted even in the post-revolutionary era. Indeed, certain government policies, such as restricting the geographical mobility of the rural population and relying on patrilineally defined rural family as the main source of welfare and old age security, indirectly reinforced the bias against women. Moreover, the inherent contradiction between the official policy of promoting women’s rights and the Soviet-style pronatalist approach resulted in increasing social demands on birth control. Despite this, China’s population policy did not shift from an anti-Malthusian extreme to systematic birth control until the late 1970s, when family planning became an essential part of national economic development. Since the mid-1980s, the sex ratio at birth has increased dramatically, rising from 108.5 in 1982 to 117 in 2000.

**What Is To Blame?**

Chinese demographers have debated extensively on the causes of the reported rise in sex ratio since the 1980s. There is no doubt that implementation of the draconian population control policy reinforced the pre-existing social preference for males. The population control efforts contributed to the revival of female abandonment and infanticide. Moreover, with the government emphasis on the use of “technical measures” in birth control, the availability of the ultrasound machine and amniocentesis has facilitated the selective abortion of female fetuses in China and certain other societies. Indeed, for many families strict birth control coupled with the desire for at least one male child have made prenatal sex selection the only legal chance for a son. This was believed to have resulted in millions of missing girls and contributed to a remarkable rise in the reported sex ratio at birth. As shown in Table 1, provinces that

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have less lenient birth control policies tend to have more highly skewed sex ratio at birth.

### Table 1: Population Policy and Sex Ratio at Birth

<table>
<thead>
<tr>
<th>Abnormal sex ratio</th>
<th>Less lenient</th>
<th>Lenient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing, Shanghai, Jilin, Shandong, Tianjin, Shanxi, Liaoning, Hebei, Zhejiang, Jiangxi, Gansu, Sichuan, Jiangsu, Fujian, Henan, Shaanxi, Guangxi, Hunan, Anhui, Hubei (20 provinces)</td>
<td>Qinghai, Guangdong, Hainan (3 provinces)</td>
<td></td>
</tr>
<tr>
<td>Normal or slightly higher sex ratio</td>
<td>Guizhou, Inner Mongolia, Heilongjiang (3 provinces)</td>
<td>Tibet, Xinjiang, Yunnan, Ningxia (4 provinces)</td>
</tr>
</tbody>
</table>

Note: “Lenient”: one child per couple encouraged but two children allowed, or limits applied to fourth or fifth birth in minority childbearing; “Less lenient”: one child per couple only with very few exceptions in allowing couples to have two children or two children allowed for couples whose first child is a girl “Abnormal”: sex ratio at birth $\geq 111$; “Normal or slightly higher sex ratio”: <110. Source: Huang and Yang, “Population Control and State Coercion in China” and Peng Xizhe, “Is it time to change China’s population policy?” *China: An International Journal* 2, 1 (2004): 141. The sex ratio data are derived from China’s 2000 Census.

The connection between the government population control and gender imbalance, however, should not be exaggerated. For one thing, it cannot provide a cogent explanation on the consistent rise in the sex ratio at birth since the mid-1980s despite the increasingly flexible official government policies in allowing routine exceptions to the one-child rule in most areas. Second, the policy factor, with a strong spatial variation, has difficulty to explain why the sex ratio was above the normal level in all provinces except Tibet and Xinjiang. In particular, it cannot explain why Guangdong and Hainan provinces, which allowed two children in rural areas, have the highest sex ratio at birth (138 and 135 respectively). Last


but not the least, similar abnormality can also be observed in neighboring countries, notably India and South Korea, which have not implemented a Chinese-style population control policy. Indeed, South Korea and Taiwan share with Mainland China the strong preference for sons and rapid fertility declines, and the sex ratios increased at about the same time in all three populations. In this sense, Chinese policymakers do have a point by attributing the problem to the “ingrained preference for males.” A comparison of the sex ratio at birth by birth order in China between 1792-1840 period and post-1982 era shows an increasing gap of sex ratio at birth between the first order birth and higher order births, suggesting a return to the historical “norm” (Figure 2).

Figure 2

Note: The 1792-1840 male-to-female ratio was based on the Liaoning data. Source: Lee and Campbell, Fate and Fortune in Rural China; Riley, China’s Population.


In other words, while there is some kind of relationship between the government policy and sex ratio at birth (through the fertility level), a simple relaxation of birth control is unlikely to reverse the rising sex ratio at birth.

**Socio-political Fallouts**

NEVERTHELESS, the problem of gender imbalance in China, if not tackled in a timely manner, can have major social, economic, and political ramifications. Skewed birth ratios entail a shortage of women for marriage and such a shortage can in turn have a profound effect on marriage markets. According to a report by Hudson and Den Boer, China will have 29 million to 33 million unmarried males by 2020.\(^{12}\) The Chinese press has widely reported that, if current trends persist, there will be 30-40 million males that won’t be able to marry because of the shortage of girls.\(^ {13}\)

Increasing economic and social inequalities in post-Mao China may have worsened the social stratification in male marriage. In a country with a growing gap between rich and poor, and between the urban areas and the countryside, many young women in rural areas aspire to marry a man who has a stable job, is well-educated, and preferably in the cities. Meanwhile the relaxation of the household registration system and the enlarged urban-rural and coastal-inland gap have increased the socio-economic incentives for rural residents to leave the countryside. According to Chinese government figures, as of July 2004, the migrant population had reached 120-140 million, or 10 percent of China’s population.\(^ {14}\) This rural brain-drain to cities has tended to leave behind socially and economically disadvantaged young men, as defined by education and residence, as the “losers in societal competition” (Hudson and Den Boer’s words). Among unmarried rural men, for instance, 97 percent did not have a high school diploma and 40 percent are illiterate.\(^ {15}\) Unable to afford the normal “bride prices,” some have turned to the black market to get an abducted wife. In

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\(^{13}\) See, for example, *Zhongguo qingnian bao* (China youth daily), August 4, 2004.


\(^{15}\) Paul Wiseman, “China thrown off balance as boys outnumber girls,” *USA Today*, June 19, 2002, 1A.
recent years, the Chinese state has expended substantial energy and resources fighting female trafficking for marriage. Little is known about the scale of the trafficking of women and girls in China, although state media reported that as of 1999, the police were rescuing 10,000 women a year, thought to represent only a fraction of those kidnapped. Such trafficking has reached beyond China’s borders to North Korea and Vietnam.

Psychologists have long known that marriage and fatherhood are associated with lower testosterone levels in males, thereby decreasing the likelihood that a father will engage in competitive behavior. It is also known that acts of violence and crime tend to be perpetrated by males of 15-30 years of age. In other words, as the conventional wisdom goes, unmarried males are more likely to engage in risky behavior, including violent crimes. The differential propensity between single and married males to commit crimes raises disturbing specters of the millions of Chinese men who won’t be able to marry. Chinese commentators have noted that the rebels in Chinese history, such as those portrayed in the novel Water Margin, were primarily males who could not get married; some had even developed strong hatred against those who were married.

There is evidence that the large-scale migration has contributed to a rise in crime in urban areas. According to information from the Ministry of Public Security, migrants committed 50 percent of the crimes in Shanghai, Beijing, and Tianjin and over 80 percent in Guangzhou and Shenzhen. In 2004, Guangdong province, which has the largest migrant population in China, recorded over 510,000 criminal cases, about 80 per cent of the cases were reportedly committed by migrants. Tensions between locals and migrants have sometimes reached the boiling point. As social tensions

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22 China Daily, February 16, 2005.
heighten, this growing phalanx of the alienated or disgruntled may turn to aggressive or extreme means, increasing the likelihood of social violence. In short, the rising number of surplus males in China may challenge Chinese policy makers and society.

Sex imbalance, Authoritarianism, and War

The gender imbalance in China has also raised concerns for the prospect of democracy in China. In a comparative study focused on Muslim countries, Steven Fish notes that most of these countries have skewed and male-dominated sex ratios, large literacy gaps between men and women, and low ratios of women in government. These indicators of female subordination, which are also found in China and India, correlate strongly with authoritarianism. On this thesis, Fish notes that “If conditions in India may darken the prospects for the endurance of democracy, those in China may undermine possibilities for its emergence.” Similarly Hudson and den Boer contend that the gender-skewed societies of China and India, characterized by “a disproportionate number of low-status young adult males,” could threaten domestic stability and that high sex-ratio societies are governable only by imposing authoritarian rule.

Most provocatively, Hudson and den Boer predict that an increasingly assertive China might undertake aggressive action abroad to divert the public’s attention from domestic problems caused by the surplus men. In the words of David Shambaugh, China may “become more confrontational externally, even as it becomes more fragmented internally.” In other words, the social-political challenges posed by a large number of surplus men may interact with its authoritarian regime to make China war-prone.

While whether China will remain authoritarian and/or become war prone is ultimately an empirical question, a host of factors suggests Hudson and den Boer’s argument about the international consequences of China’s demographic imbalance is unduly alarmist. To begin with, the surplus male problem may not be as serious as the two have argued. The

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25 Ibid.

sex ratio at birth in imperial China was nearly twice as skewed as it is today.\textsuperscript{27} Indeed, studies found that from the 17\textsuperscript{th} through the late 19\textsuperscript{th} centuries as much as 10-20 percent of all men were unmarried.\textsuperscript{28} Whether this was socially catastrophic or not is still subject to debate, but the current situation may not be unique, and as such, may not be as fraught with the imputed negative consequences as suggested by the alarmist scenario. Moreover, the estimate of 30-40 million unmarried males by 2020 should be taken with a grain of salt. It is arrived at assuming that selection of partners is made only within the same age group. But in reality, in what is known as the marriage squeeze, it can be made between age groups and thus dilute the hypothesized impact.\textsuperscript{29} Perhaps more important, the estimate fails to take into account the underreporting of females. Indeed, a comparison between the 1990 census and the 2000 census reveals that many of the girls missing in the first enumeration subsequently appeared in the second. Based on this comparison, Lavey and Cai estimate that the true number of missing girls in the cohorts born 1980 to 2000 is approximately 8.5 million (only about 0.7 percent of China’s total population), rather than the 12.8 million as widely believed.\textsuperscript{30} This would significantly reduce the number of unmarried males in the future.

The fear of collective aggression and of an increase in crime arising from a surplus of males will also be at least partly countered by another demographic change: a rapidly aging Chinese society. Today, China’s population is still young and growing. In 2004, the elderly made up just 11 percent of the population.\textsuperscript{31} Over the next decades, however, the Chinese population will age dramatically. The State Population and Family Planning Commission (SPFPC) forecasts that the percentage of the population aged 60 and older in China will increase from 10 percent in 2000 to about 31 percent in 2050. In absolute numbers, the number of the

\textsuperscript{27} See Lee and Wang, \textit{One Quarter of Humanity}.

\textsuperscript{28} Ibid., 71.


\textsuperscript{31} The elderly here is defined as adults aged 60 and over. The conventional measure of an ageing society is the old-age dependency ratio, which is the ratio of the population aged 65 years and older to the population aged 15-64. Given present Chinese policies on retirement age, however, the conventional old-age dependency ratio is not an appropriate measure for China. This definition is used by the Chinese government as well as UN.
elderly will jump from 133 million in 2001 to an astounding 355 million in 2030 and 450 million in 2050. According to a report from the Center for Strategic and International Studies (CSIS), within a generation, China will likely have an older population than the United States. 32 While this monotonous rise of the elderly population has led to the prediction that China may be the first major country to grow old before it grows rich, the rapid ageing will also likely counterbalance the socio-political problems associated with young and unmarried men, given that the elderly are far less likely to commit crimes and engage in risky social behavior. 33 It may also increase the bargaining power of new entrants into the labor force, and thus contributes to the improvement of labor rights. 34

The effect of ageing is likely to be compounded by an expected decline of the youth population by the mid-2010s. As shown in Figures 3 and 4, both the percentage of 15-24 year-olds in the population and the absolute number of 15-24 year-olds will continue to decline from the highs set in the mid-1980s. While these trends show some modest reversal in the 2003-2012 period (in an echo of the baby boom of the 1980s), the twin decline resumes after that. Assuming no dramatic rupture in the political and economic situation, we can conclude that the demographic pressure for juvenile crimes will begin to ease substantially around 2015. As is widely known, the Chinese Party-state has responded to the increases in crime with periodic yanda (strike-hard) anti-crime campaigns. Invariably these campaigns are characterized by heightened police action, tougher sentencing guidelines in the courts, and, in a classic display of state power, public sentencing rallies. 35 With the easing of the demographic pressure on crime rates around 2015, it is likely to reduce the urge by the Chinese leadership to launch strike-hard campaigns and other rough tactics. There

32 Richard Jackson and Neil Howe, Graying of the Middle Kingdom: Demographics and Economics of Retirement policy in China (Washington, DC: Center for Strategic and International Studies, 2004).


is thus the likelihood, further augmented by the legal and law enforcement reforms already under way, that the police state will become gentler, more professional, and more modulated.

**Figure 3**

![Population of 15-24-year-olds in China, 1990-2025](image)

Note: (The data for Figures 3 & 4 are derived from the International Data Base of the U.S. Census Bureau)

Equally important, the alarmist scenario has helped raise the alarm for the Chinese leadership and elicited policy initiatives to prevent the scenario from becoming fully realized. Since 2004, Chinese government has begun to undertake a series of initiatives to counter the alarming gender imbalance. The efforts focus on altering the incentives environment for potential parents, medical professionals, and policy implementers, with an objective of bringing the sex ratio at birth down to the normal range by 2010. Worried about the country’s gender imbalance, the National People’s Congress (NPC) – China’s legislative branch—is mulling changes to criminal law that target selective abortion and fetal gender identification for non-medical purposes. Various local governments have also enacted local legislation to make late-term abortion

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abortions more difficult. Meanwhile, indicators on sex ratio at birth are being incorporated into the system of cadre performance evaluations. Speaking at the 2004 central symposium on population, resources and environment, President and Communist Party General Secretary Hu Jintao stated that redressing the unbalanced sex ratio at birth would be a major task for the Chinese government and gave his imprimatur to a SPFPC program of using positive inducements to promote a more balanced sex ratio at birth.37

![Figure 4](image)

Figure 4
Percent of Population of 14-24-year-olds in China

Of the incentives-based policy initiatives is a system of welfare-oriented rewards for rural families that have answered the government’s call to limit the number of births.

Beginning in the latter half of 2004, various rural localities in more than a dozen provincial units began to offer couples who reach 60 years of age and have only one or no child or two girls a monthly bonus/stipend. The amount is set at a minimum of 600 yuan per year per person though some localities such as Guangdong, where living costs are much higher,

started with 80 yuan per month. The payment is set to last for the rest of the recipients’ life. In less developed areas, this payment, amounting to 1,200 yuan per couple, is of a substantial amount for the recipients. It is offered to provide some sort of economic guarantee for couples who had followed the government’s population policies and to counteract the parental preference for boys. This birth planning reward program began with a coverage of about 300,000 people in 2004 but will likely be extended to millions more shortly, making this a major welfare program for rural residents.

The birth planning reward program for the aged is complemented by two other initiatives that are also being tried out in poorer regions with high fertility rates. One is called “Fewer births, faster wealth.” Under this program, which was put into trial in places such as Ningxia beginning in 2002, the regional government offers a cash award to each couple that agrees to have one fewer children than the birth planning policy allows and undergoes a permanent form of contraception. The cash award is either 3,000 or 5,000 yuan, depending on ethnicity. In 2004 the Ningxia regional government budgeted 30 million yuan for this program in eight counties.

It is believed that such a program can not only help bring fertility rates down in some of the most poverty-stricken areas but can be a substantial boost to the incomes of the families that participate in the program. Needless to say, the cash awards make it much easier for grassroots cadres seeking to promote birth planning and thus can significantly ease the strains in state-society relations.

To be sure, even with these measures, the short-term effect on the birth sex ratio will be quite limited. Much of the sex imbalance in existence since the 1980s cannot be reversed and will begin to haunt China shortly as these men born after 1985 began to reach the age for courtship and marriage around 2005. According to Zhang Weiqing, minister of the State Population and Family Planning Commission, even with the new initiatives being taken and effective, there would still be 24 million more males than females by 2020 (measured in terms of the sex ratio at birth).

42 Beijing qingnian bao (Beijing youth daily), August 4, 2004.
Nonetheless, the success of South Korea in fighting sex-selective abortions offers China a model for emulation. If the Chinese leadership pursues the goal of a more balanced birth sex ratio with the same gusto as it has undertaken birth planning, it is likely that the new initiatives will eventually help to redress the imbalance to some extent, thereby transforming the issue of “surplus males” into a problem of marriage squeeze of a limited duration. Also, the systematic experiment with positive inducements represents a significant shift from the emphasis on more authoritarian methods such as fines and penalties. Perhaps more significant, the willingness to mobilize tremendous resources on community and family issues suggests that the Chinese leadership is more interested in tackling its domestic problems than turning them into sources of external conflict.

Conclusion

Despite the near consensus on the connection between strict population control and the dramatic rise of sex ratio at birth in China, our study of China’s sex imbalance underscores the complexity of the issue. Even if the evidence seems to suggest a return to the historical norm in terms of the sex ratio at birth, the socio-political implications of this imbalance will likely be profound. The sheer numbers of surplus males raises the specter of a host of social problems, including female trafficking and other forms of crime as well as assorted public health issues. Yet we contend that it would be unduly alarmist to predict a deficit of peace from the surplus of men. Not only are the magnitude and severity of “surplus males” problem exaggerated, but a number of other developments, notably rapid ageing and new government initiatives, will likely counteract the socio-political effects of China’s sex imbalance.

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