Isabelle Attané

The Demographic Masculinization of China

Hoping for a Son

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The Demographic Masculinization of China

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Contents

Introduction

The second half of the twentieth century was a period of major upheaval in China. The Communist takeover in 1949 brought political and economic transformation aimed at social equality. The subsequent liberal reforms initiated by Deng Xiaoping in 1978 completely overhauled the agricultural and industrial production system and brought profound social change. Since then, China has moved gradually from a planned, centralized economy to a "socialist market economy", a transition that has driven unprecedented economic growth. Gross domestic product has expanded rapidly since the 1980s, while remarkable productivity gains generated by economic reform have resulted in substantial purchasing power gains and a decline in overall poverty.

However, by shaking up the whole social organization, the dismantling of collective production structures has wrought changes that extend far beyond the economic sphere. Previously, people depended closely on the state for all aspects of their day-to-day lives. Through their work units, everyone had guaranteed access to employment, housing, healthcare and education for their children. City dwellers were also entitled to pensions and welfare benefits. However, since those services have gradually been transferred to the private sector, they now respond to market forces, which means that access to them is increasingly unequal. The healthcare system has deteriorated, access to basic education and employment is no longer guaranteed; and unemployment, job insecurity, poverty and social inequality are spreading. China has thus become one of the most unequal countries in developing Asia. Inequality is now higher in China than in Indonesia, Pakistan and even India. "The inequality [in China] is comparable to the United States, a country that has always emphasized freedom over equality and has never made a secret of its ethos of rewarding work, talent and merit" (Chesnais 2002).

China's economic liberalization has been accompanied by social liberalization, as individuals have become emancipated from the state control that was exercised through collective bodies. This has led to a revival of behaviours and practices from the past, some of which had been fiercely combated by Mao Zedong's regime. In particular, gender inequality in access to education and employment, domestic

violence, prostitution, trafficking in women and discrimination against baby girls are now clearly visible in Chinese society.[1] The gains for women from the reforms of the past decades fall far short of China's economic achievements. In some ways, actually, society has remained extremely male-dominated, which often leaves women in a vulnerable position.

The past half-century has been a crucial period for China in demographic terms because, in that short space of time, it has accomplished most of the transition to a country with low population growth, at least when compared with most of its large Asian neighbours, namely, India, Indonesia, Pakistan and Bangladesh.[2] Rapid demographic transition has also been an undeniable factor in China's economic growth of the past decades. China's per capita GDP increased by 7.6 % a year on average between 1978 and 1995, whereas India, the world's second most populous nation, which is struggling to complete the transition process, achieved only 2.7 % average annual growth in per capita GDP over the same period, because of still high population growth.[3] Although China and India are set to become the world's two leading economies,[4] China has a structural advantage over its rival. The proportion of working-age people in China's population is currently very high and that of economically dependent people is low. This is because population ageing has only just begun (Mo 2002) and, above all, because the share of children aged under 15 is relatively small, due to a sharp decline in fertility over the past decades.

China now exhibits population characteristics that, in various ways, are comparable to those observed in the most developed countries. According to official figures, China's total period fertility rate is extremely low, at around 1.2 children per woman[5] (PCO 2012) and, although disparities persist between the provinces, the overall trend is nonetheless remarkable. The demographic transition also has disadvantages, however. One is the predictable ageing of China's population, observed in all post-transition populations – the percentage of people aged 65 and over is expected to triple by 2050 to over 25 % (UN-WPP 2010) – as a consequence of increased life expectancy at birth and the rapid fertility decline in the past 40 years. But another less predictable negative effect has emerged since the 1980s, namely, the demographic masculinization of China.

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[1] To find out more about the different types of discrimination against Chinese women in contemporary society, see Attané I. (2005). *Une Chine sans femmes?* Paris, Perrin.

[2] Those four are among the seven most populous countries in the world. In 2010 the population of India was 1.224 billion, Indonesia 239.9 million, Pakistan 173.6 million and Bangladesh 148.7 million (UN-WPP 2010).

[3] Over that period, GDP (in constant dollars) increased by a factor of 2.3 in India and by a factor of 5 in China. In other words, India's GDP grew half as fast, and per capita GDP one-third as fast (source: World Perspective, Sherbrook University, http://perspective.usherbrooke.ca).

[4] Kantin G, Pacary C (2006). *Les deux géants bouleversent l'ordre mondial*. Le Monde. Dossiers et documents, Oct. 2006.

[5] However, an independent estimate places the total fertility rate at 1.4-1.5 in 2010. See *Nanfang zhoumou,* 24 May 2011. Available at http://www.infzm.com/content/59364/. Accessed 27 June 2012.

Inset 1   China Will Remain the Most Populous Country in the World Until Around 2025

China looms large on the global economic and geopolitical scene. That position can be partly attributed to the size of its population: at the end of 2010, according to the sixth population census, China officially had a population of 1.333 billion, or one-fifth of the world's population, still ahead of India and Africa. But China's share of the world's population is shrinking: China accounted for 22 % of the world total in 1950 but only 19.5 % in 2010 (UN-WPP 2010). One in three persons living in a least developed country[a] was Chinese in 1950, compared with fewer than one in four now. Demographers are even predicting that India, the world's second most populous country, will overtake China by 2025. China's relative decline can be attributed both to the sharp slowdown in its population growth over the past half-century (the rate of natural increase has been around 0.5 % per year on average since 2000) and to sustained population growth in rival countries and continents, such as Africa, whose share of the world's population rose from 9 % in 1950 to 15 % in 2010, and especially India, whose share of the world's population increased from 14 % to almost 18 % over the same period. The population of China might never reach 1.5 billion, but peak at 1.4 billion in 2025 and then decline (UN-WPP 2010).

[a]Under the United Nations definition.

China's overall sex ratio, which measures the ratio of males to females in the population, is now among the highest in the world. That characteristic is shared with some of China's neighbours, such as India, and to a lesser extent with Pakistan and Bangladesh, which are among the very few countries in the world where men make up the majority of the population. Over the past decades, China has experienced a process of demographic masculinization. That trend is the result of a growing imbalance between the sexes at birth and of excess female mortality, especially in early childhood, which contrasts with the pattern generally observed elsewhere in the world. In neighbouring countries which, like China, have a higher percentage of men in their populations, a deficit of females at birth is sometimes compounded by excess mortality of girls. These forms of discrimination can be attributed mainly to patriarchal social systems, where women are valued in different spheres than men (Attané 2012).

This recent atypical demographic trend raises many questions. Is demographic masculinization an inevitable process in countries like China, which have a system of norms and values that give preference to males and where a sharp increase in the cost of living and a decline in fertility are forcing the sexes to compete with each other? Is this development part of a transient demographic phase or is it likely to last? Above which threshold does a sex imbalance in a population become

socially and demographically unsustainable? What types of lifestyle changes and social behaviour can this imbalance lead to? What impact could the decline in the number of women have on their status in the family and society and on gender relations?

The literature on the female shortage in Asia, particularly China, is abundant. Initial research described the phenomenon (Sen 1990; Hull 1990; Coale and Banister 1994; Zeng et al. 1993) and analysed the causes and processes at work (Li and Zhu 2001; Das Gupta et al. 2002; Mo 2005; Banister 2004; Kim and Song 2007; Chu 2001; Chen 2003). Subsequent studies looked at the consequences, in demographic terms (Attané 2006a; Cai and Lavely 2003; Li et al. 2006; Klasen and Wink 2002), at the social level (Hudson and den Boer 2004; Poston and Glover 2005) and on individuals (Li et al. 2010; Merli and Hertog 2010; Attané et al. 2013). Other studies took a more systematic approach, aimed at putting demographic masculinization of Asian countries into a broader perspective (Croll 2000; Attané and Véron 2005; Attané and Guilmoto 2007).

However, no study to date on the situation in one country, namely, China, has proposed a comprehensive review of the phenomenon of demographic masculinization or, more broadly, the status of women in a context of economic modernization. The present volume is an attempt to investigate the demographic masculinization of China as comprehensively as possible from a demographic, social, political and historical perspective. It thus seeks to contribute to knowledge of the phenomenon and its many implications.

The first part of the book looks at the demographic visibility of the phenomenon: What is the numerical imbalance between males and females? How atypical is the pattern in China compared with other world regions? Various indicators were used to measure the excess proportion of males in the population, in total and in some particularly affected age groups, and analyse the demographic factors involved and their impact on the deficit of females. Lastly, it is useful to place China in a broader geographic perspective because, although China now has among the highest sex ratios in the world, it is not the only Asian country to exhibit demographic characteristics where women are objectively disadvantaged. The second part of the book is devoted to the social, family and political conditions underpinning Chinese women's lives, starting with key features of Chinese culture that traditionally place women at a disadvantage. A review of social history in the second half of the twentieth century shows that, despite political will to promote the status of women, the laws introduced since the 1950s to protect their rights and interests are sometimes still ineffectual. Despite the economic modernization of the past few decades, a preference for sons remains a dominant feature of Chinese culture, and family expectations continue to favour boys over girls. Numerous cultural and socioeconomic factors sustain this traditional preference: a description and analysis of these factors help us better understand the mechanisms involved in the female deficit. The imbalance between the sexes also has an impact on the marriage market, population growth and the status of women.

This book is largely based on Isabelle Attané's habilitation thesis, entitled *La masculinisation de la population chinoise: tendances, faits et perspectives* (The masculinization of China's population: Trends, facts and outlook), which she defended in September 2007. A habilitation thesis is typically a compilation of the author's previous research. This volume therefore contains, among other published works, short extracts from *Une Chine sans femmes?* (A China Without Women?), published in 2005 and reproduced here with the kind permission of the French publisher Perrin.

This book was first published in French in 2010 under the title *En espérant un fils … La masculinisation de la population chinoise*. This English edition has been extensively revised and updated to take account of the 2010 Chinese census data which became available in 2012.

Note: Chinese words and names are transcribed in *pinyin*.

1. Administrative divisions of China

2. Sex ratio at birth in the Chinese provinces, 2000 (Source: Based on Population Census Office 2002)
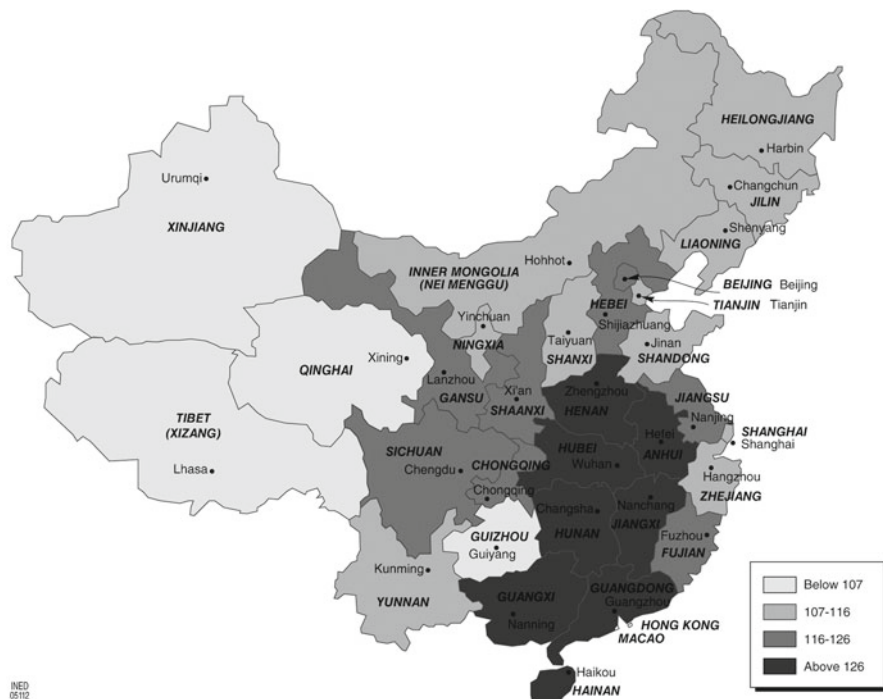
3. Sex ratio at birth in the Chinese provinces, 2010 (Source: Based on Population Census Office 2012)

4. Infant mortality by sex in 1990 (Source: Based on Lu et al. 1994)
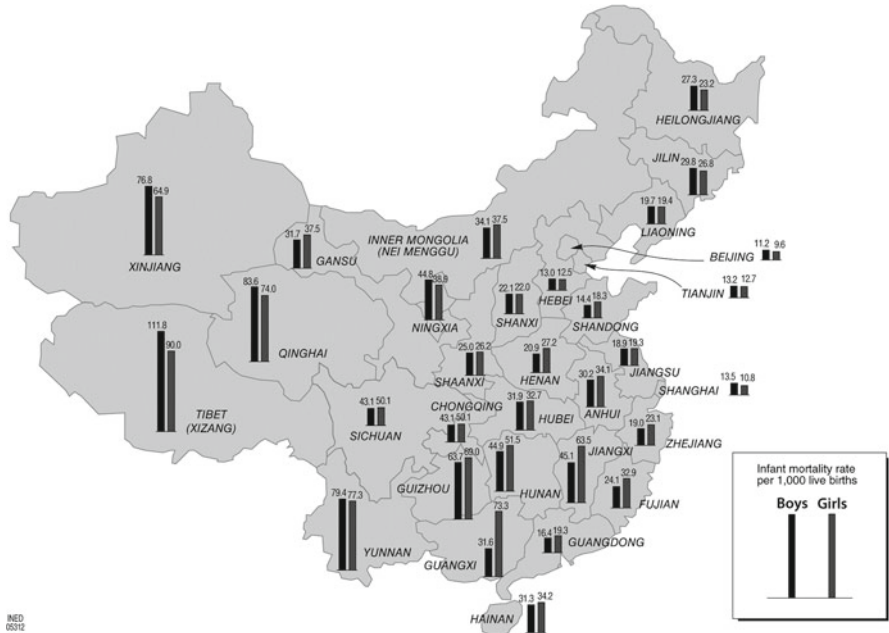
5. Infant mortality by sex in 2000 (Source: based on Population Census Office 2002)

6. Life expectancy at birth in 2000, males (Source: Based on Population Census Office 2002)

7. Life expectancy at birth in 2000, females (Source: Based on Population Census Office 2002)
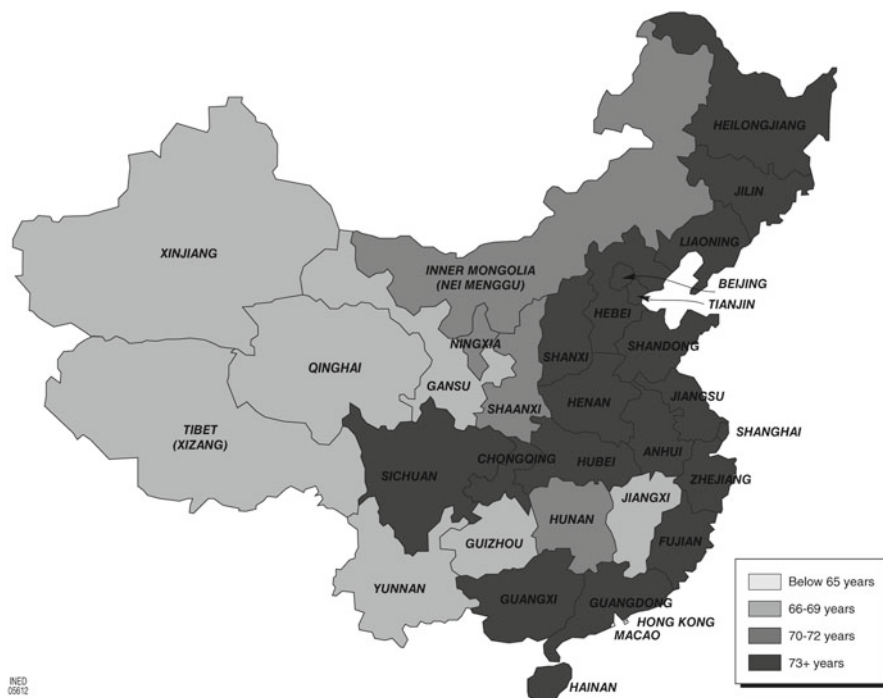
8. Fertility in China in 2000 (Source: Based on Guo 2004)

9. Sex ratio at birth at prefecture level
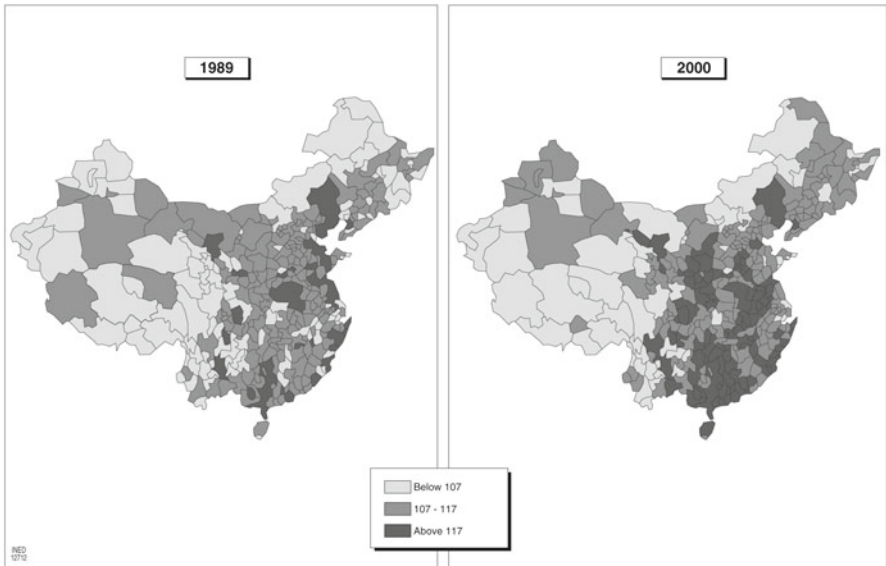
Part I
Visible Demographic Discrimination

Chapter 1
Overview

China is now among the countries in the world with the highest proportion of men in its population. While this situation is not new, the sex ratio has become even more imbalanced over the past three decades. This atypical trend, a demographic consequence of multiple cultural, social and behavioural factors, puts China among the countries where the demographic situation of women relative to that of men is the most critical.

There are a number of demographic tools at our disposal to highlight differentials in the treatment of men and women that may affect their relative chances of survival. Several demographic indicators can be used to reveal divergences from expected characteristics within a population at a given point in a country's economic and social development. It is thus possible to highlight whether a population is atypical and to analyse its specific features. The ratio of men to women in a population or at specific ages (the sex ratio), life expectancy at birth for each sex and the gender gap in life expectancy, infant and child mortality of boys and girls, and age-specific mortality rates are examples of indicators that can be used to describe the demographic regime of each sex, both independently and in relation to each other. There is no demographic law, however, that sets the expected values of each indicator for each sex in a given socioeconomic context, or the expected divergences between males and females. Nonetheless, comparisons between countries or between regions that seek to take the general context into account can point up demographic anomalies compared with the situation that is usually observed, making it possible to evaluate the degree of human interference – whether deliberate or unconscious – in demographic regimes to produce family or societal outcomes.

Within a population that is not exposed to international migration, the ratio of men to women is determined by two demographic characteristics: the ratio of each sex at birth and their respective mortality rates at every age of life. As age increases, the proportion of each sex in a given age group is affected by male and female mortality regimes, which are conditioned mainly by biological and behavioural factors but also by the level of economic and social development (Banister 2004; Brian and Jaisson 2007; Vallin 2002). Hence, at a given stage in its history and in

its particular socioeconomic context, every population is expected to conform to specific behaviours (particularly in terms of access to healthcare, food and education) that are common to populations with comparable behavioural, economic and social characteristics and that govern both the sex ratio at birth and the mortality of each sex at different ages of life.

In most human societies, when there is no differential migration by sex, the overall sex ratio, which measures the relative proportions of each sex in the total population, is usually skewed towards females. In fact, boys outnumber girls at birth, but this initial advantage is cancelled out by excess male mortality at every age of life in the majority of contemporary populations. This process ultimately leads to a predominance of females in old age. Similarly, population ageing is usually accompanied by a feminization of the population, since life expectancy at birth is rising faster for women than for men, as was the case in European countries until recently (Meslé 2004).

1.1   An Atypical Demographic Trend

1.1.1   The Demographic Masculinization of China

This general rule does not apply everywhere, however. The theoretical balance it underpins is fragile because it is strongly determined by men and women's behaviour and by the health, social and economic conditions of the population. Consequently, variations are observed between continents, but also between countries and even between regions of the same country. These variations result primarily from genetic, socio-cultural and behavioural factors that upset the sex ratio at birth and the sex distribution of deaths at different ages, thus influencing the overall sex ratio of the population (Brian and Jaisson 2007; Vallin 2002). In some countries, the sex ratio is higher than observed elsewhere. This situation results either from particular behaviour affecting the male and female demographic regimes, or from excess mortality of one or other sex stemming from unequal conditions of access to healthcare and from all the factors that facilitate health gains at a given stage of economic and social development. Periods of crisis – war, famine and epidemics – as well as differential migration by sex are also likely to affect, temporarily or lastingly, the sex ratio in a given population or age group, as well as the sex distribution of births and deaths (Clarke 2000; Das Gupta and Li 1999; Hudson and den Boer 2004; Ní Bhrolcháin 2001; Oster 2005).

Europe is the continent where the ageing process is most advanced, with a median age of 40.1 years in 2010. With a sex ratio of 93.0 men per 100 women, due to higher female longevity, it is also the most "female" of the five continents. Next comes North America (97.5 men to 100 women and a median age of 37.2) and Latin America (97.6 men to 100 women and a median age of 27.6). Last come Africa

Men per 100 woman
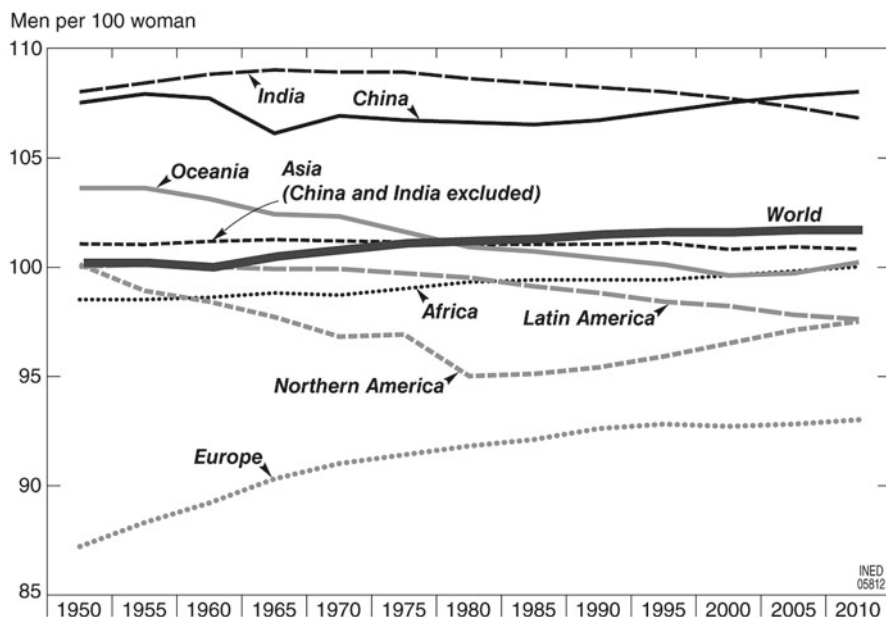
Fig. 1.1 Overall sex ratio, China and other major world regions, 1950–2010 (Source: Graph based on United Nations data (UN-WPP 2010))

(100 men to 100 women and a median age of 19.7) and Oceania (100.2 men to 100 women and a median age of 32.8). With 104.8 men to 100 women and a median age of 29.2, Asia is the continent with the highest proportion of men in the population (UN-WPP 2010) (Fig. 1.1).

According to the 6th population census (in 2010), China stands out with a ratio of 104.9 men to 100 women (but 108 in the same year according to United Nations figures, and a median age of 34.5), which is a much higher sex ratio than that currently observed in the rest of the world, including in other Asian countries. India, with 106.4 men to 100 women in 2011, compared with a world average (excluding China and India) of 98.5 in 2010 (UN-WPP 2010), is the only exception. While the age structure undeniably influences the sex ratio, it is not the only determinant: in Oceania, for instance, where the median age is similar to China's, the overall sex ratio is quite different, which suggests that other factors are involved.

This situation is not new in China. In the 1930s and 1940s, the sex ratio was already skewed towards males. That pattern stemmed from excess female mortality attributable to infanticide and to intentional or unconscious neglect of girls in terms of nutrition and healthcare (Coale and Banister 1994; Das Gupta and Li 1999). It was also the result of female excess mortality at reproductive ages in an extremely male-dominated social and family environment, which maintained women in an inferior social position. The first detailed national data supplied by the census of the

People's Republic of China (1953), for which no significant under-reporting of women was found (Banister 1987), revealed a sex ratio of 107.6 men to 100 women, already exceptionally high. For two decades from the 1950s, the demographic masculinity of China decreased. Indeed, measures to improve living standards and the status of women introduced at the time by the Communist government of Mao Zedong expanded access to primary healthcare and thereby reduced mortality, particularly mother and child mortality (see below pp. 27–31; p 27 sq.) (Chen 1989; Hsiao and Liu 2002) and improved the food supply. Moreover, there was at that time no limitation on the number of children. Families were therefore less inclined to eliminate daughters, which led to a rebalancing of the sexes (Zeng et al. 1993; Chen 2003). This is borne out in the subsequent censuses. By 1964, the sex ratio had fallen by two points to 105.2 men to 100 women (Table 1.1).

Until recently, while remaining below the level of the 1950s, the overall sex ratio trended up again, exceeding 106 men to 100 women in the 2005 inter-census survey. However, official figures from 2010 population census indicate a turnaround, the overall sex ratio being now slightly below 105.

1.1.2   Forty Million Missing Women?

From the 1960s to the mid-2000s, the male majority gained ground in China, as the population of men increased faster than that of women. However, in line with the general pattern of the world population in the twentieth century (Meslé 2004), life expectancy has increased by slightly more for Chinese women than for Chinese men in the past half-century (Banister and Hill 2004) which, with an increase in the median age, should have boosted the relative proportion of women and therefore lowered the overall sex ratio (Table 1.1). However, the improvement in life expectancy, although favourable to women, has been offset by other factors contributing to a growing female deficit. Based on the average sex ratio observed in 2010 for the world excluding Asia (98.5 men to 100 women), the estimated female deficit in China exceeded 40 million in 2010, which means the number of "missing" women may be at least 50 % higher in absolute terms than that recorded in the 1953 census. The estimated female deficit obviously decreases considerably – to slightly more than 25 million in 2010 – when based an overall sex ratio of 101 men to 100 women, considered to be the expected ratio for China in the study by Coale (1991, p. 522). Falling within a wide range, these estimates are in line with those calculated by other researchers. Based on the 1990 census, Klasen and Wink (2002) estimated the female deficit to be 34.6 million, or 6.3 % of the corresponding female cohorts (compared with 5–9.7 % according to the estimates in Table 1.1). For 2000, they estimated the deficit to be 40.9 million (or 6.7 % of the corresponding female cohorts, compared with 5.2–9.9 % in Table 1.1). According to Jiang et al. (2005), the percentage of women missing from the statistics for the 1990–2000 period is no more than 4.7 % per year on average, or 35.6 million.

Table 1.1 Overall sex ratio and estimated female deficit, China, 1953–2010

	1953	1964	1982	1990	2000	2005	2010
Total population ('000 s, year end)	587,960	704,990	1,015,900	1,143,330	1,242,616	1,307,560	1,332,811
Overall sex ratio	107.6	105.2	105.5	106.0	106.3	106.3	104.9
Median age (years)	23.9 (in 1955)	20.4 (in 1965)	22.1 (in 1980)	25.0	29.6	32.1	34.5
Estimated number of "missing females"[a] (millions)	18.5–26.1	14.3–23.4	22.0–35.1	27.5–42.3	31.6–47.7	33.3–50.2	25.1–42.3
As a % of the total female population	6.5–9.2	4.1–6.8	4.5–7.1	5.0–7.6	5.2–7.9	5.2–7.9	3.9–6.5

Sources: Lines 1 and 2: NBS (1988), PCO (1985, 1993, 2002, 2012), NBSp (2006); Line 3: UN-WPP (2010); Lines 4 and 5: author's calculations
[a]The lower value was estimated on the basis of an overall sex ratio of 101 men to 100 women, which is considered to be the "expected" ratio for China in the study by Ansley Coale (1991, p. 522), while the higher value was estimated on the basis of the overall average sex ratio for four continents, excluding Asia, which was 98.5 men to 100 women in 2010 (UN-WPP 2010)

1.2   Inequality in Life Expectancy

1.2.1   Recent Trends in Chinese Mortality

Since the early 1950s, China has experienced a sharp decline in mortality, with a gain in life expectancy at birth of around 30 years (Table 1.2). China thus now holds a rather enviable position in the epidemiological transition models of developing countries. That situation results, among other factors, from a remarkable effort in terms of healthcare provision and preventive action from the 1950s to the 1970s, which helped achieve a decline in the most lethal infectious and childhood diseases. It should be stressed, however, that in view of the sometimes questionable quality of Chinese mortality statistics, estimates are often based on adjusted data, which vary between sources (Table 1.2; Inset 1.1). It is nonetheless commonly accepted that China exhibits a number of specific features, such as a slowdown in life expectancy gains in the recent period and atypical female excess mortality, particularly in early childhood, which temper the positive overall picture (Peng and Cambois 2002; Banister and Hill 2004; Banister 2007).

The decline in mortality has not been linear and reflects distinct phases of development, closely connected to political, social and economic conditions. In the two decades prior to the 1949 revolution, which brought major political upheaval, mortality was high: life expectancy for both sexes was around 35 years in about 1930, and the infant mortality rate was close to 200 per 1,000 live births (CPIRC 1995). Mao Zedong's accession to power in 1949, which brought major political and social change, represented a decisive stage in the mortality transition. That period, with the end of the foreign invasion and civil war and the subsequent disarmament of the population, was a

Table 1.2 Life expectancy at birth (years) by sex according to various sources, China, 1953–2010

	Male	Female	Total	Source	Gender gap (years)
1953	39.8	40.8	40.3	Banister (1987)	1.0
1964	55.5	58.7	57.1	Banister (1987)	3.2
1970	60.3	62.5	61.4	Banister (1987)	2.2
1973–1975	62.3	64.7	63.4[a]	Banister (1993)	2.4
1981	65.3	67.5	66.4[a]	Banister (1993)	2.2
1981	66.2	69.1	67.7	CPIRC (1995)	2.9
1989–1990	68.4	71.9	70.1	CPIRC (1995)	2.5
2000	69.3	72.2	70.7	Banister (2007)	2.9
1964–1982	59.0	61.4	60.2[a]	Banister and Hill (2004)	2.4
1982–1990	65.9	68.8	67.4[a]	Banister and Hill (2004)	2.9
1990–2000	68.3	71.1	69.7[a]	Banister and Hill (2004)	2.8
1999–2000	69.7	72.8	71.2[a]	Banister and Hill (2004)	3.1
2005–2010	71.1	74.5	72.7	UN-WPP (2010)	3.4

[a]Author's estimates based on the data from the previous two columns

first step towards an overall improvement in living standards. The agrarian reform law launched in 1950, which gave peasants access to arable land and supplied seed to regions in deficit, led to a spectacular improvement in the food supply and nutrition (Banister 2007). The simultaneous implementation of a proactive public health policy produced significant health and epidemiological advances.[1]

Inset 1.1   The Quality of Chinese Mortality Data

The quality of Chinese mortality data, in particular at young ages, is affected by recurrent under-reporting of deaths, as was frequently observed in the past (Banister 1987; Zhai 1993). Available recent sources (censuses, surveys) give incredibly low infant and child mortality rates, which are therefore difficult to use as they stand (Banister 2007; Banister and Hill 2004). An analysis of mortality trends based on census and survey data therefore requires at least partial correction for the under-reporting of deaths, as male deaths are frequently recorded more accurately than female deaths in the censuses (Banister and Hill 2004). However, more reliable mortality data based on the Maternal and Child Surveillance System are made available by the Ministry of Health (MOH 2010).

The various adjustments of mortality data currently available are not entirely consistent with each other (Xu et al. 1994; Zhai 1993; Banister 2007; CPIRC 1995; UN-WPP 2010). However, the relative gender gaps in age-specific mortality rates that they highlight for given years or periods reflect comparable scales, as noted by Zhao Zhongwei (2007, p. 167).[a] The trends described in this book are based on various adjustments of the census data[b] performed by the China Population Information and Research Center[c] (CPIRC 1995), Banister (2007), Banister and Hill (2004) or by the author. For the most recent period, figures from the United Nations, World Population Prospects, the 2010 Revision (UN-WPP 2010) are also used.

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[a]See also Banister (1987), Banister and Hill (2004) and Wang (2003).

[b]For more details about the adjustment method used, see Huang (1993).

[c]See the website http://www.cpirc.org.cn/

While the effectiveness of the healthcare system implemented by Mao Zedong remains the subject of considerable debate (Cailliez 2002; Chen 1989; Hsiao and Liu 2002), it is nevertheless true that by the late 1970s, the country benefited from organized and coherent medical infrastructure that, combined with the strong economic growth from the 1980s onwards, could have enabled China to complete its

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[1]For more information on the mortality transition and healthcare system reforms in China, see in particular Peng and Cambois (2002) and Hsiao and Liu (2002).

health transition. However, since the economic reforms, the health of the population has stagnated (Banister 2007; UNDP 1998). For example, whereas life expectancy at birth had increased by more than 25 years between 1950 and 1980, it rose by only 6 years between 1980 and the late-2000s (Table 1.2). A decline in the effectiveness of preventive and curative healthcare in the past three decades appears to have counteracted the health improvements driven by the increase in overall living standards resulting from economic reform.

Despite undeniable progress since the 1950s, China has not attained the mortality rates of the most developed Asian countries, such as Republic of Korea (where life expectancy at birth reached 80.0 years in 2005–2010) and Japan (82.7 years). By contrast, China is well placed in comparison to the other demographic giants of Asia: India (64.2 years in 2005–2010), Indonesia (67.9 years), Pakistan (64.6 years) and Bangladesh (67.8 years) (UN-WPP 2010).

1.2.2 *Women at a Disadvantage in Terms of Mean Length of Life*

Most human societies exhibit excess male mortality at every age of life. Consequently, women generally have higher life expectancy at birth than men. However, in ancient populations or in the population of some developing countries today where overall mortality is high, we almost always find either roughly equal chances of survival for men and women or, although increasingly rare, lower female life expectancy. In certain circumstances, which reflect specific behaviour at a given stage in economic and social development, women's natural advantage can thus be counteracted by human action (keeping women in an inferior social status) or by nature itself (which places the burden of reproductive risk on women) (Vallin 2002). Therefore, despite women's biological and behavioural advantage, some populations exhibit abnormally high female mortality, which contributes to a higher overall sex ratio.

Chinese women have a higher life expectancy than men, which at first sight seems to be in line with other countries with a comparable level of socioeconomic development (Table 1.3). However, their lead is smaller than could be expected from the overall mortality rate and the country's level of economic development. According to United Nations data (UN-WPP 2010), female life expectancy exceeded that of males by only 3.4 years in 2005–2010, a much smaller gap than in other countries with similar life expectancy at birth (both sexes), such as Thailand or Brazil. It is also lower than in Morocco and Egypt, for instance, which have a much lower Human Development Index (HDI) than China. In absolute terms, women in China live longer than men, but in relative terms, they are less advantaged than women for instance in Brazil, Thailand, Egypt and Morocco, countries with life expectancies at birth very similar to those of China. This atypical pattern can also be seen in the median gender gap in life expectancy calculated by Glei and Horiuchi (2007, p. 145) on the basis of data for 29 countries: 4.4 years in 1950–1954, 6.6 years in 1975–1979 and 6.2 years in 2000–2004.

Table 1.3 Life expectancy at birth and Human Development Index (HDI)

	Life expectancy at birth (in 2005–2010)			Gender gap (years)	HDI ranking (in 2008)
	Both sexes	Male	Female		
China	72.7	71.1	74.5	3.4	94/179
Indonesia	67.9	66.3	69.4	3.1	109/179
Thailand	73.6	70.2	77.1	6.9	81/179
Brazil	72.2	68.7	75.9	7.2	70/179
Morocco	71.2	69.0	73.4	4.4	127/179
Egypt	72.3	70.5	74.3	3.8	116/179

Sources: Life expectancy at birth: UN-WPP (2010); HDI (2008): UNDP website: http://hdr.undp.org/en/statistics/ (UNDP 2008)

China has long exhibited excess female mortality (Coale and Banister 1994; Riley and Gardner 1997). Since the 1950s, however, women's survival has improved with respect to men. Indeed, at all ages after 5 years, the gender gaps in standardized mortality rates have, with few exceptions, moved closer to the levels usually observed for a similar overall mortality rate (Banister 1987; Banister and Hill 2004). Since economic reform, the improvements in female mortality have been particularly visible at reproductive ages (ages 20–40), reflecting a decline in maternal mortality thanks to progress in healthcare and lower fertility (see Inset 10.1, p. 136), whereas male mortality at the same ages has remained roughly constant since the early 1970s (Peng and Cambois 2002). Banister (2007) attributes the smaller male gain to new types of jobs and new risk-taking behaviour associated with the economic reform. More men than women work in dangerous sectors such as mining, heavy industry and construction. They are also bigger consumers of alcohol and tobacco. According to the World Health Organization,[2] per capita alcohol consumption doubled in China between 1980 and 2001, from 1.7 to 4.5 l of pure alcohol per adult per year,[3] and consumption of tobacco in China is, according to FAO data,[4] among the highest in the world at 1,500 cigarettes per adult per year, three times the rate in India, for example.[5] In some ways, economic reform has made living and working conditions more difficult and dangerous for men (Banister 2007).

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[2] World Health Organization: http://www.who.int/globalatlas/DataQuery/ default.asp. Accessed 23 Nov 2006.

[3] China's average alcohol consumption is still far below that of France, the United Kingdom, Germany and the Russian Federation, which have the highest levels in the world (more than 10 l per adult per year).

[4] FAO website. Available at http://www.fao.org/english/newsroom/news/2003/26919-en.html

[5] While tobacco consumption is decreasing in developed countries, it is increasing significantly in developing countries. According to FAO, in 2010, developing countries accounted for 71 % of total tobacco consumption, up from 66 % in 1998. This growing share results from population growth and rising living standards, while the declining share of developed countries can be attributed partly to increasing awareness of the harmful health effects of tobacco and to prevention campaigns. Furthermore, China represents the biggest share of world demand, with a 37 % estimated share of world consumption in 2010 (data not available by sex).

China is no longer a high-mortality country and, since the reforms of the late 1970s, it has enjoyed acceptable economic and social development compared with most other developing countries. The relatively small gender gaps in mean length of life therefore appear to be primarily a symptom of persistent inequality in the treatment of females, particularly in early childhood (see below, p. 27 et sq.). An overall mortality trend that favours women has not counterbalanced the impact of increasing excess infant and child mortality on female life expectancy at birth. Consequently, the gender gap in mean length of life remains relatively small compared to other countries with equivalent life expectancy at birth and over all level of economic development (Meslé 2004; Glei and Horiuchi 2007).

Chapter 2
Why Are There More Boys Than Girls?

As explained in the previous chapter, in the absence of differential migration, the proportions of the two sexes in a given population are determined by the ratio of boys to girls at birth and by male and female mortality at each age in life. In China, the masculinization of the population since the 1980s can be attributed to an increase in the sex ratio at birth, and to a particularly high excess female mortality in early childhood.

2.1 A Masculinization of Births

> You have to go back a long way, farther back than Aristotle and Anaxagoras, to the tenth or perhaps even the fourteenth century BCE, to find the oldest traces of humans' interest in the nature and causes of gender and how we can influence it. When awaiting the birth of a child, since the dawn of humanity people everywhere have wondered: will it be a boy or a girl?
>
> Maurice Halbwachs and Alfred Sauvy,
>
> *Le point de vue du nombre* (1936)

2.1.1 Biological Norms

It was observed as early as the eighteenth century that the sex ratio at birth was not random but occurred with great regularity. In his *Divine order in the circumstances of the human sex, birth, death and reproduction*, published in 1741, the pastor Johann Peter Süssmilch was the first to report the constancy of this ratio of around 21 boys to 20 girls, which in current terms is expressed as 105 boys per 100 girls (Rohrbasser 2001). However, although this demographic norm still applies in the vast majority of countries, it is no longer found in several Asian countries, where

boys are over-represented in total births. This is notably the case in China, the country that currently shows the biggest deviations from the norm.

The proportion of boys to girls at birth – or sex ratio at birth – is not random. It obeys a biological rule that applies almost universally when there is no discrimination against either of the sexes. With a sex ratio at conception of roughly 123–130 males to 100 females and an excess male mortality at the fetal stage (Clarke 2000), the excess percentage of males at birth under ordinary circumstances is between 4 and 7 %, in other words 104–107 boys are expected to born for every 100 girls (Chahnazarian 1988; Halbwachs and Sauvy 1936). The figure for the world total is currently at the upper end of this range, with a median sex ratio at birth, calculated for 73 countries in 1997, of 106 boys per 100 girls (Clarke 2000). That aggregate, however, smoothes over variations between populations or population groups across different regions. James (1987) advances that the sex ratio at birth, which influences the overall sex ratio on the long-term, tends to be higher in Oriental populations than in Western populations, these latter displaying, in turn, higher sex ratios at birth than populations of African origin. This observation is also attested by Khoury et al. (1984) who found that in the United States, African-Americans had lower sex ratios at birth than European-Americans. The same trend was previously identified by Ciocco (1938) and Visaria (1967), the latter having observed a record sex ratio at birth of 113.1 boys per 100 girls in Korea between 1921 and 1929 (Garenne 2002). However, while differences continue to exist, the discrepancies between countries – excluding Asian countries – are small and remain within a narrow range, with the lowest observed in Rwanda, with 101 boys born per 100 girls in 2005–2010, and the highest in Surinam, Serbia, Macedonia and Montenegro, with 108 boys per 100 girls (UN-WPP 2010). However, no countries or populations have a majority of girls at birth.

These variations in the sex ratio at birth between populations are mainly attributed to genetic and environmental factors, while variations within the same population are ascribed to environmental factors alone (Ulizzi and Zonta 1994). It has also been observed that, in many developed countries, the reduction in perinatal mortality and better medical care during pregnancy have improved male survival rates and thus contributed to the slight increase in the sex ratio at birth in the twentieth century (Clarke 2000). The proportion of each sex at birth is therefore likely to vary over time. In France, for example, the sex ratio at birth has fluctuated over the past century. It rose between 1900 and 1913 (from 104.1 to 104.8 boys per 100 girls) before peaking just after the World War I (106.4 from 1918 to 1920) and falling subsequently (to 103.8 in 1941). In the late 1940s, as in 1918–1920, there was an increase in the sex ratio at birth (105.9 between 1942 and 1948), followed by a decline (from 105.3 in 1949 to 104.6 in 1963). In the recent period, the sex ratio increased to 105.5 in 1972, then stabilized, with a sex ratio at birth of 105.1 in the 1999 census (Garenne 2002). Let us recall, however, that the sex ratio at birth is lower than the sex ratio at conception, owing to higher fetal mortality for males than for females. Better care during pregnancy is therefore likely to boost the sex ratio at birth. It has also been observed that, in many populations, the percentage of male births tends to fall with birth order (Chen 2003), a characteristic that Teitelbaum (1972) asserts is the

strongest determinant of variations in the sex ratio at birth. The decline in fertility, which lowers the percentage of high-order births, would therefore automatically push up the overall sex ratio. Moreover, characteristics such as socioeconomic status (higher status would tent to favour births of sons), number of children, marital status (particularly polygamy), frequency of sexual intercourse, sex of the first child and parental ages at conception (a large age gap between the spouses when the husband is older than the wife tends to favour births of sons) are also believed to play a role in the sex ratio at birth (Clarke 2000; Feitosa and Kreiger 1993; Ruder 1985; Teitelbaum 1972; Whiting 1993). Other studies have suggested that these variations could be linked to the season of the birth (Lerchl 1998), maternal malnutrition, which is believed to favour births of girls (Andersson and Bergström 1998) or various biological (Chahnazarian 1988), socio-cultural and genetic (James 1987) characteristics. A relationship between a high sex ratio at birth and prevalence of hepatitis B has even been posited recently (Oster 2005). The debate about the influence of these variables on an imbalance in the sex ratio at birth remains open, however, mainly because of its random fluctuations and the absence of statistical and/or biological data that combine all these factors (Garenne 2002; Clarke 2000).

2.1.2 The Elimination of Daughters, an Ancestral Practice

The various biological, genetic and environmental hypotheses advanced to explain the increasing deficit of girls born in China in the past 30 years will not be developed in this book, for want of relevant data. This study will concentrate on the discriminatory social and behavioural factors stemming from a traditional preference for sons, in a context of economic modernization and a rapid decline in fertility. These factors are, in any case, acknowledged as the main causes of the gender imbalance at young ages in China. The majority of the scientific community, both Chinese and Western, agrees that the gender imbalance results from deliberate actions to control the sex composition of offspring. These actions may take place before conception, through differential contraceptive use depending on the birth order and sex of the previous child; before birth, through sex-selective abortion; or after birth, through infanticide, under-registration of female births, abandonment and various forms of neglect of girls leading to premature death (Attané 2005; Banister 2004; Chu 2001; Croll 2000; Tu 1993; Yu 2003).

Discriminatory practices against girls were highlighted in the 1980s, notably in an article by Arnold and Liu (1986). These authors, who demonstrated the existence of a strong preference for sons in China, showed that, in the early 1980s, a majority of the couples who agreed to have only one child by signing the one-child certificate, had a son. They also found that parents of an only daughter were more likely to have a second child and used contraception less often than parents of an only son. Lastly, they found that the sex composition of offspring fell as the number of children increased. A causal link between strong son preference and the imbalance in the sex ratio at birth has also been established by many other authors (Attané 2002b; Chen 1993; Li 1994; Poston 2002; Xu and Guo 1991; etc.).

Table 2.1 Sex ratio by birth cohort, China, 1936–1978

Birth cohorts	1953	1964	1982	1990
1936–1940	117.1	117.1	–	–
1948–1952	107.0	109.5	–	–
1959–1963	–	106.2	106.2	–
1965–1969	–	–	105.9	–
1974–1978	–	–	106.3	106.5

Source: Coale and Banister (1994)

A gender imbalance, especially among children, is not a new phenomenon in China. Excess female mortality, traditionally the principal cause of this imbalance, is attested by various historical documents (Attané and Rohrbasser 2000; Banister 1987; Cartier 2002; Eastman 1988; Lauwaert 1999). Periods of famine, war, drought and economic crisis saw an increase in female infanticide, mainly by drowning or suffocation, which were still widely practiced in the nineteenth century and the first half of the twentieth century (Das Gupta and Li 1999). In these periods of crisis, the poorest families were often forced to sacrifice some of their members, usually daughters, to ensure the survival of the rest, particularly sons, resulting in de facto discrimination. An elderly woman from Zhejiang Province on the east coast, recounts:

> When I was six [during the Japanese invasion], my mother told me I would have to be sold. I begged my father to keep me at home by promising him I would eat very little. (Das Gupta and Li 1999).

The famine of 1959–1961 that followed the Great Leap Forward[1] also coincided with an increase in the sex ratio of children due to high female excess infant and child mortality. Once the effects of the famine subsided and the food shortage ended, discrimination against girls decreased considerably (Coale and Banister 1994).

While it is impossible, for want of comprehensive and reliable population data, to accurately determine the effect of excess female mortality on the sex ratio in past centuries, the exercise is less tentative for the recent period. The reconstitutions by Coale and Banister based on censuses show, for example, that the sex ratio reached 117 boys per 100 girls in the cohorts aged 12–16 in 1953, i.e. who were born in 1936–1940, and fell to 107 among children born in 1948–1952. These authors estimated a female deficit of more than 15 % in the cohorts born between 1936 and 1940 and 1939–1943 and of more than 10 % in the 1944–1948 birth cohorts (Coale and Banister 1994) (Table 2.1).

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[1] The Great Chinese Famine was a consequence of the Great Leap Forward, a mass mobilization of the population to develop industrial production launched in 1958. Requisitioned for major infrastructure construction projects (*jiben jianshe*) and industrial production (brickworks, steel furnaces), peasants neglected the autumn harvest. This led to 3 years (1959–1961) of severe food shortages and disrupted agricultural production. The Great Leap Forward and the Great Famine it caused were responsible for 15–30 million deaths and a total population deficit of more than 50 million (Godement 1990).

Table 2.2 Sex ratio at birth at the last four censuses, China, 1981–2010

	1981	1989	2000	2010
Sex ratio at birth	107.2	111.3	116.9	117.9

Sources: PCO (1985, 1993, 2002, 2012)

This recurrent excess masculinity in the cohorts born in the first decades of the twentieth century can be attributed to excess female mortality due to infanticide and intentional or unconscious neglect of girls' nutrition and health leading to premature death. With the improvement in general living standards and in the status of women from the 1950s onwards, at a time when there were no restrictions on family size, such discriminatory practices became rarer (Chen 2003; Zeng et al. 1993). The female deficit fell in the subsequent cohorts, except during the 1959–1961 famine, when infant and child mortality was higher among girls than among boys. Coale and Banister's estimates (1994) are corroborated by those of Das Gupta and Li (1999), who found that in the 1960s and the first half of the 1970s, the female deficit did not exceed 2–3 % of the corresponding female cohorts, with a sex ratio at birth fluctuating between 105 and 107 boys per 100 girls (Table 2.1). These authors also noted an increase in the sex ratio in the 1974–1978 birth cohorts, probably reflecting an increase in female infanticide in the first few hours or days after birth, and higher excess female mortality in early childhood resulting from differential access to healthcare just a few years after the introduction of the third family planning campaign in 1971[2] (Coale and Banister 1994).

2.1.3   Abnormal Excess Masculinity at Birth Simultaneous with a Decline in Fertility

The increase in the sex ratio at birth, detected later by Coale and Banister (1994) is confirmed by census data (Table 2.2). The sex ratio at birth, close to normal in the census of 1982 (107.2 boys per 100 girls in 1981) (PCO 1985), rapidly increased after that date: to 111.3 in 1989 (1990 census) (PCO 1993), 116.9 in the 2000 census[3] (PCO 2002), and 117.9 in the 2010 census (PCO 2012).

In China and the other Asian countries with abnormal excess masculinity at birth, a direct link has been established between the increase in the sex ratio at birth and the decline in fertility (Bhat and Zavier 2007; Croll 2000; Gu and Roy 1995; Kim 2005). In the case of China, the one-child policy introduced in 1979 is

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[2]For more information on family planning policies in China, see for example Blayo (1997), Scharping (2003) and Attané (2005).

[3]The 1990, 2000 and 2010 censuses give two different series for the sex ratio at birth in the years under consideration, depending on the birth series on which the calculation is based. The first series are based on the short-form questionnaires, while the second ones, from which data by birth order are extracted, are based on the long-form questionnaires (filled out by 10 % of households).
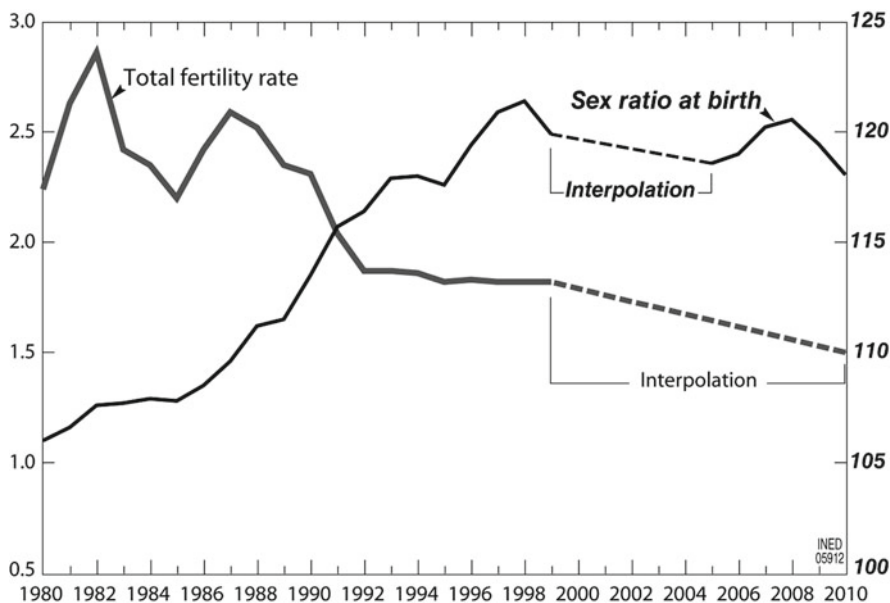
Fig. 2.1 Trend in sex ratio at birth and mean number of children per woman, China, 1982–2010 (Sources: Total fertility rate: 1980–1989: Chen and Coale (1993); 1990–1998: Attané (2001); 2010: PCO (2012); 2000–2009: estimated by the author by interpolation; Sex ratio at birth: 1982–2000: estimated on the basis of author's backward projections, based on 1990 and 2000 census data; (The trend in the sex ratio at birth, shown in Fig. 2.1 here and Fig. 3.1 on page 36, is derived from backward projections based on the data from the 1990 and 2000 censuses, which were used to reconstitute three series for the 1980s and 1990s. The first series covers the whole country, the second urban areas (including towns and urban districts) and the third rural areas.) 2000–2004: interpolations by the author; 2005–2010: China vital statistics (Available at cn.npfpc.gov.cn/cn/file/7zqxm-20120130-3.pdf. Accessed on 17 July 2012))

frequently presented as the event which prompted couples to seek greater control over the gender of their offspring (Li 1993a, b; Nie 2005; Tu 1993). However, while these two events did coincide, the one-child policy in itself had only an indirect impact on the gender of offspring.

The relationship between the decline in fertility and the increase in the sex ratio is complex. In China, the bulk of the fertility decline occurred in two phases: the first, in the 1970s, when the population was restricted to two children in cities and three children in the countryside, and the second, in the early 1990s, in response to the major socioeconomic changes following economic reform (Attané 2001; Scharping 2003). In the 1980s, when local authorities were exerting maximum coercion to enforce the one-child policy, fertility did not decrease (it remained above 2.3 children per woman throughout the first half of the 1980s) but the sex ratio at birth rose substantially (Fig. 2.1).

The decline in fertility itself clearly represented a major incentive for couples to control the gender of their offspring. There is indeed a close correlation between the fertility

rate and the sex ratio at birth throughout the 1980–1999 period (with a coefficient of determination $R^2=0.748$ and a corresponding correlation coefficient $r=0.865$[4]), since the direction of the sex ratio is in inverse proportion to the fertility rate (Fig. 2.2a).

However, when the data for each decade are dissociated, the correlation only appears for the 1990s, with $r=-0.900$ for 1989–1999 (Fig. 2.2c) but $r=-0.038$ for 1980–1989 (Fig. 2.2b). Unlike the 1980s, the 1990s were characterized by a further decline in fertility. It thus emerges that, while the one-child policy failed to reduce fertility in the first years after it was introduced, it did encourage couples to intervene more and more actively in the gender composition of their offspring. That propensity only increased in the 1990s, when fertility declined further. Note that, in the 1980s in particular, the sex ratio at birth diverges strongly at a constant fertility rate, which indicates that other factors were involved.

The stagnation of fertility in the 1980s did not, therefore, prevent an increase in the sex ratio at birth, while the decline in fertility below the replacement rate in the early 1990s coincided closely with a dramatic increase in the sex ratio. The relationship to be established is not only bilateral (fertility/sex ratio at birth), however, but trilateral. A third phenomenon must also be taken into account: the availability of modern, effective techniques of prenatal sex determination. Combined with the downtrend in fertility observed over the past decades in a context of marked preference for sons, it is the widespread availability of these techniques that has enabled a growing number of couples to control the gender of their offspring, and that has strongly contributed to the increase in sex ratio at birth (see below, p. 140 sq.). The 2000s, however, were marked by a relative disconnection between fertility trends and sex ratio at birth, attributable to the low fertility and its subsequent limited potential for further decline.

2.1.4   The Gender Imbalance: Contrasting Trends

Birth order is an important determinant of the probability of a child being born a girl, since there is more pressure to achieve the "ideal" sex of offspring when the previous child or children have not been of the desired sex (Brian and Jaisson 2007). Discrimination against baby girls aimed at altering the probability of their survival between conception and infancy is therefore not independent of birth order. It is also not independent of the legal status of the birth in the specific context of the family planning policy in force in China. Until 2000, the biological norm of roughly 106 boys per 100 girls was respected overall for firstborn children, on whom there are no restrictions (Table 2.3). But it was much more systematically violated for children of second and higher birth orders (for whom the sex ratio at birth exceeds 140 boys per 100 girls from 2000 onwards), which are unauthorized births under the

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[4]This correlation is based on annual data for 1980–1999 with the sex ratio at birth as the x-coordinate and the mean number of children per woman as the y-coordinate.

Fig. 2.2 Correlation between
the mean number of children
per woman and the sex ratio
at birth (Sources: Author's
calculations based on data
from the 1990 and 2000
censuses (PCO 1993, 2002))
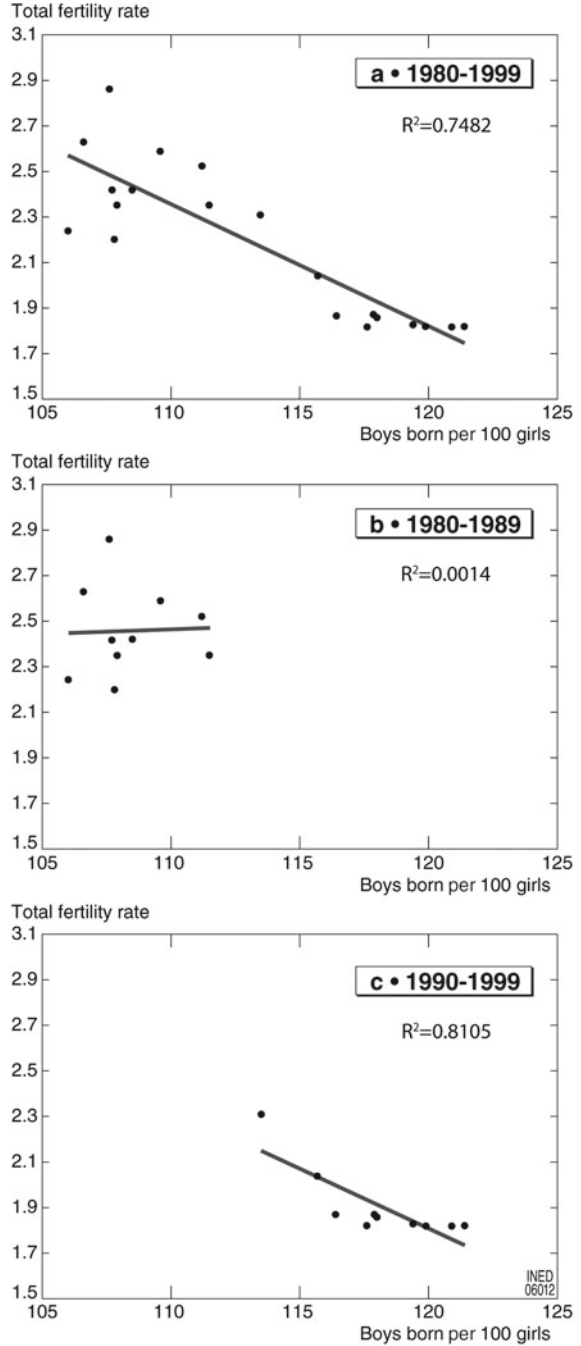
Table 2.3 Sex ratio at birth by birth order, China, 1981–2010

	Birth order 1	Birth order 2	Birth order 3	Birth order 4 and higher
1981	106.5	105.0	109.4	111.9
1989	105.2	121.0	124.3	130.9
2000	107.1	151.9	160.3	156.9
2005	108.4	143.2	156.4	141.8
2010	113.7	130.3	161.6	145.9

Sources: PCO (1985, 1993, 2002, 2012); NBS (2007)

Table 2.4 Sex ratio of last children, by gender of previous children, 2000

Number of existing children	Sex composition of existing children	Sex ratio of the last born children
0	–	105.5
1	One boy	107.3
	One girl	190.0
2	Two boys	76.5
	One boy and one girl	122.1
	Two girls	380.6
3 or more	More girls than boys	231.3
	Same number of girls and boys	160.0
	More boys than girls	74.1

Source: calculations based on data from the 2000 census (Yu 2003)

family planning policy and therefore subject to fines or even heavier penalties (Blayo 1997; Scharping 2003). So behavioural and social factors are clearly influencing the sex ratio at birth and exerting an ever stronger influence. Moreover, from the mid-2000s, an imbalance began to emerge among first births, indicating that fertility decline is shifting the pressure to have a son towards the first child.

Fertility surveys conducted in 1988 and 1992 by China's National Population and Family Planning Commission reveal that, for children born to the rural and/or agricultural population in 1988 and 1989,[5] almost 90 % of first births were permitted, but only a quarter to a third of second births (24–32 %), and 4–6 % of third or subsequent births (Attané and Sun 1999). A close relationship therefore seems to exist between the legal status of a birth and the probability of the child being a girl or a boy. In practice, the strong pressure on couples to reduce their number of children is reflected in increased coercion by the authorities. Although couples are required to have fewer children, they do not wish to give up having a son. Therefore, with fewer chances of having a male heir, they increasingly exploit the means available to eliminate daughters (Inset 2.1).

That hypothesis is verified by the calculations performed by Yu Hongwen (2003) based on data from the 2000 census (Table 2.4). It emerges that the only circumstances

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[5]For relevant definitions, see Attané (2002a, pp. 356–357).

Table 2.5 Estimated deficit of female births, China, 1981–2010

	1981	1989	2000	2010
Male births	10,704,326	12,969,084	7,606,007	7,487,489
Female births	9,985,378	11,655,803	6,508,529	6,348,698
Sex ratio of births	107.2	111.3	116.9	117.9
Estimated deficit of female births[a]	113,042	579,182	666,949	714,971
% of observed female births	1.1	5.0	10.2	11.3

Sources: Calculations based on the relevant census data: PCO (1985, 1993, 2002, 2012)
[a]Based on a sex ratio of 106 boys per 100 girls, for births occurring in the 12 months prior to the census

in which, at that time, the sex ratio at birth remained close to normal levels were when a couple had a first child, or when they had a second child after a first child who was a boy. In every other case, the sex ratio at birth was extremely imbalanced, either in favour of boys when the first children were mostly girls, or – but to a much lesser extent – in favour of girls when the first children were mostly boys. Sex selection of children before birth thus does not only affect girls: in some specific circumstances, i.e. when offspring are all boys, parents seem to implement selection strategies to ensure they have at least one child of each sex.

2.1.5 *A Growing Deficit of Female Births*

The growing imbalance in the sex ratio at birth is responsible for a female deficit in the youngest cohorts, which shifts to older age groups as their age increases. The estimated deficit of female births thus gives an idea of its long-term impact on the total female population.

On the basis of a sex ratio at birth of 106 boys per 100 girls, the median value calculated in 1997 for 73 countries (Clarke 2000), it is possible to estimate the number of girls missing from the birth statistics for whatever reason (sex-selective abortion, under-registration of female births, premature deaths or abandonment of girls whose births were unregistered). In 1981, 10.7 million male births and 10 million female births were recorded (Table 2.5). With a sex ratio at birth of 106 boys per 100 girls, a further 113,000 girls should have been born. This is still a barely perceptible deficit, representing slightly more than 1 % of the corresponding female birth cohorts at the time.

Inset 2.1 Family Planning Policy in China: An Overview

The family planning campaign introduced in the early 1970s represented a turning point in China's demographic history. Measures were introduced with a view to controlling the proximate determinants of fertility: age at marriage, contraceptive use and, indirectly, abortion. The instructions made public in

Inset 2.1 (continued)

1973 advocated late marriage, spacing of births and fewer children, although requirements varied for different categories of the population. Aware of the diversity of settlement patterns, cultures, production modes and socioeconomic conditions across China, the promoters of the campaign distinguished between the urban population, the rural population and ethnic minorities. City dwellers were subject to the strictest rules from the outset: women were expected to wait until age 25 to marry and men until 28, and couples were expected to have no more than two children. Less drastic rules were imposed on rural dwellers: a minimum marriage age of 23 for women and 25 for men, and a maximum of three children. However, both city and rural dwellers were required to space births by 3 or 4 years. No instructions were established for ethnic minorities at that time. They represented small numbers and were mainly confined to sparsely populated peripheral regions. Owing to their relatively small share in the total population, they did not have a major role to play in achieving the national target of population control. This preferential treatment was also designed to avoid aggravating political and strategic tension between some groups – in particular the Tibetans and the Muslim Uighurs in Xinjiang – and the central government, by leaving the demographic sphere alone (Attané and Courbage 2000; Attané 2007).

As a result of these measures, the fertility of Chinese women was more than halved in less than a decade, from 5.7 children per woman in 1970 to 2.7 in 1978. By the late 1970s, the threat of unsustainable population growth had diminished. These results were nevertheless considered insufficient, especially as the large cohorts born in the 1960s were reaching childbearing age, which presaged another rise in the birth rate, incompatible with the goal of economic modernization after the death of Mao. The reform and opening policy (*gaige kaifang zhengce*) introduced in 1978 by Mao's successor, Deng Xiaoping, included population control to facilitate economic growth (Chen 1979). To meet that target, the new family planning policy, officially announced in 1979, introduced the draconian norm of one child, with which 95 % of city dwellers and 90 % of peasants were expected to comply. Couples were required to commit to having only one child by signing a "one child certificate" (*du sheng zinu zheng*) in exchange for various benefits, which varied from place to place.

It is generally believed that once the demographic transition has begun, the momentum continues until fertility falls to the replacement rate of 2.1 children per woman (Cleland and Wilson 1987). The dramatic decline in Chinese fertility in the 1970s did not continue in the 1980s, however, despite the government's efforts to impose much stricter population control. The socioeconomic changes between 1950 and 1970 seem to have exhausted the potential for reducing fertility, including in urban areas, and the national fertility rate fluctuated between 2.3 and 2.9 children per woman in the 1980s (Chen and Coale 1993). During that period, the incompatibility of population targets

Inset 2.1 (continued)

with families' strategies also fuelled strong resistance to family planning, particularly in rural areas. This resistance found expression more easily as the state began to lose its control over the population (Attané 2002b; Peng 2002; Zhu 1993a). The government was forced to relax the one-child policy in 1984. While the stated aim was to allow a larger percentage of couples to have a second child, the motive was in fact to "to open a small hole in order to plug a big one" (*kai xiao kou du da kou*), i.e. to allow a few exceptions to the rule in order to ensure overall compliance. Since 1984, the one-child rule has not been applied uniformly (Yin 1995; Guo et al. 2003). In the countryside, couples are generally allowed to have a second and even a third child, especially some ethnic minorities. Eligibility for a second child is not the same across the country, however, with criteria varying from one province to another, and sometimes even from one county or one village to another (Scharping 2003). Officially, however, most couples in which either the husband or wife is an only child are allowed to have a second child (Attané 2005).

Given China's low population growth (0.5 % according to the 2010 census), very low fertility (around 1.5 children per woman in 2010[6]), and rapid population ageing, the legitimacy of such a strict family planning policy is increasingly under question. There are still no official indications that the central government intends to relax it, however: in 2010, Li Bin, director of the National Population and Family Planning Commission, said: "China will keep its family planning policy largely the same for the next 5 years".[a] The Population and Family Planning Law enacted in 2002 is unambiguous, stipulating that, "the State maintains its current policy for reproduction… advocating one child per couple". In January 2005, an official from the National Population and Family Planning Commission said, "The big population remains a major issue for China in the present stage and a key factor obstructing the country's economic and social development. [Therefore] Family planning will continue to be a basic state policy that we must adhere to in a long period".[b] It was also recently stressed that, "China is still confronted with numerous difficulties and challenges, including the coexistence of low fertility and large quantitative growth of population and overall poor quality of life in the population".[c] The 2002 law

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[a]China's family planning policy to remain unchanged. *China Daily,* 20 Dec 2010. Available at http://www.chinadaily.com.cn/china/2010-12/20/content_11729781.htm. Accessed 11 Sept 2012

[b]China welcomes 1.3 billionth citizen. *People's Daily Online* (*Renmin wang*). Available at http://english.people.com.cn/200501/06/eng20050106_169765.html. Accessed 11 Sept 2012

[c]Qin Jize (2004) China still faces population problems. *China Daily.* Available at http://www.chinadaily.com.cn/english/doc/2004-09/08/content_372497.htm. Accessed 11 Sept 2012

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[6]See footnote 5 in chapter 1.

In the 1990 census, the deficit of female births – 579,000 girls, i.e. 5 % of the females born in 1989 – is more visible. The situation worsened over the next two decades. According to the 2000 census, 7.6 million boys and 6.5 million girls were born between 1 November 1999 and 31 October 2000. Based on a sex ratio at birth of 106 boys per 100 girls, the figure should have been 7.2 million girls. The deficit was therefore almost 667,000, or 10.2 % of total female births registered in those 12 months. In 2010, the deficit is still greater, exceeding 700,000 girls and reaching 11.3 % of female births. The situation therefore has become as critical, in relative terms, as during the 1940s, when the percentage of missing girls is estimated to have been around 10 % (Coale and Banister 1994, see above, p. 5). A simple interpolation of the deficit of female births for each year between the three censuses under consideration (Table 2.5, line 3) produces an estimated cumulative deficit of female births of more than 11 million over the whole period from 1982 to 2000, i.e. an average of 500,000–600,000 each year (Fig. 2.3).

The female deficit may partly reflect statistical bias, since girls may have been born but not reported in the censuses. That hypothesis has been refuted by recent studies, however, which reveal that the majority of these girls were indeed missing, eliminated by sex-selective abortions, neglect leading to premature death, infanticide or abandonment without having being registered (Banister 2004; Yu 2003). We will examine later to what extent each of these causes has influenced the sex imbalance, although it can be difficult to dissociate them in the statistics. For example, female deaths occurring soon after unregistered births – which directly influence the sex ratio at birth – cannot be distinguished from sex-selective abortions in the statistics.

2.2 A Feminization of Infant Deaths

The imbalance in the sex ratio at birth is not the only factor in the masculinization of China's population. Since the 1980s, there has also been a surplus of female deaths, in particular before their first birthday, which has further increased the female deficit.
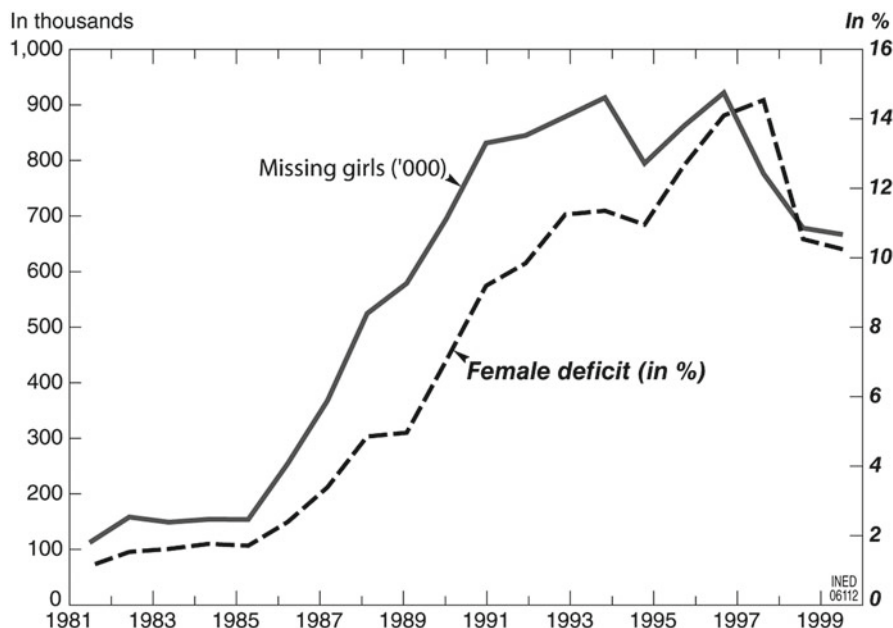
Fig. 2.3 Estimated annual number of missing girls and size of the female deficit as a percentage of female births, 1981–2000 (Sources: Author's estimates based on data from the 1990 and 2000 censuses (PCO 1993) and 2000 (PCO 2002))

Table 2.6 Masculinization of births and infant deaths by sex, 1981–2010

	1981	1989	2000	2010
Male infant deaths	363,504	262,421	155,564	32,026[a]
Female infant deaths	318,548	264,496	184,521	28,191[a]
Infant mortality rate (both sexes) (‰)	37.7	27.3	32.2	13.1[b]
Female deaths as a percentage of total infant deaths	46.7	50.2	54.3	46.8
Female births as a percentage of total births	48.3	47.9	46.1	45.9

Sources: Lines 1, 2, 4 and 5: PCO (1985, 1993, 2002, 2012). Line 3: For 1981 and 1989: adjusted data from CPIRC (1995); For 2000: adjusted data from Banister (2007); For 2010, [a]unadjusted official figure (PCO 2012); [b]Official figure, from Xinhua News Agency, 9 Sept. 2011, available at http://www.chinanews.com/jk/2011/09-09/3317870.shtml
Note that the Maternal and Child Surveillance System gives an infant mortality rate of 13.8 per 1,000 in 2009 (MOH 2010)

The last three intercensal periods (1982–1990, 1990–2000 and 2000–2010) have been characterized by a masculinization of births, as the percentage of female births fell from 48.3 % in 1981 to 46.1 % in 2000, and then to 45.9 % in 2010 (Table 2.6). A rapid feminization of infant deaths was also observed between 1982 and 2000, as the percentage of female deaths in total infant deaths rose from 46.7 to 54.3 % in the period, girls being strongly over-represented in infant deaths. While female births are thus increasingly rare relative to male births, the most recent data from the 2010

census (official unadjusted figures), however, indicates a reverse trend in infant mortality by sex, girls being now much less disadvantaged than in the recent past (only 46.8 % of total infant deaths are now female deaths) – even if official unadjusted figures still evidence excess female infant mortality (PCO 2012, see p. 31).

2.2.1   Persistent Excess Female Infant Mortality

The trend in infant mortality requires special attention for two key reasons. Firstly, because a large share of the increase in life expectancy at birth can be attributed to progress in reducing infant mortality, at least during the first phase of the demographic transition (Meslé 2004; Glei and Horiuchi 2007); and secondly, because mortality at young ages remains one of the most relevant indicators of a country's health development, of the effectiveness of its prevention system and of its attention to mother and child healthcare. The trend in mortality by sex also reflects the living conditions of men and women in a society at a given time, as well as any accidents, crises or discrimination affecting men and women that are likely to affect their chances of survival at each age relative to the other sex (Vallin et al. 2001).

Female excess mortality, especially in early childhood, is a shared feature of many societies, and reflects specific behaviours at a given stage in their economic and social development. The phenomenon was observed in many European countries in the nineteenth and early twentieth centuries and also in various developing countries (Tabutin and Willems 1995, 1996). In China, female excess mortality at almost every age, but especially before age 5, has been recorded in most of the cohorts born since the late 1930s. Excess mortality of girls in early childhood rose in the mid-1980s, simultaneously, as we have seen, with the increase in the sex ratio at birth.[7] Various studies to measure this trend and examine its causes have shown that female excess mortality in early childhood first reflects inequality of treatment in the first stage of life, with the most discriminatory factor being unequal access to basic healthcare (Croll 2000; Li and Feldman 1996; Li and Zhu 2001; Li et al. 2004; Riley and Gardner 1997), and that traditional son preference remains deeply ingrained in behaviour. Progress in reducing infant mortality in recent decades has therefore mainly benefited boys.

The recent deterioration in the healthcare system (Inset 2.2) has also disadvantaged girls. While the impact is indirect, there is no doubt that the increasing cost of healthcare has forced the poorest households to weigh the costs against the benefits before seeking treatment for a child, with sex entering into the decision, and even to neglect certain elementary precautions with respect to preventive and curative healthcare. Consequently, in the late 1990s, perinatal conditions, hypoxia, asphyxia

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[7]This excess female mortality may be slightly overestimated. In villages in Henan Province, for example, some couples gave their daughter to a wet nurse, registered the child as having died, underwent the sterilization operation required by the family planning authorities and then recovered the child. This type of behavior cannot alone account for the large mortality differences between girls and boys, however (Xu and Guo 1991).

Inset 2.2 The Chinese Healthcare System: From Communism to the Free Market

In the 1950s, China's Communist government introduced a public health policy based on prevention, mass provision of healthcare services, particularly in the remotest regions, and broad subsidized health insurance coverage.[a] Considerable technical, financial and human resources were mobilized to promote health and hygiene. The emphasis was initially on combating major traditional public health hazards, such as opium consumption, venereal disease, polio, tuberculosis, leprosy and other contagious diseases (Cailliez 2002; Kane 1985), as well as on prevention (mass vaccination of children, sanitization of water and the environment). "Patriotic Health Campaigns" were conducted to eliminate agricultural pests.[b] Centres for disease and epidemic prevention, supervised by the Ministry of Health, were set up in several locations around the country, and community initiatives, such as the construction of sewers and latrines, were launched to improve hygiene (Hsiao and Liu 2002).

Advances in health were facilitated by the introduction of antibiotics, vaccines, modern systems to control epidemic diseases, and other effective public health policies (Banister 2007). Taking inspiration from the Soviet Union, which supplied much of the technical assistance at that time, the Chinese government focused on two priorities: training medical personnel in the delivery of primary healthcare, and production of medicines. In three decades, rural China was equipped with infrastructure offering generalized access to primary healthcare and subsidized health insurance coverage to which the vast majority of the population had access by the mid-1970s (Cailliez 2002).

The economic reforms introduced in the late 1970s also affected the healthcare sector. Following the measures implemented in the 1980s, the centralized administration was abandoned and the healthcare system was gradually opened to market rules. Formerly managed by the people's communes, the decentralized healthcare system was privatized: patients are now required to pay for care, and doctors and hospital directors are required to aim for profitability. Medical cooperatives, which provided guaranteed healthcare for rural dwellers in exchange for a flat fee, covered 90 % of the rural population in the 1950s, but less than 10 % by the end of the 1990s.

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[a]In 1951, the Chinese government issued the Labour Insurance Regulations of the People's Republic of China (*Zhonghua renmin gongheguo laodong baoxian tiaoli*) (see Hou 1995).
[b]One campaign sought to eradicate the "four pests" (*si hai*): flies, mosquitoes, rats and grain-eating sparrows (Hsiao and Liu 2002).

Insert 2.2 (continued)

While the public system still provides healthcare services to most residents and new insurance systems have gradually been introduced,[c] the collapse of the rural healthcare system has undermined universal, equal access to primary healthcare, especially in poor regions (Cailliez 1998). Faced with a dramatic fall in public financing, the rural healthcare system has undergone anarchic privatization, and less profitable services have fallen by the wayside (Cailliez 2002). Public clinics and hospitals are encouraged to self-finance and are therefore forced, in order to survive, to gradually raise their prices, which has considerably restricted the population's access to primary healthcare. In rural areas, responsibility has been transferred from the people's communes to households, undermining the financial base of the cooperative medical system. As a result of the collapse of the cooperative system, salaried village doctors (formerly known as the "barefoot doctors" or *chijiao yisheng*) now practice privately with no external control, particularly over the delivery and sale of medicines. Healthcare practitioners are adopting increasingly mercenary strategies. With the dismantling of collective structures, the majority of families are now deprived of any healthcare coverage. By 1983, only 40–45 % of villages were still covered by the collective medical system. Now, almost everywhere, only small expenses are covered, whereas exceptional costs are mostly supported by families. According to a WHO report, direct out-of-pocket payments by users make up the bulk of growing healthcare expenditure (54 % at end-2005).[d]

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[c]Since the mid-1990s, efforts have been made to implement new insurance systems in cities, where medical costs are split between employees (*geren zhanghu*) and employers (*gongji zhanghu*).

[d]World Health Organization: http://www.who.int/entity/countryfocus/resources/ccsbrief_china_chn_06_fr.pdf. Accessed 3 Jan 2012

and other birth traumas were among the ten leading causes of female death in rural China, and more girls than boys die from poor perinatal conditions in both urban and rural areas (Table 2.7) (Phillips et al. 2002).

Moreover, female infanticide, although now only residual, has not completely disappeared in the recent past (Banister 2004; Fang 1993; Xu and Guo 1991). Some baby girls probably die prematurely before their births are even registered. In statistical terms, those deaths contribute to the increase in the sex ratio at birth rather than to the increase in female infant mortality. The number of cases in this category is unknown, however.

When females are not discriminated against, particularly in terms of health and nutrition, male mortality is usually higher than female mortality at every age of life.[8]

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[8]Except, in some cases, at reproductive ages. We will come back to this.

Table 2.7 Main causes of perinatal deaths from external causes by gender and place of residence, China, 1995–1999

	Cause of death	Rank of cause	Mortality rate (per 100,000)	% of total deaths in the 15–84 age group
Rural areas				
Girls	Perinatal conditions	5/15	24.72	3.99
	Birth trauma, hypoxia or asphyxia at birth	10/15	12.89	2.08
Boys	Perinatal conditions	9/15	21.69	2.99
	Birth trauma, hypoxia or asphyxia at birth	[a]	[a]	[a]
Urban areas				
Girls	Perinatal conditions	8/15	9.76	2.01
Boys	Perinatal conditions	13/15	9.54	1.53

Source: Phillips et al. (2002)

[a]Not one of the 15 leading causes of death from external causes among men and women over their lifetimes

The difference is particularly high between birth and age 1, thereby offsetting the surplus of male births. While China's adult population generally follows this pattern, young children do not.

Assuming that the difference between the sexes in infant and child mortality is mainly determined by biological factors and, to a lesser extent, by behavioural factors, Hill and Upchurch (1995) estimated the "expected" gap under ordinary circumstances, based on empirical observations. For a reported male infant and child mortality rate of around 75 per 1,000 live births, they established a female-to-male ratio of the probability of dying of 0.786, a ratio of 0.778 for a rate of around 50 per 1,000 live births, and of 0.767 for a rate of around 25 per 1,000 live births. In China, the data adjusted by CPIRC (1995), the National Bureau of Statistics of China (NBS 1996) and Banister (2007) (see Inset 1.1, p. 9) indicate that the "standard" female advantage had shrunk in 1973–1975, with a ratio of 0.875 compared with an expected value of 0.786 according to Hill and Upchurch's estimates (1995). Since that date and until the late 1990s, the situation in China has deteriorated sharply, with the female-to-male ratio worsening from 0.948 in 1981 to 1.156 in 1990 and reaching the exceptionally high value of 1.465 in 2000 (Table 2.8; Fig. 2.4).[9] In that year, therefore, the reported female infant mortality rate was almost twice as high (91 % higher) as the expected value had there been no discrimination. The 2005 inter-census survey as well as the 2010 census, however, indicate a more favourable trend in the survival of girls with respect

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[9]Although the adjustments made by Xu et al. (1994) and Zhai (1993), give slightly different figures for infant mortality from the adjustments made by the CPIRC (1995), they nevertheless point up female excess mortality on a similar scale.

Table 2.8 Infant mortality rate by sex and estimated female excess infant mortality, China, 1973–2009

	1976 mortality survey (1973–1975)	1982 census (1981)	1988 fertility survey (1987)	1990 census (1989)	2000 census (31 Oct. 1999–1 Nov. 2000)	2009
Male (M)	48.9[a]	38.7[a]	39.9[a]	25.5[a]	26.5[b]	13.5[c]
Female (F)	42.8[a]	36.7[a]	40.8[a]	29.4[a]	38.9[b]	14.2[c]
F-to-M ratio (a)	0.875	0.948	1.023	1.153	1.465	1.051
F-to-M ratio acc. to Hill and Upchurch (b)	0.786	0.786	0.778	0.767	0.767	0.767
Excess female infant mortality (%)[(a−b)/(b) × 100]	+11.3	+20.6	+31.5	+48.2	+91.0	+37.4

Sources: Lines 1 and 2: [a]CPIRC (1995); [b]Banister (2007); [c]Estimations based on data from the Maternal and Child Surveillance System (MOH 2010); Line 4: Hill and Upchurch (1995); Lines 3 and 5: author's calculations based on the corresponding surveys and censuses (based on the gender gap observed at the 2010 census for 2009)
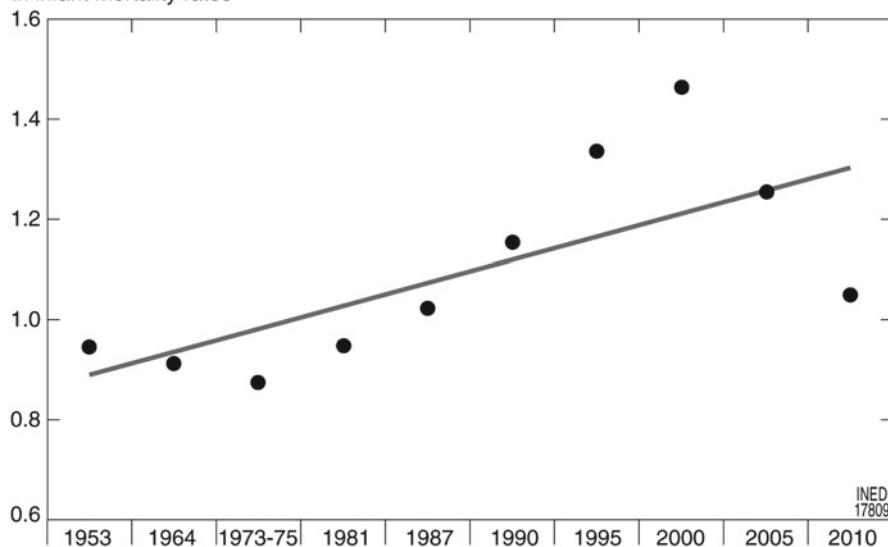
Fig. 2.4 Excess female infant mortality, China, 1953–2010 (Sources: Calculations based on data from CPIRC (1995), Banister (1987), NBS (2007), Banister (2007), PCO (2012))

Table 2.9 Deaths and reported infant probabilities of dying, observed and corrected on the basis of standardized ratios, 1989 and 2000

	Observed female deaths and female infant probabilities of dying (adjusted data)					Female deaths and female infant probabilities of dying corrected on the basis of standardized ratios (estimate)			
Year	Female population aged below 1, observed (a)	Female deaths, observed (b)	Female infant probability of dying $_nq_x$ (f), observed (c)	Male infant probability of dying $_nq_x$ (f), observed (d)	Ratio $_nq_x$ (f) / $_nq_x$ (h)	Standardized ratios $_nq_x$ (f)/ $_nq_x$ (h) (e)	Female infant probability of dying $_nq_x$ (f), corrected (f=dxe)	Number of female deaths, corrected (g=(axf)/5 or 10)	Surplus female deaths (b) –(g)
1989	10,965,946	322,289	0.0294	0.0255	1.153	0.767	0.0196	214,393	107,896
2000	6,333,593	246,060	0.0389	0.0265	1.465	0.767	0.0203	128,831	117,229

Sources: For 1989: Estimates based on data from (a) PCO (1993); (c) and (d) CPIRC (1995); (e): Hill and Upchurch (1995). For 2000: Estimations based on data from (a) PCO (2002); (c) and (d) Banister (2007); (e): Hill and Upchurch (1995)

to boys (with a female-to-male ratio of 1.253 and 1.051, respectively) reflecting the downtrend in overall infant mortality illustrated by the Maternal and Child Surveillance System.[10]

2.2.2   The Contribution of Infant Mortality to the Female Deficit in 1990 and 2000

The excess mortality of girls before their first birthday clearly contributes to the female deficit, as does sex-selective abortion. We indicated above that 500,000–600,000 girls were eliminated by sex-selective abortion every year in the 1990s. It is therefore important to estimate the number of girls who were subjected to negligent treatment, resulting in excess mortality, during this period marked by the highest excess female infant mortality. The number of female deaths in the first year of life, estimated on the basis of the reported infant probability of dying adjusted by Banister (2007), was 246,060 in 2000 (compared with 184,521 actually reported in the same year). That corresponds to a reported infant probability of dying for girls of 38.9 per 1,000 live births, compared with 26.5 per 1,000 live births for boys, and a female-to-male ratio of those probabilities of 1.465, which reflects strong discrimination against girls before their first birthday. Without that discrimination, i.e. with an expected female-to-male ratio as defined by Hill and Upchurch (1995) of 0.767 and a reported male infant probability of dying of 26.5 per 1,000 live births, the female probability would have been 20.3 per 1,000 live births (i.e. 26.5×0.767). That implies 128,831 female infant deaths, which gives a surplus of 117,229 (246,060 minus 128,831) over those inferred from the rates adjusted by Banister (2007) (Table 2.9). The same calculation based on data from the 1990 census adjusted by the CPIRC (1995) gives 107,896 surplus female deaths before age 1. A simple interpolation can be used to estimate the surplus female deaths in the first year of life for the 1989–2000 period. A total of 1.35 million is obtained over those 12 years, corresponding to an annual average of slightly more than 112,560 premature deaths, manifestly caused by discriminatory treatment.

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[10]It is noteworthy however that the official unadjusted figures from 2010 census clearly underestimate recent trends in infant mortality. Indeed, infant mortality rates from the decennial population censuses are known to be unrealistically low. This implies that the ratio 1.050 could be inaccurate and underestimate the gender gap.

Chapter 3
A Geography of Discrimination

3.1 Disparities Between Urban and Rural Areas in the Treatment of Girls

It is highly relevant in the case of China to distinguish between urban and rural areas in the analysis of pre- and post-natal discrimination against girls, because of the profound socioeconomic disparities that exist between the two places of residence. Since the almost simultaneous introduction of economic reform and the one-child policy in the late 1970s, urban and rural areas have experienced divergent economic, social and demographic trends, accentuating already considerable differences in way of life and standard of living. Moreover, since the 1970s family planning regulations have differentiated between urban and rural areas and between provinces (see Inset 2.1 above), and couples vary their reproductive strategies according to the number and sex of their offspring. The preference for sons is not as obvious and does not have the same impact on the sex ratio at birth or on female infant mortality across the country.

3.1.1 An Even More Widespread Phenomenon in Rural Areas

A Worsening Situation in the 1980s

Chinese censuses and surveys define the rural population as living in a rural county (*xian*), and the urban population as living in a city (*shi*) or a town (*zhen*) (Blayo 1997). In 1980, prenatal sex selection did not have a visible impact on the sex ratio, which was still relatively balanced in both urban and rural areas (Table 3.1). In the 1980s, selection practices increased everywhere, but especially in rural China, where the sex ratio at birth reached 114.5 boys per 100 girls in 1989, four points higher than in cities (110.5). The masculinization of births increased over the next two decades on the same scale in cities, towns and rural counties (+8 points between

Table 3.1 Sex ratio at birth by place of residence, 1980, 1989, 2000 and 2010

	Cities (*shi*)	Towns (*zhen*)	Rural counties (*xian*)	Total
1980	106.8	107.3	106.3	106.7
1989	110.5	114.0	114.5	113.9[a]
2000	114.2	119.9	121.7	119.9[a]
2010	118.3	122.8	122.1	121.1[a]

Sources: PCO (1993, 2002, 2012). For 1980: estimates based on the author's backward projections calculated from the sex structure in the 1982 census (PCO 1985), taking account of mortality

[a]These figures do not match those cited above (see footnote 3 in Chap. 2, p. 17)
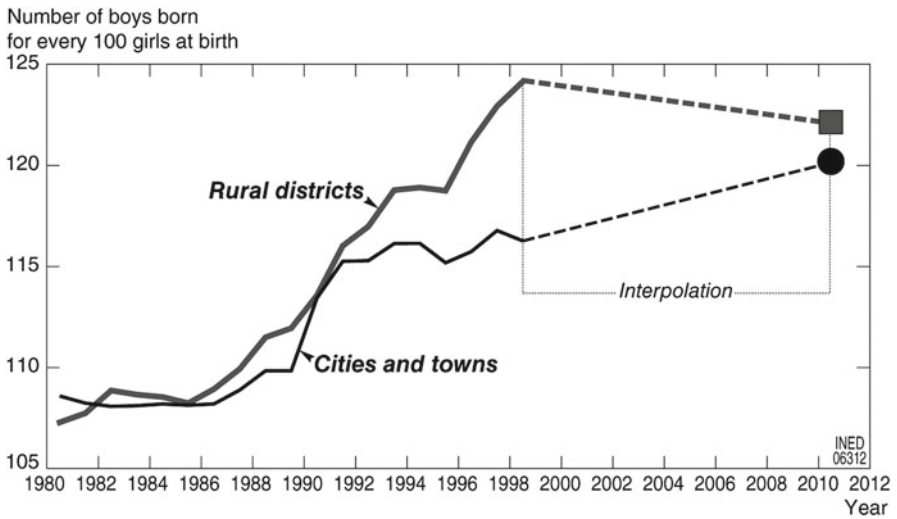
Fig. 3.1 Trend in sex ratio at birth, by place of residence, China, 1980–2010 (Sources: The data in this graph are based on backward projections calculated by the author using data from the 1990 census (PCO 1993) and the 2000 census (PCO 2002); for 1999–2009: interpolations; for 2010: PCO (2012))

1989 and 2010). However, discrimination is still more massive in rural areas, where the sex ratio at birth rose to 122.1 boys per 100 girls in 2010, almost four points higher than in cities (118.3) (PCO 2012).

Backward projections based on data from the last two censuses (Fig. 3.1) confirm that the sex ratio in 1980 was relatively close to the norm, both in urban areas (cities and towns) and in rural areas. The trend in the sex ratio at birth was relatively similar in urban and rural areas until the mid-1980s, before the gap widened in the second half of the 1990s.

Since the spread of discrimination against girls in the 1980s, resulting in an imbalance in the sex ratio at birth, the problem has been more prevalent in rural than in urban areas, which is paradoxical in several respects. As explained above, the

increase in the sex ratio at birth seems to be linked, on the one hand, to the pressure on couples to reduce the number of their offspring and their consequent concern to have at least one son, and on the other hand, to the availability of modern techniques of prenatal sex determination, which varies with place of residence. In the light of these factors, we might have expected the sex ratio to increase first in urban areas, where restrictions on the number of children are more stringent than in rural areas and where modern techniques are theoretically more widely available. But this has not been the case.

Discrimination Increases with the Number of Offspring

Despite an evident time delay in the emergence of this imbalance, urban dwellers are now no less likely to eliminate daughters than rural dwellers. Although the sex ratio at birth was still lower in urban areas than in rural areas in 2010, when this indicator is broken down by birth order, urban/rural differences are much less distinct.

Indeed, while the sex ratio of firstborn children was normal in rural areas in 2000, it was imbalanced in cities and urban districts (Table 3.2). Moreover, the imbalance was bigger in urban areas (cities and towns) than in rural areas for births of order 2 and higher, which exhibit sex ratios 40–60% above the normally expected levels. Thus, the main difference between urban and rural areas is the distribution of births by birth order, since births of order 2 and higher have the most imbalanced sex ratios. In 2000 these births accounted for slightly more than one-third (38.6 %) of total births in the countryside, compared with only 15.0 % of the total in cities and 23.4 % in urban districts.

While the increase in the sex ratio at birth in the last two decades was less pronounced in urban areas, this was chiefly because first births, generally less affected by sex selection, make up a larger percentage of the total there. When urban couples decide to have a second, third or subsequent child, however, sex selection is even more drastic than in rural areas, with a sex ratio for births of order 3 and 4 exceeding 160 boys per 100 girls on average in cities and towns, versus an average of around 20 points less in the rural counties in 2010 (Table 3.2).

Birth order thus seems to be a stronger determinant of the sex imbalance at birth in China than the overall fertility rate. Unlike India, where excess masculinity is found mainly in urban areas (Choudhury 2005; Guilmoto 2005a), in China the impact of discrimination against girls through sex-selective abortion is more visible in rural areas. We can nevertheless assume that the fertility decline – much more rapid in the Chinese countryside (2 children on average in 2000) than in the Indian countryside (around 3.5 children) (Fig. 3.2) – has affected couples' propensity to select the sex of their offspring.

The data in Table 3.3, although relatively old, confirm the influence of birth order and the even greater influence of birth status (whether the birth is authorized or unauthorized under the China's family planning policy) on the probability of a baby being a girl, which can be seen in the rapid increase in the sex ratio of unauthorized

Table 3.2 Sex ratio at birth, by birth order and place of residence. China, 1989, 2000 and 2010

	Birth order 1	Birth order 2	Birth order 3	Birth order 4	Birth order 5+	Total
Sex ratio at birth						
Cities (*shi*)						
1989	105.6	121.3	128.9	137.3	137.4	110.5
2000	108.9	147.6	164.9	195.2	164.2	114.2
2010	113.4	132.2	178.2	160.6	147.8	118.3
Towns (*zhen*)						
1989	107.7	126.1	125.0	136.1	130.5	114.2
2000	110.4	154.6	180.5	188.6	163.3	119.9
2010	114.5	132.9	171.1	157.6	163.0	122.8
Rural counties (*xian*)						
1989	104.7	121.2	124.0	130.5	127.8	115.1
2000	105.7	152.1	158.2	157.7	147.0	121.7
2010	113.6	129.0	157.3	143.4	140.6	122.1
Breakdown of births by birth order (as a % of total)						
Cities (*shi*)						
1989	71.3	20.9	5.4	1.6	0.8	100.0
2000	85.0	13.3	1.3	0.3	0.1	100.0
2010	76.5	21.1	2.1	0.3	0.1	100.0
Towns (*zhen*)						
1989	63.9	26.5	6.5	2.0	1.1	100.0
2000	76.6	19.8	2.7	0.6	0.3	100.0
2010	61.7	32.8	4.6	0.7	0.2	100.0
Rural counties (*xian*)						
1989	41.7	34.8	14.8	5.2	3.5	100.0
2000	61.4	31.1	5.4	1.4	0.7	100.0
2010	55.4	35.7	7.1	1.4	0.4	100.0

Source: Calculations based on data from censuses and corresponding surveys, long form question-naires (PCO 1993, 2002, 2012)

births. When rural couples were forced to further restrict the number of their offspring from 1979 to 1980 onwards, they appear to have implemented strategies to ensure the desired sex composition of their offspring, either by having more than the authorized number of children, or by selecting the sex of their children more systematically. A combination of the two strategies cannot be ruled out either. Infanticide (Bianco and Hua 1989) and abandonment of baby girls (Johnson 1993, 1996) were fairly common in the 1980s, before the phenomenon was accentuated by sex-selective abortion, when techniques to determine the sex of the fetus became available to a growing percentage of the population.

The availability of these modern techniques has enabled couples to have a son rather than a daughter. This concerns not only couples that would have practiced infanticide or abandonment had these techniques not been available, but also those that would otherwise have accepted the natural sex composition of their children. The availability of a simple and less emotionally and morally painful way to choose the sex of their child and eliminate potential daughters has led to a rapid increase in the excess masculinity of births.
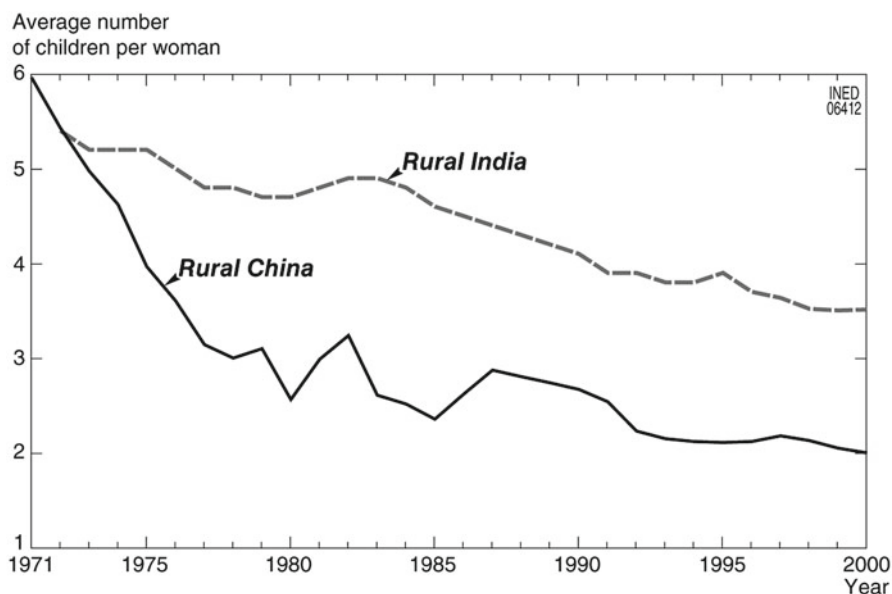
Fig. 3.2 Fertility trends in rural China and India, 1971–2000 (Sources: India: series reconstituted from data from the Sample Registration System (SRS), kindly provided by Indian demographer Rajan Irudaya (Centre for Development Studies, Thiruvananthapuram, Kerala). China: 1971–1988: Chen and Coale (1993); 1989–2000: interpolations based on fertility estimations from Choe et al. (2004) and Gu (2002))

Table 3.3 Sex ratio at birth by birth order and birth status. Rural areas. 1981 and 1987

	Authorized births				Unauthorized births				
	Birth order 1	Birth order 2	Birth order 3+	All birth orders	Birth order 1	Birth order 2	Birth order 3+	All birth orders	Total
1981	104.8	109.6	101.9	105.2	105.6	106.1	109.2	107.8	106.6
1987	107.5	110.3	128.2	108.7	113.8	114.4	120.2	116.6	112.4

Source: NBS (1989)

3.1.2 Lower Excess Mortality of Baby Girls in Urban Areas

The data for urban and rural areas extracted from the Maternal and Child Surveillance System indicate that the infant mortality rate has dropped dramatically in the past two decades, both in urban and rural areas. However, these data reveal differences in both levels of infant mortality – with rates in rural areas in 2009 almost three times as high as in urban areas (Table 3.4) – and in trends.

Table 3.4 Infant mortality rate by sex and place of residence (per 1,000 live births) and excess female mortality. China. 1981–2009

	1981		1991		2000		2009	
	Urban areas	Rural areas	Urban areas	Rural areas	Urban areas	Rural areas	Urban areas	Rural areas
Boys	25.3[a]	41.2[a]	17.0	53.4	10.3[b]	29.1[b]	6.2	16.5
Girls	23.0[a]	39.2[a]	17.6	62.6	13.2[b]	43.6[b]	6.2	17.7
Both sexes	24.2[a]	40.3[a]	17.3	58.0	11.8	37.0	6.2	17.0
Female-to-male ratio (a)	0.909	0.951	1.035	1.172	1.278	1.498	1.008	1.071
Hill & Upchurch's ratio (b)	0.778	0.778	0.767	0.767	0.767	0.767	0.767	0.767
Gap (%) [(a−b)/b*100]	+16.8	+22.2	+34.9	+52.8	+66.6	+95.3	+31.4	+39.6

Sources: For infant mortality rates, line 3: 1981: CPIRC (1995); for both sexes in 1991, 2000 and 2009: Maternal and Child Surveillance System (MOH 2010); Boys/girls, lines 1 and 2, in 1981: CPIRC (1995); for 1991, 2000 and 2009: author's estimates based on rates for both sexes adjusted using the gender gap in infant mortality rates observed at the 2010 census, unadjusted data (PCO 2012); Lines 4 and 6: author's calculations based on the corresponding census unadjusted data; Line 5: Hill and Upchurch (1995)

[a]The comparatively low levels of infant mortality in 1981 are attributable to under-registration of infant deaths (see Inset 3.1)

[b]Infant mortality rates for 2000 are not fully consistent with those displayed in Table 2.8, Chap. 2, as they are extracted from different sources

It is important to note, however, that a reversal occurred from the early 1980s. While female infant mortality was slightly lower than that of males in 1981,[1] as usually observed when there is no discrimination against girls (Hill and Upchurch 1995), it became higher at the end of the decade. Excess female infant mortality reached a peak in 2000, with a female-to-male ratio of infant mortality as high as 1.465 at the country level (see Table 2.8, p. 31), and 1.278 and 1.498 in urban and rural areas respectively (Table 3.4). It then fell significantly in the next decade, with the female-to-male ratio of 1.05, as reported in the 2010 census, now indicating a much better treatment of girls.[2]

However, excess female infant mortality, the second factor in the masculinization of the population, is not equally high everywhere. It remains higher in rural than in urban areas (Fig. 3.3), and also varies considerably between provinces, as shown in Table 3.6.

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[1]Note, however, that infant mortality rates were lower in 1981 than in 1991. This discrepancy is attributable to under-registration of infant deaths at the 1982 census (see Inset 3.1, p. 41). Although the estimates for infant mortality differ (see Inset 1.1, p. 9), the gaps between boys and girls are on a similar scale.

[2]However, as for overall infant mortality, excess female infant mortality may be strongly underestimated by the 2010 census (see Inset 1.1, p. 9, and Inset 3.1, p. 41).
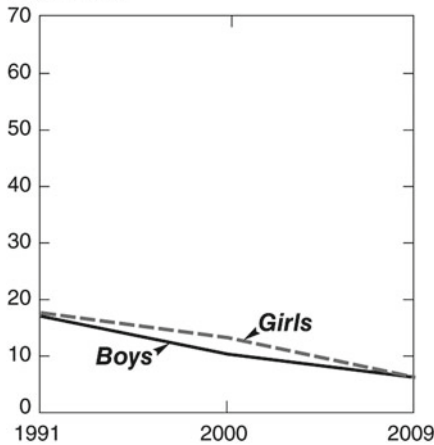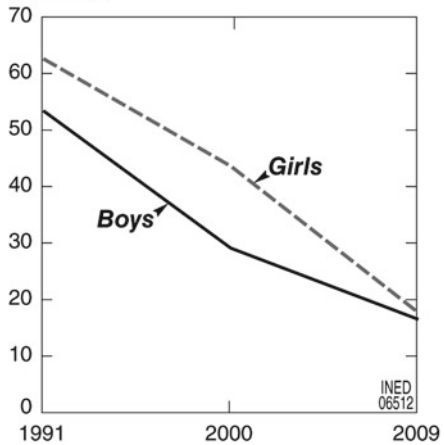
Fig. 3.3 Infant mortality rates by place of residence, China, 1991–2009 (Sources: Same as for data in Table 3.6)

Inset 3.1 Under-Registration of Infant Deaths

Trends in infant mortality are hard to interpret due to the recurrent problem of under-registration of infant deaths (Banister 1987). In an article on infant mortality data collected by the China National Working Committee for Children and Women (CNWC), Banister (2007) concludes that the reported increase in the 1990s did not actually take place, although she accepts the mortality rates for 2000. Banister attributes the apparent increase to a severe underestimation of infant mortality in the 1990s. She suggests a rate of 50 per 1,000 live births in 1991, which is almost twice as high as the rate calculated after correction by the China Population Information and Research Center (CPIRC 1995). A survey conducted by the Ministry of Health in the mid-1980s to assess the under-registration of infant deaths identified an infant mortality rate of 51 per 1,000 live births in 1986, well above the rates identified by the other available sources (Zhai 1993; CPIRC 1995), confirming Banister's hypothesis. According to the CNWC survey, the infant mortality rate in 1991 was 17 per 1,000 live births in urban areas and 58 per 1,000 births in rural areas (MOH 2010), compared with 17.1 per 1,000 and 29.9 per 1,000, respectively, in 1989–1990 according to the adjusted census data. In 2000, infant mortality rates in urban and rural areas reportedly fell to 12 and 38 per 1,000 births respectively. These new estimates demonstrate that under-registration almost exclusively affects rural areas, and confirm the considerable gap between urban and rural areas (Banister 2007). Despite a sharp decline in infant mortality in recent years, this gap still existed in the late 2000s, with rates of 6.2 per 1,000 in urban areas and 17.0 per 1,000 in rural areas in 2009 according to the Maternal and child Surveillance system (MOH 2010). These levels are significantly higher, however, than those reflected by the 2010 census (PCO 2012).

3.2   Variations Between Provinces

3.2.1   A Generalized Masculinization of Births

The imbalance in the sex ratio at birth, perceptible at national level from the early 1980s, is now manifest in the overwhelming majority of China's provinces.[3] The imbalance did not arise everywhere at the same time, however, and there are considerable variations between provinces and between ethnic minorities (see Inset 3.2).

In the 2000 census, the national sex ratio at birth was 116.9 boys per 100 girls, but the provincial ratios fell within a wide range. The lowest level was observed in Tibet with 97.4 boys born for every 100 girls, and the highest in Jiangxi in southern China, with 138. Of the 31 Chinese provinces, 11 recorded a sex ratio at birth of over 120 (three of which – Jiangxi, Guangdong and Hainan – reported a ratio of over 135) in 2000, whereas only three still recorded a figure in line with the norm: Guizhou (105.4), Qinghai (103.5) and Xinjiang (106.7) (Table 3.5). The masculinization of births is thus found mainly the provinces in the south, south-east and centre of the country, where the majority population group is Han Chinese (Banister 2004).

The case of Tibet, where the abnormally low sex ratio at birth (97.4 boys per 100 girls compared with 104–107 under ordinary conditions) recorded in 2000 remains unexplained. While the hypotheses of an under-registration of male births attributable to vestiges of Tibet's matriarchal society, or maternal malnutrition[4] can be advanced, we do not have sufficient information to verify them. It seems, however, that excess female births in Tibet mainly concern the non-Tibetan ethnic groups living there, since the national sex ratio at birth of Tibetans is closer to normal levels[5] (101.7 boys per 100 girls in 2000) (PCO 2002).

Inset 3.2 Variable Prevalence of Discriminatory Practices Between Ethnic Groups

In 2010, all of the nine ethnic groups[a] with populations of more than five million – except for the Mongols and Tibetans – had total population sex ratios higher than the expected value for China defined by Ansley Coale (1991)

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[a]China has 56 officially recognized ethnic groups, including the Han, who make up more than 90 % of China's population.

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[3]Administratively, China is divided into 22 provinces, 5 autonomous regions, 4 municipalities and 2 special administrative regions: Hong Kong (since 1997) and Macao (since 1999). For the sake of concision, we have grouped them here under the term "provinces".

[4]The theory that maternal malnutrition influences the selection of spermatozoa and leads to a lower sex ratio at birth has been developed by Clarke (2000) and Andersson and Bergström (1998).

[5]This may be a consequence of the family strategies implemented by Han Chinese who have settled in Tibet, who are generally allowed to have one more child than if they had continued living in their home province. They might thus take advantage of migration to have a daughter during their time in Tibet. This is only a hypothesis, however, and we do not have the resources to verify or support it at the present time.

Inset 3.2 (continued)

as 101 males per 100 females. The Han, Zhuang, Manchu, Miao (or Hmong) and Yi exhibited the highest sex ratios, around or above 105 men per 100 women. The two Muslim groups, the Hui and Uighur, had total population sex ratios of 103.1 and 102.5, respectively, while the Mongols and Tibetans had the lowest sex ratios, closer to the levels usually observed (see above, pp. 4–5).

	Sex ratio of total population				Sex ratio of children aged under 1 year		
	1982	1990	2000	2010	1990	2000	2010
Han	105.6	106.1	106.3	104.9	112.2	118.6	118.5
Zhuang	101.6	104.3	107.4	105.5	115.4	122.5	121.4
Manchu	114.5	109.5	108.0	108.3	110.8	113.0	112.1
Hui	103.4	103.2	103.9	103.1	106.6	110.2	114.0
Miao	105.2	107.9	108.7	106.9	106.8	116.3	123.1
Uighur	105.1	104.5	103.5	102.5	101.9	103.8	104.7
Yi	101.9	103.6	105.7	104.7	104.3	110.8	111.2
Mongols	105.6	103.3	97.9	100.6	106.4	107.2	111.9
Tibetans	95.8	97.6	99.2	100.9	102.1	103.6	107.2

Sources: PCO (1985, 1993, 2002, 2012)

The sex ratio of children aged under 1 year increased or remained almost unchanged in all these ethnic groups over the last inter-census period, but the situation is not uniform. The highest sex ratios are observed among the Han, Zhuang, and Miao (exceeding 118 boys for 100 girls). Conversely, and despite a fertility decline in the 1990s and the 2000s, the Uighur and Tibetans exhibit sex ratios among infants aged under 1 year close to normal levels (around 105–106 boys per 100 girls) with only a slight increase in the last two decades. These divergences reflect cultural differences between these groups, particularly the strength of the preference for sons and the tolerance of abortion.

Between 1989 and 2000, the sex ratio at birth increased in all of the Chinese provinces, with the noteworthy exception of Zhejiang on the east coast (where the sex ratio fell from 117.1 – the highest in the country in 1989 – to 113.1) and Tibet already mentioned (where the ratio declined from 103.5 to 97.4). The biggest increases occurred in Guangdong and Jiangxi, where the sex ratio rose by 23.4 % and 24.9 % respectively over the decade. There were smaller but still sizeable increases in Hainan (+17.6 %), Anhui (+17.7 %), Henan (+12.7 %), Guangxi (+10.7 %), Hubei (+17 %), Hunan (+15.2 %) and Shaanxi (+13 %). The sex ratio at birth also increased in the two biggest Chinese municipalities, Beijing and Shanghai, where levels were normal only 11 years earlier. The change there could be partly linked to in-migration from the countryside, since the more traditional reproductive behaviours and values of rural dwellers are not immediately modified by migration (Wu et al. 2007; Feng and Zhang 2002).

Table 3.5 Sex ratio at birth in Chinese provinces. 1989, 2000 and 2010

	Sex ratio at birth (boys per 100 girls)			Percentage change in sex ratio	
	1989	2000	2010	1989–2000	2000–2010
Beijing	107.3	110.6	109.5	+3.0	−1.0
Tianjin	110.1	112.5	113.7	+2.2	+1.1
Hebei	111.7	113.4	114.9	+1.5	+1.3
Shanxi	109.4	112.5	110.2	+2.8	−2.1
Inner Mongolia	108.5	108.5	112.1	+0.0	+3.4
Liaoning	110.1	112.8	110.2	+2.5	−2.3
Jilin	108.5	111.2	111.2	+2.5	+0.0
Heilongjiang	107.5	109.7	112.4	+2.1	+2.5
Shanghai	104.6	110.6	111.1	+5.8	+0.4
Jiangsu	114.4	116.5	116.2	+1.8	−0.3
Zhejiang	117.1	113.9	118.1	−2.8	+3.7
Anhui	111.1	127.8	128.6	+15.1	+0.6
Fujian	109.5	117.9	125.6	+7.7	+6.5
Jiangxi	110.5	114.7	122.8	+3.8	+7.0
Shandong	114.5	112.2	119.4	−2.0	+6.4
Henan	115.6	118.5	117.8	+2.5	−0.6
Hubei	109.4	128.2	124.1	+17.2	−3.2
Hunan	110.2	126.2	123.2	+14.5	−2.3
Guangdong	111.6	130.3	120.3	+16.8	−7.7
Guangxi	116.3	125.5	122.7	+8.0	−2.3
Hainan	114.8	135.6	125.3	+18.2	−7.6
Chongqing	112.5	115.1	112.5	+2.3	−2.3
Sichuan	112.5	116.0	111.6	+3.1	−3.8
Guizhou	102.7	107.0	122.1	+4.2	+14.1
Yunnan	107.6	108.7	111.8	+1.0	+2.8
Tibet	103.5	102.7	106.6	−0.7	+3.8
Shaanxi	110.7	122.1	115.3	+10.3	−5.6
Gansu	109.6	114.8	117.4	+4.8	+2.2
Qinghai	104.1	110.4	112.4	+6.0	+1.9
Ningxia	106.8	108.8	113.9	+1.9	+4.7
Xinjiang	104.6	106.1	106.1	+1.5	+0.0

Sources: PCO (1993, 2002, 2012)

Zhang Liping's (2005b) more detailed map of the 343 Chinese prefectures (*diqu*), based on data from the 2000 census (see Map 9), reveals the highly heterogeneous spatial distribution of the sex ratio at birth within the provinces. Unlike India, where a few pockets of high excess masculinity stand out clearly in a spatial analysis, China exhibits more dispersed clusters (Guilmoto 2005a), which are relatively independent of the provincial borders, especially in 1990. The spatial distribution of masculinization did not change significantly between 1989 and 2000, but spread outwards over the decade from Guangdong, Hebei, Henan, Anhui and Shanxi. The masculinization of births also increased strongly in the north-east and a large south-eastern quarter of the

country, and the biggest distortions in the sex ratio at birth were observed mostly in the prefectures of Guangdong, southern Guangxi, Jiangxi, Hunan, eastern Fujian, eastern Zhejiang, Shanxi and Shaanxi. Most of the prefectures that still had a normal sex ratio at birth in 2000 were located in the least developed, most remote regions, which have both the highest proportions of ethnic minorities and higher fertility (Attané 2007). Normal ratios were also found in prefectures in northern Guizhou, eastern Sichuan and western Inner Mongolia. In 2000, half of China's prefectures (173 out of 343, i.e. 50.4 %), home to 57.4 % of the population, had a "very imbalanced" or "extremely imbalanced" sex ratio at birth, i.e. above 113 boys per 100 girls. Only 82 prefectures (or 23.9 %) showed no imbalance (Zhang 2005b).

The situation did not radically change between 2000 and 2010. The one-point increase in the sex ratio at birth at the national level over the period (from 116.9 to 117.9 boys per 100 girls) has resulted, at the provincial level, in a convergence of the ratios: the sex ratio at birth declined in all the provinces where it was above 120 in 2000 (Anhui excepted) while it increased in all those where it was below 110 in 2010. Nevertheless, there is a strong positive correlation between sex ratio at birth in 2000 and 2010 (with a regression coefficient $r = 0.744$), indicating that the "hot spots" of discrimination against girls through sex-selective abortions remained practically unchanged between 2000 and 2010.

3.2.2 Excess Female Infant Mortality Varies Between Provinces

As for the sex imbalance at birth, the different provinces show very different trends in female infant mortality. While China remains a highly unequal country in demographic terms, with child survival probabilities that vary widely from one part of the country to another, differential treatment of girls causing excess female infant mortality does not overlap with the spatial distribution of total infant mortality (Table 3.6). In other words, it is not the provinces with the highest total infant mortality that discriminate the most against girls.

Gender inequality varies from one province to another. In 2000, girls born in the large cities of Beijing, Shanghai and Tianjin, in former Manchuria (Liaoning, Jilin or Heilongjiang) and in the north-eastern provinces (especially Xinjiang, Ningxia, Qinghai and Sichuan) had roughly the same chance as boys of surviving until their first birthday (Table 3.6 and Map 5). But everywhere else, contrary to the usual observation, baby girls died more frequently than baby boys. In 1990, the record was held by the southern province of Guangxi, one of the poorest in China, where the female infant mortality rate was almost twice as high as that of males. Girls born in southern provinces (especially in Guangxi, Guangdong, Fujian and Hainan) and central China (Jiangxi, Anhui, Henan, Hubei, Hunan, Shaanxi and Gansu) were exposed to the highest excess mortality. In all the provinces – with the notable exceptions of Guangxi, where the situation was by far the worst in 1990, Zhejiang, Shandong and Sichuan – infant mortality of girls worsened

Table 3.6 Infant mortality rate by sex and female-to-male ratio of infant mortality rates in Chinese provinces

| | Infant mortality rates | | | | Female-to-male ratio of infant mortality rates | | | Percentage change in female-to-male ratio of infant mortality rates | |
| | 1990 | | 2000 | | | | | | |
	Boys (per 1,000 live births)	Girls (per 1,000 live births)	Boys (per 1,000 live births)	Girls (per 1,000 live births)	1990	2000	2010[a]	1990–2000	2000–2010
Beijing	11.2	9.6	3.6	3.7	0.857	1.006	0.946	+17.4	−6.0
Tianjin	13.2	12.7	4.0	4.0	0.962	0.999	0.648	+3.9	−35.2
Hebei	13.0	12.5	15.0	20.6	0.962	1.375	0.917	+43.0	−33.3
Shanxi	22.1	22.0	15.2	18.0	0.995	1.188	1.075	+19.4	−9.5
Inner Mongolia	34.1	37.5	26.7	30.0	1.100	1.122	0.765	+2.1	−31.8
Liaoning	19.7	19.4	9.4	9.8	0.985	1.048	0.766	+6.4	−26.9
Jilin	29.8	26.8	15.6	16.0	0.899	1.025	0.841	+13.9	−18.0
Heilongjiang	27.3	23.2	9.5	8.5	0.850	0.892	0.748	+5.0	−16.2
Shanghai	13.5	10.8	4.1	4.4	0.800	1.084	0.711	+35.4	−34.4
Jiangsu	18.9	19.3	10.9	12.9	1.021	1.181	0.871	+15.7	−26.2
Zhejiang	19.0	23.1	10.1	11.8	1.216	1.163	0.925	−4.3	−20.4
Anhui	30.2	34.1	21.7	33.9	1.129	1.561	1.022	+38.2	−34.5
Fujian	24.1	32.9	14.5	21.4	1.365	1.475	1.103	+8.1	−25.2
Jiangxi	45.1	63.5	25.9	60.2	1.408	2.328	1.230	+65.4	−47.2
Shandong	14.4	18.3	12.7	15.7	1.271	1.236	1.018	−2.7	−17.7
Henan	20.9	27.2	15.7	24.8	1.301	1.581	0.978	+21.5	−38.1
Hubei	31.9	32.7	14.8	19.3	1.025	1.303	1.026	+27.2	−21.3
Hunan	44.9	51.5	19.9	27.2	1.147	1.367	1.012	+19.1	−26.0
Guangdong	16.4	19.3	11.1	18.6	1.177	1.672	1.087	+42.1	−35.0
Guangxi	31.6	73.3	17.8	31.8	2.320	1.788	1.048	−22.9	−41.4
Hainan	31.3	34.2	12.7	23.7	1.093	1.859	1.334	+70.2	−28.2
Chongqing[b]	–	–	20.6	20.8	–	1.007	0.883	–	−12.3

Sichuan	43.1	50.1	19.4	20.3	1.162	1.047	0.930	−9.9	−11.1
Guizhou	63.7	69.0	50.7	63.8	1.083	1.259	1.205	+16.2	−4.3
Yunnan	79.4	77.3	52.2	66.7	0.974	1.277	1.104	+31.2	−13.5
Tibet	111.8	90.0	37.8	36.7	0.805	0.971	1.003	+20.7	+3.3
Shaanxi	25.0	26.2	23.2	35.2	1.048	1.517	0.958	+44.7	−36.9
Gansu	31.7	37.5	35.2	47.9	1.183	1.362	1.239	+15.1	−9.0
Qinghai	83.6	74.0	37.5	40.0	0.885	1.065	0.907	+20.3	−14.8
Ningxia	44.8	38.9	22.8	22.1	0.868	0.966	0.904	+11.2	−6.4
Xinjiang	76.8	64.9	28.2	25.0	0.845	0.886	0.841	+4.9	−5.1

Sources: 1990 (columns 1 and 2): data adjusted by Lu et al. (1994); 2000 (columns 3 and 4): 2000 census, unadjusted official figures (PCO 2002); For columns 5, 6, 8 and 9: author's calculations; For column 7: 2010 census, unadjusted official figures (PCO 2012)

[a]Adjusted infant mortality rates for 2010 at the province level are not available at the time of publication. The female-to-male ratios presented here are those calculated on the basis of the unadjusted census data (PCO 2012)

[b]Chongqing Municipality, formerly the eastern part of Sichuan province, was established in 1997. We therefore have no data for the municipality for 1990

relative to boys over the decade to 2000 (Maps 4 and 5). Not only did excess female infant mortality increase in the provinces where it had already been observed in 1989 (such as Anhui, Henan, Hunan and Gansu), but it appeared in provinces that had exhibited a normal or near-normal situation at the beginning of the decade. The most striking examples are Hubei (where the female-to-male ratio of infant mortality rates increased from 0.96 in 1989 to 1.38 in 2000), Qinghai (from 0.89 to 1.07) and Shaanxi (from 1.05 to 1.52). Over the period, excess female infant mortality increased by 42 % in Guangdong, by 43 % in Hebei, by 44 % in Shaanxi, and by 65 % in Jiangxi. The fastest deterioration was observed on Hainan Island, where the female-to-male ratio of infant mortality rates increased by 70 % over those 10 years.

In 1990, the female-to-male ratio of infant mortality rates ranged from expected values, as in Shanghai (0.80), to almost three times that figure (2.32) in Guangxi. In 2000, while the range remained largely unchanged, from 0.89 (in Xinjiang) to 2.33 (in Jiangxi), the overall situation deteriorated considerably. In 1989, only 17 provinces out of 30 showed a female-to-male ratio of infant mortality rates higher than 1, but by 2000 the ratio exceeded 1 in 26 out of 31 provinces. The female-to-male ratio of infant mortality rates decreased in only four provinces: Guangxi (−23 %), Sichuan (−10 %), Zhejiang (−4 %) and Shandong (−3 %). The prenatal elimination of girls through sex-selective abortion, and the post-natal neglect of girls leading to excess mortality, are the two main forms of discrimination that account for the increasing female deficit.

The sharp decline in overall infant mortality between 2000 and 2010, both at the national level and in urban and rural areas (see Table 2.8, Chap. 2, and Table 3.4 above), was accompanied by a significant reduction in excess female infant mortality in all the provinces, as indicated by the unadjusted data from the 2010 census (Table 3.6). A similar trend is observed for the sex ratio at birth over the period, characterized by a convergence between the provinces: the higher the female-to-male ratio of infant mortality rates in 2000, the greater the decline between 2000 and 2010 (with a regression coefficient $r=-0.672$); on the contrary, in general, the lower the ratio in 2000, the smaller the decline. Nevertheless, as observed for the sex ratio at birth, there is also a rather strong positive correlation between the female-to-male ratio of infant mortality in 2000 and 2010 (with a regression coefficient $r=0.690$), indicating that the "hot spots" of discrimination against girls through neglect leading to premature death remained almost the same between 2000 and 2010.

Both practices increased sharply in the 1990s. In 1990, a positive linear correlation could already be seen between the sex ratio at birth and excess female infant mortality in the provinces (with $r=0.588$ and p value$=0.001$). Ten years later, the correlation was even closer ($r=0.851$ and $p=0.000$), signalling an upward trend in discrimination against girls (Fig. 3.4). This also provides strong evidence that, at provincial level, sex-selective abortion and neglect of girls leading to their premature death were practiced side by side in a complementary manner in the 1990s. Over that period, the two forms of discrimination increased simultaneously and, contrary to what some authors suggest (Goodkind 1996), neglect of girls leading to their excess mortality – which can be described as a "traditional" discriminatory

Female-to-male ratio
of infant mortality rates

1990

$y = 0.0435 X - 3.6905$
$R^2 = 0.3455$

Sex ratio at birth

Female-to-male ratio
of infant mortality rates

2000

$y = 0.0281 X - 2.0313$
$R^2 = 0.7245$

Sex ratio at birth

Female-to-male ratio
of infant mortality rates

2010

$y = 0.0159 X - 0.8819$
$R^2 = 0.3501$

INED
06612
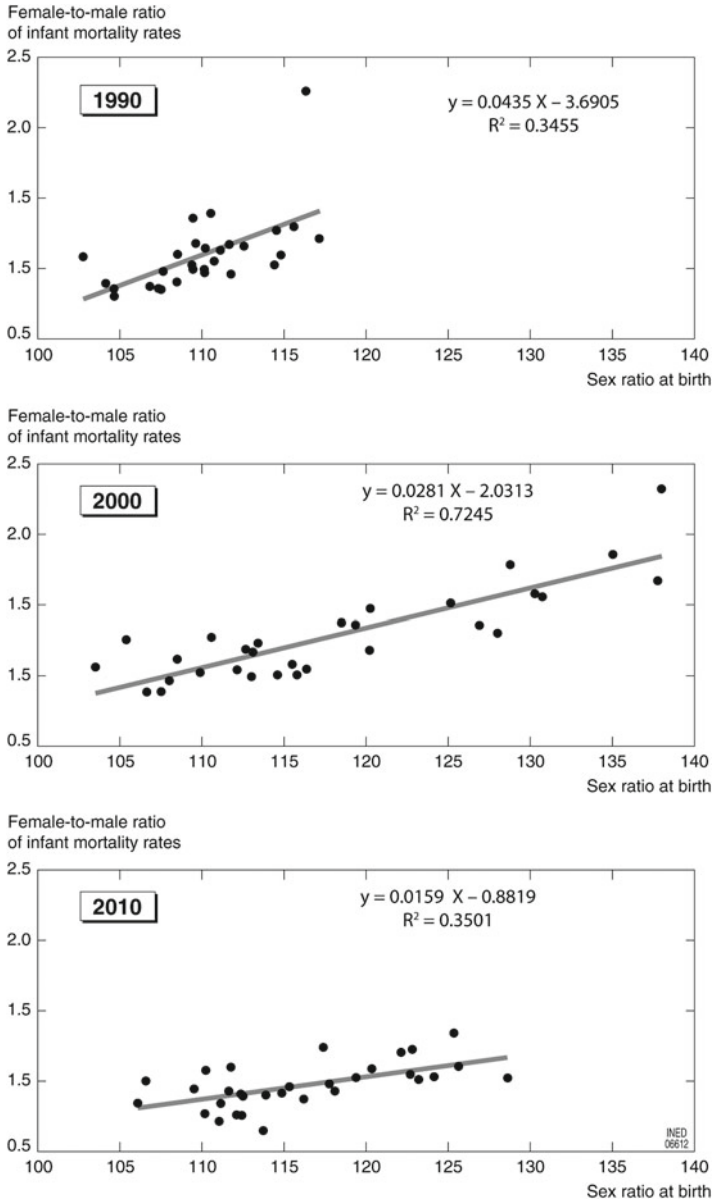
Sex ratio at birth

Fig. 3.4 Correlation between sex ratio at birth and excess female infant mortality in Chinese provinces, 1990, 2000 and 2010 (Sources: sex ratio at birth: PCO (1993, 2002, 2012) (see Table 3.5); female-to-male ratio of infant mortality rates (see Table 3.6))

practice – did not disappear with the availability of sex-selective abortion using modern techniques.[6]

While in some provinces like Heilongjiang, Ningxia and Xinjiang, sex-selective abortion and elimination of daughters through neglect were relatively rare in 2000, in others, especially Anhui, Jiangxi, Henan, Guangdong and Hainan, the two practices had expanded simultaneously. Zhang Erli (2005a) has also shown a close correlation between the two discriminatory practices at the prefecture level: in the regions with a strong imbalance in the sex ratio at birth, excess female mortality before age 1 is also high.

Again, the situation did not change radically between 2000 and 2010. At the 6th census, the correlation between sex ratio at birth and excess female infant mortality was still visible but much weaker than 10 years earlier (with a regression coefficient $r = 0.592$, a level comparable to that observed in 1990). However, the disparities between provinces in the sex ratio at birth and in excess female infant deaths are now significantly smaller.

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[6]Note that the births of some of the baby girls who die from neglect were probably not registered. In statistical terms, those deaths contribute to the gender imbalance in the sex ratio at birth and not to the gender imbalance in infant mortality. But the number of deaths in this category is unknown, and we have no data to support this hypothesis.

Chapter 4
Discrimination Against Girls in Early Childhood

4.1 More and More Boys

The male surplus in China is highest in the young population, and this has been the case for at least the past half-century. The 1953 census revealed a deficit of girls among children aged under 15, with a sex ratio of 111.4 boys for every 100 girls. Not long after that date, however, there was a gradual gender rebalancing among children, as living standards and the status of women began to improve in the 1950s, at a time when there were no restrictions on family size. Although the proportion of boys remained higher than the levels usually observed, the sex ratio of the child population decreased considerably by the 1960s, falling to 107.6 boys per 100 girls in 1964 and to 106.4 in the 1982 census (NBS 1988). China's child population entered a new phase of masculinization in the next inter-census period (1982–1990), by the end of which the sex ratio of children under 15 had risen to 108.5. It increased even further in the recent period, to 113.6 boys per 100 girls in 2000 (PCO 2002) and 118.3 in 2010 (PCO 2012).

A comparison of under-15 sex ratios in China with those of two other Asian countries (Japan and South Korea), and with Australia, France and Canada at dates when those countries had equivalent male life expectancies shows that the male surplus in China's child population is extremely atypical (Fig. 4.1). While the countries used for this comparison may not be completely free of behaviour liable to affect the mortality of either sex in childhood (i.e. boys and girls may be treated unequally), China and, to a lesser extent, South Korea are truly at odds with the trend observed in the other countries in the sample. The pattern in Japan is consistent with that observed in France, Australia and Canada, with a comparable male life expectancy at birth. In Japan, where life expectancy at birth was 66.7 years in 1960–1965, a level equivalent to China's in 1982, the sex ratio of children aged under 15 was 103.7 boys per 100 girls, compared with 106.4 in China. In 1990, when the life expectancy at birth of Chinese men was around 68 years, the gap widened still further between China and the other countries considered here. When

Boys per 100 girls
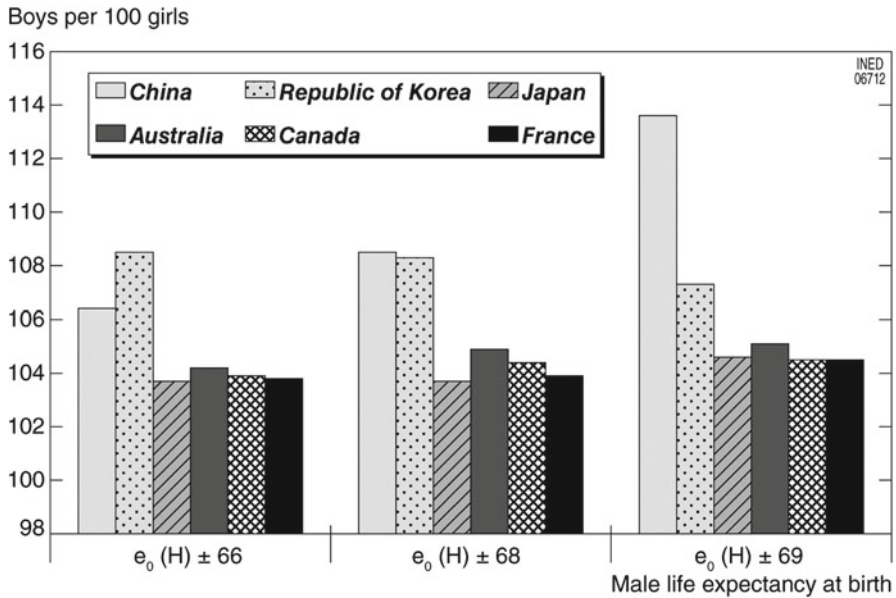
Fig. 4.1 Sex ratio among children, by male life expectancy at birth, in China and other countries (Sources: The data for China are from PCO (1985), PCO (1993) and PCO (2002). The data for Australia, South Korea, Japan, Canada and France are from the UN-WPP (2008). Note: Male life expectancy at birth in China was 66 years in 1982, 68 years in 1990 and 69 years in 2000)

China's male life expectancy at birth reached 69 years (in 2000), the country reported a sex ratio of 113.6 among children under 15, compared with 107.3 in South Korea, 104.6 in Japan, 105.1 in Australia and 104.5 in Canada and France.

The percentage of boys in China's child population is therefore higher than in other countries and continuously increasing. While the current sex ratio is more imbalanced than in 1953 – in 2010, the sex ratio of children under 15 was 4.7 points higher than in 2000 and 6.9 points higher than in 1953 (118.3, 113.6 and 111.4 respectively) – the breakdown by age of the gender imbalance in the child population has changed considerably over the past half-century, reflecting changes in the type of discrimination practised against girls (Fig. 4.2).

In the 1953 census, the sex ratio at each age between 0 and 14 years follows a steadily ascending curve, which reflects two phenomena. Firstly, female infanticide was not a widespread practice in the period immediately preceding the census, as indicated by the sex ratio of 104.9 boys per 100 girls among infants aged under 1 year, which is consistent with expected levels.[1] Infanticide of girls, which

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[1] Considering that the sex ratio at birth varies between 104 and 107 boys per 100 girls, and that it tends to fall as age increases owing to the excess male mortality usually observed (see above, p. 14). For a more detailed description of the "expected" sex ratios at each age, see Clarke (2000).

Boys per 100 girls

Boys per 100 girls
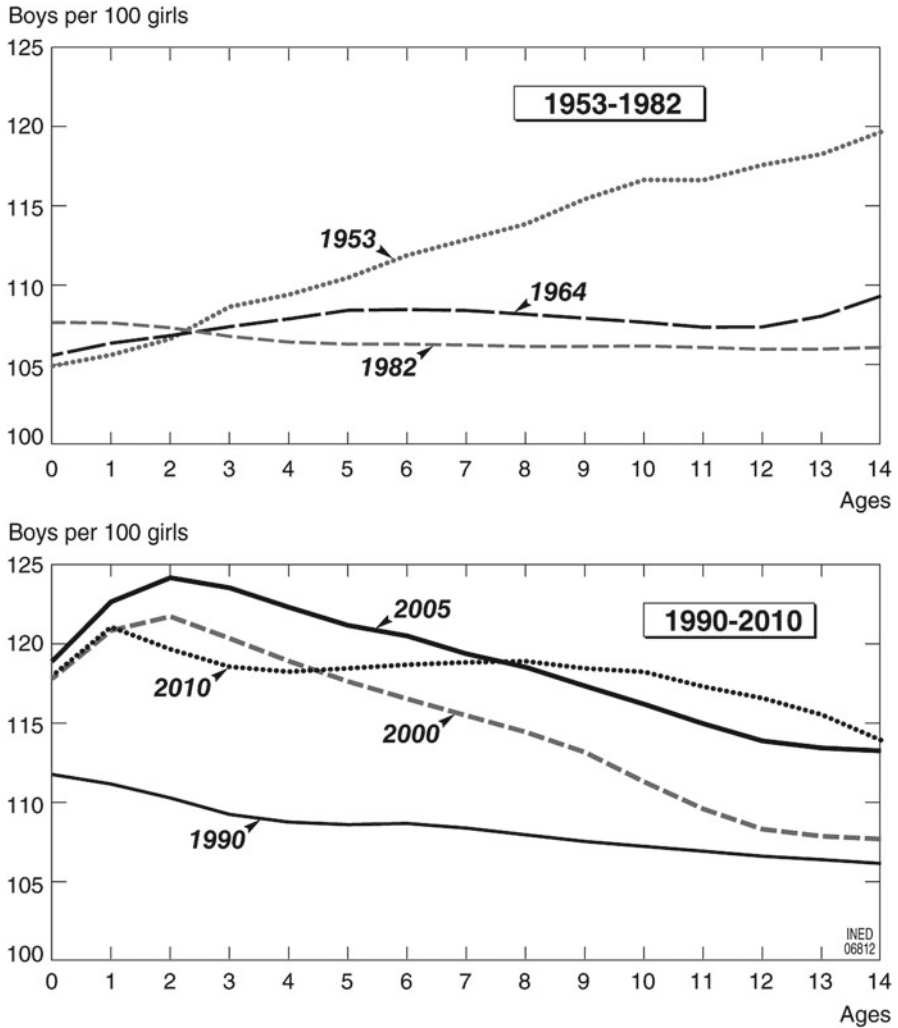
Fig. 4.2 Sex ratio at each age among children aged 0–14 (Sources: Author's calculations based on data from relevant censuses and surveys: NBS 1988, 2007; PCO 1985, 1993, 2002, 2012)

generally takes place in the first few hours or days after birth, thus appears to have fallen sharply soon after the revolution of 1949. Secondly, the rapid increase in sex ratio with age points to excess female mortality due to differential access to healthcare and food, and female infanticide practised up until the late 1940s, although it is not possible to determine which of the two practices predominated at the time.

The strong gender imbalance, with a sex ratio of more than 115 boys per 100 girls among children aged 10–14 in 1953, can thus be attributed to a combination of infanticide in the period prior to the 1949 revolution, and excess female mortality

due to neglect of older girl children. These data therefore attest to a female deficit in the decades preceding the 1949 revolution in the oldest cohorts concerned here, i.e. those born between the late 1930s and the late 1940s.

In the next census, in 1964, the situation of the youngest children, aged under 6 (born between 1958 and 1964), was fairly similar to that of the same age group in 1953 (born between 1947 and 1953). There is no obvious sign of female infanticide, since the sex ratio of 103.8 boys per 100 girls among children aged under 1 year is consistent with the levels usually expected. However, the excess mortality of girls at older ages does not seem to have disappeared: the sex ratio of children aged 0–3 in 1953 was 106.3, but in 1964 rose to 108.9 in the same cohorts (aged 11–14), which suggests that during the intervening period, particularly during the 3 years of the Great Chinese Famine[2] (1959–1961), more girls died than boys.

By contrast, the remainder of the 1960s and the first half of the 1970s correspond to the period with the smallest deficit of girls in China's recent demographic history. During those 15 odd years, 2–3 % of the girls born appear to have died prematurely at some point in childhood as a result of discrimination, compared with the 15 % of missing girls in the cohorts born in the late 1930s and 10 % of those born in the 1940s (Coale and Banister 1994; Banister 2004). That relative improvement is visible in the sex ratio curve for 1982, which, despite a slight excess sex ratio at each age, is the closest to the biological excess mortality of boys, since the sex ratio decreases slightly with age. There is a slight spike in the curve at the youngest ages (under 4), however, reflecting the introduction of prenatal sex determination techniques in the late 1970s, as described above. From that date onwards, the trend is sharply upward. In 1990, the sex ratio increases at every age. The sex ratio of the child population peaked in 2005, at 122.6 boys per 100 girls among children aged 1–6. The sharply descending curve reflects a worsening of discrimination against girls in the 1990s and the early 2000s, as well as a shift in discrimination from older children to the youngest. Excess female infant mortality is highly visible in the 2000 census and the 2005 inter-census survey, with sex ratios of children aged 1 three points higher than those of infants aged under 1. In the most recent period, however, some improvement is observed, mainly reflecting the sharp reduction in excess female infant mortality described above (See Chapter 2, Table 2.8 and Chapter 3, Table 3.4) but confirming the strong imbalance in the sex ratio at birth.

4.2   Declining but Persistent Excess Female Child Mortality

Similar to infant mortality, child mortality (deaths at ages 1–5) reflects the impact of biological factors and living conditions on the survival of children of both sexes after infancy. Child deaths have decreased sharply in recent decades: the child

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[2]See note 1 page 16.

Table 4.1 Probabilities of dying in early childhood (ages 1–4) and estimated excess female child mortality, China, 1973–2010

	1976 mortality survey (1973–1975)	1982 census (1981)	1988 fertility survey (1987)	1990 census (1989)	2000 census (31.10.1999– 1.11.2000)	2010 census (31.10.2009– 1.11.2010)
Males (M)	35.4[a]	16.0[a]	13.0[a]	9.1[a]	7.5[b]	3.6[c]
Females (F)	36.3[a]	17.8[a]	13.7[a]	9.6[a]	8.1[b]	3.2[c]
F/M ratio (a)	1.040	1.111	1.054	1.059	1.072	0.882
F/M ratio according to Hill and Upchurch (b)	0.876	0.876	0.852	0.814	0.814	0.814
Excess female child mortality (%) [(a−b)/b × 100]	+18.7	+26.8	+23.7	+30.1	+31.7	+8.4

Sources: Lines 1 and 2: [a]CPIRC (1995); [b]Banister (2007); [c]Estimations based on data from Maternal and child surveillance system (MOH 2010); Line 4: Hill and Upchurch (1995); Lines 3 and 5: author's calculations based on the corresponding surveys and censuses

mortality rate was divided by more than four between the mid-1970s and 2000 but the decrease was roughly equal for boys and girls (Table 4.1). In other words, the excess mortality of girls persisted throughout this period. Using the same method as for infant mortality, Hill and Upchurch (1995) estimated a "standard" value for the female-to-male ratio of the probability of dying in childhood of 0.814 when the male infant and child mortality rate is around 25 per 1,000 live births, 0.852 when the rate is around 50 per 1,000 live births, and 0.876 when the rate is around 75 per 1,000 live births. The adjustments made by CPIRC (1995) and Banister (2007) to data from the censuses and national surveys highlight excess female mortality in this age group from the 1970s onwards (Banister 2004; Li and Zhu 2001), even though girls' probability of dying before their first birthday compared with boys was, at that time, consistent with the levels usually observed. Official figures indicate that the trend reversed in the 2000s, with a female-to-male ratio now approaching the expected level: in 2010, excess female child mortality dropped to 8.4 %, versus 31.7 % 10 years earlier.

In the early 1970s, the female-to-male ratio of the infant probability of dying was still close to the levels established by Hill and Upchurch (1995) (see pp. 30–31). By contrast, the female-to-male ratio of probability of dying in early childhood was already above 1, highlighting the inequality of survival between the sexes at ages 1–4 (Fig. 4.3). Subsequently, however, excess female child mortality remained relatively stable until 2000, around 20–30 % above the expected levels as defined by Hill and Upchurch (the ratio increased from 1.040 in 1973–1975 to 1.072 in 2000). Simultaneously, however, as shown above, excess female mortality increased sharply between birth and the first birthday, so that female infant mortality now exceeds that of males. That trend reflects relative stability of mortality among older

Female-to-male ratio
of child mortality rates
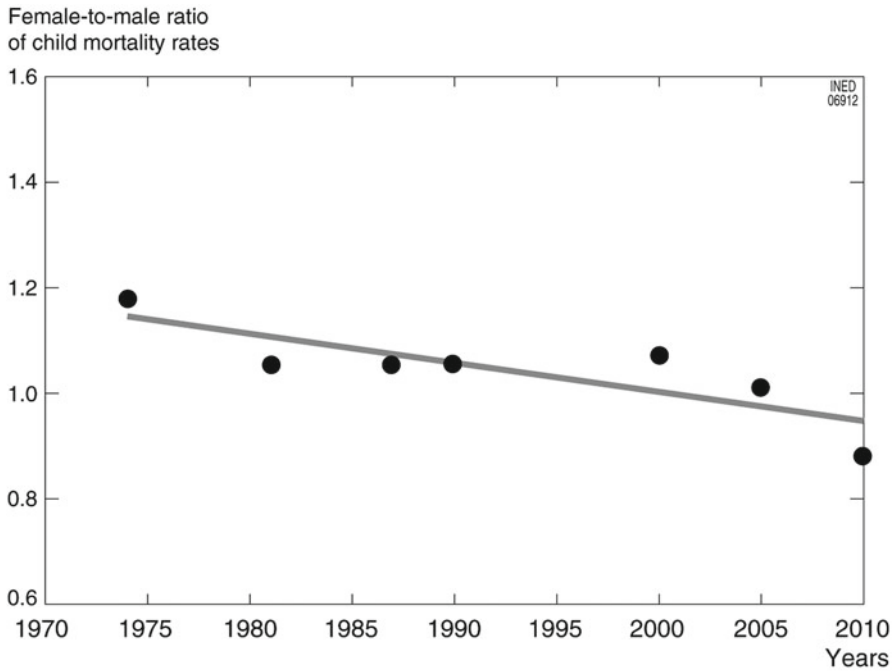
Fig. 4.3 Excess female child mortality, 1973–2010 (Sources: Calculations based on CPIRC (1995), Banister (1987, 2007), NBS (2007) and PCO (2012))

girl children but a worsening of the situation for girls in the first few months of life. Until the 2000s, although the overall improvement in healthcare and food had also benefited girls, baby girls below age 1 were subjected to strong discrimination. As stated above, however, a significant reduction in excess female mortality, among both infants and children, was observed in 2010.

Although less so than infant mortality, excess female child mortality also contributes to the female deficit in China. The 2000 census data adjusted by Banister (2007) show 53,021 female deaths at ages 1–4, which corresponds to a female probability of dying in childhood of 8.1 per 1,000. If there were no discrimination against girls, with a male probability of dying in childhood adjusted by Banister (2007) of 7.5 per 1,000, the female probability should have been 6.1 (7.5 × 0.814) per 1,000. The corrected level would give a figure of 38,301 female deaths at ages 1–4, which indicates that there were 14,720 (53,021–38,301) excess female deaths in 2000. The same calculation performed on 1990 census data adjusted by the CPIRC (1995) indicates 24,592 excess female child deaths, which, after simple interpolation, gives an annual average of slightly more than 19,600 excess deaths of girls between 1989 and 2000 (Table 4.2).

Table 4.2 Deaths and child mortality rates, observed and corrected on the basis of standardized ratios, and estimated excess female deaths, China, 1989 and 2000

	Observed female deaths and female child mortality rate (adjusted data)					Corrected female deaths and female child mortality rate based on standardized ratios (estimate)			
Years	Observed female population (a)	Observed female deaths (b)	Female probability of dying $_nq_x$ (f), observed (c)	Male probability of dying $_nq_x$ (h), observed (d)	Ratio $_nq_x$ (f)/ $_nq_x$ (h)	Standardized ratios $_nq_x$ (f)/ $_nq_x$ (h) (e)	Corrected female probability of dying $_nq_x$ (f) (f=d×e)	Corrected female deaths (g=(a×f)/5 or 10)	Excess female deaths (b) − (g)
1989	44,423,343	106,412	0.0096	0.0091	1.059	0.814	0.0074	81,820	24,592
2000	24,996,087	53,021	0.0081	0.0075	1.071	0.814	0.0061	38,301	14,720

Sources: For 1989: estimates based on data from (a) PCO (1993), (c) and (d) CPIRC (1995); for 2000: estimates based on data from (a) PCO (2002), (c) and (d) Banister (2007), (e): Hill and Upchurch (1995)

Chapter 5
Life-Long Inequality

5.1 The Percentage of Men in the Adult Population

The masculinization of China's population is largely a "bottom-up" process in the sense that first it affects births (through increasing use of prenatal sex selection) and then children (as a consequence of excess female infant and child mortality) and then continues into adulthood as cohorts grow older (Chu 2001; Mo 2005). However, the sex distribution in adulthood can be also influenced by other factors. When there is no sex-differentiated migration, the sex ratio can be rebalanced by improvements in women's survival, particularly at reproductive ages; by gains in female life expectancy at birth; or by worsening living conditions for men, in particular at working ages, owing to high-risk occupational and social behaviours which expose them to excess mortality. Conversely, the masculinization process can accelerate in adulthood due to insufficient gains or worsening living standards for women, leading to relative excess mortality.

The percentage of adult men in China's population increased in various age groups between 1953 and 2000 (Fig. 5.1). The only exceptions were the youngest group (aged 15–19 in 2000) and the 30–39 age group. In those two age groups, which exhibited high sex ratios in 1953, there has been some sex rebalancing, whereas all other age groups now show an even higher over-representation of men than in 1953.[1] Masculinization is particularly pronounced in the oldest age groups (over 50), which contrasts with the trends usually observed in the context of an ageing population.

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[1] I am unable to provide satisfactory explanations for the trend observed in these two age groups. It might come from a "smoothing" effect in the recent period, compared with the period prior to 1953, which was more chaotic politically and socially and therefore more likely to be characterized by variations in the sex ratio in some age groups.
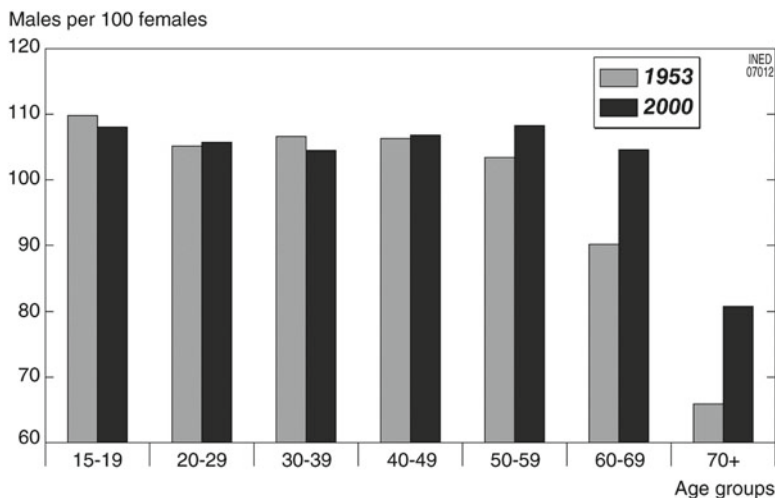
Fig. 5.1 Sex ratios at adult ages in different age groups, China, 1953 and 2000 (Sources: relevant surveys and censuses (NBS 1988; PCO 2002))

5.2 A Mortality Regime Skewed Against Women

The growing prevalence of prenatal sex selection is an undeniable factor in the masculinization of China's population. This new manifestation of the traditional preference for sons, made possible by increasingly widespread access to methods for determining the sex of an unborn child, reinforces age-old practices of neglect towards girls that contribute to their excess mortality and therefore to a deficit of females relative to males (Das Gupta and Li 1999; Li and Zhu 2001).

Excess female infant and child mortality undeniably contribute to the masculinization of the child population and to the persistence of relatively small gender gaps in life expectancy at birth. The female deficit could also be accentuated by excess female mortality that persists at older ages. Excess female mortality after age 5 is harder to measure accurately than mortality at young ages, however. Whereas male and female infant and child mortality rates are mainly influenced by biological factors (Hill and Upchurch 1995), at older ages they are determined by genetic factors and, to a large extent, by sex-specific behavioural factors (Clarke 2000; Vallin 2002). Most populations therefore exhibit excess male mortality in adulthood owing to biological factors, but above all to men's greater propensity to engage in risk behaviours.

The data shown below, drawn from empirical observations, indicate that although no population can be considered completely free of sex-specific behaviour that could affect mortality rates, the trends observed in different countries are fairly similar. At an equivalent male life expectancy at birth, the female-to-male ratios of the age-specific probabilities of dying fall within a fairly narrow range and the dispersion is small (Figs. 5.2a, b, c, d). This appears to confirm the observation that there are no pronounced differences between countries in the sex ratio of deaths at each age (Clarke 2000).
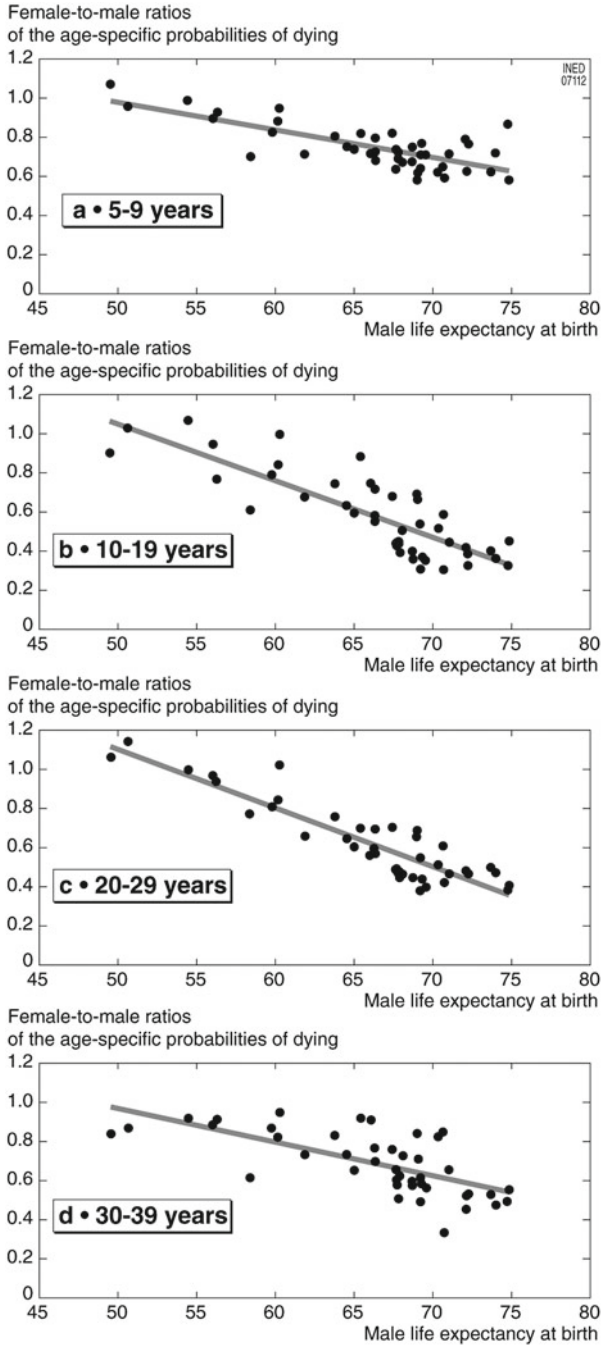
Fig. 5.2 Correlation between the female-to-male ratio of the age-specific probabilities of dying and male life expectancy at birth, in 43 countries at various dates (Sources: see Appendix 5.3, pp. 73–74)

Figures 5.2a, b, c, d are based on empirical data for 20 countries in Europe, America, Asia and the Pacific at various dates in the twentieth century. Forty-four life tables for Switzerland, Belgium, France, Norway, Sweden, Finland, Denmark, Austria, the Netherlands, Germany, England and Wales, Ireland, Greece, Australia, New Zealand, Canada, Japan, Taiwan and Republic of Korea were selected because they are considered to be of fairly good quality, are available for various years in the century and offer a broad range of mortality levels (see Appendix 5.3 at the end of this chapter for the detailed data).[2]

These graphs show the strong correlation between male life expectancy at birth and the female-to-male ratio of the age-specific probability of dying in the various age groups, and that in China the bulk of female excess mortality is observed after age 5, in the 5–9, 10–19, 20–29 and 30–39 age groups (Fig. 5.2a, b, c, d). Despite some dispersion, the relationship is clear: as male life expectancy increases, the female-to-male ratio of the age-specific probability of dying in the various age groups diminishes, which means that the gender gap widens in favour of women (with coefficients of determination $R^2 = 0.565$, 0.821, 0.688 and 0.454 and corresponding correlation coefficients $r = 0.751$, $r = 0.906$, $r = 0.829$ and $r = 0.674$ respectively in those four age groups).

That finding supports the hypothesis that the difference between the female and male probabilities of dying at each age after five is not completely random but results from sex-specific genetic factors and socio-cultural behaviours that, to a certain extent, are common to all populations, at a given male life expectancy at birth.

On the basis of these empirical observations and taking inspiration from the methodology used by Hill and Upchurch (1995) to determine the "expected" gender gap in the age-specific probabilities of dying in infancy or childhood, we have attempted to determine the "likely" expected gender gap in the age-specific probabilities of dying after age 5. The methodology is also based on the idea that, as Clarke (2000) indicates, sex differences in mortality are relatively homogeneous across continents and cultures at every age at a given mortality level but that China does not fit this general observation.

A comparison of the situation in different countries, excluding China (Fig. 5.3a, b, c), reveals that, at an equivalent male life expectancy at birth, the female-to-male ratio of the age-specific probabilities of dying at given ages is fairly constant, even if there are undeniable differences in levels. Overall, it is before age 5 and at reproductive ages that the female-to-male ratios are the highest and the gender gap in mortality is the smallest.

By contrast, it is in early adulthood (15–25) and roughly between ages 55 and 65 that women have the strongest mortality advantage. This relatively homogeneous pattern shows that the gender gap in the countries in the sample falls within a

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Female-to-male ratio
in age-specific probabilities of dying

Female-to-male ratio
in age-specific probabilities of dying

Female-to-male ratio
in age-specific probabilities of dying

Fig. 5.3 Female-to-male ratio of the age-specific probabilities of dying in China and other countries (Source: for China: CPIRC (1995) and Banister (2007); for the other countries: see Appendix 5.3, pp. 73–74.)

relatively narrow range of values, at a given male life expectancy at birth. China does not follow the same pattern, however. Compared with the cases presented here, China exhibits excess female mortality in early childhood (0–4 years), in early adulthood – probably partly due to still relatively high maternal mortality at those

Table 5.1 Leading causes of death from external causes by sex and place of residence, China, 1995–1999

	Cause of death	Rank	Mortality rate (per 100,000 population)	% of total deaths in 15–84 age group
Rural areas				
Women	Suicide and self-inflicted injuries	4/15	30.47	4.92
	Road accidents	13/15	11.04	1.78
Men	Suicide and self-inflicted injuries	8/15	23.87	3.29
	Road accidents	6/15	26.50	3.66
Urban areas				
Women	Suicide and self-inflicted injuries	12/15	8.31	1.71
	Road accidents	10/15	8.40	1.73
Men	Suicide and self-inflicted injuries	14/15	8.27	1.33
	Road accidents	7/15	21.00	3.37

Source: Phillips et al. (2002)

ages (see Appendix 5.1)[3] – and, more recently, at ages 50–65. Although these results should be interpreted with caution, – until the 1990s, adult Chinese men behaved in ways more conducive to their survival at ages at which men in other countries were more likely to engage in risk behaviour (Banister 2007) –, the relative excess mortality of Chinese women cannot be ignored. In practice, as noted by Phillips et al. (2002), violent death by suicide and self-inflicted injuries is the leading cause of death among Chinese women aged 15–34, in particular rural women, for whom this cause accounts for 31 % of deaths in this age group, compared with 15.8 % for urban women (compared with 13.1 % for rural men and 7.4 % for urban men in the same age group) (Table 5.1). China is indeed one of the few countries in the world where women commit suicide more frequently than men (approximately 600 women committed suicide per day at the end of the 1990s, according to the World Health Organization), with mortality rates ranging from 40 to 140 per 100,000 among women aged 55 and over, a level four to five times higher than men in the same age group (Phillips et al. 2002). Chinese women commit more than half (56 %) of all female suicides in the world. These suicides are impulsive acts but the women who commit them show no sign of mental illness or depression and are not under the influence of alcohol[4] (Attané 2005) (see Appendix 5.2). Suicide is now the

[3] Although maternal mortality is still not measured accurately in China, this argument is supported by the relatively high percentage of women who give birth at home, estimated to be 23 % in 2000 (WMC 2004).

[4] These factors are commonly associated with suicide in the West.

Table 5.2 Standardized female-to-male ratios of the age-specific probabilities of dying in various age groups[a]

Male life expectancy at birth e_0	Female-to-male ratio of the age-specific probabilities of dying			
	$_5q_5$	$_{10}q_{10}$	$_{10}q_{20}$	$_{10}q_{30}$
50	0.974	1.077	1.002	0.913
51	0.960	1.049	0.975	0.898
52	0.947	1.020	0.949	0.883
53	0.933	0.992	0.922	0.868
54	0.920	0.964	0.895	0.853
55	0.906	0.936	0.869	0.838
56	0.893	0.908	0.842	0.822
57	0.879	0.879	0.815	0.807
58	0.866	0.851	0.788	0.792
59	0.852	0.823	0.762	0.777
60	0.839	0.795	0.735	0.762
61	0.825	0.767	0.708	0.747
62	0.812	0.738	0.682	0.732
63	0.798	0.710	0.655	0.717
64	0.785	0.682	0.628	0.702
65	0.771	0.654	0.602	0.687
66	0.758	0.626	0.575	0.671
67	0.744	0.597	0.548	0.656
68	0.731	0.569	0.521	0.641
69	0.717	0.541	0.495	0.626
70	0.704	0.513	0.468	0.611
71	0.690	0.485	0.441	0.596
72	0.677	0.456	0.415	0.581
73	0.663	0.428	0.388	0.566
74	0.650	0.400	0.361	0.551
75	0.636	0.372	0.335	0.536
Relevant algebraic formula	$y = -0.0135 \times + 1.6485$	$y = -0.0282 \times + 2.4867$	$y = -0.0267 \times + 2.337$	$y = -0.0151 \times + 1.668$

Source: Author's calculations

[a]Obtained from data collected for various European, Asian, American and Pacific countries in the twentieth century

See Appendix 5.3 at the end of this chapter for the detailed data

leading cause of death among Chinese women aged 15–34. Among rural women, there are seven times more deaths due to suicide than to medical complications of pregnancy[5] (Phillips et al. 2002).

By applying the algebraic formula describing the correlation between male life expectancy at birth and the female-to-male ratio of the age-specific probabilities of dying in each of the age groups considered, we estimated a standardized value for the female-to-male ratio of the age-specific probabilities of dying at a given male life expectancy at birth (Table 5.2).

_____

[5]Estimated data for 1998.

Thus, for a male life expectancy at birth of 70, for example, the corresponding value for the female-to-male ratio of the age-specific probabilities of dying is 0.704 at ages 5–9, 0.513 at ages 10–19, 0.468 at ages 20–29, and 0.611 at ages 30–39. In China, the female-to-male ratio of the age-specific probabilities of dying in the 10–19 age group was 0.802 in 1990, when male life expectancy was 68.4 according to the CPIRC (1995), whereas it should have been around 0.569 according to the standardized values. That indicates excess female mortality of around 40 % in that age group. In 2000, when male life expectancy in China was 69.3 years, the female-to-male ratio of the age-specific probabilities of dying in the 10–19 age group was 0.671 whereas it should have been around 0.541, which means that excess female mortality in this age group still exceeds 24 %.

In order to estimate *relative* excess female mortality in China, the female-to-male ratios of the probabilities of dying[6] in various age groups were calculated and then compared with standardized values at a given male life expectancy at birth. For that purpose, the standardized ratios were considered to reflect a situation where mortality conditions in the countries concerned were largely unaffected by discrimination against women and where the genetic and behavioural characteristics of each sex were common to all countries, and which reflected the low level of heterogeneity between the countries considered here, with the exception of China.

It emerges that, at an equivalent male life expectancy at birth, the female-to-male ratios of the probabilities of dying in the age groups considered is generally higher in China than the standardized ratios. That finding suggests either that women's living conditions are generally less favourable to their survival, or that men's living standards are generally more favourable to their survival than in other countries. Either way, the gender gaps in mortality, which are smaller in China than the standardized gaps, highlight excess female mortality relative to males, which indicates that, overall, women's life expectancy gains have been smaller than what might have been expected in a context of egalitarian living conditions between the sexes.

5.3 Excess Female Mortality in Early Adulthood, a Cause of the Female Deficit?

The excess mortality of Chinese women relative to Chinese men before their fortieth birthday, as highlighted by the comparison with various other countries, is not in doubt. Its exact impact on the numbers of female deaths still needs to be estimated, however.

Using the same method for estimating excess infant and child mortality on the basis of the standardized ratios established by Hill and Upchurch (1995), we estimated excess female deaths between the ages of 5 and 40 in the 1990 and 2000 censuses with reference to the standardized ratios shown in Table 5.2. The simulations presented in Tables 5.3 and 5.4 give an indication of excess female deaths

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[6]Calculations performed on data adjusted by the CPIRC (1995) for 1981 and 1990 and by Banister (2007) for 2000.

Table 5.3 Observed and standardized deaths and probabilities of dying, and estimated excess female deaths, China, 1990

	Observed female deaths and probabilities of dying (adjusted data)					Corrected female deaths and probabilities of dying on the based of standardized ratios (estimated)			
Age groups	Observed female population (a)	Observed female deaths (b)	Observed (c) female age-specific probabilities of dying $_nq_x$ (f)	Observed (d) male age-specific probabilities of dying $_nq_x$ (h)	Ratio $_nq_x$ (f)/ $_nq_x$ (h)	Standardized ratios $_nq_x$ (f)/$_nq_x$ (h) (e)	Corrected female age-specific probabilities of dying $_nq_x$ (f) (f=d×e)	Corrected female deaths (g=(a×f)/5 or 10)	Excess female deaths (b)−(g)
5–9 years	47,705,868	29,974	0.0031	0.0042	0.740	0.731	0.0031	29,612	362
10–19 years	105,550,931	74,287	0.0068	0.0085	0.802	0.569	0.0048	51,028	23,259
20–29 years	112,282,693	134,332	0.0119	0.0144	0.827	0.521	0.0075	84,244	50,088
30–39 years	81,952,539	120,522	0.0146	0.0201	0.727	0.641	0.0129	105,601	14,922
Total	–	359,115	–	–	–	–	–	270,485	88,631

Sources: Estimates calculated on data taken from (a) PCO (1993); (b) PCO (2002); (c) and (d) CPIRC (1995); (e): values taken from Table 5.2, p. 65

Table 5.4 Observed and standardized deaths and probabilities of dying, and estimated excess female deaths, China, 2000

| Age groups | Observed female population (a) | Observed female deaths (b) | Observed female deaths and probabilities of dying (adjusted data) | | | | Corrected female deaths and probabilities of dying on the based of standardized ratios (estimated) | | |
			Observed (c) female age-specific probabilities of dying $_nq_x$ (f)	Observed (d) male age-specific probabilities of dying $_nq_x$ (h)	Ratio $_nq_x$ (f)/ $_nq_x$ (h)	Standardized ratios $_nq_x$ (f)/ $_nq_x$ (h) (e)	Corrected female age-specific probabilities of dying $_nq_x$ (f) (f = dxe)	Corrected female deaths (g = (axf)/5 or 10)	Excess female deaths (b)−(g)
5–9 years	41,849,379	24,086	0.0027	0.0037	0.728	0.717	0.0027	22,485	1,601
10–19 years	110,204,889	50,232	0.0047	0.0070	0.674	0.541	0.0038	41,501	8,731
20–29 years	104,006,915	100,848	0.0094	0.0145	0.648	0.495	0.0072	74,437	26,411
30–39 years	114,959,746	139,122	0.0125	0.0206	0.606	0.626	0.0129	148,357	−9,236
Total	–	314,288	–	–	–	–	–	286,780	27,507

Sources: Estimates calculated on data taken from (a) PCO (1993); (b) PCO (2002); (c) and (d) CPIRC (1995); (e): values taken from Table 5.2, p. 65

before age 40, manifestly due to unequal living conditions between men and women. It thus appears that, with the notable exception of the 30–39 age group in 2000,[7] characterized by a female-to-male ratio of the age-specific probability of dying that is smaller than the standardized ratios, Chinese women exhibit what can be analysed as recurring excess mortality relative to Chinese men. The number of excess female deaths between the ages of 5 and 40 is estimated to have been roughly 88,600 in 1989 and more than 27,000 in 2000. Again, through simple interpolation, the excess female deaths in this age group can be estimated at around 697,000 between 1989 and 2000, representing an annual average of 58,069 over those 12 years. Consequently, the female deficit assumed to be due to excess female mortality can be estimated at around 190,200 per year (i.e. 58,069 annual excess deaths between the ages of 5 and 40, plus an annual average of 19,600 excess female child deaths, plus an annual average of 112,560 excess female infant deaths).

In the 1990s, the average number of girls eliminated each year by sex-selective abortion has been estimated at around 500,000–600,000 (see p. 25). These figures are consistent with the estimates made by Jiang et al. (2005), who estimated that a total of 6.3 million females were missing from the cohorts born between 1990 and 2000. That estimate is also consistent with those of Cai and Lavely (2003), who established a total female deficit of around 12 million in the cohorts born between 1980 and 2000.

In both cases, we obtain an annual average deficit of female births due to sex-selective abortion of around 500,000–600,000. The impact of excess female mortality before age 40 on the total female deficit therefore seems much smaller than that of sex-selective abortion. According to our estimates, excess female mortality could nevertheless be responsible for more than 190,000 excess female deaths every year. It could therefore be considered as one of the factors explaining the surplus of males in China's population.

Logically, excess female mortality before age 40 in China is slowing gains in female life expectancy. A simulation of the life table for Chinese women excluding excess female mortality before age 5 (i.e. using the corrected female age-specific probabilities of dying in infancy and childhood based on the expected ratios established by Hill and Upchurch 1995) raises female life expectancy at birth to 72.8 years in 1990 and 73.2 years in 2000, respectively 10.8 months (or 0.9 years) and 12 months (1 year) longer than the adjusted observed data (Banister 2007) (Table 5.5). Another simulation of the female life table, this time corrected for excess female mortality between birth and the fortieth birthday, raises female life expectancy at birth to 73.2 years in 1990 and 73.9 years in 2000, i.e. 1.3 and 1.7 years, respectively, above the initial values. These corrections thus bring the gender gaps in life expectancy at birth in China closer to those usually observed at an equivalent male life expectancy, raising them by 37 % (from 3.5 to 4.8 years) in 1990, and by 58 % (from 2.9 to 4.6 years) in 2000.

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[7] This situation would seem to result from excess male mortality in this age group, due to changes in men's behaviour since the economic reforms, as explained previously.

Table 5.5 Female life expectancy at birth corrected for their excess mortality between 0 and 40 years, 1990 and 2000

	$_1q_0$ (f)	$_4q_1$ (f)	$_4q_5$ (f)	$_9q_{10}$ (f)	$_9q_{20}$ (f)	$_9q_{30}$ (f)	e_0 (f)	e_0 (m)	Gender gap in life expectancy (years)
1990									
Observed data (with discrimination)	29.4	9.6	3.1	6.8	11.9	14.6	71.9	68.4	3.5
Corrected data (after eliminating excess female mortality at ages 0–4)	*19.6[a]*	*7.4*	–	–	–	–	*72.8*	68.4	*4.4*
Corrected data (after eliminating excess female mortality at ages 0–40)	*19.6*	*7.4*	*3.1*	*4.8*	*7.5*	*12.9*	*73.2*	68.4	*4.8*
2000									
Observed data (with discrimination)	38.9	8.1	2.7	4.7	9.4	12.5	72.2	69.3	2.9
Corrected data (after eliminating excess female mortality at ages 0–4)	*20.3*	*6.1*	–	–	–	–	*73.2*	69.3	*3.9*
Corrected data (after eliminating excess female mortality at ages 0–40)	*20.3*	*6.1*	*2.7*	*3.8*	*7.2*	*12.9*	*73.9*	69.3	*4.6*

Sources: Line 1: data adjusted by the CPIRC (1995) for 1990; line 4: data adjusted by Banister (2007) for 2000; lines 2, 3, 5 and 6: corrections based on values taken from Table 5.2, p. 65
[a]The corrected data are in italics

While prenatal sex selection and sex-selective abortions seem to be the main cause of the gender imbalance at young ages and of the recent masculinization of China's population, the role played by excess female mortality, particularly before age 5 but also in early adulthood, should not be underestimated. In our efforts to explain the female deficit, this finding encourages us to look beyond the relationship between a preference for sons and sex-selective abortions, and to investigate the living conditions of women in China more broadly.

Appendices

Appendix 5.1: Maternal Mortality

The maternal mortality rate, which measures the percentage of female deaths attributable to pregnancy or childbirth, for every 100,000 live births is, in theory, a significant

indicator of the health conditions of the female population. It is only reliable, however, when it is calculated on the basis of accurate reporting of maternal deaths, which was not the case in China until the late 1980s (Tan 2006). The official data for that period show surprisingly low maternal mortality rates, as well as an equally implausible sharp rise between 1980 and 1990, when maternal mortality apparently increased by 140 % in cities and by 130 % in rural areas. Most of that increase should therefore be ascribed to more accurate identification and recording of this cause of death.

The data available from 1989, when China's Ministry of Health organized a national survey of maternal mortality, provide more plausible trends. In that year, maternal mortality was apparently 95 per 100,000 across the country, breaking down as 50 per 100,000 in urban areas, and 115 per 100,000 in rural areas. The data also show a sharp decline in maternal mortality nationwide to 62 per 100,000 in 1995, then to 53 per 100,000 in 2000. That rapid decline puts China in an enviable position in relation to the three other Asian giants (Bangladesh: 684 per 100,000; India: 440; Indonesia: 390), but a long way behind its closest neighbour, Republic of Korea, which reports 30 maternal deaths per 100,000 live births.[8] In 2010, the maternal mortality rate fell to 30 per 100,000.

The available data reflect a fairly steady decline in maternal mortality since the early 1990s, which can be attributed partly to progress in maternal and child healthcare since the late 1970s. It should also be remembered that the simultaneous steep decline in fertility and spacing of births mechanically reduced the risks associated with maternity and therefore the number of women dying from pregnancy or childbirth. It would also appear that the Chinese government's efforts to combat maternal mortality in the 1990s are starting to pay off in rural as well as urban areas.

Strong disparities persist between provinces, however. The provinces in central China, and even more so those in the west, are disadvantaged in terms of reproductive healthcare. Access to contraception is much more limited, and childbirth in hospital, which is the norm in the developed eastern provinces, is much less common: one birth in four takes place in hospital in Guizhou, and one in five in Tibet.

Whereas in 2000 the infant mortality rate in Beijing and Shanghai was similar to that in developed countries (around 5 per 1,000 live births), in Xinjiang, more than 1 child in 20 died before its first birthday. Maternal deaths, which were very low in Beijing and Shanghai (fewer than 10 per 100,000 live births), were 10–40 times more frequent in the western provinces, at more than 140 per 100,000 in Guizhou, Qinghai and Xinjiang, and 466 in Tibet. Overlapping with economic disparities and differential access to healthcare, the different provinces are characterized by profound inequalities in terms of access to information and services.

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[8] For India, Indonesia and Korea, these are World Bank estimates based on population samples, in *World Development Indicators 1999*, The World Bank. Data for Bangladesh are taken from: http://www.worldbank.org

Reproductive health indicators in selected eastern and western provinces, 2000

Provinces	Contraceptive prevalence (%)	Childbirth in hospital (%)	Infant mortality (per 1,000 live births)	Maternal mortality (per 100,000 live births)
Eastern provinces				
Beijing	87.8	99.5*	5.4	9.7
Tianjin	91.1	99.7*	9.4	18.6
Shanghai	91.0	99.4*	5.1	9.6
Jiangsu	91.1	98.9	11.2	28.5
Zhejiang	91.1	98.7	15.6	19.6
Western provinces				
Guizhou	90.1	38.9*	38.8	141.7
Tibet	71.1	29.8*	35.3	466.3
Gansu	87.5	62.5*	28.9	108.8
Qinghai	86.9	66.4*	41.0	142.0
Xinjiang	82.7	69.0*	55.5	161.4

Sources: Attané (2006b) except the asterisked data, which are taken from Tan (2006)

The low prevalence of hospital births until the 2000s remained one of the main factors in maternal mortality: in 1985, fewer than half of Chinese women (43.7 %) gave birth in hospital, of whom 73.6 % in cities and 36.4 % in the countryside. In 2000, the percentage rose to 72.9 % nationwide, although with sharp disparities between urban and rural areas: 84.9 and 65.2 % respectively (WMC 2004). Strong inequalities between provinces were observed, with the percentage of births in hospital above 99 % in Beijing, Tianjin and Shanghai, but only 30 % in Tibet, 39 % in Guizhou, and 60–70 % in Yunnan, Gansu, Qinghai and Xinjiang, for example (Tan 2006).

Appendix 5.2: Women and Suicide

Poverty, persecution by their mothers-in-law or an inability to produce a male child are driving more and more rural women to suicide. An ordinary scene in the Chinese countryside: it is dinner time in the Zhang household, a family of farmers who live in a village of around 100 houses in central China. In the main room, lit by a single neon, the men sit around a low table, eating, talking, smoking and drinking rice wine. Around them, the women who made the meal stand silently in the shadows, watching on. When the sons, brothers and husbands leave the table, the women will eat the leftovers from their bowls. That will mainly consist of zhou, or rice water, to which they will add a few vegetables. It has been this way for thousands of years. The Zhang are neither poor nor rich. They are middling peasants that trade with the small towns in the region. Two of the sons even went to work in Shanghai for 3 years. But women in remote rural areas still have a second-class status. A woman's role is to have children, preferably male heirs, be hardworking and

faithful to her husband. Half a century of Communism has done nothing to change these traditions.[9]

The most common method of suicide is swallowing pesticides:

> A 24-year-old woman attempted to commit suicide. Her husband had left for the city to look for work and her mother-in-law was making life difficult for her. Her first child was a girl and she had just given birth to a second daughter. Forced to pay a high fine for breaking the one-child rule, the family criticized her for not being able to conceive a boy, the only insurance policy for the parents' old age.[10]

Suicide is not disapproved of in Chinese culture: after a humiliation, a disappointment, a family feud, suicide offers a respectable way out. "Women around here used to hang themselves or throw themselves into the well, but there weren't nearly as many suicides as there are now," says Grandma Zhang, 78.

> My neighbour was 35. Her three children were already grown up, but they didn't have enough land. Just one mu[11] for the whole family. She said she didn't see any point in going on living.[12]

The countryside is suffering the adverse effects of the economic reforms and is severely strained by the contradictions of the system. Social pressure; tyrannical mothers-in-law; insufficient land; rising poverty; men who migrate to the cities, leaving the villages populated by women, old people and children; an excessively strict birth control policy, etc. Rural women are starting to realize that a different kind of life is possible in the cities, with all the dreams fuelled by consumer society. But when those dreams remain mirages, the only solution left to them is suicide, which is widespread in rural areas, where people have fewer opportunities to express their grievances or seek redress in the courts.

Appendix 5.3: Female-to-Male Ratio of the Probabilities of Dying in Different Age Groups at a Given Level of Male Life Expectancy at Birth in Various Countries

Country	Years	Male life expectancy at birth e_0	Age group			
			5–9 years	10–19 years	20–29 years	30–39 years
Australia	1946–1948	66.1	0.716	0.558	0.749	0.907
	1970–1972	67.9	0.724	0.447	0.394	0.625
	1975–1977	69.5	0.710	0.395	0.350	0.563
Austria	1949–1951	61.9	0.716	0.658	0.677	0.735
	1980–1982	69.2	0.712	0.382	0.308	0.494

(continued)

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[9]The testimonials in italics are taken from Puel C. (1999). Les Chinoises tentées par la mort. *Libération,* 23 April 1999.

[10]Puel C., op. cit.

[11]A *mu* is 1/15 of a hectare.

[12]Puel C., op. cit.

(continued)

Country	Years	Male life expectancy at birth e_0	Age group			
			5–9 years	10–19 years	20–29 years	30–39 years
Belgium	1928–1932	56.0	0.898	0.970	0.944	0.883
	1959–1963	67.7	0.738	0.494	0.430	0.604
	1968–1972	67.8	0.697	0.477	0.447	0.579
Canada	1951	66.3	0.725	0.600	0.583	0.765
	1966	68.7	0.749	0.443	0.358	0.575
	1971	69.3	0.767	0.439	0.367	0.582
Denmark	1921–1925	60.3	0.949	1.021	0.997	1.171
	1956–1960	70.3	0.622	0.510	0.516	0.824
England and Wales	1960–1962	68.1	0.674	0.460	0.505	0.725
Finland	1946–1950	58.4	0.700	0.772	0.609	0.612
	1986–1990	70.7	0.591	0.423	0.306	0.334
France	1910	49.5	1.070	1.067	0.899	0.838
	1954	65.0	0.738	0.603	0.593	0.652
	1966	67.8	0.719	0.479	0.437	0.507
Germany	1996–1998	74.0	0.721	0.472	0.363	0.476
Federal Republic of Germany	1949–1951	64.5	0.752	0.646	0.632	0.730
	1986–1988	72.2	0.628	0.478	0.386	0.527
Greece	1955–1959	66.3	0.796	0.692	0.716	0.768
	1960–1962	67.4	0.822	0.701	0.677	0.760
	1980	72.1	0.791	0.481	0.419	0.458
Ireland	1990–1992	72.2	0.771	0.463	0.326	0.531
Japan	1957–1958	63.8	0.806	0.757	0.744	0.831
	1985	74.8	0.585	0.409	0.451	0.556
	1968–1969	69.2	0.636	0.551	0.537	0.612
Netherlands	1951–1955	70.7	0.651	0.612	0.588	0.849
New Zealand	1934–1938	65.4	0.820	0.698	0.883	0.918
Norway	1911–1915	56.3	0.926	0.938	0.767	0.909
	1946–1950	69.0	0.618	0.654	0.665	0.710
	1995	74.8	0.867	0.384	0.328	0.493
Republic of Korea	1970	59.8	0.829	0.810	0.790	0.867
Sweden	1946–1950	69.0	0.584	0.687	0.691	0.842
	1982–1986	73.7	0.626	0.499	0.398	0.530
Switzerland	1910–1911	50.6	0.957	1.144	1.028	0.869
	1920–1921	54.5	0.991	0.998	1.067	0.917
	1948–1953	66.3	0.685	0.567	0.553	0.699
	1950–1960	67.7	0.636	0.489	0.441	0.656
	1958–1963	68.7	0.675	0.451	0.399	0.596
Taiwan	1956–1958	60.2	0.885	0.844	0.841	0.823
United Kingdom	1981–1983	71.0	0.715	0.463	0.443	0.654

Sources: Column 1: (except Japan) data from the Human Life-Table Database, developed jointly by Max Planck Institute for Demographic Research, Rostock, Germany, Department of Demography at the University of California, http://www.lifetable.de/cgi-bin/datamap.plx

The data for Japan are from the Abridged Life Tables, Institute of Population Problems, Ministry of Health and Welfare, Research Series, for the corresponding years; Columns 2–5: calculations based on the same sources

Chapter 6
A Phenomenon Not Unique to China

6.1 Asia, the Most Masculine Continent in the World

6.1.1 A Specific Culture?

The global female deficit was estimated to total 100 million in the 1990s, and by far the largest share of this deficit was in Asia (Sen 1990; Klasen and Wink 2002), currently the only continent with a majority of men (Table 6.1[1]). China is not the only country responsible for this Asian particularity, however. A male surplus also exists in several neighbouring countries, including India, Pakistan and Bangladesh. Together with China, these countries, which are home to around 3 billion of the world's population of 7 billion, reported an estimated female deficit of 89.3 million in the early 2000s: 40.9 million in China, 39.1 million in India, 4.9 million in Pakistan and 3.7 million in Bangladesh (Klasen and Wink 2002). As in China, the female deficit in those Asian countries results from discriminatory practices (the elimination of girls by sex-selective abortion and/or excess female mortality in childhood and adulthood), which can be interpreted as a manifestation of patriarchal societies in a period of economic modernization.[2]

Like China, India (currently the second largest population in the world), Pakistan (sixth), Bangladesh (seventh) and Taiwan have a sex ratio for the total population well above the levels observed elsewhere in the world excluding Asia (Table 6.1). After four decades of a male surplus (1960–2000), the population of Republic of Korea has seen a gradual rebalancing of the sexes and now has a slight female majority. In these countries, including Republic of Korea until very recently, women

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[1] The data presented here are extracted from *World Population Prospects, the 2008 Revision*. However, the corresponding interactive website is no longer available at the time of publication. It is now replaced by *World Population Prospects, the 2010 Revision*, available at http://esa.un.org/wpp/unpp/panel_population.htm

[2] For more information on the situation in these countries, see Attané and Véron (2005), Attané and Guilmoto (2007) and Croll (2000).

Table 6.1 Key demographic indicators and overall sex ratio, in Asian countries and by continent, 2010

	Population in 2010 (million)	Country/continent rank by population size (2010)	% of world population (2010)	Overall sex ratio (men per 100 women) (1950)	Overall sex ratio (men per 100 women) (2010)
China	1,354.1	1	19.6	108.1	107.9
India	1,214.5	2	17.6	108.0	106.8
Indonesia	232.5	4	3.4	98.4	99.7
Pakistan	184.8	6	2.7	124.5	106.1
Bangladesh	164.4	7	2.4	115.9	102.3
Taiwan[a]	22.7	–	0.3	n.d.	103.8
Republic of Korea	48.5	25	0.7	99.2	98.1
Asia	4,166.7	1	60.3	106.0	104.8
Africa	1,033.0	2	15.0	97.9	99.5
Americas	940.4	3	13.6	100.0	97.3
Europe	732.8	4	10.6	87.4	92.9
Oceania	35.8	5	0.5	103.7	99.9
World	6,908.7	–	–	100.2	101.7

Sources: UN-WPP (2008)

[a]For Taiwan (in 2003): SYRC (2004)
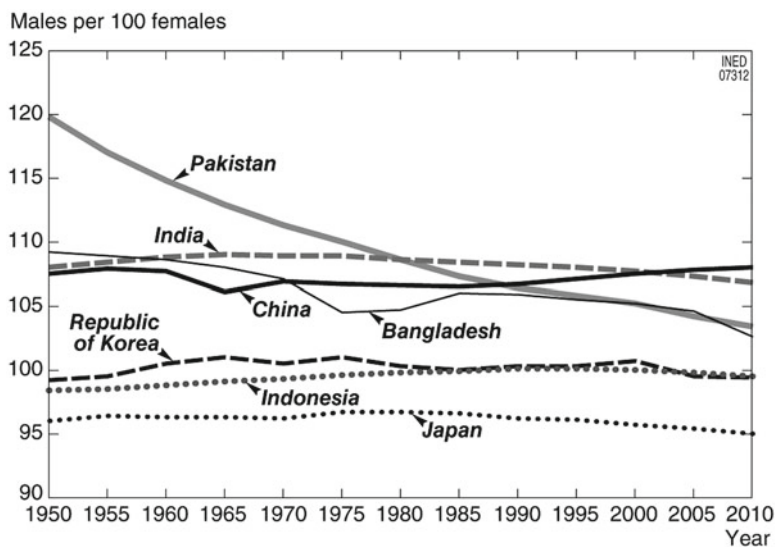
Fig. 6.1 Overall sex ratio in China and other Asian countries, 1950–2010 (Source: UN-WPP 2010)

make up slightly under half of the population rather than slightly over, contrary to the pattern observed in the rest of the world.

However, although this surplus of males is not new in these countries, recent trends diverge (Fig. 6.1). In Pakistan and Bangladesh, where women are still the minority, the relative female deficit has shrunk considerably since the 1950s.

Conversely, in China and India, the overall situation is deteriorating, with sex ratios that have fallen only slightly over the whole of the period under consideration. In both Pakistan and Bangladesh, the gradual rebalancing of the sexes attributable to improvements in women's survival is outweighed by the appearance of new demographic anomalies. China and India have thus become the two countries in the world with the highest proportions of males in their population.

6.1.2   The World's Most Populous Countries Also Have the Highest Male Surplus

Indonesia, the fourth most populous country in the world (with a population of 233 million in 2010), has also seen a gradual increase in the sex ratio in the past 50 years, now further aggravated by a gender imbalance at birth. However, the male surplus in Indonesia is due primarily to a phenomenon that is virtually non-existent or very marginal in China and India, namely that more women than men emigrate, especially to Saudi Arabia. Probable secondary causes are excess female mortality at reproductive ages and increased under-reporting of females in censuses (Siagian and Dasvarma 2005), a factor that has not been demonstrated in either China or India. In Republic of Korea, after a break corresponding to the human lives lost (mainly men) in the civil war (1950–1953) and the few years of rebalancing that followed, the population now has slightly fewer males than females.

China, India, Pakistan and Bangladesh therefore exhibit a male surplus in their populations, a phenomenon observed almost nowhere else in the world. The situation in those countries would thus be atypical, were it not for the fact that they represented 42 % of the world population in 2010. The global impact of this male surplus is even bigger since the sex ratio is highest in the youngest age groups. Currently, the sex ratio among children aged under 10 is around 109 boys per 100 girls in India and Republic of Korea and more than 120 in China. The situation is different in Pakistan and Bangladesh, where, unlike India and China, the decline in excess female mortality, particularly at reproductive ages, is leading to a gradual rebalancing of the sexes, while the percentages of boys in the child population are now relatively close to those observed elsewhere (Fig. 6.2a, b, c, d, e).

6.2   The Shortage of Girls, an Asian Pandemic?

6.2.1   A Situation Encountered in All the Large Asian Countries…

China, India and Republic of Korea share a female deficit in the youngest age groups, on a scale unseen elsewhere in the world. Republic of Korea, which was the forerunner, reported a sex ratio of 108 boys per 100 girls in the population aged
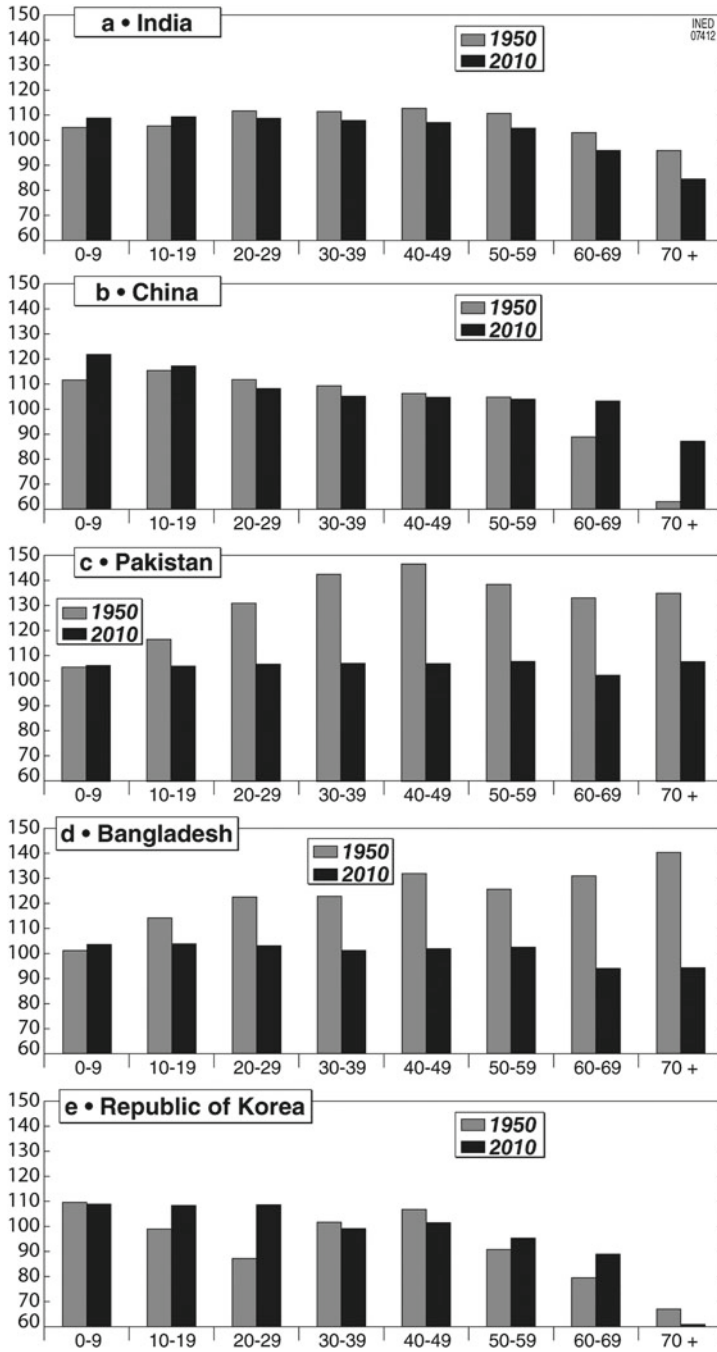
Fig. 6.2 Sex ratio by 10-year age group in China and other Asian countries, 1950 and 2010 (Source: UN-WPP 2010)

Table 6.2 Sex ratio in children aged 0–4 years, in selected Asian countries and by continent, 1985, 1995 and 2005

	1985	1995	2005
Bangladesh[a]	103.0	103.3	103.5
China	107.0[a]	118.4[e]	122.7[f]
Republic of Korea	108.0[b]	113.4[b]	110.0[a]
India[c]	103.9	105.8	107.9
Pakistan[a]	105.8	105.3	105.7
Taiwan[d]	106.5	108.8	109.3
Asia[a]	105.9	108.9	110.0
Africa[a]	101.8	102.0	102.3
Americas[a]	103.9	104.1	104.3
Europe[a]	104.8	105.3	105.5
Oceania[a]	105.6	105.8	106.2

Sources: [a]UN-WPP (2008)
[b]In 1985 and 1994: Kim (2005)
[c]In the population aged 0–6 years in 1981, 1991 and 2001, Choudhury (2005)
[d]In 1985, 1995 and 2003, Statistical Yearbook of the Republic of China SYRC (2004)
[e]NBS (1997)
[f]NBS (2007)

under 5 in 1985 (Table 6.2). By 1995, the ratio had risen to 113.4 (Kim 2005) and was still as high as110.0 in 2005. In India, the sex ratio in the population aged 0–6 years rose from 103.9 boys per 100 girls in 1981, to 105.8 in 1991 and 107.9 in 2001 (Choudhury 2005). Taiwan reported 106.5 boys per 100 girls in the population aged 0–4 in 1985, then 108.8 in 1995 and 109.3 in 2003 (SYRC 2004). Once again, China had the highest sex ratio in the population aged under 5, with more than 120 boys per 100 girls.

In Pakistan and Bangladesh, which stand out with a majority of men in the total population, the sex ratio in the population aged 0–4 is in line with the values observed in the rest of the world excluding Asia, with 104.3 and 104.5 boys per 100 girls, respectively, in 2010 (UN-WPP 2010), despite discrimination against girls in childhood.

As explained above, the gender imbalance at early ages in these countries can be attributed to the cumulative effects of sex-selective abortion causing a female deficit and/or excess female mortality at early ages due to differential treatment of boys and girls. However, the impact of each of these two factors on the deficit of girls varies between countries, and even between regions of the same country.

In the 2005 inter-census survey, China reported 120.5 boys born per 100 girls, the world's highest sex ratio at birth. The pattern was also unusual in India, with 112.1 boys born per 100 girls in 2002 (Bhargava and Hiremath 2005) and in Taiwan, where the sex ratio at birth has oscillated between 108 and 110 boys per 100 girls since 1990 (Yang and Chen 2005). In Republic of Korea,

after peaking in the mid-1990s at more than 115 boys per 100 girls, the sex ratio at birth has been improving gradually, falling to 110 in 2002 (KSY 2003) and then 106.4 in 2009.[3]

### 6.2.2   … and Spreading to Other Parts of the Continent

More recently, the phenomenon of excess masculinity has spread to other parts of the continent. In Vietnam, an imbalance in the sex ratio at birth became perceptible in the late 1990s (Bélanger et al. 2003; Vo et al. 2005): it is now estimated at 111 boys born per 100 girls for the country as a whole in the 2009 census (MPI 2011). In the Caucasus, the sex ratio at birth began to rise rapidly in the mid-1990s and is now as high as in some regions of China and India. While still very close to normal levels in 1995, it has reached 115 boys per 100 girls in Azerbaijan, 118 in Georgia and 120 in Armenia in the 2000s. The gender imbalance at birth appeared simultaneously in these three countries, whereas the pattern is still normal in the neighbouring countries of Russia, Ukraine, Iran, Turkey and Kazakhstan (Meslé et al. 2007).

Locally, the surplus of males is even higher. In India in 1998–2000, 126 boys were born for every 100 girls in the state of Punjab, and 125 in Haryana (Choudhury 2005); in 2011, these ratios still stood at 125.3 and 122.1 respectively. In China in 2000, the sex ratio at birth was 138 boys per 100 girls in the southern provinces of Jiangxi and Guangdong (PCO 2002), and was still peaking at 131.1 and 129.5 in Anhui and Guangdong, respectively. In Republic of Korea in 1994, the sex ratio was 115.5 nationally but 121.4 in the city of Taegu and 124.3 in the province of Kyongbuk (Kim 2005). In the countries for which excess masculinity is the best documented, namely China, India and Republic of Korea, a link has been established with the decline in fertility. It was in the 1980s, when fertility began or continued to decline in most Asian countries (Fig. 6.3), that some began to report a gender imbalance at early ages.

6.2.3   Families' Choices

China, India and Republic of Korea are among the Asian countries with the most severe distortions in their sex ratios at birth. But while the trends in China and Republic of Korea were both characterized by a sudden rise (followed by a plateau, and then a reversal in Republic of Korea), the trends in India remain more constant over time. However, not all births are affected in the same way. In China, while the sex imbalance has recently spread to first births, most of the gender imbalance at birth still occurs at higher birth orders (second and higher) as some of these subsequent births are not permitted under the population control policy and are therefore

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[3] Statistics Korea. Available at http://kostat.go.kr

Average number
of children per woman
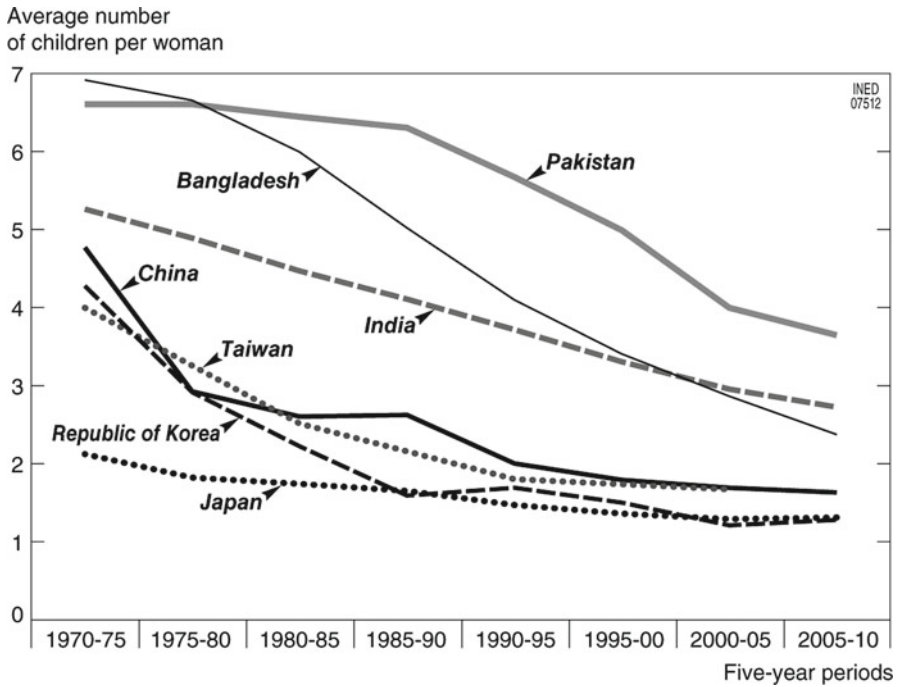
Fig. 6.3 Fertility decline in China and other Asian countries, 1970–2010 (Source: for Taiwan, interpolations from data presented by Yang and Chen (2005). For the other countries: UN-WPP (2010))

sanctioned by fines or even heavier penalties (see above in Chap. 2 p. 21). A comparable trend is observed in India, where births are less strictly controlled than in China, however, and to a lesser extent in Vietnam (Table 6.3). In Republic of Korea, the situation has now returned to normal for first and second births; this reverse trend from the early 2000s can be attributed to the long-term effects of legislation that supports women's rights and gender equality, and to changing livelihoods that have made families less dependent on their sons for old-age support (Kim and Cook 2010).

These societies that report a deficit of girls at early ages all share a preference for sons, exacerbated by the decrease in family size driven, in some cases, by stringent birth control policies.[4] When people can only have or only want a small number of children but are determined to have a son, the only solution is to prevent the birth of a girl or, if a girl is born, to make sure she does not stop her parents from having a son.

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[4]For more information on recent trends in population policy in these countries, see in particular Cho Namhoon (2000) and Kim (2000) (on Republic of Korea); Chang (2005) (on Taiwan), Attané and Scornet (2009) (on Vietnam and China) and Guilmoto and Kulkarni (2004) (on India).

Table 6.3 Sex ratio by birth order in Republic of Korea, China, India and Vietnam

	First birth	Second birth	Third birth or Third and higher	Fourth birth or Fourth and higher	Fifth birth and higher
Republic of Korea (1994)	106.0	114.1	204.8	–	–
Republic of Korea (2000)	106.2	107.4	141.9	167.6	–
Republic of Korea (2009)	105.1	105.8	114.4	114.1	–
China (2000)	107.1	151.9	160.3	156.9	–
China (2005)	108.4	143.2	156.4	141.8	132.8
China (2010)	113.7	130.3	161.6	145.9	–
India (2002)	110.7	112.1	116.1	108.7	114.0
India (2005–2006)	118.6	131.2	119.5	–	–
Vietnam (2009)	110.2	109.0	115.5	–	–

Sources: for Republic of Korea in 1994: Kim (2005); in 2000 and 2009: Statistics Korea, available at http://kostat.go.kr; for India in 2002: Sample Registration Survey, 2002, in Bhargava and Hiremath (2005); in 2005–2006: Ramaiah et al. (2011); for China, 2000 and 2010 censuses (PCO 2002, 2012) and 2005 survey (NBS 2007); for Vietnam: MPI (2011)

6.3   Contrasting Situations in Different Countries

As mentioned earlier, male mortality is usually higher than female mortality at every age in life. Moreover, in the first phase of the demographic transition gender gaps in life expectancy at birth tend to increase with gains in life expectancy (Meslé 2004). However, as Vallin (2002) has pointed out, under certain circumstances, the female advantage can be cancelled out by behavioural and socioeconomic characteristics that result in almost equal chances of survival for both males and females or even in excess female mortality. As demonstrated by Perrenoud (2003), this situation can also represent a specific period in the health transition, characterized by the persistence of diseases that claims more girls' lives than boys'. That is particularly the case in China, as we have seen, but also in Pakistan, Bangladesh and India (Table 6.4), whereas Republic of Korea is the exception, with male mortality now in line with levels observed elsewhere.[5]

6.3.1   Excess Female Mortality in Several Asian Countries

In China, the gender gap in life expectancy at birth was around 3 years in the early 2000s (2.9 years according to the statistics adjusted by Banister (2007), and 3.5 years according to United Nations data (UN-WPP 2008)), which is smaller than the gap observed in other

[5] In 2005–2010, life expectancy at birth in Republic of Korea was 75.9 years for men and 82.5 years for women (UN-WPP 2008). Note, however, that excess female child mortality was observed in Republic of Korea in the 1960s and 1970s (Choe 1987).

Table 6.4 Life expectancy at birth and gender gap in selected developing countries, 1980–1985 and 2005–2010 (years)

	Both sexes	Male	Female	Gap (F – M) (years)
1980–1985				
Pakistan	58.3	58.5	58.4	−0.1
India	56.0	56.1	56.0	−0.1
Bangladesh	49.4	48.9	50.2	+1.3
China	66.4	65.3	67.6	+ 2.3
Egypt	58.2	57.0	59.5	+ 2.5
Haiti	51.4	50.0	52.7	+2.7
Mauritania	53.9	52.3	55.5	+ 3.2
Malaysia	68.0	66.0	70.0	+ 4.0
Thailand	67.8	65.2	70.7	+5.5
2005–2010				
Pakistan	66.3	66.0	66.7	+0.7
Bangladesh	65.9	65.0	67.0	+2.0
India	63.5	62.1	65.0	+2.9
China	73.0	71.3	74.8	+ 3.5
Yemen	62.3	61.1	64.4	+3.3
Egypt	70.0	68.3	71.8	+3.5
Brazil	72.3	68.7	76.0	+8.7
Myanmar	61.2	59.0	63.4	+4.4
Malaysia	74.2	72.0	76.7	+4.7
Thailand	68.8	65.7	72.0	+7.3

Sources: UN-WPP (2008)

countries with similar levels of life expectancy at birth, such as Malaysia, Egypt and Brazil. The narrow gap between male and female average life expectancy, which crystallizes gender inequality, is even more striking in India, Pakistan and Bangladesh. In those three countries, the situation has improved since 1980–1985, when the two sexes had almost the same life expectancy, since 25 years later women had a higher life expectancy than men. However, the gap is narrower than in Myanmar, for example, and in India it is comparable to the gender gap in Yemen, where life expectancy at birth is lower.

Alongside some west African countries like Mali, Niger and Burkina Faso, and some central and southern African countries heavily impacted by the AIDS epidemic (like Malawi, Botswana, Swaziland and Zimbabwe), Pakistan and Bangladesh have one of the world's smallest gender gaps in life expectancy: 0.7 and 2 years, respectively, in 2005–2010.[6] But they have better socioeconomic conditions than those three west African countries, ranked last in UNDP's Human Development Index (HDI)[7] in 2008: of the 179 countries in the ranking, Niger

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[6] Ibid.

[7] The Human Development Index (HDI) was developed by the United Nations Development Programme (UNDP). It combines the following indicators: life expectancy at birth, adult literacy rate, gross enrollment ratio in primary, secondary and tertiary education, and per capita GNI (PPP US$), to give an overall level of human development in the countries measured. The ranking presented here, for 179 countries, was established in 2008.

Table 6.5 HDI rank in 2008 and gender gap in infant and child mortality in various countries, 2005–2010

| | HDI 2008 rank (a) | Infant-and-child mortality, 2005–2010 (per 1,000 live births) (b) | | |
		Boys (B)	Girls(G)	Difference [(G – B)/B×100](%)
China[a]	94/179	34	47	+37.9
India	132/179	77	86	+11.7
Pakistan	139/179	85	94	+10.6
Bangladesh	147/179	58	56	−3.4
Egypt	116/179	42	39	−7.1
Tunisia	95/179	24	21	−12.5
Mauritania	140/179	128	112	−12.5

Sources: (a) UNDP (2008); (b) UN-WPP (2008) except for China (in 2000): Banister (2007)
Note: [a]In 2000

came 174th, Mali 168th and Burkina Faso 173rd. Pakistan was 139th, and Bangladesh 147th (UNDP 2008).[8]

It is in early childhood, however, that gender inequality in relation to the probability of dying is the most stark. Under ordinary circumstances, i.e. when children of both sexes are treated equally, the male disadvantage in terms of infant and child mortality is around 20 % (Hill and Upchurch 1995). The calculations made on United Nations data show that no Asian country examined here reflects that situation, since they all reported higher infant and child mortality for girls than boys in the late 2000s. Excess female infant and child mortality was 11.7 % in India and 10.6 % in Pakistan , while in Bangladesh, boys and girls had almost the same life expectancy before age 5 (Table 6.5).

None of these countries, however, has a level of excess female child mortality as high as that of China in 2000. By way of comparison, in Muslim countries like Tunisia, Egypt and Mauritania, which have lower human development levels, the rule of higher male mortality before age 5 is observed. Furthermore, excess female mortality is usually not independent of the gender composition of offspring. In Pakistan, and in the region of Matlab in Bangladesh in particular, excess mortality of girls before age 5 is especially acute in families that already have a daughter (Alam et al. 2007; Croll 2000).

6.3.2   *Neglect of Daughters: A Recurrent Practice*

While infanticide is now only a marginal practice in China, and no longer exists in Republic of Korea and Taiwan, is still rife in Pakistan and in several Indian states (especially Gujarat, Rajasthan, Uttar Pradesh, Bihar, Punjab, Madhya

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[8]Human Development Index, UNDP: http://hdr.undp.org/en/statistics/

Pradesh and Tamil Nadu), where the practice is regularly documented (Croll 2000; Vella and Oliveau 2005). In rural parts of Tamil Nadu, in particular, female infanticide was still on the increase in the 2000s: formerly limited to the lowest castes, it gradually spread to all social classes. On the scale of the country as a whole, however, infanticide only contributes marginally to the female deficit at early ages. Excess female mortality before age 5 is therefore attributable chiefly to discriminatory practices, mainly in health and nutrition. In Pakistan and Bangladesh, discriminatory treatment towards girls likely to lead to premature death is not found in access to food, but rather in unequal access to healthcare (Muhuri and Preston 1991). In both those countries, as in China, parents seek medical care less systematically and spend fewer resources on a sick daughter than on a sick son (Alam et al. 2007; Mehtab 2005).

In India, excess female mortality before age 5 can be attributed to differential treatment in terms of food, healthcare and affection (Miller 1981; Das Gupta 1987). Reduced access for girls to preventive and curative healthcare appears to be the main factor in excess mortality, especially in the northern states (Barcellos et al. 2010; Basu 1989). There are major differences between girls and boys, particularly in rates of vaccination against the major childhood diseases, which are significantly lower for girls in several northern states, a pattern that is not as visible in the southern and western states. Moreover, access to preventive and curative healthcare decreases for girls as their birth order increases (Arokiasamy 2007).

6.4 Deeply Patriarchal Asian Societies

6.4.1 Preference to Sons Over Daughters

Sons maintain the family line

Drawing out the social, cultural and economic factors that drive these Asian populations to discriminate against their daughters is complex. Some national and local studies nevertheless shed some light on these issues. It has now been established that sex-selective abortions and neglect of girls leading to excess mortality account for the majority of the deficit of girls observed (Banister 2004; Xie 2002). These practices are directly related to the status of women in Asian societies, which share cultural traditions that maintain women in an inferior position. These traditions have been clearly identified, and extensively explored in many studies (Attané 2005; Croll 2000; Chun and Das Gupta 2011; Guilmoto 2004; Miller 1981): a patriarchal system, patrilineal families, inheritance rules for family assets, a socialization process that encourages women to be submissive to their husbands and in-laws, and arranged marriages are all practices that give social preference to sons over daughters. A son is required to maintain the family, continue its name and ensure its social and biological reproduction. People acquire prestige by raising a son, whereas the birth of a daughter is not always welcome. In Chinese culture, the absence of a male

heir means the extinction of the family line and of ancestor veneration (Pimpaneau 1990). In Korea, men are traditionally under tremendous pressure to bear a son, and this pressure is even higher on the firstborn son, who has a greater responsibility in taking care of elderly parents (Chun and Das Gupta 2011). In Hinduism, not having a son condemns parents to eternal wandering because traditionally it is the son who performs his parents' funeral rites (Das Gupta et al. 2002).

The tragedy of the dowry system

In Bangladesh, where patriarchy and Islam are deeply entrenched in society, male domination is the norm. In that country, as in India, daughters are considered as a burden mainly because of dowries, i.e. the goods that the family gives to their daughter's husband (or his family), while sons are highly valued because of the potential wealth they represent for their families (Alam et al. 2007). In India both in high castes and among the Untouchables (Dalits), thousands of women die every year in "sari fires" – their saris burn "accidentally" – if the dowry they give to their family-in-law is considered insufficient.[9] In Bangladesh, women are also murdered for failing to pay a dowry.[10] In Pakistan, the preference for sons is defended mainly for economic reasons, since a son is considered the only descendant who can take care of his parents in their old age (Mehtab 2005). In China, where dowries represent only a small part of the goods exchanged at a wedding,[11] daughters are disadvantaged by patrilocality. According to tradition, daughters must look after their parents-in-law when they are old; unable to take care of their own parents, they are seen by their own families as a "wasted" investment.

An economic context that aggravates discrimination

Poverty, material and family considerations, attachment to tradition and economic calculations are all factors behind the discrimination against girls. In these different societies, as in China, discrimination against girls ties in with the better economic opportunities available to men in adulthood, which encourages neglect of daughters. Despite a high female workforce participation rate in some cases, as in China for instance, the social and economic role of women is, in social representations, still limited mainly to the domestic sphere. Women's work still enjoys little social recognition, even though women make an increasing contribution to household income.

These societies – Confucian, Muslim and Hindu – which seem very different from each other, nevertheless present some similarities. However, far from concerning all

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[9]Brisset (1995).

[10]Concluding Observations Committee on the Elimination of Discrimination against Women: Bangladesh, 12 August 1997, Committee on the Elimination of Discrimination against Women, United Nations <http://www.wfrt.org/humanrts/cedaw/cedaw-bangladesh.htm>.

[11]Prevails a system of "matrimonial compensation" or "bride price", which is the goods transferred from the groom's family to the bride's family on the wedding. With the increase in the cost of living due to economic reform, marriage is becoming increasingly expensive for the groom and his family.

couples independently of their social, economic or religious status, these discriminatory practices are, on the contrary, fairly closely linked to the characteristics of certain sub-populations. In the case of India in particular, prenatal sex determination with a view to sex-selective abortion is much more common among the more affluent and educated classes (Bhat and Zavier 2007). Paradoxically, the mother's level of independence also appears to be a factor determining the probability of being born a girl or a boy, since the most independent women have recourse to sex-selective abortion more than other women (Sutapa 2005). A similar observation is made for China, where the youngest and best educated women, especially in the cities, make more systematic use of prenatal sex determination (Bignami-Van Assche 2004). That does not mean, however, that the rest of the population spares its daughters. On the contrary, in China as in India, the preservation of the family's economic assets or means of production – in most cases, land – has a huge influence on son preference. The system for allocating arable land introduced in China during the agricultural decollectivization of the 1980s, on top of a system of inheritance governed by patrilineal rules, encourages many farmers to prefer a son (Bossen 2007). In India, dowry inflation in recent decades, by increasing the threat to families' economic welfare, is clearly one of the main incentives for eliminating a daughter (Guilmoto 2004). Over the past two decades or so, in India and Bangladesh in particular, there has been an escalation of dowries, which can be financially disastrous for the least well-off families, further accentuating the preference for sons. Even in the more affluent Indian families, a daughter is often seen as bad luck. When she marries, the family will have to part with some of the family fortune and give it to their son-in-law's family as her dowry, whereas the marriage of a son implies a substantial inflow of money.

In India, as in China, Pakistan and Bangladesh, a daughter often spends only a short part of her life with her parents. When she marries, she will leave to devote herself to her husband's family. In India, some little girls are called Ayee Gyee, literally "she who is leaving". In China, girls are called Laidi (literally "a boy will follow"), Pandi ("hoping for a son") or Zhaodi ("give us a son") (Mo 2004). According to a Chinese proverb, to raise a daughter is "to plough someone else's field". For Indians, it is "to water your neighbour's garden", because although paying a dowry means lifelong debt for most of them, they have no way to escape the system.

6.4.2 Religion

Religion, which has strong implications for the propensity of couples to prefer a son over a daughter, plays a decisive role in the frequency of sex-selective abortion. Republic of Korea, which counted 47 % Buddhists, 37 % Protestants and 14 % Catholics among its population reporting a religious faith in the mid-2000s, is an interesting example in this regard. Indeed, Buddhism – not only because it is more compatible with Confucian values, highly favourable to sons, than Catholicism or Protestantism, but also because it is the most tolerant of abortion – seems to be an aggravating factor in discrimination against girls via sex-selective abortion (Kim and Song 2007). In India, Muslims and Christians rarely discriminate against their

Table 6.6 Sex ratio in children aged 0–6 years, by religion, India, 2001

Religion	Sex ratio in children aged 0–6	Religion	Sex ratio in children aged 0–6
Hindu	108.2	Sikh	127.3
Muslim	105.3	Buddhist	106.2
Christian	103.7	Jain	115.0

Source: Bhat and Zavier (2007)

daughters, with sex ratios among children in line with the norm, whereas Hindus and, even more so, Sikhs and Jains, appear to be the most inclined to practice sex-selective abortion (Bhat and Zavier 2007) (Table 6.6).

In China, like Republic of Korea, the practice of Buddhism could increase the propensity of couples to eliminate their daughters by sex-selective abortion. This is confirmed to some extent by a survey conducted by Nie Jingbao (2005). To the question "Should abortion be considered equivalent to child murder?", 58 % of the Buddhists surveyed answered "Yes", compared with 96 % of Catholics. In India, China and Republic of Korea, the practice of Islam[12] or Christianity therefore seems to be less associated with discrimination against girls in demographic terms. We have also shown previously that in China, all forms of discrimination against girls and women, including access to education, are lower among Muslims – in particular among the Uighur – than among the Han, the majority ethnic group (Attané 2005).

A combination of many different socio-cultural characteristics in these countries therefore perpetuates the custom of son preference and, in some cases, encourages active discrimination against daughters, despite the economic development that these countries have enjoyed in recent decades.

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[12]Certain interpretations of the Koran consider that an abortion performed after the fourth month of pregnancy (120 days), i.e. after the "ensoulment" of the foetus, is a murder. Given that the sex of a foetus usually cannot be determined before that date, this might explain the lower propensity of Muslims to use this practice. In: L'avortement et l'islam. Available at http://www.muslimfr.com/modules.php?name=News&file=article&sid=158. Accessed 19 June 2009.

Part II
A System of Norms and Values that Favours Males

Chapter 7
The Status of Women in Traditional Chinese Society

Chinese society remains fundamentally rooted in highly gendered social and family roles. From a demographic point of view, discrimination against girls and women is therefore part of a system of norms and values, both family and social, that traditionally favours men and women in different spheres. While this discrimination is just one aspect of the gender inequalities that persist today, to some extent it is a self-perpetuating process. Indeed, because Chinese women do not have the same opportunities for social achievement as men, and because they are still largely vested in roles that are not much valued socially, many families still consider girls to be less important than boys.

In China, the preference for sons is the result of a patriarchal and Confucian system that specifies that "men are superior to women" (*zhong nan qing nü*). Traditionally therefore, women have held a secondary social and family role (Attané 2005; Elisseeff 1988; Van Gulik 1971; Tan 2006). All Chinese patriarchal traits promote sons, who embody the numerous advantages inherent to their sex. For families, sons traditionally ensure that the family line will continue, parents will be cared for in their old age, family property will be transmitted and they will receive economic support. Therefore, at various periods of Chinese history, and especially in times of crisis, famine or poverty, when the socioeconomic circumstances obliged families to limit the number of children because they were unable to support them, they generally chose the sons. The result was a shortage of young girls recorded in the nineteenth century and the first half of the twentieth century (Chen 2003; Das Gupta and Li 1999; Eastman 1988).

Today, after three decades of a Communist policy that promoted the status of women, followed by three decades of economic and social liberalization, the issue of female discrimination remains almost the same. Even though there have been considerable improvements since the 1949 revolution, the status of Chinese women remains socially less valued than that of men. Girls and women are still often perceived as "second-rate" individuals, deemed incapable of taking on the various economic and family responsibilities that only a man is expected to assume (Croll 2000). Since Chinese birth control policy requires government authorization before

each birth and inflicts sanctions on any couple breaking that rule, girls become in some cases undesirable simply because they deprive their parents of the possibility of having a son. In addition to this coercive policy, recent changes in reproductive behaviour and the growing number of small families have also been a factor in son preference. In the context of the economic reforms, with the rising cost of living (especially the costs related to a child's health and education) and social liberalization, more and more couples are spontaneously limiting the size of their families. Given the persistence of the preference for sons, there is a growing trend to choose the child's sex prior to birth or after it. Therefore the source of demographic discrimination against girls lies in a combination of the fall in fertility and the perpetuation of this feature of traditional culture in a context of social liberalization, while modern technologies for prenatal sex-selection are spreading.

Despite the economic and social modernization of the past decades, women retain their secondary status. To understand the mechanisms of gender relationships in contemporary Chinese society and consequently the causes for the elimination of a growing number of little girls, the main characteristics of traditional Chinese culture, as well as the major social and political changes that have affected the status of women, are reviewed below.

7.1 "Women Are Inferior to Men"

7.1.1 A Confucian Tradition

Traditional Chinese culture,[1] as it still persists to this day, was formed by Confucian doctrine that upheld the concept of women's social inferiority to men:

> For Confucians to perceive women as being inferior to men, was as natural as believing that the Earth was inferior to the Heavens (Van Gulik 1971).

Confucius (551–479 BC) ranked women on the same level as "slaves", *xiao ren*, "small" or "inferior" men. A woman's first duty was to serve her husband and her parents-in-law, to take care of the household and to give birth to healthy male children. She also had to be irreproachably chaste, since that was the vital prerequisite to a well-regulated family life, based on complete separation of the sexes (Granet 1994).

Daoism, which developed in the sixth century BC, and later Buddhism,[2] then counterbalanced Confucian doctrine by promoting a more favourable image of women. The Buddhist texts introduced into China during the seventh and eighth centuries stressed greater equality between the sexes, sex being an impermanent characteristic that could change during different incarnations, but remained ambivalent about

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[1] We refer here to the dominant traditional culture perpetuated by the ethnic Han majority, who represent more than 90 % of the Chinese population. While some ethnic minorities, such as the Manchus, have largely adopted Han culture, others such as the Tibetans and the Muslim Uighurs in Xinjiang province, have kept their traditional culture, which has little in common with that of the Han.

[2] Buddha lived in the sixth century AD.

women, who were both feared for their seductive nature and exalted in their role as wife and mother. Daoism clearly distinguished between the two sexes but praised the "negative" (female) as being superior to the "positive" (male), and inactivity as being superior to activity. For Daoists, woman was the "Great Mother" who not only nourished her children but also her partner, whose vital forces were regenerated and replenished by her during sexual intercourse. According to Daoist doctrine, the mother is the "beginning of all things" (Van Gulik 1971). Daoism and Confucianism overlap in the collective Chinese unconscious and together have marked people's lives and behaviour. Fed by their mutual influence, these doctrines were not incompatible, but acted in different spheres. A simplified summary would be that Confucianism governed social relations between men and women and their respective family and society positions and roles, while Daoism governed their intimate relations:

> The Confucians stressed eugenics and future descendants, while the Daoists drew attention to the sexual disciplines that enabled people to prolong their lives and obtain the elixir of immortality (Van Gulik 1971).

7.1.2 Yin and Yang

Traditional Chinese culture is based on the dichotomy between the *yin* and the *yang*,[3] with the *yang* representing the male elements (the sun, heat, summer, etc.) and the *yin* the female ones (the moon, the cold, winter, etc.); two opposite and yet complementary principles in the order of the universe. Strength is the virtue of *yang*, whereas submission is the usefulness of *yin*. Thus Confucianism exalted the male, the symbol of light, the guide and undisputed head of the family, honoured for his strength. The woman, symbol of darkness, was praised for her weakness and traditionally relegated to the family sphere:

> If we confide tasks to women that entail contact with the outside, they will be the cause of disorder and confusion in the Empire, bring damage and shame to the Imperial Court, and lead to the fading of the sun and the moon (meaning the Emperor and the Empress) (Van Gulik 1971).

Women's submission to male domination reached its paroxysm with the practice of foot binding, which lasted for more than a 1,000 years until it was banned after the 1911 revolution:[4]

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[3]In Chinese philosophy, the *yin* and the *yang* are two symbiotic and complementary principles found in all aspects of life and the universe. Their complementarity differs from the pairs of opposites that are more common in Western philosophy, such as the concept of Good and Evil. In Chinese cosmology, these are two entities that follow the original "breath" of creation present in all things. For instance, the *yin* is associated with the moon that represents the female aspect of nature, whereas the *yang* is associated with the sun, and represents its masculine aspect.

[4]The practice of binding girls' feet began at the end of the Tang dynasty (618–906) and gradually developed among the wealthier classes during the Song dynasty (960–1297). Under the Ming (1368–1644) and later the Qing (1644–1911) dynasties, it spread to almost the entire female population, across all social classes.

The Confucians favoured this usage because it restricted women's movements and prevented them from wandering far from home. Bound feet thus became the symbol of female modesty (Van Gulik 1971).

7.2   The Patrilocal Marriage Tradition

7.2.1   The Wife's Submission to Her In-Laws

A fundamental concern of Chinese culture was to ensure the social reproduction of families according to patriarchal and patrilineal rules. Thus the patrilocal marriage system invariably favoured the male line. For the wife, it meant breaking all formal ties with her own biological family and further increased her subordination to her in-laws. From the moment she married she belonged to her husband's family and was no longer perceived as an ally in her paternal household. On her death, her soul was destined for the altar of the new line, as this was the only way she could receive the appropriate devotions and become an ancestor alongside her husband in his family's genealogy. Furthermore, the wife lived under the constant threat of repudiation, which some foreign observers called "divorce". Father Grosier, a French Jesuit sent to China at the end of the eighteenth century, revealed for instance:

> Divorce is permitted in China […] but only in certain cases, such as adultery, antipathy, incompatibility of humours, indiscretion, jealousy, absolute disobedience, sterility, and habitual contagious diseases (Grosier 1787).[5]

However, traditionally there were two types of union, at least in the most affluent circles: the main marriage, carried out according to the rites, which conferred a social, legal and religious status on the wife, and secondary marriage, which allowed the husband to have concubines. The distinction between the "main" wife, and the secondary wives created a strict hierarchy between the protagonists, with the secondary wives being obliged to submit to the often tyrannical authority of the first wife. Frustrations could mount and were sometimes vented through merciless antagonism, with treacherous ruses to disgrace a rival wife, or even eliminate her, and the frequent cases of murder or suicide of mistreated concubines were treated with considerable indifference (Lauwaert 1999). Nor are these rivalries between women a thing of the past, as one Chinese man in his 40s explained:

> My wife doesn't understand. She always thinks she's in the right and there are endless discussions with my mother about who's right and who's wrong. I'm at my wits' end. I don't want to hit my wife, but she's the one who drives me crazy!

For this man, as for many Chinese men, now and in the past, a woman must not only be an exemplary wife and mother but also an agreeable daughter-in-law for his

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[5] Quoted from Attané and Rohrbasser (2000).

mother. The traditional practice of patrilocal marriage whereby the wife moves in with her husband's family, confers a considerable advantage on the mother-in-law, who entered that family many years earlier and is now a fully-fledged member. That family is now hers and she will defend the rules of the patriarchal system within it, defending her interests and acquiring power from the filial piety that the system imposes on young brides (Attané 2005).

Women's submission is also reflected in the traditional practice of adopting a *tongyangxi* (literally "child betrothed"). These were young girls sold to households by poverty-stricken parents to be given to the son in marriage some years later. The children were raised as brother and sister until adolescence when the omens were consulted for the most favourable day to celebrate the wedding. Adopting a *tongyangxi* had a number of advantages, including avoiding the high cost of a regular wedding. Furthermore, this practice was a guarantee of the young girl's loyalty to her future in-laws (Cartier 1986). Grateful to her providential adopted family for having rescued her from poverty, the bride was expected to work tirelessly in the house, raise the children and take care of her husband's parents. While this practice is illegal today, it has not disappeared and numerous cases are reported of little girls being kidnapped and then sold as *tongyangxi*. In 2000 in Shanxi province for instance, the police dismantled several gangs who were kidnapping babies and children, the youngest of whom were barely a month old. In Chongqing, two suspects were arrested and charged with kidnapping seven baby girls aged between 1 and 7 months, and selling them to villagers in the Linfen region for 1,300–2,000 yuan.[6]

> On 5 August [2002], the police arrested a man and three women on the train from Guiyang to Beijing travelling with five very young girls who they planned to sell in Hebei province. On 6 August, in that same Guiyang station, two women carrying wailing babies were arrested. They admitted that they had gone to Yunnan province on 30 July where they had bought the two little girls for 400 yuan and were going to sell them in Hebei province for 1,500 yuan each [about 150], to be *tongyangxi* for the new buyers.[7]

7.2.2   A Patriarchal Clan System

The traditional patriarchal system was the foundation of society[8] and required early marriage with many children, especially sons, not just to maintain the clan's power in the face of rival clans, but also the family's own power within the clan. Today social organization is no longer governed by the clan system but clan ideology has survived. Family solidarity remains strong and patriarchal culture, marked by

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[6] *China Daily*, 11 Apr 2000.

[7] Guaimai renkou xin dongxiang, jing ba nuying maizuo 'tongyangxi'. 9 Aug 2002. Available on the cctv.com website.

[8] Clans are now mainly to be found in southern China and a few central provinces, such as Henan, Hunan, Guangdong, and Fujian.

patrilocal marriage and a filiation system that benefits sons, still dominates daily life and maintains women in a secondary status. In some villages, especially in the south, the revival of lineage organizations has rekindled such atavistic attitudes, causing families without a male heir to lose face (Chu 2001). The patriarchal system has lost its economic base since, by law, family inheritance is no longer exclusively transmitted through sons (Bossen 2007). However, patrilocal marriage is still the rule in most places and when a woman marries she leaves her biological family, both physically and symbolically. After marriage she is expected to devote herself to her family-in-law and owes nothing to her own parents, not even their care in old age, because that burden now falls to their son and his wife, their daughter-in-law. In the countryside, since no one receives a pension, it goes without saying that one must "raise a son to prepare one's old age" (*yang'er fang lao*) (Li 1993a). For hundreds of thousands of peasants, a son is indeed the only "old-age pension" and the only guarantee of support in the event of sickness or disability. The traditional roles that women occupy in their husband's family also help to keep them in a secondary position with regard to men, since their responsibilities are often restricted to domestic tasks (Zheng 2007). Furthermore, the patrilocal marriage tradition whereby a daughter is often perceived as being a temporary family member, does not encourage parents to invest a great deal in her education since any advantages to be reaped in the long term will go to her in-laws, not her parents. The relationship between patrilocality of marriage and the preference for sons is clear when we look at the situation in regions where uxorial marriage is more common, as in certain parts of Hubei and Shaanxi provinces. It has been observed that in areas where the spouse usually settles in his wife's family after marriage and the couple is able to take care of her parents in their old age, the preference for sons is weaker and the sex ratio at birth remains at normal levels (Li and Jin 2006; Zheng 2007).

7.3 Perpetuating the Family Line and Ancestor Worship

7.3.1 A Fundamental Duty

Continuing the family line (*chuanzong jiedai*) is a Confucian duty (Pimpaneau 1990). A large family used to be a symbol of power and prosperity. Although today the extended family is gradually giving way to the nuclear family, traditional concepts are unchanged and remain firmly anchored in the family habitus. In the countryside especially, not leaving a descendent is one of the most serious breaches of filial piety (*bu xiao you san, wu hou wei da*). Peasants are still heard to say "the more children you have, the happier you are" (*duozi duofu*), but some cannot help but add "having a boy or a girl is the same, but having a boy is better" (*sheng nan sheng nu dou yi yang, sheng nan haishi bi sheng nu hao*) (Wu and Xiao 1992). The birth of a girl was therefore rarely a joyful occasion, especially in the poorest families. Even today:

> The birth of a boy is welcomed with shouts of joy and fireworks. But when a girl is born, the neighbours are tactful enough not to offer condolences. They just don't say anything (Attané 2005).

This also emerged in the discussion groups organized by Li and Zhu (2001) in their survey of excess female infant mortality (see below p. 132):

> The villagers feel shame for parents who have just had a second girl and when they meet one of them in the streets, they only thing they can find to say is "[Boy or girl] It's the same!". When the grandparents see their friends they never mention that they've just had a granddaughter.

One young woman who had just given birth to a second daughter, explained:

> The others, those who had a son, celebrated its first month with fireworks in the street. Every time one went off, it was like a blow to my baby and me. I didn't dare leave the house so I stayed indoors crying. When you've had a son, all the neighbours come by to congratulate you. But when you've had a daughter you keep the news to yourself and a low profile in the village (Li and Zhu 2001, p. 427).

Having a son is also the essential condition for perpetuating the ancestor cult, a key manifestation of filial piety. The ancestor cult has been central to popular religion for 4,000 years and remains the focus of all devotions. The ancestors must be honoured to obtain their favours and protection, but the worship ends with the death of the last male heir. Consequently all men have a duty to have a son; it is their sacred obligation in order to continue making sacrifices to their ancestors (Pimpaneau 1990).

7.3.2   The Fertility Cult

The veneration of the mother is still a feature of Chinese culture, and now, as in the past, women only acquire family and social recognition once they have given birth to children. Women are still judged by their fertility and especially their ability to produce sons. In the past, there was no worse disgrace than sterility, whether total or a failure to bear sons, which was considered as a strictly female failing (Granet 1994; Van Gulik 1971). Traditionally, young women remained socially inferior for many years. Once married, the bride had to submit to the mother-in-law's authority, or that of the first wife if she was only a concubine.[9] A woman's only salvation laid in having children, and especially sons. She would then obtain the respect of the other family members, her status rose and she could claim her status as a mother. She reached the apogee of her power when one of her sons married and she could finally enjoy formal authority as a mother-in-law. This upward social mobility through maternity continues today, and in the countryside a mother of a boy commands great respect, whereas a woman who has not borne a son can still dishonour her family (Chen 1993; Chu 2001). Some women are always mistreated or rejected if they prove "incapable" of bearing a son. In the words of Mrs Zhao:

> My in-laws are from the countryside in Haidian. When I was a few months pregnant, someone from the village told me that judging from my appearance I would give birth to

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[9]Concubines were traditionally only found in wealthy families, whose master was rich enough to support several wives.

a boy. My in-laws started calling me "*guobao*" (nation's treasure) and I wasn't allowed to lift a finger. I gave birth [to a girl] by caesarean section, so my husband stayed by my side for three days and three nights. When I left the hospital, my mother-in-law started insulting me all the time and I cried almost daily. Then 23 days after the birth she wanted my husband to divorce me and marry another young woman, so that she could give him a son. I was obliged to leave the house with my daughter […].[10]

Chinese cultural tradition denigrates women and invariably favours the male line. The system of norms and values underpinning current discrimination against females was nevertheless bitterly opposed in the decades when Mao was in power. Legislation for the protection of women, although considerably extended during the 1990s, has not been sufficient to eradicate the various forms of discrimination to which girls and women are still subjected in China today.

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[10]Driven from her home for giving birth to a girl. *Renmin ribao* (*People's Daily*) 19 June 2001.

Chapter 8
Women, Feminism and Femininity

8.1 From Nascent Feminism to the Beijing Conference

8.1.1 The Pre-revolutionary Period

Women's emancipation became a political concern in China in the mid-nineteenth century. Early Chinese-style feminism began to emerge under the Taiping and their leader Hong Xiuquan[1] who founded a kingdom in southern China called *Taiping Tian Guo* (literally "heavenly kingdom of great peace"). This egalitarian and revolutionary movement condemned bigamy, female prostitution, adultery and the practice of foot binding (Elisseeff 1988). It demanded equality between the sexes in work as in war, and distributed land equally among women and men. However, the Taiping governed only a portion of the country, and their rule lasted for just 15 years. After their fall, the troubled period that followed[2] undermined those early demands for gender equality (Kristeva 2001).

When the Nationalists came to power in 1911, they addressed feminist concerns. Their Civil Code provided for marriage and divorce by mutual consent and promoted gender equality. In terms of both theory and militant engagement, the feminist movement that emerged around this time was inspired by actions in the West (Johnson 1983; Kristeva 2001). A few years later, feminists' demands become one of the battle cries of the movement launched on 4 May 1919, which marked the birth

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[1] The Taiping revolt was a political movement that shook China from 1851 to 1864. Founded by Hong Xiuquan (1814–1864), who wanted to save China from decadence and establish a new moral and political order, it was supported by secret societies hostile to the Qing dynasty and was crushed in 1864.

[2] In the nineteenth century, and especially after 1850, the Manchu Qing dynasty was challenged by numerous popular uprisings and insurrections in the south of the country. The economy declined and the social climate eroded further. This period of political crisis and social unease was marked by the Opium wars and foreign interference in Chinese affairs.

of the Chinese revolution. The May Fourth Movement as it became known, demanded equal rights for men and women, the abolition of polygamy and the sale of women as slaves, servants or future daughters-in-law, as well as freedom of marriage. The militant feminists tirelessly pursued their propaganda and education efforts but political unrest during that period and the Japanese invasion gradually pushed their demands off the political agenda (Johnson 1983).

When Mao Zedong entered the political scene, he supported this nascent feminism and became a fervent activist in female emancipation. He wanted to put an end to male exploitation and believed in educating women, raising their political consciousness, and valuing their role in society. He also fought prostitution, the concubine system and family abuses of power, challenged the chastity requirement for women – pointing out that it had never been required for men – and denounced female suicide as a response to family oppression. Just a few months after the Chinese Communist Party (CCP) was founded in 1921, a Women's Department was created and the Communists began a relentless battle against Confucianism. The feminists' demands became an integral part of the revolutionary struggle.

8.1.2   Women Under the Communist Regime

Fundamental Reforms

Despite this nascent feminism and the various attempts at social reform that characterized this period, it was difficult for women to become independent. In politics, in the workplace, and in the private sphere they remained under male domination and their situation only showed signs of improvement in the major cities. Effective mobilization for women's emancipation only began after the Communists came to power in 1949. The new leadership undertook fundamental reforms to eradicate the traditional family and promote women's responsibilities. The first law to be passed by the Communists was the 1950 Marriage Law, which laid down the principle of union by mutual agreement and monogamy as an obligation, and set the minimum age for marriage at 18 for women and 20 for men. It also stipulated equal rights between husband and wife within the family:

> The feudal marriage system, which was founded on an imposed arbitrary recognition of the superiority of men over women and which ignored the interests of the children, was abolished. The "new democratic marriage" was implemented, based on the monogamous partners' free choice, with equal rights for both sexes and the protection of women's and children's legitimate rights and interests (Xiao 2005).

That first marriage law also made divorce easier. Divorce was now granted by mutual consent or, if requested by one spouse only, after an attempt at reconciliation.

At the same time, as part of a comprehensive overhaul of society, the Communists attacked traditional economic and ideological structures by launching the agrarian reforms in 1950. This profoundly anti-patriarchal initiative meant radically reforming the traditional Chinese family – a kinship unit grouped around the symbolic

dominant father figure – which became one of the targets of the class struggle. Marxist theoreticians considered women and poor peasants to be victims of the social order, and the peasant movement, rapidly appropriated by the Communist Party, associated the emancipation of women with the liberation of the people. In the southern provinces of Hunan, Jiangxi and Fujian, where the Communists had first become active in the 1920s, the revolutionaries opposed structured clan organizations by systematically taking the sides of poor relatives against the family authorities. A few years later, the peasant society model that inspired the founders of the Jiangxi Soviets[3] included nuclear families in neighbourhood associations, thus breaking the historical solidarity of kinship (Cartier 1986).

The Impact of the Agrarian Reforms

With the collectivization of agriculture, the peasants were organized into units of several thousand persons and were obliged to pool their resources to create large agro-industrial enterprises. By imposing a communal way of life, the first People's Communes restricted the role of the family unit as a living, consuming entity and the leading social player. A strict separation of sexes was implemented, with children and the elderly being taken care of collectively in day-care centres and old-age homes (Johnson 1983). The teams in charge of implementing the agrarian reforms were assisted by groups that examined individuals' matrimonial situations to eradicate social practices deemed counter-revolutionary, such as forced marriage, arranged marriages, or concubinage. In 1958, the Great Leap Forward[4] extolled collective life within the work unit, which replaced the family, while in the countryside the People's Commune became the basic social unit. Since the goals of the Great Leap Forward required a massive investment in manpower, the leaders sought to liberate women from domestic tasks and free them to enter the labour force (Schram 1963).

However, the type of social organization advocated during the agrarian reforms, so very different from the traditional way of life, led to strong popular resistance, which was as much a rejection of the communal way of life as a reaction to the extreme shortages that resulted from the failure of the Great Leap Forward. Consequently experiments of this kind ceased after 1961 (Cartier 1986) and the peasants reorganized their lives within the structure of nuclear or extended families, becoming agricultural employees working on collective farms. By mobilizing the female workforce, agricultural collectivization released woman from the domestic sphere and enabled them to work outside the home. However, traditional social organization was only affected for a brief period, and the authority of the father and husband within the family remained intact (Johnson 1983).

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[3] At the end of the 1920s, the revolutionary combatants, with Mao Zedong and Zhu De at their head, withdrew to Jiangxi province where in 1931 they founded the Soviet Republic of China, also known as the Jiangxi Soviet.

[4] See note 1, p. 16.

Although the gender equality sought by Mao Zedong was not achieved as a result of collectivization, he did advance the process by breaking with the family subordination of women that was a feature of the dynastic period. Women's role in development was now recognized and from then on they could no longer be forced to stay in the home. Before 1949, most women's lives were restricted to the private sphere, with no formal economic activity or personal income. With agricultural collectivization, the Communist regime wanted to strike a blow at the traditional gender division of labour, which was a core factor of women's subordination. According to an editorial in the *Renmin ribao* (*People's Daily*) in 1955:

> The development and victory of [the cooperativization] movement … signifies the complete emancipation of the broad masses of rural women constituting half the rural population. Through the agrarian reform and other democratic reforms, the broad masses of rural women in our country have politically and economically acquired a [formal] status of complete equality with men… However, as small peasant economy based on private property still occupies a dominant position in our country, the majority of rural women are still completely bound to dispersed and fragmentary house labor, economically not being independent and intellectually being unable to develop their intelligence and talents. Their status in family and society cannot be made equal to that of men. Where is the way for women to achieve their complete emancipation? On this question, Engels said in *Origin of the Family and the State*: "The first prerequisite for the emancipation of women is that all women participate again in social labor; to achieve this, individual families are required to be no longer units of the social economy." (Quoted by Johnson 1983, p. 159)

Promoting women's labour served the interests of the revolution first and foremost. Indeed, given the low level of investment, the only way to develop agricultural production was to optimize all the factors of production, and notably the female labour force. As a result, women's formal employment grew rapidly and by the end of 1956, several provinces were able to boast massive female participation in agricultural production, with more than eight in ten women of working age in employment (Johnson 1983). However, while collectivization gave women access to labour, it did not improve their financial independence. First, this new mode of organization did not free them from domestic tasks and child rearing, so they had less time to devote to paid labour than their husbands, and were consequently paid less than the men[5] (Johnson 1983). Second, workers' wages were not considered as individual earnings but as part of the family unit's collective income, so women's wages were paid to the household head. Women's earnings therefore went straight into the pockets of their husbands, who might only pass on a small portion to them, or even nothing at all. With no control over their incomes, women only acquired a very limited economic independence during collectivization (Parish and Whyte 1978). Furthermore, the lack of infrastructure to care for young children or assist women them with domestic tasks remained a major obstacle to full-time female labour force participation during this period (Johnson 1983).

By preventing rural industrialization, thereby holding back economic diversification, and the development of trade and migration, the People's Communes reinforced

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[5]In 1956, a minimum of 250 days of labour was set for men, compared with 120 for women, because of their domestic tasks.

the autarkic nature of agricultural society. The rural economy was maintained as a single production model, preventing any challenge to the patriarchal ideology that governed all forms of remuneration. To some extent, rural collectivization even reinforced men's control over women's economic and social lives. By banning any informal or private secondary activity (such as stock breeding, crafts or small trade, criticized for being highly "capitalistic"[6]), agrarian collectivization put women in competition with men in an area where they had no competitive advantage, namely in working the land. In the 1950s, peasant women were prevented from carrying out activities that demanded less physical strength or that involved more flexible working hours, so they profited very little from collectivization. The political upheavals gave them access to employment in the formal sector, but did not lead to any real emancipation (Johnson 1983).

8.1.3   The Gender Issue and the Beijing Conference

The "black years" that followed the Great Leap Forward[7] marked the end of collectivization in the countryside. In 1961 a movement to liberalize rural policy was launched, the size of the People's Communes was reduced and peasants were allowed to work private plots again (Domenach and Richer 1987). The Chinese Communist Party entered a period of internecine conflict that relegated any political action for women's emancipation into second place. In the decade from 1960 to 1970, feminist issues were put on the back burner, if not eclipsed altogether. From 1966 to the end of the Cultural Revolution, priority was given to the class struggle. Gender as a social category was denounced by the state, and any reference to it was treated as wanting to re-establish a hierarchy. The Marxist revolutionaries considered feminism to be a product of bourgeois thought, and propaganda disseminated an image of women entirely devoted to the Revolution, "cleansed" of their class origins and all forms of bourgeois thought, especially regarding female sexuality (Honig 2002). Furthermore, while positive discrimination was applied to enrol women in political organizations, these encouraged women's participation in the proletarian revolution, but did not represent their viewpoint (Johnson 1983).

There was a revival of studies on women's issues in the 1980s but these had no practical repercussions in terms of legislation. These only became a priority for the Chinese government in the following decade, on the occasion of the United Nations Fourth World Conference on Women, held in Beijing in 1995. In the interim period the fate of women had been neglected in politics, even during the third birth control campaign from 1971. While family planning programmes are usually accompanied by measures to improve maternal and infant health, this campaign was an exception. Considerable efforts were deployed to limit births but nothing was done specifically to improve the lot of women (Attané 2005).

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[6] Since trade was highly centralized at the time, there were considerable restrictions on the free markets, which explain why such activities were severely limited.

[7] See note 1, p. 16.

A Political Turning Point

A new political turn in the 1990s lead to some progress.[8] On the occasion of the Beijing conference, the Chinese government understood that to legitimize its presence among the world powers, it needed to adhere to some major international principles, notably regarding women's rights, and that it was important to support gender equality to ensure harmonious and lasing development in the country's globalization process. It was clear that the majority of women had been left behind by modernization, and that the economic reforms had widened the disparities in their situations across different regions and social classes, especially in terms of subsistence and the protection of their rights and interests. A document issued by the Chinese State Council in 1994 stipulated that:

> China recognizes the principle of gender equality affirmed in the United Nations Charter, and is committed to respecting it […]. The Chinese government believes that gender equality will become a reality when women can take part in development as equal partners to men, but recognized that "there is still a great deal of work to do to improve the situation of Chinese women and for their emancipation to be a reality" (Attané 2005).

Holding the conference in Beijing therefore served to legitimize gender research in the country and led to an increase in publications for both scientific and popular readerships. This period was also characterized by the more systematic introduction of gender indicators in statistics, and more statistics specifically focusing on the situation of women (Tan 2006).

The Beijing Declaration and Platform for Action adopted following the Fourth Global Conference on Women, and the International Population Conference held in Cairo in 1994, marked a decisive stage in promoting women's status in the world:

> The empowerment and autonomy of women and the improvement of their political, social, economic, and health status is a highly important end in itself.[9]
>
> The human rights of women and the girl child are an inalienable, integral and indivisible part of universal human rights. The full and equal participation of women in political, civil, economic, social and cultural life at the national, regional and international levels, and the eradication of all forms of discrimination on the grounds of sex are priority objectives of the international community.[10]

A New Factor

From that time on, the Chinese government attempted to apply these principles. Thus a first Programme for the Development of Chinese Women (1995–2000)

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[8]Gender Equality and Women's Development in China. Available at http://www.china.org.cn/english/features/cw/140980.htm. Accessed 5 June 2004.

[9]Those are the opening words of Chapter 4 of the Programme of Action adopted during the International Population Conference in Cairo in 1994.

[10]Extract from the Beijing Declaration and Platform for Action, the Fourth World Conference on Women, Beijing, 4–15 Sept 1995. Available at: http://www.un.org/womenwatch/daw/beijing/pdf/BDPfA%20E.pdf. Accessed 28 May 2004.

(*zhongguo funü fazhan gongyao*) was adopted to promote equality between spouses and combat domestic violence, trafficking in women and prostitution, as well as to increase their political participation and their representation in government bodies. This action was pursued in a second programme of the same name covering a 10-year period (2001–2010),[11] which aimed to ensure better protection of women's rights and interests, to improve their educational levels, achieve greater equality between the sexes and enable women to take part in the country's modernization. It reinforced government action, notably in applying the laws governing gender equality, ensuring equal access to employment for both sexes, as well as to economic resources, education and health. This programme also encompassed the Millennium Development Goals (MDG) defined by the UN member states in 2000.[12] More recently, in 2011, the third Programme for the Development of Chinese Women was launched. It contains the same elements as in 2001, but focuses on discrimination against women that persist partly because of the development of the market economy and international competition. Divided into seven major themes (health, education, economics, political participation, social security, environment and legal protection), it sets new goals for the decade: increasing the participation of women at all political levels, promoting access to employment, and ensuring a better implementation of existing laws. The programme also reaffirms the right of access for all women, regardless of their regional origin, to maternity insurance and basic health care.

China joined the World Family Organization[13] in 2001 and adhered to the principles of the Doha Declaration adopted at the 2004 International Conference on the Family, which encouraged equal participation of men and women in family life and condemned domestic violence. That same year China took part in the World Family Summit[14] and promoted gender equality within the family and a harmonious partnership between family members. In 2006, the All China Women Federation published a Green Book in which assessed the progress made in women's status since the 1995 Beijing Conference, especially in the areas of education and employment, political participation, health, development, and the situation of older women (Tan 2006).[15]

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[11] http://www.china.org.cn/english/features/cw/140979.htm. In: Attané (2005).

[12] The United Nations member states agreed on eight essential development goals to be reached before 2015. These are: to eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality rates, improve maternal health, combat HIV Aids, malaria and other diseases, ensure environmental sustainability, and develop a global partnership for development.

[13] The World Family Organization is a non-governmental organization affiliated to the UN and based in Montreal (Canada). For more information see http://www.worldfamilyorganization.org/wfs5/wfs5.html

[14] The World Family Summit was held in Sanya (China) from 6 to 9 Dec 2004, under the aegis of the World Family Organization and in collaboration with the United Nations. It provided the international community with a forum to discuss the implementation of the Action Programme of the International Conference on Population and Development and the family-related Millennium Development Goals (MDG).

[15] This book, published by Tan Lin, is entitled: *1995–2005: Zhongguo xingbie pingdeng yu funü fazhan baogao* (Report on gender equality and women's development in China, 1995–2005) (Tan 2006).

8.1.4   Representations of Chinese Womanhood

The Idealized Revolutionary

Immediately after the 1949 revolution, Chinese women were suddenly encouraged to move out of the domestic sphere. Yet at the time, promoting gender equality and women's status mainly consisted of asking women to resemble men. In one of his poems, Mao described the ideal of the young women soldier:

> How bright and brave they look, shouldering five-foot rifles. On the parade ground lit up by the first gleams of day. China's daughters have high-aspiring minds, they love their battle array, not silks and satins.[16]

The Communist's idealized image of women was a faithful reflection of the principles stipulated in their marriage law. The ideal marital relationship promoted at the time was based on equality and good companionship, with no regard for sex. Any allusion to the fact that a woman might be less educated than her husband was deemed "sexist ideology" (*nanzun nübei*). A "revolutionary" couple was a activist one and a "revolutionary" husband could not ask his wife to stay at home to serve her husband and children. Wanting a "virtuous wife and a good mother" (*xianqi liangmu*) (Meyer 1987), was incompatible with the needs of collectivization and considered egotistical. A woman who wanted fulfilment in marriage and a family life would be told that she had the wrong priorities and that she should set a revolutionary example to her children by focusing on interests outside the domestic sphere. Any women who placed too much importance on conjugal love would be criticized for her "narrow mind" and told to channel that love to "serve the revolution better" (Evans 2002). During this period, therefore, women were never encouraged to assert themselves for what they were, but were required to raise themselves to the level of men. They were required to resemble men and meet criteria and standards established by men. During that revolutionary period the ideal wife had to strike the perfect balance between making sacrifices to support her husband and acquiring the necessary male skills for entering the public sphere.

This negation of femininity reached its apogee during the Cultural Revolution when feminism, along with any discussion of issues specifically relating to women, were declared "bourgeois" and allusions to any kind of female identity were denounced (Honig 2002). Official discourse advocated greater involvement of women in political activities, and called for them to be educated so as to renounce their "egotistical attitudes", which consisted of being more concerned about their families than matters of state. Women who complained about having too many domestic tasks or being the victims of discrimination at work, could be accused of "individualistic bourgeois" behaviour (Johnson 1983). In 1957 during the

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[16]Translation from: http://www.marxists.org/reference/archive/mao/selected-works/poems/poems28.htm. Accessed 10 Sept 2012.

anti-rightist movement,[17] militants advised women to set aside their vanities and promote intellectual values, as though they needed to be snatched away from the domain of seduction and reproduction, in which they tended to take too much pleasure:

> "We were all wearing army uniforms because it was very considered very glorious […] All the girls put on caps, like the boys, and we tucked our hair up under our caps so we looked like boys. We rolled up our sleeves and we wore leather belts …" explained a former Red Guard (Honig 2002, p. 257).

During the Cultural Revolution, communal life was accompanied by greater social prohibitions on sexuality. People no longer dared to discuss sex, and sex outside marriage was forbidden. Some people reported that during the most fanatical period of the regime, even married couples did not dare to hold hands in the street. Young girls with large breasts were ashamed of them and women wore men's trousers and large jackets, altered their way of walking, and did everything possible to be inconspicuous. It was quite unthinkable to wear an item of jewellery, a dress or any kind of adornment that might betray their sex. Individuals lived for the community, and their private lives and interests came second (Attané and Imbot-Bichet 2003).

Nevertheless, Communist China's egalitarian ambitions did not relieve women of their age-old duties as wives. They were still born to be mothers and, because of that, continued to carry out most domestic tasks. Representations of women disseminated between the 1950s and 1970s clumsily suggested a competition between their essential duties, which were to serve their husband, their family and the state. Any woman who showed too much thirst for knowledge or interest in acquiring professional skills might be accused of neglecting her domestic duties. Ultimately, the revolutionary feminine ideal could be summed up as a transposition of the male one. Women were able to occupy a broader public space, so long as they did not overshadow their male counterparts.

> First the steel workers, eager peasants and political activists with steadfast convictions, robust, vigorous and healthy women, cheeks flushed with revolutionary fervour and their tireless efforts to serve the country, their eyes shining with revolutionary zeal. Then, fragile young beauties, languid, well-to-do city dwellers, dressed in the latest Western clothes, adorned with expensive accessories and representing all the benefits of the consumer society. Only a few decades separate this striking contrast between two ideals of womanhood (Attané 2005).

Forged by radically different forms of political discourse, these two models are founded upon entirely different expectations regarding relationships between individuals and the group, or the state. They reflect the sea-change initiated by the economic reforms of in the late 1970s.

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[17]The 1957 anti-rightist movement followed the 100 Flowers campaign launched on 27 April of the same year to encourage intellectuals to express themselves. The students' discontent and the intellectuals' complaints against dictatorship, along with social demands by the workers and peasants, were all aired in public. Critics demanded a greater role for democratic parties and some advocated political democracy rather than the Party's monopoly. In June 1957, the Party put an end to the protest with the anti-rightist movement through violent repression of Chinese intellectuals, but also of all those, workers and peasants included, who had dared to take part in the protests (Godement 1990).

New Femininity

With economic modernization and globalization, China opened up to the world. The West penetrated society through TV series and department stores. Femininity, which had been disapproved of throughout the Communist period, became bankable again, although these changes mainly affected the middle classes and the well-to-do. With economic liberalization, society became "gendered". The changes were particularly radical in urban society. Contemporary representations of women now cover a far broader spectrum than during the Communist decades, when uniformity was the norm. They can be the perfect housekeeper, the gentle and helpful companion of a busy husband, devoted to the child's education, the working mother brilliantly combining professional and family life, the emancipated independent woman, or the sensual modern lover. Today women can give up their jobs and devote themselves to their families or, on the contrary, be "strong women" (*nü qiang ren*), combining both public and private activities (Evans 2002). The current re-feminization of women's image is a response both to the uniformity of sexes promoted during the revolutionary years, and to the new opportunities for assertion and emancipation available to women in the market economy. Today, the feminine ideal is embellished with all the symbols of the consumer society: sophisticated clothing, jewellery, a successful husband, an apartment equipped with luxury furniture and the latest household appliances. These symbols, placing value on the ephemeral and on appearances, are a clear corollary of the reforms. Families who have become rich are quite happy to show it, as though wellbeing depended solely on access to the consumer society and to this modern, very westernized world.

While the feminine ideal is now undergoing radical transformation in collective representations, change is far slower in reality. Both the popular press and academic publications continue to depict women as being submissive (*tinghua*) to their husbands, taking care of their needs, and being "gentle and tender" (*wenrou*), while the men state that a good wife must know how to "avoid conflict and give a spark to a marriage to prevent it from growing dull". They want women who are "willing", "considerate" and "discreet" (Evans 2002).

In today's society, women are still first and foremost wives and mothers, and the vast majority of Chinese women marry and have children. Few women remain single by choice and such women are usually perceived by society as being hopelessly flawed. Marriage, sexual activity and reproduction are still closely linked. Reproduction was considered woman's "natural duty" (*tianran yiwu*) in the 1950s and nothing much has changed since. Without a husband or child, a woman is still perceived as being "incomplete and unfulfilled". If she shows no signs of pregnancy some months after marriage she will be mocked and rumours will spread that she is "ill", or "too old", or that her husband is "too weak" (Evans 2002). By presenting contraception only as a means to limit family size, the birth control policy reinforced the link between marriage and reproduction. At no time was birth control perceived as a providential tool for sexual liberation enabling Chinese women to disassociate sexuality and childbearing. Prudishness still holds sway, both officially and in most people's minds, and for most Chinese, sexual activity

should be confined to marriage – and then mostly for reproduction (Attané and Imbot-Bichet 2003).[18]

8.2 The Chinese Government's Response to Discrimination Against Girls and Women

Successive political regimes in recent Chinese history have attempted to overturn the patriarchal society and fight discrimination against women (see above, p. 99 sq.). However, this long march for Chinese women, which started more than a century ago, has yet to achieve its end, despite a considerable arsenal of legal measures and the economic and social modernization of the past decades. The shortage of young girls is indeed part of a broader social attitude to gender, which in China keeps women in a secondary role. That is why the measures taken by the Chinese authorities to restore the balance in the sex ratio at birth and at young ages, such as the laws and regulations protecting women's rights and interests, target the social and economic discrimination that prevents women from achieving independence and thereby improving their status. These measure also seek to improve the overall environment for young girls and combat the traditional preference for sons, while enhancing women's image.[19]

8.2.1 What the Chinese Law Says

A considerable corpus of laws was progressively introduced from the 1950s to promote gender equality and protect women's fundamental rights. Women's interests are now protected by law and any form of discrimination, ill-treatment, or persecution is forbidden. Marriage, the family, mothers and children, are all protected by the state. Article 48 of the Constitution of the People's Republic of China (1982) stipulates that:

> Women in the People's Republic of China enjoy equal rights with men in all spheres of, political, economic, cultural, social, and family life. The state protects the rights and interests of women, applies the principle of equal pay for equal work for men and women alike and trains and selects cadres from among women (ZRGX 1983).

Women's status in the public sphere is governed by several laws. The 1992 Law on the Protection of Women's Rights and Interests (*zhonghua renmin gongheguo funü quanyi baozhang fa*), protects women's basic rights and interests in the political and social spheres, including culture, education, work, property, marriage and the

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[18]Various direct accounts have confirmed that couples sleep in separate rooms after the birth of their first child.

[19]China to take 5 measures to curb rising trend of disproportionate sex ratio in births. *Renmin ribao* (*People's Daily*) 13 Aug 2004.

family. Article 3 of the 2002 Population and Family Planning Law (*renkou yu jihua shengyu fa*) states that, "The population and family planning programs shall be combined with the efforts to offer more opportunities for women to receive education and get employed, improve their health and elevate their status". The 1985 Law of Succession (*zhonghua renmin gongheguo jicheng fa*) establishes full equality between men and women for inheriting family assets (articles 9 and 10).

Since 1950, relations between men and women within the family and marriage have mainly been governed by three successive marriage laws (*hunyin fa*). The first one (1950) marked a decisive and highly symbolic step in the fight against traditional social practices (notably by forbidding polygamy and arranged marriages, setting a minimum legal age for marriage, making divorce easier, and so on), and laid the foundations for the emancipation of women in the family. Those principles were reasserted in the second marriage law passed in 1980, which, among other things, raised the minimum marriage age by a further 2 years to 20 for women and 22 or men. The third law of 2001 made considerable advances by reintroducing a unilateral right of divorce for both husband and wife and, for the first time, mentioned bigamy, desertion, domestic violence and other forms of ill-treatment as legal grounds for divorce (article 25). At the same time, criminal law was amended in 1997 to include measures for punishing the abduction, trafficking and sale of women and stronger penalties for perpetrators of such crimes.[20]

Other laws and articles specifically designed to protect women and girls, were also passed, including the Law on the Protection of Minors (*zhonghua renmin gongheguo wei chengnian ren baohu fa*) (1991) (Article 8), and the above-mentioned law to protect the rights and interests of women (1992), which forbids the drowning and abandonment of infant girls, as well as any ill-treatment or discrimination against women who are childless or who have only given birth to girls (article 35). These practices are also forbidden by the 1994 Law on Maternal and Infant Health (*muying baojian fa*), which was the first to ban prenatal sex selection (article 37).

The Population and Family Planning Law (2002) reinforced this legal arsenal by renewing the ban on ultrasonography or other techniques to determine foetal sex or any practice for the purpose of sex-selective pregnancy termination (article 36).[21] It also stipulated that, "Discrimination against and maltreatment of women who give birth to baby girls or who suffer from infertility is prohibited." (article 22). Lastly, in 2003 the government issued "Regulations banning prenatal sex determination and sex-selective abortion for non-medical purposes" (*guanyu jinzhi fei yixue xuyao de tai'er xingbie jianding he xuanze xingbie de rengong zhongzhi renshen de guiding*) that re-asserted the ban on selective abortion for non-medical purposes. It also stipulated that prior authorization must be obtained from the provincial family planning committee for any prenatal sex determination of the foetus, and that such

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[20]Gender Equality and Women's Development in China. Available at http://www.china.org.cn/english/features/ cw/140980.htm. In: Attané (2005).

[21]Extracts of these laws can be found on the following website: http://www.women.org.cn/english/duomeiti/english/flfg/index.htm. Accessed 24 Oct 2006.

examinations must be carried out under the supervision of the local family planning bureau (article 6). In 2005 the Ministry of Health issued regulations governing the administration of family planning services, notably to improve controls over practices such as prenatal examinations and selective abortions (article 5 of the document entitled "*2005 nian weisheng gongzuo yaodian*" – key issues for health work in 2005).[22] All the provinces officially adopted procedures to control abortions carried out beyond 14 weeks of pregnancy and provincial birth control regulations were modified in line with the 2002 Population and Family Planning Law to forbid sex-selective abortion. This stipulated, amongst other things, that at least two technicians must be present at any prenatal ultrasound scan, to prevent prenatal determination of the child's sex (Zheng 2007).

In 2002, the National Population and Family Planning Commission drew up a document, in partnership with several ministries,[23] suggesting ways to address the imbalance in the sex ratio at birth. This stipulated the need to define the responsibilities of each department concerned by improving coordination and cooperation between them, developing information, education and communication, promoting new concepts regarding marriage and reproduction, improving maternal and infant health, developing a social security system in rural areas and implementing laws and regulations to combat sex-selective abortion. The document suggested that a legal framework be established for prenatal examinations. It reasserted the ban on selective abortion for non-medical purposes and suggested various forms of punitive action such as fines, the confiscation of a trading license or criminal sanctions, and recommended improving controls over the sale of abortion pills, which should no longer be available over the counter but only on medical prescription. Finally, the document suggested setting up a more systematic system for recording infant deaths, to include a death certificate issued by a doctor. It suggested that parents should be obliged to declare such deaths within 48 h if they occurred outside a medical establishment, and that delivering a fake death certificate should be considered a criminal act (Zheng 2007).

In legal terms, the rights and interests of Chinese women in a range of family, social, economic and political areas are thus extensively protected.[24] But while numerous aspects of women's lives are fully covered by Chinese law, major obstacles to implementation still remain. That is why one of the government's current priorities is to reinforce their application, notably by improving women's access to legal aid and by communicating more effectively about gender equality in the media. It has also encouraged NGOs to set up telephone help lines and legal aid centres for women who are the victims of a failure to respect the law.[25]

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[22] Gender Equality and Women's Development in China. op. cit.

[23] Namely the information, education and communications departments of the CCP and the ministries of Education, Public Security, Civil Affairs, Labour and Social Welfare, Agriculture, Health, the Bureau of Statistics and the Federation of Chinese Women.

[24] Gender Equality and Women's Development in China. op. cit.

[25] Ibid.

8.2.2 The "Care for Girls" Campaign

The main government initiative specifically aimed to fight the elimination of girls was launched in 2000 with a campaign called "Care for Girls" (*guan ai nühai xingdong*). The objective is to promote the concept of gender equality, make the environment for young girls more favourable to their survival and development, and improve the living conditions of families with only one female child, in order to gradually rebalance the sex ratio at birth.[26]

The Programme's Objectives

The campaign has the following objectives:

1. To promote the emancipation of women and gender equality by encouraging education, training and women's participation in economic and social life;
2. To protect women and children's rights and interests and fight discrimination against them by ensuring a more rigorous and systematic application of the laws and regulations in place in order to improve their social status;
3. To change mentalities regarding the preference for sons and transmit the idea that boys and girls are equal in all areas (access to education, caring for elders, inheriting family assets, etc.), notably by encouraging uxorilocal marriage;
4. To improve girls' education and give them better access to employment. This mainly consists of encouraging girls to stay in school, especially in poor regions, and enabling them to complete the mandatory 9-years of schooling[27];
5. To help families who have respected birth control regulations, especially those who only had girls, so that their standard of living is at least equivalent to that of other families. To this end, some local governments have implemented measures to fight poverty in these families by giving them priority in land allocation contracts, access to employment, technical training, health services, trading licenses and tax rebates, and by adopting preferential old-age insurance measures;
6. To organize information campaigns to combat the drowning and abandonment of infant girls and sex-selective abortion. Abandoning a baby is now punishable by a 5-year prison sentence, while infanticide is treated as murder and liable to a sentence ranging from 10 years imprisonment to the death penalty (DDZG 2005).

"Care for Girls" also promotes gender equality in the media and stressed girls' right to survival and development. The project also includes administrative measures to eradicate the practice of prenatal sex determination and selective abortion, and to prevent female infanticide and abandonment. To this end it reinforces family planning measures by reducing the number of undesired pregnancies as much as

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[26] Ibid.

[27] For instance by implementing positive discrimination for access to schooling, especially at lower secondary level, by making the entrance criteria more flexible for girls.

possible, by improving child health and fighting "unnatural" infant deaths, by punishing organizations and individuals who take part in sex-selective abortions, and resolutely fighting all forms of discrimination against women who have not had a son or who cannot have children, and lastly by banning all discriminatory practices against infant girls and fighting the abandonment, drowning and trafficking of girls (DDZG 2005).

Limited Scope

This campaign was implemented in several stages.[28] A pilot project was first launched in 2001 in Chaohu county, Anhui province, and then extended to the entire province (for details, see the Appendix to this chapter). In this county, households with one or two girls and no sons were entitled to a one-off allowance of 2,000 yuan. They were also exempted from agricultural tax and school fees for their daughters until they reached marriageable age.

In a second phase starting in 2003, "Care for Girls" was extended to more regions. The project was implemented in 11 cities and counties selected from 11 provinces that had a particularly marked imbalance in the sex ratio at birth. The programme was then gradually extended to other regions. By the end of 2005, 300 counties were involved in the project,[29] the aim being to create an environment that was more favourable to girls and re-establish the balance in the sex ratio at birth by the year 2010.[30]

The campaign was promoted by the use of several slogans, such as "Cherishing girls is cherishing our country's future" (*guan ai nühai jiu shi guanzhu minzu de weilai*), "Achieving equality between the sexes and promoting social progress" (*shixian nan nü pingheng, tuijin shehui jinbu*), "Educating our daughters, creating a happy family" (*peiyu nühai chengcai, jianshe xingfu jiating*) and "Girls are not inferior to boys: Who said that girls weren't as good as boys?" (*nü'er bu bi nan'er cha, shei shuo nüzi bu ru nan*), all to promote the status of girls and change the social prejudice to which they are subjected. In Anhui, Jiangxi, Fujian, Guangdong and Hubei provinces, for instance, local governments used comics to promote the campaign and distributed leaflets informing people that girls were entitled to free medical treatment. Expressions such as "Men and women are born equal" and information to discredit discrimination against girls were added to school textbooks in

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[28] Some of the following information about the campaign's implementation was kindly provided to me in 2005 by Zhu Chuzhu, Professor at Xi'an University in China. I would like to take this opportunity to thank him. Zhu Chuzhu worked closely on the launch of this campaign, under the aegis of the National Population and Family Planning Commission.

[29] Information provided personally by Zhu Chuzhu at the end of 2005.

[30] The Chinese population: more consideration for girls. Published on 4 Nov 2003. Available at www.china-news.org. Accessed 5 July 2004; Ma Zhijian (2004). New incentives offered to families with girls. *China Daily,* 12 August 2004.

rural primary schools in these provinces.[31] One facet of this campaign consisted of encouraging the practice of uxorilocal marriage, viewed as a means of promoting gender equality by allowing families without a son to acquire the manpower they needed to work the land and take care of parents in their old age (Li and Jin 2006).

In August 2003, some 50 agents and doctors from the National Population and Family Planning Commission were sent to five provinces (Hebei, Inner Mongolia, Ningxia, Gansu, and Qinghai) to disseminate reproductive health information and observe the living conditions of girls in these regions. The team granted 500 yuan (about €50) to 300 girls who had left school early to encourage them to return.[32] In Fujian, the authorities paid 20 million yuan to 490,000 households with girls, and a further 100,000 girls in this province were exempted from school fees. In other provinces, families with an only female child, received assistance with housing, employment, education and social welfare.[33]

To date, the impact of this campaign has been barely perceptible. On a national scale, the sex ratio at birth showed no sign of readjustment in the 2000s. Some experts even say that the "Care for Girls" campaign has so far done more harm than good, as "by compensating parents of girls in various ways, the government reinforces the idea that girls are not as valuable as boys".[34] Actually, it is difficult to gauge the impact at local level not only due to a lack of detailed data but because the campaign is not implemented on a wide scale or in a standardized manner, but depends very much on the goodwill of the local authorities.

Appendix

Five Pilot Implementations of the "Care for Girls" Campaign

Anxi County, Fujian Province

The local Anxi county government launched a programme called "The Five Projects" for implementing Care for Girls, namely, "prosperity, settlement, talent, safeguarding, and care". Here, prosperity meant "assisting families with only girls to be better off"; settlement meant "obtaining decent housing for these families", talent consisted of "facilitating access to education and training for girls",

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[31]Ibid.

[32]China mobilizes to tackle gender imbalance. *Renmin ribao* (*People's Daily*), 15 Aug 2003.

[33]Chinese given perks to have girls. BBC News, 12 Aug 2004, 09:33 GMT.

[34]Eklund L., China's 'Care for girls' Campaign has done more harm than good. Available at http://www.medindia.net/news/Chinas-Care-for-Girls-Campaign-Has-Done-More-Harm-Than-Good-86493-1.htm#.#ixzz264trvOYS. Accessed 10 Sept 2012.

safeguarding implied "creating a system of social security for families who only have girls" and care meant "helping those families in their daily lives". This programme had a budget of 10 million yuan (€1 million) in 2004 and 15 million yuan (€1.5 million) in 2005.

To date, the project has carried out the following actions:

- assistance in planting at least one *mu* (or 0.0667 ha) of land with green tea for poor families without sons, together with a practical and technical training programme on tea growing;
- the payment of a monthly allowance of 70 yuan to families without sons;
- the establishment of a vocational training centre to improve peasants' skills and help lift them out of poverty.

The provincial family planning and agriculture authorities invested 2.4 million yuan (€240,000) in planting Longan trees to provide an income for 1,500 families without sons.

In the "talent" part of the project, schools and kindergartens organized exhibitions on the Care for Girls campaign and telephone help lines were set up for female students. The vocational training college in Anxi opened a class entirely devoted to providing a free education to girls from poor families . For the "safeguarding" aspect, the local civilian affairs and health authorities, together with the banks, either provided a grant to families without sons or reimbursed their medical expenses. To help change mentalities regarding girls, local county-level government cadres succeeded in persuading 32 families to re-draw their family trees to include their daughters.

Hong'an County, Hubei Province

This county was selected to be the pilot site for the Care for Girls project and adopted a series of measures to protect girls' rights and combat the causes of the gender imbalance at birth. At the end of 2004, the sex ratio at birth in Hong'an had fallen to 116.4 vs. 148.1 a year earlier. The actions carried out in this county may be summarized as follows:

- Priority was given to propaganda and education. A mass education campaign explained the impact of the imbalance in the sex ratio at birth, its causes and consequences. Each village painted at least two slogans on its walls, such as "A boy or a girl is good" and each township selected a street for carrying out propaganda for the Care for Girls campaign. Thousands of promotional items and information pamphlets featuring gender equality slogans were distributed. Dedicated television programmes were broadcast twice daily, four times a month on local channels. Teams worked to promote the Care for Girls campaign In more than 40 locations.
- The fight against the prenatal sex determination and sex-selective abortion was considered a key element in re-establishing a balance in the sex ratio at birth. In June 2005, 20 medical workers were punished for having been involved in these illegal practices.

- Measures were taken to control the imbalance in the sex ratio at birth, which included 20 rules governing pregnancy, ultra-sound examinations and giving birth. Women were monitored from their first pregnancy in urban areas and their second child in rural ones, and all medical establishments wishing to purchase an ultrasound machine were required to obtain prior authorization and register with the county-level family planning committees. Ultrasound technicians are now obliged to hold a license and every ultrasound examination carried out on a pregnant woman has first to be authorized by the local family planning authority. A system has been put in place to record all births, abortions, and cases of foetal death, and individuals or establishments involved in the practice of prenatal sex determination or selective abortion are sanctioned.
- Preferential measures were implemented to help poor families, including tax rebates, medical treatment at a reduced price or free of charge, microcredit, and technical training.

Yangdong County, Guangdong Province

This county has devoted more than 12 million yuan to the Care for Girls project since 2004, and has implemented the following actions:

- Some 300,000 free promotional items such as calendars and bags have been distributed. The local government has also spent 800,000 yuan (€80,000) on building 23 panels (each measuring more than 100 sq m) and has painted more than 6,800 slogans in 2,300 villages.
- Families with only girls have received financial support and land for farming. The country authorities have assisted 921 projects of this type and have helped 1,200 families increase their annual incomes by 2,500 yuan.
- Families without sons are given greater employment opportunities. The county authorities have designated 60 companies to hire parents without boys and train them in their new jobs. These measure have benefitted 2,800 persons.
- School fees for girls have been reduced to improve their school enrolment rate; a 500 yuan allowance is paid out to couples without sons who were sterilized after the birth of the first or second daughter, once their daughter enters lower secondary education, 3,000 yuan are paid to families whose daughter enters 3-year higher secondary education, and 5,000 to those whose daughter enters 4-year university education.
- Couples without sons who were sterilized (the men or the women) after the birth of the first or second daughter receive a monthly allowance of 50 yuan per spouse, and those reaching retirement age (age 60 for men and 55 for women) who had two girls, a single girl child or no children, receive 100 yuan per month per spouse;
- Women of childbearing age and pregnant women are closely monitored with a system of registration for ultrasound examinations, abortions, and the sale of abortion pills. A team has been set up to investigate practices such as selective

abortion, abandonment, drowning of infant girls and trafficking in women and children. In 2004, 22 such cases were dealt with; a nominative system of recording births, abortions and infant deaths was established and the information obtained is checked and analysed by the county authorities.

Baoshan County, Shanghai Municipality

In the Care for Girls campaign, special attention was paid to Baoshan county's large proportion of migrants (460,000 persons in 2004). A system of recording births (live or stillborn) and abortions was established at county level, and the statistics were then transmitted to the higher authorities. Propaganda campaigns were launched to disseminate new concepts relating to marriage and reproduction, and advertising campaigns were broadcast on television and in other media to promote gender equality. A decree now forbids prenatal sex determination and abortion for non-medical purposes. The migrant population receives advice and services relating to contraception and reproductive health, and poor mothers receive financial assistance.

The Huzhu and Minzhe Autonomous Counties, Qinghai Province

These counties were selected in 2004 to be pilot sites for implementing the Care for Girls project. They both have large proportions of ethnic minority Tu people.

- Minzhe county adopted regulations banning prenatal sex determination by ultrasonography or chromosome tests for non-medical purposes, as well as criminal acts against girls and women.
- Huzhu county covered the schooling fees of 944 girls from poor families. It spent a total of 116,000 yuan to enable these girls to pursue their secondary education.
- Since 1991, Huzhu county has spent approximately one million yuan (€100,000) on pensions for 2,460 households with an only child, 204,000 yuan to reward 68 families with female only children, and a further five million yuan to help approximately 10,000 households with one or two daughters.

Information taken from de "*Guan ai nühai*" (Care for Girls) in *Dangdai zhongguo renkou* (DDZG 2005).

Chapter 9
Persistent Social and Economic Disparities

9.1   Access to Education and Employment as a Factor of Inequality

From a demographic point of view, discrimination against girls and women is part of a family and social system that confers high value on men and keeps girls and women in an inferior position. The Chinese government's actions to improve women's status over the past 50 years have led to clear improvements. Despite persistent social and cultural issues, there is no doubt that Chinese women enjoy better treatment today than during the imperial period. Peasant women are in a more favourable situation than in most other developing countries, and the position of women in the cities, or at least the larger ones, is probably better than most. In theory Chinese women enjoy all the rights for which hundreds of millions of women around the world are still fighting, including the right to work, study, divorce, or have an abortion. Even if the laws relating to women's rights and interests are often only partially applied, the country does have a comprehensive body of laws governing various aspects of women's lives and gender equality, which is the prerequisite for any progress in this domain.

However, there are considerable disparities in women's situations depending on whether they live in the more developed coastal regions, the west or the centre of the country, and if they live in the city or the countryside.[1] While the better-off city-dwellers have access to consumer society goods, the peasants in the less developed regions still live by the seasons in a form of poverty that is relatively untouched by modern life. In the countryside, women may still eat in the kitchen when the family receives guests, "We women don't know much about what's going on in the world, and since we are confined to the kitchen we're excluded from intellectually

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[1] According to official estimates, the gap in GDP between the cities and the countryside rose tenfold between 1949 and 1990 and is still growing. "There is almost no other country in the world where the income gap between city and countryside is as wide as it is in China," reported two researchers from the Beijing Academy of Social Sciences in 1999 (Fabre 2000).

stimulating conversation," explained Xu Jinfeng, a member of the Hebei Women's Federation.[2] The traditional codes governing the social divisions between the sexes continue to weigh on peasant women. Many young girls have to give up their education after primary school to help with domestic tasks and work in the fields, and more importantly, to allow their brothers to continue with their education[3] (Haski 2002). In 2003, Wu Qidi, then vice-minister for education, admitted that many girls were deprived of an education in disadvantaged regions because their parents want them to start working as quickly as possible.[4] Clearly, the imbalance in the sex ratio at young ages is the demographic reflection of women's low social status compared with men, and of a social environment that favours boys in the family at the expense of girls, especially in access to education and jobs (Chu 2001; Li and Zhu 2001).

9.1.1 Discrimination in Schooling

"Education for All"

Women's educational levels have clearly improved over the past decades. In traditional Chinese society schooling for girls was never a priority. On the contrary, the idea prevailed that "a woman without learning is virtuous" (*nüzi wu caibian shi de*) (Elisseeff 1988). Learning was the privilege of young girls from good families and of high-ranking courtesans, and usually restricted to the arts and social etiquette. For the former, learning was refinement, while for the latter it was erudition for professional purposes. The purpose of getting an education was not to raise women's social status but to acquire an additional advantage that would make them more attractive to men.

By advocating education for all, Mao Zedong struck a harsh blow to a centuries-old, sexist and elitist educational system. Mao believed that schooling should comply with two main principles: it should be egalitarian and available to the masses. A fervent defender of women's rights, he saw education as the prerequisite to women's emancipation. Schooling was therefore made available to everyone – or at least everyone with good class origins. The sons and daughters of the working classes and the revolutionary cadres dedicated to the Party and the revolution were sure to be admitted. The "redder" they were, the better their chances of reaching higher education, since class origins were a determining factor (Attané 2005; Unger 1982). Primary schooling developed rapidly as a result, but progress was interrupted by the anti-rightist movement of 1957[5] when teachers and intellectuals were persecuted, and then again by the Cultural Revolution in 1966 (Hossain 1997).

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[2]China's women fight kitchen culture. BBC monitoring, 2 Feb 2002. Available at http://news.bbc.co.uk/2/hi/world/monitoring/media_reports/1797524.stm. Accessed 17 Mar 2003.

[3]Ibid.

[4]Nine years of compulsory education will become widespread in China by 2008. *Renmin ribao* (People's Daily) 26 Aug 2003.

[5]See note 17, page 107.

Nevertheless, a step had been taken towards making education widely available and the efforts deployed to release women from the domestic sphere by opening schools to girls, started to bear fruit. Prior to 1949, 80 % of the population was illiterate and few men – and even fewer women – attended school regularly. In 2010, China's illiteracy rate was very low compared with most developing countries, including the rate for women (2.5 % for men and 7.3 % for women) (PCO 2012). India, for example, which is just behind China in terms of population size, still had an illiteracy rate of 26.0 % in 2011 (17.8 % among men and 34.5 % among women). The rate for sub-Saharan countries is even higher, at 38 %, of which 62 % are women (UNESCO 2011). Were it not for exceptions, such as Latin America, which is very advanced in terms of access to education (8.0 % illiteracy in 2005–2008) (UNESCO 2011) and China's close neighbour, Republic of Korea (2.2 %), China would be among the leading countries in the developing world (UNESCO 2000). Officially, illiteracy concerns less than 5 % of the population, mostly adults and elderly people, and the vast majority of young people are able to read and write. But in China, as in most countries with a literacy problem, the majority of illiterates are women (73.8 % in 2010), and literacy is advancing at a slower pace for women than for men.

At present, most children are enrolled in school and what was once a privilege is now the rule. Just 60 years ago, women who had received an education, however rudimentary, were the exception, especially in the countryside. In the generations born before the 1950s, now aged well over 60, only one in two living in the countryside had gone to school. Today the situation of women has significantly improved. Official statistics show that among children aged 6–9, only 3.8 % of girls have never attended school, which is no higher than the percentage for boys (3.7 %).

A law was passed in 1986 making 9 years of education compulsory for all, so that every child could complete lower secondary school.[6] But this was still far from the case in 2003, when Wu Qidi declared that, "Chinese law stipulates that every child is entitled to nine years' compulsory education, but to date that law has not been fully applied".[7] In 1990, two women in three nation-wide (32 % in the cities and 71 % in the countryside) had been to school for 6 years or less, and only one woman in 10 had more than 9 years' education, primary schooling included. Twice as many men had 9 years of schooling, and men had stayed in school for nearly 2 years longer than women (6.6 years on average versus 4.7 years for women) (Table 9.1). In 2000, the literacy gap between the sexes had narrowed slightly, with women having just 1.5 years less schooling, on average, than men (6.1 and 7.6 years, respectively), although still not the compulsory 9 years. In the past decade, however, the generalization of primary education in the younger generations has led to a significant reduction in the proportion of women (18–64 years) without instruction. In 2010 it had fallen to 6.6 % in rural areas and 3.5 % in urban areas (Table 9.1). Improvements are also visible in access to high school or higher education, with a three-fold increase between 1990 and 2010 for women in rural areas and a doubling

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[6] Six years are required to complete primary school, 9 for lower secondary school and 12 for high school.

[7] Nine years of compulsory education will become widespread in China by 2008, op. cit.

Table 9.1 Educational level of women, 1990–2010

	1990		2000		2010	
	Urban	Rural	Urban	Rural	Urban	Rural
No education (%)	10.9	34.7	20.8	58.8	3.5	6.6
No more than primary education (%)	19.8	36.1			10.3	29.4
High school or above (%)	36.1	6.7	44.4	8.4	54.2	18.2
Mean length of schooling (in years)						
Women	4.7		6.1		8.8	
Men	6.6		7.6		9.1	

Sources: ACWF (2010)

Table 9.2 Crude enrolment rate by sex and place of residence in 2000 (%)

	Primary		Lower secondary		High school		University	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Towns and townships	94.4	94.2	66.3	67.3	47.3	48.0	18.6	16.4
Countryside	95.1	94.4	50.5	47.9	11.8	9.4	1.0	0.9
China	94.9	94.4	55.1	53.5	24.8	24.3	8.8	8.0

Source: 2000 Population Census (PCO 2002)

in urban areas. While high school and higher education remain the prerogative of a minority of Chinese (just over a third have access to one and/or the other), recent developments indicate a clearly positive momentum: in 20 years, the mean length of schooling for women has almost doubled from 4.7 years in 1990 to 8.8 years in 2010, gradually closing the gap with men (6.6 years in 1990 and 9.1 years in 2010).

In the eastern cities of China, the younger generations of both sexes now have access to a relatively egalitarian educational resources. But geographical disparities remain significant, especially in rural areas. In 2010, in the centre and west of the country, for example, rural women had attended school for 6.8 years on average –2.2 years less than those living in rural municipalities of Beijing and Tianjin. In the countryside, the added value of education, especially for girls, is not always understood, especially as the cost has become prohibitive for many families since the reform of the education system in the 1980s. In general, family expectations are lower for girls than for boys, although the gender gap in this respect is narrowing.

In 2000, the official primary school enrolment rate was very high, at 95 % for both boys and girls in the cities and in the countryside (Table 9.2), but secondary school enrolment was another matter. Nation-wide, only one child in two went to lower secondary school, meaning that after ages 12–13 only half the number of children was still in school, reflecting the poor overall educational capital. Things were slightly better in the cities, where two in three children entered lower secondary school, and as many girls as boys, which is a new factor. However, in the countryside, girls were still discriminated against in lower secondary school education, even though the gap was gradually closing, with nearly 51 % of boys in lower secondary school in 2000, compared with 48 % of girls. Upper secondary school was even more selective, with only one in four teenagers enrolled, and considerable

disparities once again between the cities, where one student in two attended upper secondary school, and the countryside where only 12 % of boys and about 9 % of girls had that opportunity.

Country-wide, women's education is gaining ground year after year but higher education still belongs to a tiny privileged minority, namely the political class prior to the reforms and the new wealthy classes today. It is attracting growing numbers of women, however. In 1980, fewer than one student in four was female, but today their numbers equal those of men, which shows the considerable progress achieved by the younger generation. Overall, however, the enrolment rate for higher education, which is the same for men and women, remains low.

Lower School Enrolment Rates for Girls

In 2000, nearly all children went to school even if nearly half of them did not get beyond primary school. Actually, the dropout rate remains high, especially among girls, and many children fall behind in school, give up, or attend infrequently. According to the 2000 census, some two million children aged 7–14 in the countryside were not in school, and nearly six out of ten of them were girls (57.3 %).[8] Bearing in mind that girls are a minority in that age group (47 % in 2000) due to pre- and post-natal discrimination, the imbalance is all the greater. Since girls are under-represented among children as a whole, they should logically be under-represented among the children not enrolled in school, but in fact the reverse is true. In poor families, boys often get priority for schooling and girls give up school first. In the 2000 census, out of the 1.3 million children aged under 15 who gave up school before the end of primary level, 57.9 % were girls (PCO 2002). But the reverse is true higher up the academic ladder because of a selection effect: girls lucky enough to enter lower secondary school tend to be from better-off families, and when their parents have the means to send them to school they generally prove to be more studious than boys, as is the case elsewhere in the world.

The problem for girls in the countryside is their comparatively poor attendance and their high dropout rate before the end of compulsory schooling, which prevents any lasting acquisition of knowledge. True, a majority of children do attend school sporadically and learn the basics of reading and writing, but they are not in school long enough to consolidate what little knowledge they might have acquired.

9.1.2 Gender Inequality in Employment

One Working Person in Two Is Female

Chinese women have one of the highest labour force participation rates in the world. Almost three in four women work, and in both the cities and the countryside, almost one

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[8]In 2000, 1.78 million children aged 7–14 were not in school, 1.02 million of whom were girls.

Table 9.3 Gender distribution of the working population by type of activity (%)

Type of activity	Women (in 2000)	Men (in 2000)	% of women (in 2005)
Agriculture	69.0	60.7	49.7
Manufacturing, transport	11.7	19.3	32.5
Trade, catering, services	10.1	8.4	48.9
Technical personnel	6.5	5.0	49.4
Office workers	2.1	4.0	31.8
Executives	0.6	2.5	21.6
Total	100.0	100.0	45.4

Sources: PCO (2002); NBS (2007)

economically active person in two is a woman (44.8 and 46.2 %, respectively) (PCO 2012). This performance is far superior to that of Indian women for example, who only represent one third of the economically active population (and in 2008, their labour participation rate reached barely 36 %).[9] However, while the female employment rate in China appears to suggest equal access to employment for men and women, in fact this depends very much on the economic sector. In 2000, more than two thirds of all Chinese women (69 %) were working in agriculture compared with 60.7 % of men (Table 9.3). The agricultural sector employed almost as many women as men and they represented 48.5 % of the agricultural labour force. For both men and women, farm labour is poorly paid, with low yields due to rudimentary production techniques and a lack of mechanization. The second sector in which women were largely present, albeit far after agriculture, was factory work, which employed 11.7 % of Chinese women. Trade, catering and services come third, accounting for 10 % of active Chinese women.

In all, around nine out of ten Chinese women are still working in low-skill sectors, a slightly higher proportion than men. They are less represented in more skilled occupations. In China, office work remains largely a male preserve where female employees account for barely one-third of the total, and few women hold positions of responsibility.

In both politics and government, women are at the bottom of the ladder, and going up the hierarchy there are fewer and fewer of them. In 2000, there were only 7 million women (14 %)[10] among the 50 million or so members of the Chinese Communist Party (most of whom had local cadre functions), and inequalities were even more flagrant in the senior leadership. Of the 189 members elected to the Party Central Committee in 2002, there were only five women, the lowest number ever. All nine permanent members of the Politburo were men, and there was only one woman among the non-permanent members.[11] In the mid 1970s, 10 % of Central Committee members were women, four times more than in 2000.

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[9] India. An Overview of Women's Work, Minimum Wages and Employment. Available at http://www.wageindicator.org/main/wageindicatorcountries/country-report-india. Accessed 14 Sept 2012.

[10] Females now play an active role in politics. *China Daily*. 25 Sept 2000.

[11] *Ouzhou ribao* (Europe Daily). 19 Nov 2002.

Women Are Disadvantaged in Employment

Where social recognition is concerned, Chinese women still lag far behind their male counterparts and for equal skills, they generally have fewer opportunities (Tan 2006; Attané 2012). These inequalities in access to various types of employment are due in part to their being less qualified and therefore less attractive to employers than men. There are still inequalities in overall educational attainment and in 2010, still one-third (32.1 %) of all working Chinese women had not gone beyond primary school, or had had no education at all versus just over one quarter of men (26.7 %) (Table 9.4).

In addition, wage discrepancies between men and women in the same job are considerable (Tan 2002, 2006; Zheng 2007). Whatever the sector, Table 9.5 shows that women's average wage represents only 75–90 % of the male wage. However, data from a survey conducted in 2010 by the All China Women Federation reveal even more pronounced gender wage inequalities, since women's average wages in 2010 represented just 67 % of the male wage in urban areas and 56 % in rural areas. Actually, it is often harder for women to prove themselves, and employers are usually more demanding when hiring women than men (Tan and Li 2003). Women leave the labour force earlier than men because their retirement age is

Table 9.4 Breakdown of the working population by sex and educational level in 2010 (%)

	No education	Primary school	Secondary school	University	Total
Women	5.1	27.0	57.9	10.0	100.0
Men	3.3	23.4	63.0	10.3	100.0

Source: 2010 Census (PCO 2012)

Table 9.5 Average annual wages of men and women by sector of activity in 2002 (in yuan)

	Average annual wage		Women's wages in % of men's wages
	Women	Men	
Agriculture, animal breeding, forestry and fish farming	12,177	14,002	87.0
Mining	8,578	11,488	74.7
Manufacturing	13,544	16,652	81.3
Production and supply of utilities (electricity, gas, water)	16,665	18,912	88.1
Construction	15,396	17,400	88.5
Transport, postal services and telecommunications	17,993	20,895	86.1
Wholesale or retail sales, catering	13,385	16,705	80.1
Real estate	23,186	27,437	84.5
Social services	17,336	23,267	74.5
Other	13,937	17,141	81.3

Source: WMC (2004)

5 years lower[12] (55 years for women and 60 for men), and because a larger proportion of women lost their jobs during the industrial reforms and had trouble finding work again (Attané 2012; Zheng 2007). Less qualified than men, women remain at the bottom of the employment ladder and mechanically occupy the lowest income categories.

The apparent gender equality suggested by the large number of women working outside the domestic sphere is belied by their very different employment prospects and their unequal wages, due to inequitable access to education, which both maintains and propagates the secondary status of girls and women in the family and in society, as well as society's lower expectations for them. Actually, these unequal treatments are part of a social system in which men and women have differential access to various opportunities for social and economic development, the latter contributing in turn to the perpetuation of gender inequalities in both the public and private spheres (Attané 2012).

9.2   The Preference for Sons in Post-reform China

Since the end of the 1980s considerable research has been devoted to the preference for sons as a determinant of the current shortage of girls at young ages in China (Arnold and Liu 1986; Banister 2004; Bossen 2007; Chu 2001; Coale and Banister 1994; Hull 1990; Li and Zhu 2005; Poston 2002; etc.). According to Banister (2004, p. 40):

> One of the toughest challenges is to modify China's rigid customs of patrilocal and patrilineal marriage, the restriction of land rights to the males of the patrilineal clan, the traditional weakening of daughters' ties to their natal families after marriage, the dependence on sons but not own-daughters for old age support, and other customs that make daughters worth little in the eyes of their natal families.

In contemporary Chinese society, a set of factors combines to maintain the preference for sons, which indirectly leads to discrimination against girls both before and after birth. These are essentially economic and socio-cultural factors that interact in a complex manner to give rise to the preference for sons, and that, in many cases, lead to the discrimination against girls that underlies the growing female deficit.

9.2.1   Socioeconomic Factors

The enduring preference for sons in contemporary Chinese society is related to the social roles traditionally assigned to boys and girls, perceptions of which are only changing very gradually despite the economic growth of the past decades. Chinese

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[12]In the 1950s retirement age was set at 60 for men but at 50 or 55 for women depending on the type of employment. This curtailed women's career plans even though the measure was originally designed to protect them. Because women are in employment for a shorter period, they are deprived of any promotion that might have been due had they taken retirement a few years later. Furthermore, a shorter working life also means a lower pension. (*China Daily*. 8 Mar 2001).

Table 9.6 Main sources of income of people aged 60 and over, by province in 2004

	Income from labour	Retirement pension	Insurance	Family member	Other	Total
China	22.0	26.3	2.0	47.5	2.1	100.0
Beijing	4.7	69.8	1.2	23.4	0.9	100.0
Tianjin	5.8	59.8	0.8	31.8	1.8	100.0
Hebei	20.3	22.5	0.9	54.3	2.0	100.0
Shanxi	19.1	21.8	1.2	54.6	3.4	100.0
Inner Mongolia	23.2	25.9	2.9	44.7	3.2	100.0
Liaoning	13.0	53.0	2.6	29.9	1.5	100.0
Jilin	17.5	38.3	1.9	37.9	4.3	100.0
Heilongjiang	13.2	33.1	2.3	48.4	3.0	100.0
Shanghai	4.0	82.5	1.1	11.9	0.5	100.0
Jiangsu	25.0	24.1	2.3	46.8	1.8	100.0
Zhejiang	18.7	30.3	3.6	44.2	3.3	100.0
Anhui	27.4	21.2	3.1	46.2	2.1	100.0
Fujian	17.1	17.0	2.3	61.7	2.0	100.0
Jiangxi	17.9	27.5	1.6	51.5	1.4	100.0
Shandong	21.3	18.6	2.0	56.1	1.9	100.0
Henan	26.4	19.6	1.1	50.5	2.4	100.0
Hubei	29.4	24.4	2.0	42.9	1.3	100.0
Hunan	25.5	14.9	2.4	55.0	2.2	100.0
Guangdong	16.5	21.9	2.6	57.2	1.8	100.0
Guangxi	22.7	20.2	1.8	53.1	2.2	100.0
Hainan	18.3	30.7	2.8	45.3	2.9	100.0
Chongqing	35.3	19.4	2.3	42.6	0.3	100.0
Sichuan	29.7	23.3	1.9	42.8	2.3	100.0
Guizhou	25.6	22.7	1.5	47.7	2.5	100.0
Yunnan	18.8	18.3	1.6	57.6	3.6	100.0
Tibet	13.8	10.0	3.8	69.3	3.1	100.0
Shaanxi	22.7	25.4	1.9	47.7	2.4	100.0
Gansu	21.2	25.4	1.4	49.5	2.5	100.0
Qinghai	14.7	26.3	2.8	54.8	1.4	100.0
Ningxia	17.5	32.9	2.3	45.0	2.1	100.0
Xinjiang	20.7	43.9	3.3	30.1	2.0	100.0

Source: NBSp (2005 pp. 106–107)

law protects the rights and interests of women and promotes gender equality in all areas of family, social, economic and political life (see above, p. 109 sq.). Yet these laws are regularly ignored or only partly applied, and women are kept in a situation that often puts them at a disadvantage with respect to men, especially where access to education and employment is concerned, but also in terms of responsibility and decision-making within the family, access to means of production – notably land – as well as inheritance (Bossen 2007; Zheng 2007).

Aware of the unequal opportunities available to their daughters, most parents place their greatest hopes in the future of their sons, and expect more from them than from their daughters. Furthermore, in most regions of China the responsibility for supporting the elderly traditionally falls to sons and daughters-in-law (Table 9.6),

especially in rural regions where no widespread pension system exists. In the countryside the saying goes:

> There are three advantages in marrying off a son as quickly as possible: the daughter-in-law, descendants and land. (*erzi zaohun you san li: xifu sunzi he tudi*) (Zi 1990).

Unlike in the cities, where children cost more than they contribute, in the countryside they still have a real economic value. They can help in the fields, care for the livestock and carry out small tasks (Liu 1990; Li 1992). The rural exodus and the growing loss of interest in agriculture has not altered the need to have at least one son: even if he leaves the farm, he will go to a town or a large city to find a job that will bring in more money. Whether he lives with his parents or not, he is duty-bound care for them in their old age (Mo 2005).

In the 1950s, the agrarian reform established equal rights for men and women in access to land. A few years later, collectivization wiped out those rights, and both men and women became landless peasants working on collective farms managed by village committees. Later, when agriculture was decollectivized, yet another operating method was introduced (Inset 9.1) with a contract system that tied the peasants to the land. The land was owned by the local government, which was also in charge

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Inset 9.1 The Economy and Rural Society Tested by the Reforms

Agrarian reform was the first issue to be addressed by the Communists, even before the People's Republic of China was established in 1949. The collectivization of agriculture aimed to end the exploitation of poor peasants by landlords, and was a major turning point in the history of the Chinese peasantry. Between 1949 and 1974, agricultural production rose by 75–80 % while the population grew by nearly 70 % over the same period. Despite a more equitable access to the means of production, the peasants' situation remained precarious. In the early 1970s, food shortages persisted in several provinces and living conditions in the poorest regions were very harsh. The population growth all but cancelled out the increase in agricultural production (Domenach and Richer 1987). A low level of mechanization and poor work organization meant that the peasants laboured far harder than workers and did not have the same access to political knowledge (Dumont 1984).

The reforms launched by Deng Xiaoping in 1978 marked a new turning point in the history of the Chinese peasantry. The decollectivization of agriculture, at the core of the modernization programme, gave the peasants the rights to work the land and manage their farms independently within the framework of the household responsibility system. The People's Communes gradually lost their economic function and their administrative role was transferred to the townships. That was a second revolution, for cereal production doubled in relation to 1973–1978, the food situation improved and incomes rose considerably (Domenach and Richer 1987). But although decollectivization

Inset 9.1 (continued)

made way for the "10,000 yuan households", many peasants grew poorer as others grew richer. The reforms mainly benefited the eastern provinces, while new pockets of poverty emerged.

With the reforms, the land became the collective property of the entire village community, and was distributed to families as fairly as possible. For instance, land fertility was taken into account, along with location and irrigation potential. The peasants acquired usage rights to the land that was allocated to them for a given period, usually 15 years. During that time, those rights could be passed on to heirs or to other peasants with the consent of the village committee, but the trade, sale or rental of that land was strictly forbidden. Furthermore, since land allocation was proportionate to family size, the competition for land was transformed into competition for more children – a paradox in the context of the one child policy. Thus strong demographic growth in some villages, led to a regular redistribution of land, and hampered both investment and yields.[a]

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[a]In 250 villages surveyed, land was redistributed every two years between 1983 and the early 1990s (Zhu and Jiang 1993).

of dividing it between the families. However, because traditional social practices, including patrilocal marriage, were maintained, girls were considered as temporary family members and their rights to land allocation and inheritance were not recognized by law. The economic reforms combined with the strict birth control policy, served to revive patrilineal control over land rights through lineage at the expense of girls (Bossen 2007).

Decollectivization therefore provided an additional pretext for discrimination against girls. When the peasants received usage rights to the land they acquired an opportunity to increase their income. After paying their taxes and delivering the required production quotas to the state, they could sell their surplus and keep the profit. The family became a production unit again, a role that had been expropriated during the collectivization period. Consequently, the bigger the family the greater its production capacity and its chances of earning income, especially since land is allocated proportionately to the number of people in the family (Mu 1992; Yu 1993).

According to Bossen (2007), the household responsibility system in agricultural production has contributed to the increase in sex ratio at birth, the desire for a son being largely motivated by the land distribution system and the patrilineal rules governing its transmission. However, in rural areas of provinces with high emigration rates, the situation of women has recently changed somewhat. With a growing number of men leaving for the cities in search of better paid and less tiring work, especially during the slack period in agriculture, agricultural labour is increasingly carried out by the women. According to the All China Women Federation, the true proportion of women working in the fields is far higher than that in the census

(see above, Table 9.3, p. 124). Around two-thirds of the 300 million or so peasants working the land are women. They stay behind in the villages to take care of the home and the children and continue to cultivate the family plots, however meagre their income. Because of their comparatively low educational level, they are less inclined to follow their menfolk to the cities where they would contend with them in areas such as office work, which mainly employs men and where they would not be competitive. Thus women's economic role in rural areas is growing as more men leave the countryside for the cities, and, unwittingly, they are becoming an important factor in rural development. In the early 2000s, more than 50 million of the 130 million employees in rural enterprises[13] were women (NBS 2005) and they represented the majority of workers in factories producing textiles, tea, and toys.[14] In time this may lead to a redefinition of women's role in the family and the local economy, and therefore to changes in the perception of women, and ultimately to an improvement in their status.

9.2.2 Persistent High Family Expectations for Sons

The preference for sons in contemporary Chinese society stems from a rational calculation of the costs and advantages of a child depending on his/her sex (Li and Zhu 2001; Zheng 2007), even though the ideal for most couples is to have one of each sex (Table 9.7) (NPFPC 2000; Mo 2005). Given that a child's role in the family and in society is predetermined by his/her gender, son preference is justified by parental expectations weighing on that child and the roles he/she will have to play as an adult, notably in supplying manpower to the farm or the family enterprise, managing family affairs, continuing the family line and supporting parents in their old age (Xie 2002).

In some regions, son preference is also related to social status within the family and the community, and couples desperately wanting a male heir are often in very disadvantaged social and economic circumstances (Li and Zhu 2001). But the reverse is also true: in Guangdong, one of the richest provinces in China, families who have grown rich as a result of the reforms are impatient to produce a male heir so that they can transmit their newly amassed family fortune (Siu 1993).

It is difficult to identify the interactions between the various factors at play in the preference for sons. In 1997, discussion groups were organized in villages in a

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[13]These are enterprises in the townships and small towns (*xiangzhen qiye*). They were key to the reforms and were set up to promote decentralized industrialization and enable peasants to "leave the land without leaving the countryside" (*li tu bu li xiang*), in other words to redeploy the rural labour force while limiting the exodus to the cities.

[14]Equal rights and important role in economic sphere. Information Bureau of the State Council of the People's Republic of China, Beijing, June 1994. Available at http://www.china.org.cn/e-white/chinesewoman/11-4.htm. Accessed 8 Jan 2007.

Table 9.7 Preferences expressed by women of childbearing age for the number of children and their sex (%)

1997 survey (NPFPC 2000)

Preference stated for:	China	Urban areas	Rural areas
No children	0.7	1.9	0.3
1 boy	4.5	3.9	4.7
1 girl	4.7	10.7	2.9
1 child, whatever its sex	19.8	27.4	17.5
1 boy and 1 girl	48.5	39.2	51.4
2 boys	1.1	0.7	1.2
2 girls	0.7	1.0	0.6
2 children, whatever their sex	8.8	10.6	8.3
At least one boy and at least one girl	2.7	1.4	3.1
As many as possible	0.5	0.1	0.6
Other cases	8.0	3.1	9.4
Total	100.0	100.0	100.0

Source: NPFPC (2000), p. 135

In 2002

Preference stated for:	Rural areas
1 boy	14.4
1 girl	5.6
1 boy and 1 girl	57.1
2 boys	2.5
2 girls	0.6
3 children or more	–
Number of boys > number of girls	10.4
As many girls as boys	5.9
Number of boys < number of girls	3.6
Total	100.0

Source: "Nongcun jumin shengyu yiyuan diaocha" survey carried out in 2000 on 9,436 women (Mo 2005)

county in Shaanxi province, and the information obtained from them sheds light on the process at work[15] (Diagram 9.1).

According to the above diagram produced by Li and Zhu (2001) for "J" county in Shaanxi province, three approaches prevail in the way a child is perceived according to his/her sex: the parental approach, the family approach and the community

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[15]This was a survey carried out in 1997 by Li Shuzhuo and Zhu Chuzhu from Jiaotong University in Xi'an (China) in a county of Shaanxi province, whose findings appeared in several publications (Li and Zhu 2001; Li et al. 2004; Li and Zhu 2005). In addition to gathering quantitative data on gender differentials in the treatment of children, the interviewers organized discussion groups that brought together 64 members of the village community, comprising 19 cadres from the family planning bureau and 45 peasants. These discussions helped to identify families' and couples' attitudes to children, and the influence of social gender relations on excess female infant mortality (see below).

Family

Views from members of clan:

• Boys:
  family grows larger,
  more relatives
  and more power

• Girls:
  as if no kids after girl
  gets married

Views from seniors of the family

• Boys:
  can carry on family surname
• Girls:
  cannot carry on family surname

Parents

Parents' expectations:

When children work there is
• no concern about boys' safety
• concern about safety of girls

When parent get old, their feelings towards:
• Boys: can rely on them, feel more secure
• Girls: cannot rely on them,
  no one to care for them

When children grow up:
• Boys: bright future,
  may become high-rank officials
• Girls: future not as good as that of boys,
  if they become officials, may reach
  director of a women's federation at best

Mood of parents:

• First birth is a boy:
  very happy
• First birth is a girl:
  also glad
• Second birth is a girl:
  unhappy

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Community

Views from villagers:

• Boys:
  enjoy due respect
• Girls:
  feel ashamed

In a dispute situation:

• Without son:
  bullied and cursed
• With a son:
  not bullied and cursed

Diagram 9.1 Different perceptions of boys and girls in "J" county, Shaanxi province 1997 (Source: Li and Zhu 2001)

approach. A son, unlike a daughter, is likely to comply with his parents' expectations. Consequently, when the first child is a boy, everyone is satisfied and the mother, aware of having contributed positively to the family's future by giving birth to a son, displays her pride to the other villagers. When the first child is a girl, the parents are pleased but count on receiving authorization for a second child so that they can have the desired son. If the second child also turns out to be a girl, they are very disappointed. Because the family line is potentially broken, the older family members will show their disappointment and the mother will feel ashamed (Li and Zhu 2001).

Families place all their hopes in their sons and imagine successful professional and social futures for them, unlike daughters who are certain to have less ambitious destinies. Furthermore, when the daughter has children in turn, they will be part of their father's family line and not their mother's, so daughters are not perceived as providing their parents with descendants, only their in-laws. The birth of a girl may even threaten the position of the clan within the village community, since she will

not be contributing to its expansion. From the community point of view, families who have just had sons command respect and admiration from the villagers, whereas those who have had daughters are treated with condescension and feel humiliated. When a son is born, the neighbours visit the family to congratulate them, but when a daughter is born the news is not broadcast and parents hardly dare to leave their homes. In a conflict among villagers about financial matters or ownership, the winning party will certainly be the one with a son, and the other party will be told:

> Why do you continue to claim your rights, when you haven't even got a son to continue your family line? (Li and Zhu 2001, p. 427).

Women themselves do not express strong preferences regarding the sex of their children, but tend to want a family comprising at least one son (see Table 9.7). Mo Lixia (2005) calculated that in rural areas the "ideal" sex ratio of offspring was 121.6 boys per 100 girls, a level similar to that observed in the countryside in the 2000 and 2010 censuses (see Table 3.1, p. 36). These results show the extent to which women are influenced by others (husbands, grandparents, family and the social environment) and have taken sexist attitudes on board. They are thus party to discriminatory acts founded on the belief held by many families that the absence of a male heir is intolerable for economic, social and cultural reasons.

Chapter 10
Discriminatory Practices and Factors in Masculinization

> *If tomorrow men and women were able, by some simple means, to decide their children's sex, some populations would only choose boys. They would therefore cease to reproduce and ultimately disappear. The cult of the male, a social defect today, would then become collective suicide. [We would then witness] the self-genocide of a misogynistic people.*
>
> Amin Maalouf, *"The First Century After Beatrice"*, Abacus Books, London, translated from the French edition 1992.

10.1 The Under-Reporting of Births

10.1.1 Several Million Girls May Not Have Been Reported at Birth…

Most research published in the 1990s concurred that under-reporting of births was the main reason for the shortage of girls (Coale and Banister 1994; Hull 1990; Johansson and Nygren 1991; Zeng et al. 1993). We were able to demonstrate that under-reporting was widespread in the statistics of the National Population and Family Planning Commission (NPFPC) and in vital statistics (32.1 and 26.6 %, respectively, in 1989), when compared with the total number of births recorded in 1990.[1] But uncertainties remained as to the extent of under-reporting in the 1990 census itself (Attané and Sun 1999) (Inset 10.1).

During the 1990s, the lack of appropriate data prevented us from estimating the percentage of births that had not been recorded in the 1990 census, whether out of negligence or to avoid the sanctions imposed for an unauthorized birth, though it was important to bear in mind that if the infant girls survived they would gradually

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[1] The 1990 census recorded births between 1 January 1989 and 30 June 1990.

Inset 10.1   Family Planning and Under-Reporting of Births in the 1980s and 1990s

Several different players are responsible for the under-reporting of births. The main guilty parties are usually parents who are disappointed by the birth of a girl and decide not to register the baby. The village cadres are often in collusion with them, since they have their own interests to defend. Indeed since they are personally responsible for the success or failure of birth control policy in their regions, they prefer to ignore unauthorized births rather than be punished for failing to respect the birth quotas.[a] Everyone has something to gain: parents are able to have more children than permitted by the regulations, while the cadres produce results that comply with political imperatives.

As family planning measures are highly unpopular, the cadres tend to have contentious relationships with the people in their charge, and may receive verbal or physical abuse when visiting couples (Zhu 1993a). The cadres are themselves victims of the contradictions in the system. With the de-collectivization of agriculture, they have lost their control over the peasants' incomes and are finding it increasingly difficult to collect fines. Under the new system of peasant responsibility in production (see Inset 9.1 pp. 128–129), fines are no longer dissuasive and many people only agree to pay in exchange for having an additional child. Consequently the cadres have very few means available to enforce the birth control policies and end up using coercion to achieve their assigned objectives (Aird 1990; Peng 1991).

To conceal their failure they falsify the statistics or refuse to record un-planned births (Liu 1990). In 1989, the under-reporting of births for the entire country by the NPFPC was estimated at more than 26 %, and at 32 % for the vital statistics[b] (Attané and Sun 1999), although we cannot say what percentage should be attributed to the cadres and what percentage to the families themselves. In that same year, a survey carried out in Shandong led to the demoting of four "model counties" where cadres were found to have tampered with birth statistics (Cartier 1991). In addition to dissimulating some births, cadres deliberately ignore others, out of negligence or favouritism. Corruption is on the rise, encouraged by low pay, which has led to a loss of motivation among cadres who prefer more lucrative activities (Huang and Chen 1993; Pan 1990) such as issuing fake birth permits or fake sterilization certificates[c] (Li Shao 1992; Zhang 1990; Zi 1990).

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[a] In the early 1980s, unscrupulous cadres in Shaanxi saw their salaries fall by 20 % (Greenhalgh 1990). In Yulin, Shaanxi, in 1993, more than 1,200 local cadres and family planning commission employees received heavy sanctions for having had unauthorized children themselves. (Shaanxi cadres punished for having too many babies. SWB-BBC, 24 Nov 1993).

[b] The birth statistics published by these two sources are not verified by sex.

[c] One-child policy reinforced. *China Daily*. 29 Jul 2004.

be brought into the statistics at a later age. For example, those born just before the 1990 census may not have been recorded at that time but could well have been recorded at age 10 in the following census, in 2000. After the results of the 2000 census were published in 2002, we were able to estimate how many baby girls were missing from the 1990 census as a result of under-reporting and to assess the extent to which under-reporting was responsible for the shortage of females at young ages.

On 1 July 2000, girls who would have been aged 0–4 years on 1 July 1990 were aged 10–14. Logically, there should be slightly fewer of those young girls in 2000 than 10 years earlier since some of them would have died in the meantime.[2] In 2000, there were 59.2 million girls aged 10–14 but a decade earlier only 55.4 million girls aged 0–4 had been recorded in the census, a 3.8 million difference reflecting the under-reporting of girls at young ages in the 1990 census (Table 10.1).

To obtain a more precise estimate of the extent of under-reporting under the relevant mortality conditions, the cohorts of girls aged 0–10 on 1 July 1990 was reconstructed from the girls aged 10–20 on 1 July 2000, and corrected for the mortality of the past 10 years[3] (Table 10.1, column 3). Thus the cohorts of girls aged 0–10 on 1 July, corrected for mortality as estimated from the 2000 census, totalled 109.76 million, whereas only 103.10 million were reported in the 1990 census. This corresponds to cumulative under-reporting of 6.66 million (Table 10.1, column 6). On the same principle, the real number of female births between 1 July 1989 and 30 June 1990 was estimated at 12.7 million, or 1.5 million more than the number actually registered in the 1990 census. In that census the sex ratio at birth was 111.3 boys for 100 girls. The addition of the unreported female births (6.66 million) to those registered in the 1990 census substantially reduced the sex ratio at birth, from 111.3 boys per 100 girls to 98.1 boys per 100 girls, an almost perfect balance but which does not match the biological norms observed elsewhere in the world (see above, p. 22 sq.). This suggests that under-reporting in the 1990 census concerned male as well as female births.

10.1.2   …But Boys Too

The same procedure was applied to the cohorts of boys to estimate the under-reporting of male births. It revealed that a similar number of boys' births was also under-reported in the 1990 census (10.9 % of boys and 11.9 % of girls), implying that an equivalent number of male and female births was by-passed in the census (1.53 million, compared with 1.52 million female births) (Table 10.2, column 5).

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[2]The reference date for the 1990 census was 1 July 1990 while that for the 2000 census was 1 November 2000. We therefore had to reconstruct the cohorts under 10 years of age on 1 July 2000 by backward projections of the data on 1 November, based on data on mortality and the age-sex structure in the 2000 census.

[3]The age-specific mortality rates for the period 1990–1999 used to reconstruct the cohorts aged 0–10 on 1 July 1990 from the cohorts aged 10–20 in the 2000 census, are interpolations of age-specific mortality rates in the 1990 and 2000 censuses. The data for 2000, adjusted for the under-reporting of deaths, were taken from Banister (2007), and those for 1990 were taken from CPIRC (1995).

Table 10.1 The under-reporting of girls aged 0–10 in the 1990 census

Female cohorts aged 0–10 on 1 July 1990		Same female cohorts aged 10–20 on 1 July 2000 (as recorded in the 2000 census)		Same female cohorts aged 0–10 on 1 July 1990 (as recorded in the 2000 census, corrected for mortality)		Estimated number of deaths in these cohorts between 1 July 1990 and 1 July 2000	Difference (under-reporting)	Total number under-reported
(a)		(b)		(c)				
Age	Number	Age	Number	Age	Number	(c) – (b)	(c) – (a)	
N	11,254,194[a]			N	12,773,122[b]		1,518,928	
0	10,965,946	10	12,276,140	0	12,445,970	169,830	1,480,024	1,480,024
1	11,027,053	11	11,951,190	1	12,048,562	97,372	1,021,509	2,501,533
2	11,508,503	12	12,086,606	2	12,159,059	72,453	650,556	3,152,089
3	11,617,575	13	12,165,549	3	12,224,319	58,770	606,744	3,758,833
4	10,270,212	14	10,722,735	4	10,766,926	44,191	496,714	4,255,548
5	9,576,857	15	9,836,703	5	9,874,805	38,102	297,948	4,553,496
6	9,133,580	16	9,827,902	6	9,866,641	38,739	733,061	5,286,557
7	9,677,860	17	10,300,027	7	10,341,520	41,493	663,660	5,950,217
8	10,595,842	18	10,669,896	8	10,714,000	44,104	118,158	6,068,375
9	8,721,729	19	9,275,328	9	9,314,794	39,466	593,065	6,661,440
10	9,267,764	20	9,180,109	10	9,222,131	42,023	–45,633	

Source: Attané 2004

[a]Number of births between 1 July 1989 and 30 June 1990

[b]Estimated number of births between 1 July 1989 and 30 June 1990, based on data from the 2000 census, corrected for mortality

Table 10.2 Under-reporting of boys aged 0–10 years in the 1990 census

Male cohort aged between 0 and 10 years on 1 July 1990 (a)		Same male cohort aged 10–20 years on 1 July 2000 (as recorded in the 2000 census) (b)		Same male cohort aged 0–10 years on 1 July 1990 (as recorded in the 2000 census corrected for mortality) (c)		Estimated number of deaths in this cohort between 1 July 1990 and 1 July 2000 (c) − (b)	Difference (under reporting) (c) − (a)	Total number under-reported
Age	No.	Age	No.	Age	No.			
N[a]	12,532,303			N[b]	14,065,926		1,533,623	
0	12,254,905	10	13,579,725	0	13,754,582	174,857	1,499,677	1,499,677
1	12,304,824	11	13,002,401	1	13,116,332	113,931	811,508	2,311,185
2	12,672,092	12	13,061,560	2	13,154,390	92,830	482,298	2,793,483
3	12,676,790	13	13,089,797	3	13,170,241	80,444	493,451	3,286,933
4	11,140,519	14	11,551,151	4	11,615,106	63,955	474,587	3,761,520
5	10,405,433	15	10,556,913	5	10,613,843	56,931	208,410	3,969,930
6	9,922,498	16	10,406,266	6	10,464,496	58,230	541,998	4,511,929
7	10,518,627	17	10,781,010	7	10,843,748	62,738	325,121	4,837,049
8	11,419,500	18	11,109,658	8	11,177,022	67,364	−242,478	
9	9,364,817	19	9,610,117	9	9,670,890	60,773	306,073	
10	9,956,298	20	9,397,135	10	9,461,548	64,413	−494,750	

Source: Attané 2004

[a]Number of births between 1 July 1989 and 30 June 1990

[b]Estimated number of births between 1 July 1989 and 30 June 1990, based on 2000 census data, corrected for mortality

Unreported births of boys aged 0–8 years in 1990 totalled 4.84 million (column 6). These results are in line with findings by Yu Hongwen (2003), who estimated that 13.7 % children of both sexes under 1 year old were not recorded in the 1990 census.

So under-reporting of births in the 1990 census did not concern the girls alone. If we consider all births, reported or not, male and female, the sex ratio at birth rises again to 110.1 boys for 100 girls, which is 4.4 % above the biological norm. This result is also consistent with the findings of Yu Hongwen (2003), who estimated that the sex ratio of children under 1 year of age in 1990 fell to 111.2 after adjustment for under-reporting.

10.1.3   Under-Reporting of Girls Has Little Impact on the Gender Imbalance

According to data from the 1990 census, not corrected for under-reporting, the short-fall of female births is estimated at 624,766[4] on the basis of an average sex ratio at birth of 105.5 boys for 100 girls. On the same principle, after correcting for under-reporting of female and male births, we estimate that 559,509 female births were indeed missing from the 1990 census.[5] The female deficit is thus confirmed, with the under-reporting of births in the 1990 census having contributed to the shortage of girls identified at the time by the 10.5 % imbalance in the sex ratio at birth.[6] The other causes (selective abortion, infanticides and undeclared infant deaths following an unreported birth) explained about 90 % of this deficit and, according to these estimates, represented more than 490,000 missing infant girls.[7] Contrary to what was suggested in research in the early 1990s on the gender imbalance at young ages in China, the under-reporting of births only played a limited role in this phenomenon.

10.2   Sex-Selective Abortion

10.2.1   Prenatal Sex Determination

Methods Used

Among the many discriminatory practices behind the shortage of females at young ages, sex-selective abortion (*xuanze xingbie de rengong zhongzhi renshen*) predominates and is becoming increasingly frequent (Attané 2012; Banister 2004; Cai and

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[4]Or [2,532,303 male births actually recorded in1990×10/105.5=11,878,960 female births with a sex ratio at birth of 105.5] and [11,878,60−11,254,194 female births actually recorded in 1990=627,766].

[5]Or [14,065,926 male births×100/105.5=13,332,631 female births with a sex ratio at birth of 105.5] and [13,332,631−12,733,122 female births=559,509].

[6]Or [624,766−559,509=65,257] and [66,257/624,766×100=10.5].

[7]Or [559,509−65,257=492,252].

Lavely 2003; Chen 2005). Thanks to technological progress it is now possible to determine the sex of a foetus. Women can have an ultrasound scan or amniocentesis in early pregnancy to determine the sex of their child and, if it is a girl, increasingly resort to abortion. Three modern techniques commonly used to detect foetal anomalies (chorial villosity[8] analysis, amniocentesis and ultrasonography) also reveal the sex of a foetus. The first of these techniques is very expensive and not widely used. The second is more affordable but has two drawbacks: the sex can only be determined quite late, after 13 or 14 weeks of amenorrhoea, and has a real, albeit low, risk of spontaneous abortion. Another technique has recently been put on the market: prenatal DNA testing on maternal blood. Now widely available on the internet, this new testing method is remarkably accurate for sex selection, and women can now find out (in total privacy) with a very high level of certainty, as early as 7 weeks into pregnancy, if they are carrying a boy or girl.[9] It therefore allows mothers to abort at an earlier stage of pregnancy should the foetus prove to be female. While not officially available either in India or in China for ethical reasons, this new method may greatly facilitate access to sex selection, but it is still rather expensive (around €200).

Ultrasonography (*B chaoji*) is still the most widespread procedure for determining the sex of a baby during pregnancy (Chen 2003) and is widely available in China (Tu 1993). This procedure – also the cheapest, easiest to perform and most risk-free – is used by the vast majority of couples, despite the fact that it is only reliable at an advanced stage in the pregnancy (around the fourth month) and consequently leads to late abortions (Chen 2005; Chu 2001).

China produced its first ultra-sound scanner in 1979 and opened a manufacturing plant with an annual production capacity of 5,000 machines in 1991 (Chu 2001), enabling most counties to acquire one (Zhu 1994). This pregnancy monitoring technique provides couples with a simple and inexpensive method of prenatal sex determination and is viewed overall as an ethically acceptable and psychologically painless way of implementing their preference for sons. The development of this procedure, initially for medical reasons, has led to a considerable increase in sex-selective abortions (Croll 2000; Gu and Roy 1995; Guilmoto 2005b), and its growing use by couples forms part of a family formation strategy based on a cost-benefit analysis of childbearing. It allows them to reconcile two different types of constraints: the number of children and their sex composition.

The Legal Framework

Since 1994, the Maternal and Infant Health Law forbids prenatal sex determination precisely to avoid sex-selective abortion. Nonetheless, parents regularly misuse ultrasonography, performed in principle to monitor fetal development, by bribing

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[8]By taking a sample of the placenta during pregnancy it is possible to obtain a karyotype that will detect any potential anomalies in the foetus, as well as its sex.

[9]See for instance Pink or blue, the early gender test. Available at http://www.tellmepinkorblue.com/

doctors to use it for sex-selective purposes. Chinese abortion legislation does not stipulate a gestational age limit and is not effective in preventing sex-selective abortions, which are usually carried out at a late stage, after the fourth month of pregnancy, once the sex has been identified. It remains to be seen whether recent tougher legislation, with stricter controls on abortions after 14 weeks (see Chap. 8 p. 111), will be more successful in curbing this practice.

Even if this legislation is effective, other practices may take over from ultrasonography. According to traditional Chinese medicine, it is possible to determine the child's sex before birth by taking the mother's pulse (Chen 2005; Chu 2001; Lavely 2005; Peng and Huang 1999). Peng and Huang (1999) followed women who had had this done in clinics in Anhui province, and observed that the results were correct in 83.5 % of cases even though the test was carried out in the early stages of pregnancy, from the sixth week. A survey by Chen Wei (2005) in 2002 also highlighted this practice and revealed that 574 women out of the 1,602 interviewed (or 35.8 %) knew about it, and 111 of them (6.9 %) admitted to having used this method to identify their babies' sex.

10.2.2   *Choosing Sex-Selective Abortion*

Some researchers have suggested that an abortion, even a late one, is preferable to infanticide or death from ill-treatment, since it causes less physical and psychological suffering than discriminatory practices after birth (Goodkind 1996). However, it has been demonstrated that sex-selective abortion is not a substitute for post-natal discrimination (Attané 2009). On the contrary, it is a new method for eliminating girls available to couples who would doubtless not have resorted to infanticide, abandonment or neglect without it. In other words, selective abortion does not prevent more violent practices such as infanticide and neglect that may lead to premature death, but complements the more traditional discriminatory practices and concerns a broader public (Bhat and Zavier 2003).

Despite the legal ban on prenatal sex determination in the mid 1990s, sex-selective abortion has spread rapidly. In China as in India, the government is unable to fight it efficiently since numerous interests are at play. Selective abortion satisfies parents because it ensures that they are able to have at least one male heir, and it satisfies doctors because they make money thanks to the growing demand from couples for ultrasound scans to identify their child's sex.[10]

> Pay 500 rupees today and you will save 500,000 rupees [in dowry] tomorrow. Make sure you are not expecting a girl.

This is how some Indian clinics advertised their services before prenatal sex determination was officially banned in 1994 – which did not prevent women from

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[10]Pregnant women opt to abort baby girls. *China Daily*, 7 Dec 1988.

having ultrasound examinations, or practitioners from travelling around the country in specially equipped vans.

For couples this is not a moral debate but an economic choice. In India, doctors will identify the sex of a foetus for around 1,000 rupees (about €20), whereas parents can expect to spend up to one thousand times more to pay for a daughter's dowry when she marries. In China, the cost of prenatal sex determination varies considerably across regions. In rural Guangdong it can cost a mere 50 yuan (€5) (Zheng 2007), while elsewhere it may be as much as 1,000 yuan (about €100),[11] but even that is far less that the cost of raising a child, especially for schooling and health, not to mention the fine levied on parents for an unauthorized birth. Furthermore the sheer size of those countries makes it difficult to apply the relevant laws. In the Indian state of Punjab, there were some 1,500–2,000 clinics and centres for prenatal sex determination in 2000, none of which were officially registered.[12] According to the Knowledge, Attitudes and Practices survey carried out in Taiwan in 1992, more than 70 % of pregnancies that had undergone a prenatal examination had resulted in the birth of a boy (Chang 1996). The 1988 Republic of Korean National Fertility Survey revealed that just over 11 % of the pregnant women who had taken sex determination tests went on to terminate their pregnancy, and 90 % of the aborted foetuses were female (Cho and Hong 1996).

In China, since no nation-wide statistics are available to assess this phenomenon with any degree of precision, we can only deduce the prevalence of sex-selective abortion. Very few surveys have highlighted the extent of the phenomenon at local level. One such survey carried out in eight provinces by the Beijing School of Medicine in 1987, revealed a sex ratio of 94.6 boys per 100 girls among the legally aborted foetuses, 94.6 boys per 100 girls in rural areas and 96.8 boys per 100 girls in urban areas (Zeng et al. 1993). Another survey in southern Zhejiang province in 1993 revealed a sex ratio of 86.7 boys per 100 girls among the legally aborted foetuses (Gu and Roy 1995), and these values are far below the usual level expected among unborn foetuses given that the sex ratio at conception is usually around 123–130 boys per 100 girls (Clarke 2000). A survey carried out by Chu Junhong (2001) revealed an even higher prevalence of sex-selective abortion in the county surveyed. Out of 90 reported abortions, 70 were female foetuses, and 28 % of the women interviewed by Chen Wei (2005) who had had an ultrasound examination during pregnancy admitted to doing so for the purpose of identifying the baby's sex. Among these, 8.5 % were women expecting their first child, 39.1 % were expecting their second, and 72.2 % their third child or more, and one-third of the women (32.8 %) had taken the ultrasound examination between the sixth and ninth month of pregnancy (Table 10.3). More than 20 % of the women interviewed admitted to having aborted because the sex of the baby was not what they hoped for, and the proportion rose to 24.3 % for women who were pregnant with a third child (Table 10.4).

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[11]Gender imbalance becomes serious problem in China. *Renmin Ribao* (People's Daily), 25 Aug 2003.

[12]Huret M., Le pays qui ne veut pas de filles. *L'Express*, France, 21 Aug 2003.

Table 10.3 Reasons for using ultrasonography among women interviewed by Chen Wei (2005)

	Total		1st pregnancy		2nd pregnancy		3rd pregnancy or higher	
	N	%	N	%	N	%	N	%
Routine visit	734	72.0	527	91.5	154	60.9	53	27.8
Sex determination	286	28.0	49	8.5	99	39.1	138	72.2
Total	1,020	100.0	576	100.0	253	100.0	191	100.0

Source: Chen Wei (2005)

Table 10.4 Reason for having an abortion among women interviewed by Chen Wei (2005)

	Total		1st pregnancy		2nd pregnancy		3rd pregnancy or higher	
	N	%	N	%	N	%	N	%
Contraceptive failure	166	30.7	9	25.0	69	23.8	88	41.2
Birth control policy	191	35.4	3	8.3	128	44.1	60	28.1
Dissatisfied with the baby's sex	109	20.2	3	8.3	54	18.6	52	24.3
Personal reasons	74	13.7	21	58.4	39	13.5	14	6.5
Total	540	100.0	36	100.0	290	100.0	214	100.0

Source: Chen Wei (2005)

The National Population and Family Planning Commission recorded 10.6 million abortions in 1989, with a sex ratio of 96 boys per 100 girls (the same ratio as in a 1987 survey by Beijing Medical University), meaning that 250,000 female foetuses were selectively aborted in 1989, representing 39 % of the missing girls and 2 % of the corresponding female cohorts in that same year. A sex ratio at birth of 86 boys per 100 girls (close to that in southern Zhejiang province) brings the number of aborted female foetuses to 540,000, representing 85 % of the female deficit and 4.6 % of the corresponding female cohorts, an estimate consistent with the previous one (see above p. 22). Similar proportions were observed over the same period in Republic of Korea, with aborted female foetuses representing an estimated 5 % of the female birth cohorts in 1986–1990 (Park and Cho 1995).

10.3   Sex-Selective Infanticide and Abandonment

Another possible explanation for the sex imbalance at young ages is infanticide (*ni qi nü ying*), a cause of excess female mortality which further increases the shortage of girls. However infanticide as such does not usually appear in the statistics, since unreported deaths generally occur after unreported births. That is why, in statistical terms, infanticide is grouped together with sex-selective abortion. In cases where a death is reported by the parents as being a natural one, infanticide necessarily means death as a result of neglect. Logically, such situations are rare since they imply that

the birth was registered beforehand, which is unlikely if the parents intended to get rid of their daughter.[13]

10.3.1   Age-Old Tradition

China, like some European countries, including France in the past centuries[14] (Rollet 1990; Brian and Jaisson 2007) has long practiced infanticide, especially in the centre of the country (Anhui, Henan, and Hubei provinces), and the south (Guangdong and Guangxi provinces) (Fang 1993; Zeng et al. 1993). The earliest historical reference to it was in the Han Feizi, by the author of the same name, a legalist thinker who lived in the third century BCE.[15] He wrote:

> When [parents] bear a son, they congratulate each other, but when they bear a daughter, they kill her […] because they are considering their later convenience and calculating their long-term interests (quoted by Hudson and den Boer 2004, p 139).

At the end of the eighteenth century, in the peasant families of the northeast, an estimated one-fifth to one-quarter of all female children were killed (Lee and Wang 1999). Foreign travellers reported seeing infanticide in China and the eighteenth century French Jesuit missionary, François Xavier d'Entrecolles, who worked in China, explained how it was done:

> It often happens that when the Chinese are unable to feed a large family, they will order the midwives to drown little girls in a basin of water as soon as they are born (cited by Attané and Rohrbasser 2000).

Sir George Staunton, secretary to the British Embassy, Minister Plenipotentiary to the Chinese Emperor, wrote:

> It must have been the most dire and absolute necessity which led to this unnatural and shocking act, when first it was committed. It was reconciled, afterwards, in some measure to the mind, by superstition coming in aid to render it a holy offering to the spirit of the adjoining river, in which the infant was thrown, with a gourd suspended from its neck to keep it from immediate drowning. (cited by Attané and Rohrbasser 2000).

During that same period, the Dutch priest De Pauw carefully detailed the procedure used to make children disappear:

> They are thrown into the river after having an empty gourd tied to their backs so that they float for some time before drowning […]. The third way of getting rid of them is to leave them

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[13] Yet such cases have been reported. In one village in Henan province for instance, couples placed their daughters with child-minders so that they could declare them as dead and undergo the compulsory sterilization as required by the family planning authorities. Once they had complied, they were able to get their daughter back (Xu and Guo 1991).

[14] In nineteenth century France, many unwanted children were placed with wet nurses who were known to take poor care of them, and were thus the victims of "involuntary infanticide" (Rollet 1990).

[15] Legalism was a philosophy that prevailed in China during the Warring States period (fourth to third century BCE), based on the application of laws.

out in the streets. Every morning, especially in Peking, the dump carts load up the children who had been left during the night, […] and quite often the dogs and especially the pigs which fill the streets in Chinese cities, eat the children alive. […] The Jesuits claim that in three years they counted 9,702 children destined for the streets (cited by Attané and Rohrbasser 2000).

In Anhui province in 1934, the sex ratio of children aged under 5 was 126.6 and in Nanzhao county, Henan province, approximately one quarter of children born in 1947 were drowned, 80 % of whom were girls (Fang 1993).

10.3.2 Female Infanticide Is Less Common, But Has Not Completely Disappeared

In contemporary Chinese society, infanticide is mainly a way for families to choose the sex of their children in a context of poverty and imposed fertility reduction (Lavely 2005; Xu and Guo 1991). However, because of statistically concurrent factors in the sex ratio at birth (such as selective abortion and abandonment), it is impossible to estimate the current impact of infanticide on the sex imbalance at young ages. In the period 1851–1948 when infanticide, ill-treatment and abandonment were the only causes of the sex imbalance at young ages, its incidence was estimated at 5 % of female births and 2.5 % of male births (Eastman 1988). If the incidence in terms of female births were the same today, in a context where male infanticide has disappeared, infanticide would be the main cause of the shortage of females (accounting for approximately 90 % of the "missing" girls in the 1990 census, and nearly 50 % of those missing in the 2000 census), which, in the current socioeconomic context, is totally unrealistic (Banister 2004; Li and Zhu 2001). An incidence of 1 % would limit the impact of infanticide to 18 and 9 % of female births, respectively, for those 2 years, which also seems excessive as it implies that every year several hundred thousand girls are the victims of infanticide.

At present this practice is limited to remote villages, especially in Guangdong, Zhejiang, Anhui and Shanxi provinces (Fang 1993; Xu and Guo 1991) and, as several first-hand reports have confirmed,[16] is carried out very discreetly. Infanticide is severely punished so parents try to avoid drawing attention to their crime,[17] and any complicity among the villagers (who all have good reason to prefer sons to daughters) is tacit and passive. For infanticide to be possible, it must take place in remote villages where women usually give birth at home rather than in hospital, and where there is no police station or means of carrying out an autopsy, so the disappearance of a baby can go unnoticed. As such situations of weak external control are very rare, infanticide can only be a marginal cause of the current shortage of females.

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[16]First-hand reports from Chinese demographers Li Shuzhuo and Tan Lin.

[17]However, during a trip to India in 2005, I observed that this was not the case in some southern villages, where infanticide was discussed openly, including by women who had eliminated their own daughters.

The active promotion of gender equality by the Chinese Communist Party in the 1950s placed limits on certain aspects of traditional Chinese culture that were unfavourable to women (Chen 2005). For comparative purposes, Goodkind (1999) mentions the example of North Korea where he believes that the dissemination of those same ideals has actually succeeded in eradicating the preference for sons.

Discrimination against girls was indirectly lessened by the agrarian reforms launched in 1950. By allowing the peasants to improve their agricultural yields, and therefore their nutrition, this reform enabled couples to provide for the needs of all their children at a time where there were no imposed restrictions on family size. They could therefore satisfy their desire for one or two sons, while also giving birth to daughters without being obliged to eliminate them (Goodkind 1999). However, because the Chinese government began to implement strict controls on the number of authorized births from 1970s, some couples resorted to infanticide once again to ensure that they had at least one male child. In 1982 and 1983, at the peak of the coercive measures imposed by the family planning cadres to reduce the number of births (Aird 1990; Mosher 1993), this subject was frequently raised in the Chinese press. Several cases are mentioned in the following extract:

> The contempt endured by villagers who have no sons, the bad treatment they suffer from their in-laws, and the husbands' threats, leads many pregnant women in the southern province of Guangdong to give birth at home with the help of a neighbour instead of going to hospital. It the baby is a boy they will thank the gods, but if it is a girl they will drown it in a tub of water prepared in advance. Apart from the tub of water, the most widespread methods used in Guangdong seem to be suffocation or other forms of drowning or asphyxiation. The baby girl is placed in a sack or covered in several layers of clothing and smothered; or else thrown into a bale of hay, a septic tank, a river or a pond. Sometimes babies are buried alive. In 1982, the bodies of more than 130 baby girls were found in Jieyang county near Shantou [the southernmost tip of Guangdong province]. In one commune in Taishan county, in the southwest of the province, more than 80 babies were found drowned in the first ten months of the same year. Between 1978 and 1979, 195 new-born girls were found drowned in Quanjiao county in eastern Anhui province (Bianco and Hua 1989).

10.3.3   Abandonment as a "Last Resort"

It is no easier to assess the impact of the abandonment of young girls on the gender imbalance at young ages, since their births were not declared beforehand (Johnson 1993). Official data are rare, particularly since little is known about the frequency of abandonment, which only becomes "official" when a child is legally adopted. The annual number of such adoptions in China was below 200,000 in the 1970s but rose sharply after 1980. The 1988 survey recorded 560,000 adoptions across the country for 1987 alone, 80 % of which were adopted girls (Johansson 1995). The 1991 adoption law tightened the legal conditions for adoption since there was a risk that Chinese couples might "use adoption as a pretext to break the laws and regulations governing family planning by removing an additional child". It was stated that

adopting couples "must be aged over 35, be childless and may not adopt more than one child", and a child trafficking took off as a result (Bourgon 1992):

> The many legal precautions […] fail to conceal this reality: the underlying logic by which the supply takes the form of abandonment, and demand that of illegal or semi-legal adoption (cited by Bourgon 1992).

"Informal" abandonment (outside any formal structure) or "organized" abandonment (when natural parents place their child in the care of relatives or third parties) also contribute to the sex imbalance at birth since in both cases parents do not report the birth and abandon the child to avoid sanctions imposed by the family planning authorities. Many cases of abandonment or infanticide by drowning were reported in the late 1980s and early 1990s, especially in Shanxi, Zhejiang, and Guangxi provinces,[18] and various first-hand reports mention the rise in numbers of abandoned baby girls during the 1980s. In Hunan and Hubei, where abandonment was especially widespread before 1949, the number of children taken into orphanages rose by more than 250 % between 1988 and 1990. Two factors demonstrate the link between abandonment and the birth control policy. The vast majority (more than 90 %) of children taken in were girls, while the proportion of children with disabilities fell significantly, from more than 90 % of all children taken in during the 1960s and early 1970s, down to 25 % at the end of the 1980s (Johnson 1996). At the end of the 1970s, an orphanage in Wuhan, Hebei province, was taking in an average of 150 orphans a year. In 1982 and 1983, the years when the birth control programme was particularly coercive (Aird 1990; Bianco and Hua 1989), the annual average rose to 250. In 1990, the same orphanage took in 590 children, and more than 1,200 in 1992. Nearly 99 % of the abandoned children were girls, the few boys concerned generally had severe physical or mental disabilities (Johnson 1993). The increase in the number of children taken in by this orphanage was directly related to the increasing pressure to limit births in the neighbouring areas. At the end of 1991 for example, local cadres launched a campaign to sterilize all mothers with two children. During the months this campaign lasted, the orphanage received more than ten children a day, with a large proportion of girls aged between 2 and 5 years. According to staff, most of the abandoned children were from rural regions, since the proximity of neighbours in the city made it almost impossible to abandon a child there (Johnson 1993).

Abandonment therefore appears to have been a last resort for parents, either because they were too poor to pay the fine imposed for a birth outside the official plan or to pay the expensive bribes required to carry out a selective abortion, or else because they were unable to kill their daughters themselves but were obliged to get rid of them. For parents, abandonment was presumably more acceptable than infanticide since the child had a chance of being found and taken care of by a family. Nevertheless abandonment was often tantamount to infanticide, even when the

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[18]Zhejiang: infanticide of girl babies in coastal areas. SWB-BBC Daily Report. 28 May 1986; Guangxi: baby drowning and 'pernicious feudal influences'. SWB-BBC Daily Report. 24 Nov 1993.

young victims were taken in by an orphanage, for in some cases the conditions in these institutions were so appalling that new arrivals would only survive for a few days:

> Mei Ming [literally "nameless"] has lain this way for 10 days now: tied up in urine-soaked blankets, scabs of dried mucus growing across her eyes, her face shrinking to a skull, malnutrition slowly shrivelling her two-year-old body.
>
> Each morning a fellow inmate at her Guangdong orphanage goes into the dark fetid room where she lies alone to see if she is dead. The orphanage staff, paid to look after her, do not visit. They call her room the 'dying room' and they have abandoned her there for the same reason her parents abandoned her shortly after she was born. Her problem is simple and tragic: she has a condition which in modern China makes her next to useless, a burden on the state with an almost zero chance of adoption. She is a girl.[19]

According to Blayo (1997), death was the only outcome for nine girls out of ten and only a tiny proportion left the orphanage after being legally adopted, the remainder being too poorly fed and cared for to survive childhood. These types of orphanages are not the rule however, some brand new model ones, with plenty of caring staff, serve as window dressing in a country that has often been accused of neglecting its orphans. But doubts persist as to how the majority of children are treated. Indeed, in China:

> The website of a Belgian organization specialized in the adoption of Chinese children, explains that the first contact [with the child] is often in a hotel, since the orphanages are far from the town where the adoptive parents are staying. The orphanages rarely receive visitors, given the daily upheavals that such visits would entail (Attané 2005).

10.4   Neglect of Girls

Excess infant mortality of girls is not specific to China. In recent history it has often been observed in developing societies, notably in Asia (Republic of Korea, Pakistan, Bangladesh, and India) and in North Africa (Choe 1987; Hill and Upchurch 1995; Tabutin and Willems 1995; Mosley and Chen 1984; United Nations 1998; Rollet 1990). Excess mortality of girls at young ages is usually attributed to the socioeconomic, health, and environmental discrimination to which they are subject, especially with regard to medical care and food (Hill and Upchurch 1995; Mishra et al. 2004). More broadly, excess mortality is related to the low social status of girls and women in those societies that stems from a tradition of son preference (Miller 1981; Waldron 1983) (see Chap. 6, p. 85 sq.). These general explanations are also valid for China, where excess mortality of girls at young ages is the result of unconscious or intentional neglect of girls, especially where food and health are concerned, in societies that remain profoundly patriarchal (Choe et al. 1995; Coale and Banister 1994; Li et al. 2004; Mishra et al. 2004; Riley and Gardner 1997).

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[19] *Sunday Morning Post,* 25 Jun 1995.

10.4.1   Excess Mortality Mainly Affects Infant Girls…

Excess mortality of girls at very young ages, especially before their first birthday, concerns approximately 110,000 girls every year and is a major contributing factor to the current female deficit[20] (see above, p. 33; p. 56). While numerous works have highlighted this (Coale 1991; Banister 2004; Li and Feldman 1996; Li and Zhu 2005), the causes and mechanisms by which it operates have not been studied in depth, largely because of the paucity of data to explain the phenomenon, either directly or indirectly.

Han and Li (1999) used individual data from the one per thousand sample of the 1990 population census to explore the effects of the mother's characteristics and those of the household, on the survival of children according to their sex. They showed that excess female mortality was associated with all types of mothers, whatever their age, educational level or place of residence, but that this form of discrimination mainly affected high birth orders and girls with at least one older sister (Table 10.5). This observation had been made earlier by Choe et al. (1995) using data from the 1988 National Survey of Fertility and Contraceptive Prevalence, who showed that only little girls with older brothers or sisters were the victims of excess mortality, and that eldest girls were treated on an equal footing with their brothers. However, they were unable to clearly identify the mechanisms at work.

To our knowledge, only one survey has been carried out to date for the specific purpose of studying the excess infant mortality of girls and to identify its causes and mechanisms. This is a 1997 survey carried out in a county of Shaanxi province by the demographers Li Shuzhuo and Zhu Chuzhu from Jiaotong University in Xi'an (China), the results of which have appeared in several publications (Li and Zhu 2001, 2005; Li et al. 2004). This survey provides a general outline of the various discriminatory practices that may have led to the premature deaths in that county of Shaanxi province, called "J" county for the purpose of the study.

The survey covered 815 infant and child deaths that had occurred in the three preceding years (1994–1996), of which 388 were boys (47.6 % of total deaths) and 427 were girls (52.4 %). At the time, the infant death rate for the country as a whole stood at 31.8 per 1,000 for boys and 46.1 per 1,000 for girls, or a female-to-male ratio of 1.450, comparable to rate calculated for the country as a whole in 2000 (see above, p. 31). The survey led to a number of observations.

Contrary to Bourgeois-Pichat's hypothesis (1951), there is no universal distribution of deaths in the first year of life, and the influence of endogenous and exogenous factors on infant mortality varies from one population to another. However it has been observed in various countries that for infant mortality rates of under 50 per 1,000, some 50–70 % of infant deaths occurred in the first months of life (Galley and Woods 1999). That was the case in "J" county where nearly three quarters of

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[20]It should be stressed that excess mortality detectable in census data cannot be a reflection of infanticide, which is a covert practice. Deaths from infanticide are unreported and the birth will not have been registered. In statistical terms they are therefore be expressed as a deficit of female births and therefore count as selective abortions.

Table 10.5 Infant and child mortality by sex and mother's socioeconomic characteristics, 1990

	Infant mortality (per 1,000)			Child mortality (per 1,000)		
	Boys	Girls	G/B	Boys	Girls	G/B
Age						
Below 19 years	43.5	38.9	0.89	3.3	2.6	0.79
20–27 years	25.3	30.6	1.21	2.0	2.2	1.10
Above 27 years	30.6	40.7	1.33	1.9	2.0	1.05
Educational level						
Illiterate or semi-literate	42.3	52.1	1.23	3.5	3.7	1.06
Primary school	29.6	34.4	1.16	2.0	2.4	1.20
Lower secondary school	20.2	24.4	1.21	1.6	1.4	0.88
High school or more	12.4	16.1	1.30	1.1	0.9	0.82
Place of residence						
Urban	14.8	16.0	1.08	1.1	1.0	0.91
Rural	29.4	36.0	1.22	2.3	2.5	1.09
Household structure						
2 generations	32.0	41.5	1.30	2.2	2.5	1.14
3 generations or more	27.4	32.9	1.20	2.4	2.6	1.08
Sex composition of offspring before birth of the deceased child						
1 girl	26.0	22.7	0.87	1.9	1.7	0.90
2 girls	28.8	59.1	2.05	1.6	2.9	1.81
1 boy and 1 girl	24.1	24.2	1.00	2.3	2.3	1.00
3 girls or more	22.3	76.4	3.43	1.6	3.2	2.00
3 children or more, at least 1 of whom a boy	36.8	41.3	1.12	3.1	2.5	0.81

Source: Calculations by Han and Li (1999) based on 1990 census data

infant deaths, both male and female, occurred in the first 30 days after birth (71.4 % of male infant deaths and 72.7 % of female ones). The female advantage, which generally tends to be greater in the neonatal period (Hill and Upchurch 1995), was therefore not observed in "J" county. Furthermore, when the neonatal deaths were broken down,[21] female deaths were found to occur much earlier than male ones, with 40.9 % of the girls' deaths occurring less than 24 h after birth, compared with 30.7 % for the boys in the survey. Early neonatal mortality[22] (less than 7 days after birth) was also higher among girls, accounting for 60.9 % of female infant deaths compared with 55.7 % of male ones (Table 10.6). Although infant and child deaths occurred earlier for girls than for boys overall, they rarely occurred in hospitals, where only 37.3 % of the infant girls died compared with 52.5 % of the infant boys. This observation, as we shall see later, is the result of two main factors: a lower

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[21] By convention, neonatal mortality applies to deaths occurring between the time of birth and the end of the 27th day of life. Here the survey data applied to the deaths occurring between birth and the end of the 30th day of life, which may lead to some bias in comparisons.

[22] Early neonatal mortality applies to death occurring between birth and the end of the sixth day of life. The survey data available to us applied to deaths occurring between birth and the end of the seventh day of life, but this does not affect our analysis.

Table 10.6 Distribution of deaths in the survey by their main characteristics, "J" county, 1994–1996

	Boys	Girls	Boys	Girls
	N	N	(%)	(%)
Total number of deaths in the survey	388	427	47.6	52.4
Infant mortality rate (per 1,000)	31.8	46.1		
Age at death				
Less than 24 h	119	174	30.7	40.9
1–7 days	97	85	25.0	20.1
8–30 days	61	50	15.7	11.8
1–11 months	68	75	17.5	17.6
12–59 months	43	41	11.1	9.6
N	388	425	100.0	100.0
Place of death				
Clinic/hospital	202	158	52.5	37.3
Home or other	183	266	47.5	62.7
N	385	424	100.0	100.0
Cause of death				
Illness	358	401	92.3	94.4
Injury	30	24	7.7	5.6
N	388	425	100.0	100.0

Sources: Li and Zhu (2001), Li et al. (2004)

prevalence of hospital births for girls than boys, already demonstrating greater neglect of girls if the gender was determined before birth, and less systematic hospitalization of girls in the event of illness.

10.4.2 *… Especially if They Are Youngest Daughters*

In India (Das Gupta 1987) and in Bangladesh (Muhuri and Preston 1991), it has been observed that infant mortality affects girls far more when they have at least one elder sister. That holds true for China (Choe et al. 1995; Han and Li 1999), even on "J" county scale, where the probability for children of each sex of dying before the age of five was closely related to the child's status at birth: birth order, sibship composition and legal status with regard to birth control policy. Infant and child deaths mainly concerned girls with at least one brother or an elder sister, i.e. second or higher order female births. These accounted for two-thirds of female deaths (67.9 %), whereas male deaths in "J" county mainly concerned first order births (51.3 %), which are generally the most numerous in a context of strict birth control (Table 10.7).

Hence, the probability of dying in infancy was not dependent on the sex or birth order, implying that younger sisters were less well cared for than an elder sister or a brother, and were the main victims of discrimination. A girl born into a family that already had one or several children was clearly more of a "nuisance" than a

Table 10.7 Distribution of deaths by birth characteristics, "J" county, 1994–1996

	Boys N	Girls N	Boys (%)	Girls (%)
Mother's age at birth				
27 or under	321	327	83.4	77.3
28 or over	64	96	16.6	22.7
N	385	423	100.0	100.0
Birth order				
1st	199	137	51.3	32.1
2nd	160	253	41.2	59.3
3rd or higher	29	37	7.5	8.6
N	388	427	100.0	100.0
Status at birth				
Authorized	300	288	77.3	67.6
Unauthorized	88	138	22.7	32.4
N	388	426	100.0	100.0
Sibship composition at time of birth (infant/child death)				
No brother or sister	188	126	48.4	29.5
Brother(s) only	39	42	10.1	9.8
Sister(s) only	152	246	39.2	57.7
At least one brother and one sister	9	13	2.3	3.0
N	388	427	100.0	100.0
Sibship composition at time of birth (death less than 24 h after birth)				
No brother or sister	59	41	49.6	23.6
Brother(s) only	11	9	9.2	5.2
Sister(s) only	47	119	39.5	68.3
At least one brother and one sister	2	5	1.7	2.9
N	119	174	100.0	100.0
Place of birth				
Clinic/hospital	202	192	52.1	45.2
Home or other	186	233	47.9	54.8
N	388	425	100.0	100.0
Average cost of the birth (in yuan)	124	107		
Prenatal diagnosis				
Yes	354	341	91.2	80.0
No	34	85	8.8	20.0
N	388	426	100.0	100.0

Sources: Li and Zhu (2001), Li et al. (2004)

first-born girl, given the family planning policy in place in "J" county where a second child is authorized only if the first is a girl (Li and Zhu 2001).

More than 60 % of female infant and child deaths occurred in families that already had at least one girl, compared with 41.5 % of male infant and child deaths. This trend was even clearer among the very early deaths that occurred less than 24 h after birth, since 68.4 % of female deaths in that age group occurred when the siblings comprised one or several sisters, compared with only 39.5 % of male deaths

in the same case. This is consistent with observations about the status of the birth prior to the death, where infant and child deaths were more frequent among unauthorized female births (32.4 % of girls' deaths) than unauthorized male births (22.7 %). There is therefore a greater propensity for couples to neglect their daughters when the birth makes them liable for a fine and for investigation by the local family planning authorities.

10.4.3   The Weight of the Family Context

In "J" county, less money was spent on the birth of a girl than on a boy, the average being 107 yuan, which is 13.7 % less than for a boy (124 yuan). Since in most cases of infant death in the survey (692 cases out of 814, or 85 %), the mothers had undergone a prenatal diagnosis that presumably revealed the infant's sex, couples were clearly less inclined to spend money on a safer birth in hospital when the baby was a girl. Girls were therefore born with less medical supervision than boys, and only 45.2 % of female births occurred in a hospital compared with a majority of boys' births (52.1 %), which explains the lower cost of a girl's birth (Table 10.7).

Prenatal diagnosis also affected the probability of dying at a young age, since there was a larger percentage of female deaths (20 %) than male deaths (8.8 %) when mothers did not have a prenatal diagnosis, suggesting that neglect was the ultimate resort for couples who, for one reason or another, did not practice selective abortion.

Although the survey provided very little information about the socioeconomic situations of households concerned by infant-child deaths it is interesting to note that families whose daughters died shared exactly the same characteristics as those whose sons had died (Table 10.8). In other words, the propensity of a household to neglect a daughter bears no relation to its socioeconomic characteristics. Indeed, the average annual income of households concerned by the death of a daughter was the same as that of households concerned by the death of a son, in both cases around 4,600 yuan. Furthermore, in "J" county, the parents' educational level had no significant influence on the propensity of couples to neglect girls, since the distribution of deaths by the fathers' and mothers' educational levels was similar for both sexes. In fact more than 80 % of infant-child deaths occurred in families where the father had a relatively high educational level compared to the national average, which to some extent corroborates observations made later at provincial level, where the fathers' educational level was positively correlated with discrimination against girls (see below p. 165 sq.).

The household structure, i.e. the number of generations it comprises, can be analysed as an indicator of attachment to tradition. A greater propensity of couples to cohabit with one of the spouse's parents, usually the husband's, may reflect greater conformity with traditional values and such cohabitation may increase family pressure on the couple to select the child's sex. Yet in "J" country, the proportion of three-generation households among families concerned by an infant-child death, was the same whatever

Table 10.8 Distribution of deaths by household characteristics, "J" county, 1994–1996

	Boys N	Girls N	Boys (%)	Girls (%)
Father's years of schooling				
0–6 years	72	84	18.7	19.9
7–9 years	287	315	74.3	74.4
10 years or longer	27	24	7.0	5.7
N	386	423	100.0	100.0
Mother's years of schooling				
0–6 years	76	86	19.9	20.5
7–9 years	282	311	74.0	74.2
10 years or longer	23	22	6.0	5.3
N	381	419	100.0	100.0
Average annual income (in yuan)	4,606	4,558		
Average expenditure for celebrating the child's first month[a] (in yuan)	457	425		
Household structure				
Two generations	225	249	58.0	58.3
Three generations	163	178	42.0	41.7
N	388	427	100.0	100.0

Source: Li and Zhu (2001), Li et al. (2004)

[a]Traditionally in China the infant's first month is celebrated to mark its entry to life, and it is named on this occasion. This also signifies the end of the mother's period of postnatal isolation

the sex of the deceased child. Contrary to our observations below (see p. 168 sq.), cohabitation with grandparents does not appear to be a determining factor in discrimination against girls, since they can exert equally strong pressure when living nearby as when living under the same roof.

To some extent, the preference for sons is also illustrated by the expenditure on the baby's first month celebration. For a boy, the average amount spent was 457 yuan (120 % of the average household income), 32 yuan less than for a girl where the average was 425 yuan, or 112 % of the average household income (Table 10.8). While the difference is relatively slight (7.5 %), it still shows the parents' lesser satisfaction with the birth of a girl. A similar observation was made by Chu Junhong in a survey carried out in central China (2001).

10.4.4   Unequal Access to Medical Care

The results of this survey highlighted the differences in treatment between girls and boys in access to both preventative and curative medical care. While vaccination programmes against the main infectious diseases have been implemented in rural China, not all the vaccines are free, which explains why nearly two-thirds of the children (62.8 % of both sexes) had not completed the full vaccination protocol

Table 10.9 Distribution of deaths by medical care received by the child before death, by sex, in "J" County, 1994–1996

	Boys	Girls	Boys	Girls
	N	N	(%)	(%)
Vaccination protocol				
Yes	147	146	39.0	35.5
No	230	265	61.0	64.5
N	377	411	100.0	100.0
Medical treatment after appearance of symptoms				
Yes	256	233	66.5	54.8
No	129	192	33.5	45.2
N	385	425	100.0	100.0
Mean time between first symptoms and medical treatment				
In hours	61	85		
In days	2.5	3.5		
Mean cost of medical treatment (in yuan)	870	642		
Mean survival period after appearance of symptoms				
In hours	646	533		
In days	26.9	22.2		
Reasons for deferring medical treatment				
Lack of money, transportation or other problems	158	100	68.4	49.8
Illness not considered serious by parents	73	101	31.6	50.2
N	231	201	100.0	100.0
Mean number of hospital visits per death	0.6	0.4		
Transport used to take the child to hospital				
Car	129	104	55.1	47.7
Bicycle or man-pulled vehicle	78	84	33.3	38.5
Doctor consulted locally	27	30	11.5	13.8
N	234	218	100.0	100.0

Source: Li and Zhu 2001, Li et al. 2004

before their deaths. However, the percentage was higher for girls than for boys, even if the difference is slight: 35.5 % of girls compared with 39 % of boys (Table 10.9). More blatant discrimination can be seen in curative care. In "J" county, girls were less likely than boys to receive medical treatment at the first symptoms of illness: 54.8% versus 66.5 % among the deaths in the survey. Furthermore, when medical treatment was given, girls received it on average 24 h later than boys, the average time to treatment being 3.5 days.

The mean duration of survival for girls after onset of symptoms was shorter than for boys, with a mean of 22.2 and 26.9 days, respectively. In the survey, the differences in the parents' speed of reaction to the illness, depending on whether the baby was a boy or a girl, was explained by the fact that a girl's illness was usually taken less seriously than a boy's. In 50.2 % of the girls' deaths medical treatment was postponed because the parents did not consider the illness to be serious, compared with 31.6 % of boys' deaths. The parents clearly mobilized more resources when

their sons were ill than their daughters, and the mean cost of medical treatment for boys was 26 % higher than for girls (870 and 642 yuan respectively). Faster means of transport (and therefore probably more expensive ones) were used to take sons to hospital than daughters with 55.1 % of boys being taken by car compared with 47.7 % of girls. Furthermore, parents were more likely to send their sick sons to hospital than their sick daughters with 0.6 hospital visits per boy on average, versus 0.4 visits per girl. A doctor from "J" county town hospital explained that because of the longer wait before being taken to hospital and less effort in caring for them beforehand, girls usually arrived in a more critical state than boys. He also observed that more people accompanied boys to hospital than girls, which he believed reflected the greater attention paid to them by family members (Li and Zhu 2001). Similar observations have been made in India, where sick girls regularly receive less medical care than sick boys (Mishra et al. 2004).

10.4.5 Are Infant Girls Less Well Fed?

The hypothesis of discriminatory treatment in the nutrition of girls, resulting in greater vulnerability to disease, is regularly mentioned to explain excess mortality of girls, including in China (Coale and Banister 1994; Hill and Upchurch 1995; Mishra et al. 2004; Riley and Gardner 1997). However, the only information on nutrition provided by the survey was about breastfeeding, and did not highlight any blatant difference in treatment between boys and girls. In "J" county the baby girls who died early were even breastfed on average 1 month longer than the boys, at 12.5 months compared with 11.6 months for boys. However, according to the authors of the survey, survival of the child according to its sex depended more on the quality of the breastfeeding than its duration (Li and Zhu 2001; Li et al. 2004). While the impact of the mother's mood on her breast milk has not been demonstrated, it has been proved that anxiety can influence the letdown reflex, and that stressful conditions are likely to reduce the quantity of milk available to the baby (Akré 1992). The absence of discrimination against girls in the duration of breastfeeding was corroborated by data in the 1997 survey carried out by the China National Population and Family Planning Commission (NPFPC 2000), which observed that the mean duration of breastfeeding was identical for girls and boys in both rural and urban areas[23] (Table 10.10). However, Choe et al. (1995) have shown that the mean duration of breastfeeding after introduction of solids was 2 months longer for boys than for girls. This may reflect the degree of the mother's attachment to her child or family pressure to continue breastfeeding, which might well depend on the baby's sex. This does suggest that discriminatory behaviour may be initiated by the father or the family circle and not by the mother herself,

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[23]The data in the 1997 survey concerned a sample of 23,330 live births, of which 12,264 boys and 11,066 girls.

Table 10.10 Distribution of live births by sex and duration of exclusive breastfeeding, 1997

	Percentage at each duration		Aggregate percentage	
	Boys	Girls	Boys	Girls
China				
Never breastfeed	6.4	5.9	–	–
1 month	10.4	9.8	93.6	94.1
2 months	4.6	4.5	83.2	84.3
3 months	3.8	4.0	78.6	79.8
4 months	4.1	4.3	74.8	75.8
5 months	5.1	5.5	70.7	71.5
6 months	8.3	8.4	65.5	66.0
7 months	4.4	4.4	57.3	57.6
8 months	4.1	4.4	52.8	53.2
9 months or more	48.8	48.8	48.7	48.9
Total	100.0	100.0		
Mean duration of breastfeeding (in months)	7.9	8.0		
Urban areas				
Never breastfed	15.0	11.5	–	–
1 month	10.2	9.9	85.0	88.5
2 months	5.1	5.0	74.8	78.6
3 months	6.0	6.0	69.7	73.7
4 months	7.6	8.1	63.6	67.7
5 months	6.7	7.4	56.0	59.5
6 months	9.3	10.4	49.3	52.1
7 months	3.5	3.6	40.1	41.7
8 months	3.7	4.6	36.6	38.1
9 months or more	32.9	33.5	32.9	33.6
Total	100.0	100.0		
Mean duration of breastfeeding (in months)	6.3	6.6		
Rural areas				
Never breastfed	4.9	4.8	–	–
1 month	10.4	9.6	95.1	95.2
2 months	4.5	5.9	84.7	85.6
3 months	3.5	3.6	80.2	79.7
4 months	3.5	3.6	76.7	76.1
5 months	4.8	5.1	73.2	72.6
6 months	8.1	7.9	68.4	67.4
7 months	4.6	4.5	60.3	59.5
8 months	4.2	4.3	55.7	55.0
9 months or more	51.5	50.7	51.5	50.8
Total	100.0	100.0		
Mean duration of breastfeeding (in months)	8.2	8.2		

Source: NPFPC (2000)
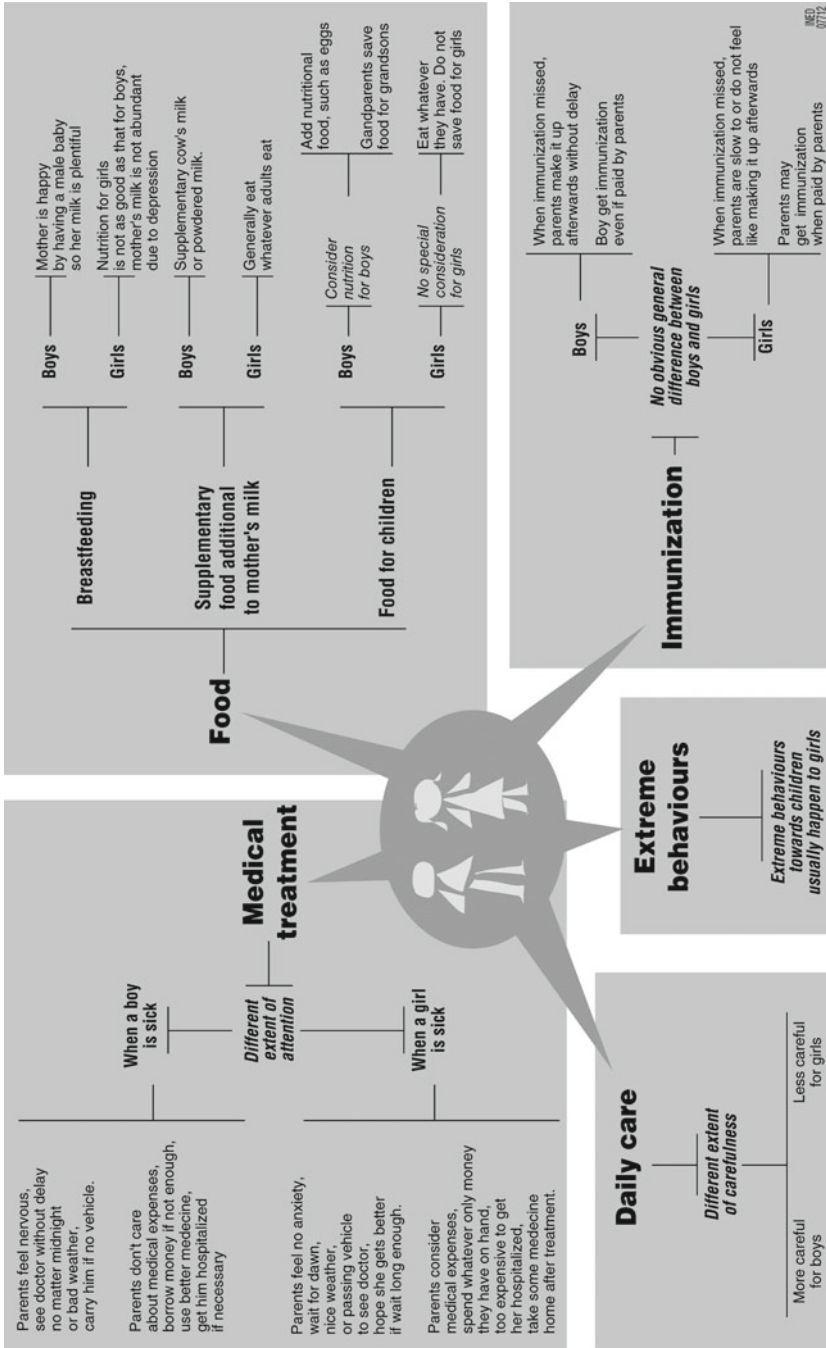
Diagram 10.1 Illustrations of differences in the treatment of boys and girls as determinants of infant mortality levels, "J" county, 1994–1996 (Source: Li and Zhu, 2001)

who may remain committed to caring for her child despite these practices and their cultural context.

Furthermore, as Li and Zhu's study (2001) of "J" county demonstrated, the quality of the additional food given to boys while they were being breastfed was generally better suited to the child's age since families bought powdered milk or cow's milk for their sons whereas girls were given the same food as the rest of the family (Diagram 10.1).

Diagram 10.1, which summarizes the mechanisms behind the discriminatory treatment of girls in "J" county, shows that parents are always more attentive to sons than to daughters, less negligent regarding food and curative health care, and react faster in the event of illness. In the absence of any comparable data for other regions of China it is impossible to generalize about the situation observed in "J" county, but this example does provide valuable information about the differential treatment of boys and girls underpinning the excess mortality of girls, and the active roles played families in this widespread discrimination. The contextual factors will now be analysed in greater detail, especially the social and economic ones.

Chapter 11
Familial and Socioeconomic Reasons Behind Discrimination

As seen above, the masculinization of the child population is mainly due to discriminatory practices against girls, such as sex-selective abortions (the main cause of the sex imbalance at birth), and the neglect of girls leading to excess female mortality at young ages. While the cultural determinants of discrimination are well known, the socioeconomic factors are less clear. The processes in place, the way each one influences the decision to carry out a discriminatory act, and the mechanisms whereby they interact to reinforce each other or, on the contrary, cancel each other out, are difficult to grasp.

We know that variables such as education, standard of living and density of the health and medical infrastructure are likely to influence the preference for boys and the accomplishment of a discriminatory act, but the way these variables operate is not always easy to demonstrate. Contrary to what might be expected, the Indian example shows that sex-selective abortions are more frequent among educated people, and that, paradoxically, the overall emancipation of women is not always favourable to young girls (Bhat and Zavier 2007). A similar observation can be made for Vietnam, where the sex ratio at birth exceeded 120 among the two richest socioeconomic quintiles of the population in the 2009 census, by contrast with a normal level (105.2) among the poorest quintile (MPI 2011). The trend is similar in China, where in the 2000 census, the sex ratio at birth rose from 109.7 boys per 100 girls among mothers with a primary school education, to 119.9 for women with a secondary school education, and was still as high as 109.3 for women with higher education (PCO 2002). Education is commonly perceived to be a factor in the improvement of women's status, since it provides access to better paid jobs with higher social value, and is associated with behaviour more favourable to the survival of children, as well as a fertility decline. In the case of China it seems, on the contrary, to be a factor that exacerbates discrimination against girls, with whom women apparently have far more complex relationships.

11.1 A Typology of Determinants

Most existing studies are based on the sex ratio of infants (before 1 year of age) or young children (1–4 years), i.e. on the indicators that combine the effects of sex-selective abortion and neglect causing excess female infant mortality. The present analysis seeks to disentangle the determinants of discrimination towards girls by distinguishing between these two discriminatory practices on the basis that each is potentially dictated by different circumstances.[1] We ran a series of statistical regressions[2] in order to analyse the contextual factors of discrimination towards girls as revealed by the imbalance in the sex ratio at birth (used as a proxy for sex-selective abortion) and by excess female mortality (used as a proxy for neglect of girls in terms of preventative and curative health), in order to highlight potential links between various socioeconomic and demographic characteristics and the propensity of couples to intervene actively in the gender composition of their children. To this end we identified seven series of variables:

- a standard of living and socioeconomic development variable: the average income of urban and rural residents (in thousands of yuan);
- a minimum housing amenities variable as a proxy for extreme poverty, i.e. the proportion of households whose homes do not have drinking water and individual or collective toilets;
- an "exposure to the media" variable: the number of TV sets per 100 households;
- variables to measure access to the healthcare infrastructure, in this case the number of healthcare structures per 1,000 inhabitants and the number of maternity units and children's hospitals per 100,000 inhabitants;
- educational level variables, i.e. the mean duration of male and female education in years;
- fertility variables describing the constraints imposed by the state birth control policy, observed fertility, "policy fertility" (i.e. fertility dictated by the birth control programme) and levels of resistance to official birth control measures;
- variables showing the propensity of couples to care for at least one elderly parent, which may be used as a proxy for their degree of attachment to traditional values of family solidarity. This is expressed as the proportion of households composed of at least three generations and those composed of people aged 60 and over who are financially dependent on a family member, since these variables reveal the family pressure that is likely to be exerted on couples to select their child's sex.

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[1] The results presented in this part are drawn from a previous publication (see Attané (2009). The determinants of discrimination against daughters in China: evidence from a provincial-level analysis. *Population Studies*, 63(1): 87–102).

[2] Tibet was excluded from this analysis because of insufficient data.

Table 11.1 Simple linear correlation between discrimination against girls and various socioeconomic and demographic variables

Variables	Sex ratio at birth		Excess female infant mortality	
	r correlation coefficient	p value	r correlation coefficient	p value
Average income of urban and rural residents	−0.026	ns	−0.222	ns
Extreme poverty	0.407	0.026	0.566	0.001
Exposure to media	0.164	ns	−0.059	ns
Density of health infrastructure	−0.432	0.017	−0.343	ns
Density of maternity units or hospitals for children	−0.485	0.007	−0.242	ns
Mean duration of male education	0.136	ns	−0.121	ns
Mean duration of female education	0.050	ns	−0.217	ns
Total fertility rate	0.115	ns	0.370	0.044
Policy fertility	−0.180	ns	0.062	ns
Resistance to official birth control policy	0.219	ns	0.495	0.005
Households comprising three generations or more	0.410	0.024	0.447	0.014
Proportion of persons aged 60 or over financially dependent on a family member	0.262	ns	0.453	0.012

Sources: Proportion of households not equipped with toilets and running water (used to create the 'extreme poverty' variable), mean duration of male and female education, and proportion of households comprising three generations of more: PCO (2002, 2003). Proportion of persons aged 60 or over financially dependent on a family member: NBSp (2005); annual average income of urban and rural residents (in thousands of yuan); number of TV sets per 100 households (used for the 'exposure to media' variable), number of health structures per 1,000 inhabitants, number of maternity units and hospitals for children per 100,000 inhabitants: NBS (2004); Total fertility rate in 2000: Guo (2004). Policy fertility': Guo et al. (2003). Degree of resistance to official birth control policy: Attané (2002b). N.B.: The explanatory variables used in this regression are defined above in the text

ns not significant

The degree of socioeconomic development and the standard of living are the variables usually taken into account to analyse the determinants of discrimination against girls in Asia (Murthi et al. 1995; Banister 2004; Guilmoto 2005a; Bhat and Zavier 2007). As explained by Banister (2004, p. 33), it is plausible that poverty forces families who are unable to support a large number of children to eliminate a daughter. At provincial level in China, however, there is no significant linear correlation between the standard of living as measured by the average income of urban and rural residents (in thousands of yuan), and discriminatory behaviour, with $r = -0.026$ and $p = 0.890$ for sex ratio at birth, and $r = -0.222$ and $p = 0.239$ for female infant mortality (Table 11.1). If such a relationship exists, it must be concealed by other factors.

11.1.1   *Fertility and Discrimination: A Complex Relationship*

All Chinese provinces saw a rapid decline in fertility after the 1980s (Chen and Coale 1993; Ding 2003; Guo 2004), and the relationship of cause and effect between this decline and the increase in the sex ratio at birth in a context of a strong preference for sons, as in China, has been frequently demonstrated (Chen 1993; Gu and Roy 1995; Croll 2000; Poston 2002; Ding and Hesketh 2006). In 2000 no such relation existed at aggregate provincial level (with $r = 0.115$ and $p = 0.545$). However, a positive, albeit weak, linear correlation was observed between the mean number of children per woman and excess female infant mortality (with $r = 0.370$ and $p = 0.044$), which signifies that the higher the fertility level, the greater the neglect of girls leading to premature death, at provincial level. Absence of data on infant mortality by birth order for each sex at national level did prevent us from looking deeper into the process by which this correlation might be formed. However, although this cannot be proved, it appears that in provinces where fertility is highest (such as Jiangxi or Guangdong), and where high order births are, by implication, more frequent, the propensity of couples to neglect their daughters increases. That appears to confirm the observation that excess female infant mortality mainly affects high birth order girls, who might already have an elder sister (Choe et al. 1995; Han and Li 1999), and therefore that couples are prepared to accept one daughter but no more.

The link between fertility and discrimination against girls is not clear. Indeed, the greatest imbalance in the sex ratio at birth is found in provinces with intermediate fertility levels. In the 16 provinces where the sex ratio at birth was above 115 boys per 100 girls in 2000, the mean number of children per woman, as adjusted by Guo (2004), ranged from 1.5 to 2.5 (as in Guangdong, Guangxi and Hainan). By contrast, in the eight provinces where the sex ratio at birth was below 110, either fertility was very low (below 1.6 children per woman as in Heilongjiang, Jilin and Inner Mongolia) or it was above the national average of 2.3 children per woman (as in Guizhou, Qinghai, Ningxia and Xinjiang). Thus at aggregated provincial level, fertility appears to have no linear correlation with the propensity of couples to discriminate against their daughters, or if such a relationships exists, it is counterbalanced by other factors.

Fertility per se may not be the only key factor influencing the propensity of couples to discriminate against their daughters by means of prenatal sex selection or neglect of girls leading to premature death. The influence of the discrepancy between the fertility desired by couples and that imposed by the authorities within the framework of the provincial birth control regulations ("policy fertility") also deserves further investigation.

However, we observe that local regulations on the number of authorized births, which vary from one province or region to another (Attané 2002b; Yin 1995; Guo et al. 2003) do not systematically effect the propensity of couples to select the sex of their future baby either. While the correlation is negative, there is no direct link ($r = -0.180$ and $p = 0.342$) and all types of scenario exist. For instance, "policy fertility" in Hainan is high compared with other provinces (2.14 children per woman authorized in 2000) and there is a considerable imbalance in the sex ratio at birth

Table 11.2 Multiple linear regression between various socioeconomic and demographic variables and the sex ratio at birth

Multiple coefficient of determination				0.959
Adjusted R^2				0.864
P Value of F statistic				0.000
Observations				30

	Coefficients	**SE**	**t statistic**	**Probability**
Constant	−111.412			
Average income	−1.052	0.677	−1.555	
Extreme poverty	0.315	0.080	3.940***	$p=0.001$
Exposure to media	0.238	0.082	2.891***	$p=0.010$
Health structures	−3.479	1.157	−3.008***	$p=0.008$
Maternity units and children's hospitals	−1.206	0.646	−1.867	
Mean duration of male education	17.683	5.110	3.460***	$p=0.003$
Mean duration of female education	−1.235	3.261	−0.379	
Policy fertility	13.224	4.201	3.148***	$p=0.006$
Observed fertility (total fertility rate)	7.853	2.867	2.739**	$p=0.014$
Resistance to birth control policy	−0.086	0.045	−1.916	
Families composed of three generations or more	1.778	0.308	5.775***	$p=0.000$
% of people aged 60 and over financially dependent on a family member	0.215	0.100	2.148**	$p=0.046$

Sources: see Table 11.1
***$p \leq 0.01$
** $p \leq 0.05$

(135 boys for 100 girls). In Heilongjiang in the northeast, regulations regarding the number of children are very strict (1.39), but the sex ratio at birth remains relatively close to the norm (107.5). Last, there is the case of Xinjiang, where regulations are not strict (2.37) and the sex ratio at birth was normal in 2000 (106.7).

Furthermore, among the provinces with strict regulations regarding the number of children, we find both very imbalanced sex ratios at birth (which is the case in Jiangsu, Jiangxi, Guangdong, Anhui and Henan provinces in particular) and levels close to the normal (e.g. in Heilongjiang, Inner Mongolia and Guizhou). Low fertility and strict birth control regulations therefore do not systematically produce a rise in the sex ratio at birth. The correlation between "policy fertility" and excess female infant mortality, while positive, is not significant (with $r=0.062$ and $p=0.746$ in 2000). Thus at provincial level, the propensity of couples to neglect their daughters does not appear to have any link with pressure to reduce the size of their families – or if any connection exists it is counterbalanced or concealed by other factors exerting a contrary influence.

Nor apparently is there a linear correlation between the propensity of couples to discriminate against girls by sex-selective abortions and the level of resistance to the various birth control measures,[3] (with $r=0.219$ and $p=0.244$) (Table 11.2). On the

[3]For details about how the indicator for the resistance to birth control policies in China, see Attané (2002b) pp. 105–106.

other hand, there is a positive linear correlation between excess female infant mortality and the level of resistance at provincial level (with $r = 0.495$ and $p = 0.005$). This suggests that neglect of girls leading to their excess mortality could, to some extent, be seen as a consequence of the strict limitation on births. Contrary to what is suggested by the absence of a crude effect of fertility or "policy fertility" on discrimination against girls, neglect is not entirely independent of the pressure placed on couples to limit their families.

These first results indicate that while discrimination against girls is apparently not linked to fertility levels, the context in which the birth control measures are implemented does influence the decision to carry out a discriminatory act. Furthermore, despite the absence of a crude standard of living effect on the propensity of couples to discriminate against daughters at provincial level, the hypothesis of a more complex relationship between these two characteristics should not be excluded.

11.1.2   Studying the Social and Family Context

This statistical analysis of aggregate data at provincial level shows first that the selected socioeconomic and demographic variables account for a large proportion of the variation in sex ratio at birth (with adjusted R^2 of 0.864) and, to a lesser extent, the variation in neglect of girls resulting in excess female infant mortality (with adjusted R^2 of 0.679)[4] (Tables 11.2 and 11.3). However, it appears that while the selected variables clearly reveal the determinants of sex-selective abortions, those likely to influence the female excess infant mortality, all other things being equal, are more complex. Nevertheless they share a number of points in common.

Extreme Poverty Favours Discrimination

Contrary to what has been suggested, notably by Banister (2004) and Guilmoto (2005a) for example, this analysis confirms observations made previously and does not reveal any correlation between the standard of living indicator (the average income of urban and rural residents) and the decision to carry out a discriminatory act. But while there is no linear correlation between average income and the propensity of

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[4]Note that in view of the relatively high number of explanatory variables included this analysis because of the large number of observations, (12 variables and $n = 30$), the R^2 values may be over-estimated by the R^2 calculated for the sample (0.959 and 0.901 respectively). That is why the adjusted R^2 is used here. Regarding this value, this multiple regression model appears to explain a large proportion of the variation in intensity of sex-selective abortions (R^2 of 0.864) and, to a lesser extent, a good portion of the variation in excess mortality of girls (adjusted R^2 of 0.679).

Table 11.3 Multiple linear regression between various socioeconomic and demographic variables and excess female infant mortality

Multiple coefficient of determination				0.901
Adjusted R^2				0.679
P value of F statistic				0.0004
Observations				30

	Coefficients	**SE**	**t statistic**	**Probability**
Constant	−6.205			
Average income	−0.038	0.034	−1.098	
Extreme poverty	0.009	0.004	2.251**	$p=0.038$
Exposure to media	0.006	0.004	1.458	
Health structures	−0.041	0.059	−0.700	
Maternity units and children's hospitals	−0.028	0.033	−0.851	
Mean duration of male education	0.783	0.259	3.024***	$p=0.008$
Mean duration of female education	−0.238	0.165	−1.443	
Policy fertility	0.271	0.213	1.272	
Observed fertility (total fertility rate)	0.357	0.145	2.460**	$p=0.025$
Resistance to birth control policy	−0.001	0.002	−0.339	
Families composed of three generations or more	0.031	0.016	1.960	$p=0.067$
% of people aged 60 and over financially dependent on a family member	0.011	0.005	2.119**	$p=0.049$

Sources: see Table 11.1

***$p \leq 0.01$

**$p \leq 0.05$

couples to discriminate against their daughters, extreme poverty, as measured by the absence of basic amenities such as drinking water and toilets, was, all other things being equal, positively associated with this propensity. Thus the significant positive correlation between extreme poverty and excess female infant mortality (with $p=0.038$) at provincial level, illustrates the cost/benefit calculation operated by poor families who, because of the sharp rise in health care costs resulting from reforms in the health care system, are less inclined to get into debt to care for a girl, as has been demonstrated by Li and Zhu 2001 (see above p. 159).

Nevertheless, sex-selective abortions are also positively associated with extreme poverty (with $p=0.001$), a finding which appears to invalidate the argument that the high cost of selective abortion might impede the discriminatory act, and which is confirmed by the absence of correlation between discriminatory behaviours and the average income of urban and rural residents. The only variable related to the level of development that has a significant positive correlation ($p=0.010$) with the sex ratio at birth was the exposure to media as measured by the number of television sets per 100 households. However, no correlation of this variable with excess female infant mortality was found in this analysis.

Broader Medical Care Provision Would Not be Favourable to Abortion

Unexpectedly, the density of the medical infrastructure was negatively associated with the practice of sex-selective abortion (with $p=0.008$ and a regression coefficient of -3.48) at provincial level. All other things being equal, the denser the healthcare infrastructure, the lower the sex ratio at birth, whereas no such connection appears to exist for the density of maternity units and children's hospitals. One might have expected a higher density of medical structures and health workers to facilitate access to techniques of prenatal sex determination, and hence possibly to abortion, but that hypothesis was invalidated by this analysis which showed, on the contrary, that a denser medical infrastructure tended, on provincial scale and all other things being equal, to foster a perception of social control that reduced the frequency of sex-selective abortions. One might also have expected a good medical infrastructure to compensate for parental failure in healthcare to some extent, thereby limiting the number of female infant deaths, but this was not confirmed here.

The Influence of Intergenerational Relationships

We also observed a positive correlation at aggregate provincial level (all other things held equal) between sex-selective abortions and the propensity of couples to cohabit with at least one grandparent (with $p=0.000$), whereas in fact only a low-significance linear relationship with excess female infant mortality was found (with $p=0.067$). Cohabitation with at least one elderly parent reflects a certain compliance with traditional values of family solidarity, including the filial piety promoted by Confucianism, in addition to family pressure that may be exerted on couples by the older generation to select their child's sex. But this might also reflect the inadequacies of the pension system, which excludes most elderly people and obliges them to cohabit with a child for financial reasons. This last argument is supported by the statistically significant positive correlation that exists between sex-selective behaviour and the proportion of people aged 60 or more depending financially on a family member (with $p=0.046$ for the sex ratio at birth and $p=0.049$ for excess female infant mortality).

Against a background of growing socioeconomic uncertainty, the absence of a pension system in the countryside may, all other things being equal, be considered as a determinant in the discrimination against girls at provincial level.

The Parents' Educational Level

Alongside observed fertility, the educational level is the variable most strongly associated with the sex ratio at birth. There is a significant positive correlation between the mean duration of male education and the sex ratio at birth (with $p=0.003$), and the high regression coefficient (17.68) shows, all other things

being equal, the considerable impact of education on discriminatory behaviour at provincial level.[5] This positive correlation confirms the observation that sex-selective abortion is more frequent among educated people who are better informed about such practices (Bignami-Van Assche 2004; Edlund 1999). The mean duration of male education is also positively and significantly correlated with excess female infant mortality at provincial level (with $p=0.008$). All other things being equal, the higher the male educational level, the greater the excess female infant mortality, with a high regression coefficient (equal to +0.783) implying that for a one-unit rise in the mean duration of male education, the excess female infant mortality (measured in a scale of between 0.7 and 2.3 for Chinese provinces) is likely to rise by +0.783 points, all other things being equal. As has been suggested by Murthi et al. (1995, p. 764) in the case of India, if men's education is positively associated with the mortality of girls, this is because in the first stage of the mortality decline, education of boys reduces the mortality of boys more than that of girls, thereby increasing the gender gap. A similar development appears to have affected behaviour in China in the 2000s.

Logically, couples under pressure to reduce their number of children, or who are more inclined to spontaneously limit their family size, should be more likely to select the sex of their children because of the traditional preference for sons. But we are faced with a contradiction: the positive and statistically significant correlation between the sex ratio at birth and not only the level of observed fertility, but also the "policy fertility" defined under the birth control policy (with $p=0.014$ and $p=0.006$, respectively). Given that for a one-point increase in observed fertility and "policy fertility", the sex ratio is, all other things being equal, liable to increase by +7.85 and +13.23 points, respectively, the constraints relative to family size may, at provincial level, be considered as a determinant of prenatal sex selection. A similar positive correlation appears between observed fertility and excess female infant mortality (with $p=0.025$ and a regression coefficient of +0.357), for which no relationship with "policy fertility" is observed, however.

11.2   An Attempt at Explanation

This statistical analysis reveals that at provincial level, and all other things being equal, there are significant linear correlations between pre-and post-natal discrimination against girls and four types of variables in particular: extreme poverty; fertility levels; men's educational level; and the degree of solidarity with the grandparents' generation, expressed by the proportion of households composed of at least three

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[5]Note that if we remove the "mean duration of male education" from the regression analysis, the "mean duration of female education" then becomes significant and with a positive correlation (with $p=0.0007$ and a regression coefficient of +8.342 in the linear correlation with the sex ratio at birth, and with $p=0.041$ and a regression coefficient of +0.197 in the linear correlation with excess female infant mortality).

generations, and of persons aged 60 or over who are financially dependent on a family member. It is logical that extreme poverty, at aggregated provincial level, and all other things being equal, favours discriminatory practices against girls, since the decision to reduce the number of offspring, especially female ones, is dictated by economic constraints. If couples can only support a small number of children, they prefer to have sons who can provide financial support for the family in the long term because of the traditional practice of patrilocal marriage and the absence of a universal pension system. The positive linear correlation between discrimination against girls and the level of intergenerational solidarity at aggregate provincial level, all other things being equal, is also logical, as it reflects adherence to the traditional values that promote the preference for sons, and the pressure exerted on couples by the grandparents' generation to select the sex of their child.

11.2.1   Education as an Ambivalent Variable

The relationship between fertility, education and discrimination against girls seems to be far more complex, however. Indeed, how can one explain that, all other things being equal, an increase in the mean duration of education can lead to an increase in discrimination against girls? As mentioned earlier, in principle, education helps to improve the status of women, because it leads to practices that are more favourable to the survival of children (and especially girls) and because, by giving women access to economic activities that are more rewarding both socially and financially, it is expected to confer greater social value on women and gradually eradicate discriminatory practices. Amongst other things, education probably helps to limit the transmission of cultural values traditionally favourable to boys.

To clarify this apparent contradiction, we could advance the hypothesis that the "education" variable can only influence discrimination against girls indirectly, because of the strongly negative correlation at Chinese provincial level between fertility and education (with $r = -0.788$ between fertility and mean duration of female education, and $r = 0.824$ between fertility and mean duration of male education, and $p = 0.000$ in both cases). In other words, the better educated the woman, the fewer children she tends to have and consequently the fewer girls. Thus the extent of the discrimination could be directly related to fertility, but only indirectly to the level of education.

It appears that all the Chinese provinces with a sex ratio at birth of more than 115 boys per 100 girls in 2000 (16 provinces) had fertility levels of between 1.5 and 2.5 children per woman, whereas those with a sex ratio at birth below 110 (8 provinces) either had very low fertility levels (less than 1.6 children per woman), or levels well above the national average, i.e. more than 2.3 children per woman.[6] While such an observation about aggregate data should be interpreted with caution,

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[6] Total fertility rates taken from Guo Zhigang (2004).

this result nonetheless supports the still relatively unexplored hypothesis whereby discriminatory behaviour against girls, especially the practice of sex-selective abortion, is an additional but temporary component of the fertility transition in a context of a strong preference for sons. As has been suggested for Republic of Korea (Kim and Song 2007), very low fertility levels below 1.5 children per woman can even mechanically reduce the imbalance in the sex ratio at birth, since sex selection mainly occurs in second order births or more. In the case of China, this hypothesis is consistent with the positive and statistically significant connection, revealed by multiple regression, between discrimination against girls (the sex ratio at birth and excess female infant mortality) and the number of children per woman, bearing in mind that this is also strongly correlated with the level of education.

11.2.2   A Specific Demographic Transition

These observations suggest that discriminatory behaviour against girls mainly occurs at intermediate fertility levels (and therefore on average at intermediate educational level), when families have a more urgent need to select their child's sex. Indeed, when fertility is, on average, relatively high (and therefore, on average, education level relatively low) the chances of obtaining a son without selecting the sex beforehand, are mechanically higher. Conversely, when fertility is, on average, very low at provincial level (a situation associated, on average, with a relatively high educational level), that signifies that one-child families – who have not yet implemented a sex-selective strategy – are, on average, more numerous, thereby reducing discriminatory practices at provincial level.

The processes at work in discrimination are complex and all the harder to grasp since discriminatory practices spread and therefore reach populations with increasingly diverse socioeconomic characteristics. Interestingly, the determinants of discrimination against girls by sex-selective abortion are not necessarily the same as those of excess female infant mortality. The family strategies behind the decision to carry out a discriminatory act are therefore extremely complex and may vary depending on the constraints to which the family is subjected.

In China, as in other Asian countries with high sex ratios at young ages (namely India, Taiwan, and Republic of Korea), the increase in the sex ratio at birth coincided with the widespread availability of techniques for prenatal sex determination, whereas excess female infant mortality has worsened progressively since the 1980s, despite the improvement in overall living standards and the increase in educational capital. The deterioration in the survival of girls due to sex-selective abortions and neglect seems to be as inevitable as the reduction in fertility. It appears to be an additional component in the demographic transition process, and while it may only be a transitory one, it could affect the growth and structure of the Chinese population for many years to come (Attané 2006a; Cai and Lavely 2003).

Appendix

Total Fertility Rate and Fertility Imposed by the Birth Control Programme in Chinese Provinces in 1990s and 2000s

	Total fertility rate		Fertility imposed by the birth control programme (i.e. "policy fertility")	
	1990	2000	Around 1990	Around 2000
Beijing	1.4	0.8	1.33	1.09
Tianjin	1.6	1.1	1.35	1.17
Hebei	2.5	1.8	1.67	1.59
Shanxi	2.4	2.0	1.69	1.49
Inner Mongolia	2.1	1.5	1.80	1.60
Liaoning	1.7	1.4	1.50	1.38
Jilin	1.9	1.4	1.50	1.45
Heilongjiang	1.9	1.3	1.44	1.39
Shanghai	1.4	0.8	1.28	1.06
Jiangsu	2.0	1.5	1.52	1.06
Zhejiang	1.6	2.0	1.54	1.47
Anhui	2.5	2.1	1.61	1.48
Fujian	2.6	1.6	1.61	1.48
Jiangxi	2.6	2.5	1.52	1.46
Shandong	2.1	1.5	1.55	1.45
Henan	2.9	2.0	1.56	1.51
Hubei	2.5	1.5	1.55	1.47
Hunan	2.4	2.0	1.64	1.48
Guangdong	2.5	2.1	1.85	1.41
Guangxi	2.7	2.3	1.57	1.53
Hainan	3.0	2.3	1.97	2.14
Chongqing	nd	2.2	nd	1.19
Sichuan	2.0	2.0	1.57	1.27
Guizhou	3.0	3.0	1.74	1.67
Yunnan	2.7	2.3	2.13	2.01
Tibet	3.8	3.4	nd	nd
Shaanxi	2.7	1.7	1.64	1.51
Gansu	2.3	2.1	1.58	1.56
Qinghai	2.6	2.5	2.08	2.10
Ningxia	2.6	2.3	2.06	2.12
Xinjiang	3.1	2.5	2.40	2.37

Sources: Total fertility rates: for 1990: reconstructions taken from Chen and Coale (1993); for 2000: adjustments taken from Guo (2004). For "policy fertility": around 1990: Yin (1995); circa 2000: Guo et al. (2003)

Chapter 12
Conclusion: What Demographic Perspectives for China and the World?

> What sort of wife do I want? I don't care! It's so hard to find a wife today. I just want one, that's all![1]

At one period or another of their history, various populations have experienced disparities in their sex distribution but these did not have a far-reaching impact because they were temporary. However, in China's case this sex imbalance is likely to last and may provide an important opportunity to study the demographic and social consequences of this imbalance. Future changes in the sex structure of China's population, determined by the sex ratio at birth and excess female mortality, especially at young ages, are difficult to predict. Is the current masculinization of the Chinese population simply a transitory imbalance that may be reabsorbed in the near future? Is it part of a cyclical process with alternating phases of troughs and peaks? Is it conceivable that the masculinization process will continue over the long term? And is such a sex imbalance socially and demographically sustainable?

12.1 Demographic Masculinization: A New Economic and Social Challenge?

If the current factors of masculinization are rapidly counterbalanced, the growing sex imbalance at young ages, which has characterized the Chinese population from the 1980s, will have only a moderate demographic and social impact and could be offset by behavioural adjustments, notably in the age gap between spouses (Casterline et al. 1986). Conversely, a stabilization or exacerbation of the masculinization process over the next decades would entail radical changes in lifestyle and social behaviours. The need to adapt to a lasting shortage of females would then have to be accepted as a new social and demographic challenge, not only in China, but on a global scale.

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[1] Statement by a young Chinese, taken from the *International Herald Tribune* dated 18 Aug 1994.

Demographic masculinization over the medium to long-term will have numerous consequences. These will first appear in the sex imbalance on the marriage market and translate into a marriage squeeze (*hunyin jiya*) when the cohorts concerned reach marriageable age. In the longer term, the shortage of females will lead to fewer births, which could further decrease the numbers of women because of the subsequent increase in the sex ratio at birth. Thus, even if Chinese women continue to produce the same number of children, the reduction in their numbers and their declining proportion in the total population will mechanically lead to a drop in the number of births and therefore in the birth rate. If the sex-selection of children continues over the next decades, the deficit of female births will increase, leading, some two decades later, to a shortage of women on the marriage market – itself a consequence of the mechanical reduction in the number of births, and especially births of girls because of discrimination against them. Furthermore, fewer children in future generations will lead to a rapid slowdown in the demographic growth of what is currently the world's most densely populated country. There will also be major repercussions on the overall sex ratio at birth, which may then show a clear upward trend (Attané 2006a).

12.2   Other Examples Around the World

At various periods of their history, several countries have experienced sex imbalances in their marriage markets. Louis Henry (1966) examined how the surplus of women in France that followed the excess male mortality in the First World War altered marriage behaviour. He observed that despite the considerable shortage of males on the marriage market, most women ultimately succeeded in finding a husband. Scherbov and van Vianen (2004) made similar observations for Russia, where the marriage market had also been impacted by the considerable losses (mainly male) inflicted by the Second World War. Vietnam also suffered a sex imbalance in its marriage market during the 1970s and 1980s, when young women faced a considerable shortage of potential spouses as a result of demographic growth,[2] the civil war between North and South Vietnam, and high overseas migration[3] (Goodkind 1997).

A current shortage of potential spouses has been observed in the African-American community in the United States because of a sharp increase in the proportion of mixed-race marriages between black men and non-black women which is not offset by opportunities for black women in that community to form unions with

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[2]Given the age gap between spouses, men usually being older than women when they marry (Casterline et al. 1986), an increase in the birth rate ultimately leads to a scenario where male cohorts of marriageable age are smaller than the corresponding female cohorts. Conversely, if the birth rate falls, the male cohorts on the marriage market are larger (Cabré and Esteve 2004; McDonald 1995).

[3]This emigration also led to a shortage of women in the Vietnamese diaspora during the 1980s and 1990s (Goodkind 1997).

non-black men. The imbalance is particularly marked among highly educated black women because potential black spouses from the same social classes are more inclined to enter into mixed-race marriages (Crowder and Tolnay 2000).

In the cases mentioned here, the sex imbalance on the marriage market takes the form of a surplus of women who find themselves in competition for a smaller number of potential male partners. Usually this imbalance is an exceptional situation, which, thanks to various compensation mechanisms, notably adjustments in the age gap between the spouses, does not have a profound effect on matrimonial behaviour (McDonald 1995). However, there are fewer examples of countries or societies whose marriage markets have been affected by a shortage of women. Such was the case in Portugal at the end of the Middle Ages, where the excess adult male population has been interpreted as the consequence of a preference for sons related to the primogeniture system. The female deficit, combined with female hypergamy, is thought to have produced an increase in male celibacy, notably among the least favoured social classes. It has been suggested that the excess of adult males in the population at the time was one of the reasons behind Portugal's colonial expansion (Hudson and den Boer 2004).

In other cases, sex imbalances on the marriage market may have been affected by differential migration by sex. During the nineteenth century, a shortage of women had important consequences on male marriage in the white Australian community (Akers 1967; McDonald 1995). A similar situation was observed in several European countries following the rural exodus, which massively concerned women and led to an increase in male celibacy in certain rural regions (Bourdieu 1989; Cabré and Esteve 2004).

12.3   A Shortage of Wives

Unlike the situations described earlier in France, Russia and Vietnam, where the gender imbalance on the marriage markets in favour of men was transitory and generally offset by behavioural adjustments that limited its demographic and social impact, in China and India the consequences of the female shortage are likely to be felt over the long term. In both countries, many villages are already populated by a majority of men who are unable to find a wife.[4] Their behaviour has yet to be studied in depth. At present, the social consequences of the shortage of females on the marriage market is still difficult to gauge, save for a tendency of Chinese women to practice hypergamy and an increase in women trafficking for marriage purposes (Attané 2005; Le Bach et al. 2007).

For a while the marriage market will regulate itself. Men seeking to marry may turn to ever younger potential female partners before extending their search to less coveted categories such as widows – on condition that the social barriers to remarriage are lifted – and, above all, divorcees. One of the first consequences may therefore be a

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[4]Information given to me personally by the Chinese demographer Li Shuzhuo and the Indian demographer Aswini Nanda.

widespread postponement of men's marriages, with men being more patient in their search for a wife and women marrying younger. However, in the longer term, male celibacy may increasingly be the only option, with all the ensuing consequences for individuals and society as a whole.

This shortage of women on the marriage market, anticipated by several authors (Das Gupta and Li 1999; Li et al. 2006; Poston and Glover 2005), is the direct consequence of three factors: the imbalance in the sex ratio at birth observed since the 1980s; excess female infant and child mortality which appeared concomitantly; and the decreasing size of annual birth cohorts over the past 30 years which has led to a mechanical increase in the sex ratio of people reaching marriageable age today (Merli and Hertog 2010), given the age gap between spouses at marriage.[5]

In future, the proportion of men liable to remain permanent bachelors will depend on how the sex ratio at birth evolves in coming years. Even assuming that the sex ratio at birth returns to normal levels between 2000 and 2050, i.e. only taking into account the sex imbalance at birth observed during the 1980s and 1990s, the proportion of excess men on the marriage market will range between 5 and 10 % of the corresponding male cohorts in 2010 and 2050.[6] However, under the most pessimistic hypothesis of a sex ratio at birth that remains at 2000 levels (117 boys per 100 girls) until 2050, the Chinese marriage market will count around 20 % excess males between 2030 and 2050, representing more than 1.5 million men who are unable to marry each year (Li et al. 2006). The sex imbalance at birth observed over the past decades will inevitably have profound repercussions on the marriage market. Young people will have to adapt to a context of relative shortage either by accepting prolonged or permanent celibacy, or by marrying foreign women, as is already the case on the Sino-Vietnamese border (Le Bach et al. 2007). Remarriages with a divorced woman may also become increasingly frequent, especially since strong demand for women among men wishing to marry may lead to a greater conjugal mobility and further feed the remarriage market. The marriage market will also affected by hypergamy, as women exercise their preference for a spouse of higher socioeconomic status. As a result, there will be a higher prevalence of bachelorhood among poorer and less-educated males (Greenhalgh and Winkler 2005), whose opportunities to marry might be further limited by their inability to afford the rising costs of marriage – including the bride price[7] and the ceremony itself (Wei and Zhang 2009; Attané 2012).

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[5]The mean age gap between spouses at marriage in China can be approximated by the difference in mean ages at marriage by sex. In 2000 the mean age at first marriage was 23.5 years for women and 25.6 for men.

[6]For details of the hypotheses used in the projections presented here and their results, see Li et al. (2006).

[7]Chinese cultural traditions still require a bride price to officialize a marriage (Anderson 2007), which includes transfers from the groom's parents to the bride's as a compensation for rearing costs and the loss of rights over their daughter. A further consideration, particularly after agricultural de-collectivization when families could again profit from the sale of surplus production, is the loss of a bride's contribution to farm labour (Brown 2003). The social liberalization brought on by economic reforms has seen a sharp rise in the bride price, thereby reinforcing the commercial transaction aspect of marriage.

In all cases, the shortage of women on the marriage market will lead to fewer births and slower demographic growth, with a potential shortfall of between 18 and 20 million births by 2050 (Attané 2006a). Under prevailing social and family norms, the men who fail to marry will be unable to produce any descendants and will suffer the disadvantages of the absence of an heir, such as the extinction of their family line, loneliness and lack of economic solutions for their old age (Attané et al. 2013), even though, paradoxically, these very factors are presented as arguments to justify discrimination against girls in contemporary Chinese society (Arnold and Liu 1986; Coale and Banister 1994; Attané 2005).

However, the impact of future changes in the sex ratio at birth will be far greater on the overall sex ratio, which stood at 106.3 women per 100 men in the 2000 census. Although a balance may be restored by 2050 (101.3 men per 100 women) if the sex ratio at birth returns to normal (106 boys per 100 girls) from 2000, it could reach 109.2 men per 100 women if the sex ratio at birth increases regularly from the levels observed in 2000 (117) to 125 boys per 100 girls by 2050 (Attané 2006a). Under that scenario, the Chinese population would reach the highest level of excess masculinity ever observed, at least since statistics were first recorded in the mid twentieth century.

The shortage of women will have many consequences over and above purely demographic ones, but these are still difficult to predict with any certainty. We do not know to what extent the behavioural adjustments (larger age gap between spouses at marriage, greater frequency of remarriage with widows and divorcees, increase in marriages between Chinese men and foreign women, a gradual increase in fertility) may attenuate the effects of the shortage of potential wives and mothers on involuntary male celibacy, on the birth rate, and hence on future demographic growth. Nor do we know how, or to what extent, the various social and political measures that the Chinese authorities will, or have already, put in place, will succeed in offsetting the effects of son preference, prenatal sex selection of children, and discrimination against girls at young ages, and ultimately lead Chinese couples to be equally content with a daughter or a son, even if they can only have or only want one child.

12.4   What Impact on the Status of Women?

Beyond the numerical imbalance resulting from discrimination against girls and women, how will women's relative scarcity influence their status in society? Will it help to improve their status or, on the contrary, make it worse? Different theories have been advanced, with some authors arguing that a relative reduction in the number of women in a given society will increase their value, and therefore their power, and may consequently benefit their emancipation (Secord 1983; Warren 1985; McDonald 1995). Others, on the contrary, believe that when women become rarer, men are better able to control them (Hudson and den Boer 2004; South and Trent 1988). In China, a recurrent shortage of females in the past certainly did not lead to an

improvement in women's status (Banister 2004). Things may perhaps be different today in a context of economic modernization, but the little information we have, while it cannot yet be directly correlated with the shortage of females, seems to show that this is not the case. At present, their relative scarcity has led to regular violations of many women's fundamental rights, and cases of kidnapping, rape and forced marriage are increasingly common (Attané 2005).

At present there is nothing to indicate that the growing scarcity of women in future generations would improve their condition. In China and in India today, a commodification of women is occurring, and they are regarded as little more than consumer goods in some regions. Far from enhancing women's symbolic value, and therefore the consideration they might receive, the "missing women" phenomenon has increasingly turned women into mere chattels. That is the case in India, notably with the dowry system, and likewise in China, where women's market value has risen with the economic reforms, but where respect for women still leaves much to be desired. Becoming rare does not necessarily imply becoming more precious. That was remarkably illustrated in the 2005 film by the Indian film director Manish Jhâ, called "Matrubhoomi, A World Without Women". The story takes place in a rural region of India where the female population has been decimated by infanticide over the years. A man called Ramcharan desperately wants to marry off his five sons. Not far from the village, a poor peasant has hidden his most precious belonging, his beautiful 16-year-old daughter Kalki. But the young girl is discovered by one of Ramcharan's friends who buys her at a high price, ostensibly for his oldest son. But once the wedding is over the young girl finds that she has to submit to the desires of all five brothers and their father. After attempting to flee, she is locked up and chained, forsaken by her own father and abandoned to the lust of all the village men. She ends up giving birth to… a girl. The story is fantastic rather than visionary, but nevertheless shows the hypothetical excesses of a society deprived of its female component.

However, women could benefit from a positive consequence of this situation, namely socioeconomic advancement through hypergamy. Indeed because of their relative numerical inferiority, women on the marriage market have a far broader choice of spouses. They can thus be more demanding, giving preference to spouses able to provide them with better living conditions. Men from less advantaged social classes (illiterate, poor, and living in rural areas) are therefore less likely than others to find a wife one day (Banister 2004; Greenhalgh and Winkler 2005). Since the implementation of economic reforms at the end of the 1970s, the problem of male celibacy among the poorest social classes has been worsened by a sharp rise in the bride price[8] traditionally paid to the wife's family on her marriage. We do not have access

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[8] The bride price comprises all the goods transferred from the groom's to the bride's family at marriage. In societies where women do not physically leave their group after marriage, the amounts involved are small, but they are large in societies with patrilocal and patrilinear systems (Ghasarian 1996). This explains why the bride price is widespread in China, while the dowry, composed of the goods that the bride's family gives to the husband or his family, only represents a small portion of the total gifts exchanged for the marriage.

to national statistics but this development has been explored in various local studies, and indeed discussed in the Chinese press. At the end of the 1970s, the amount of the bride price in villages in Guangdong province (southern China), was already the equivalent of a family's annual income (Parish and Whyte 1978). In Sichuan province (central China), the amount more than trebled from the mid-1970s to the mid-1980s. In a county of Anhui province, the expenses paid out by a fiancé's parents totalled 800 yuan in 1978, and 7,500 yuan just 10 years later (Thireau 1989). In the rural areas of Shanxi province, e of the poorest in the county, the bride price has increased e-fold since the 1980s, which is far faster than the average household income, and now reaches 5,000–10,000 yuan[9] (around €500–1,000).

Any correlation between the recent increase in the bride price and the relative shortage of women on the marriage market remains to be proved, but its link with the economic and social liberalization that followed the reforms has been established in a number of anthropological studies (Brown 2003; Harrel 1992). This increase in the bride price may be explained by the growing value of female labour in a society where it is now possible to become rich, and which has seen a return to traditional values and a decline in social control since the end of the Maoist era. Similar factors have been observed in relation to the rising dowry cost in India (Guilmoto 2004). The bride price, which symbolizes the transfer of control over a woman and her labour power from her family to her spouse, can therefore be interpreted not only as compensation for the prejudice suffered by the loss of a daughter (notably her labour power) (Brown 2003) but also as a marker of her market value in a society where social success is now highly prized. Today, the inflated cost of marriage is such that the sons of some poor families are condemned to remain single because they do not have the means to pay for the ceremony and the gifts to the future in-laws. This has led to a sharp rise in the sale of wives in some regions of China. The buyers are usually poor peasants who find it less expensive to pay traffickers than to marry in the traditional way with the attendant gifts, wedding banquet and bride price (Attané 2005). In the short term, therefore, the female shortage on the marriage market could exacerbate the inequalities between male social groups, since access to women could be transformed into an indicator of men's economic status.

At present it is impossible to say whether the relative decrease in the female population will have a positive or negative effect on women's status and social value. However, it seems very likely that this demographic trend will go hand-in-hand with an increase in social and economic disparities within the female population itself. While some women may see their socioeconomic situation improve – notably by practicing hypergamy, which does not necessarily signify that they will acquire greater value or power within the family and society – others, on the contrary, could become the victims of increased male domination through a commodification process, reduced to fulfilling purely utilitarian functions of an economic or family nature (labour power and reproduction).

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[9]Hunyin moshi de bianqian. Available at http://www.tydao.com/sxsu/qiao/3.3.htm. Accessed 13 Sept 2012.

12.5   A Textbook Case that Affects One-Third of the World's Population

The demographic masculinization of China is a slow but indisputable process. For the past 40 years or so, the proportion of men in the population has risen regularly, making China – after India – the most "masculine" country in the world. This process is clearly the result of increasingly frequent prenatal sex selection, leading to the elimination of some 500,000–600,000 girls every year by sex-selective abortion. It is also due to the excess mortality of females, not only in childhood but also at young adult ages, leading to around 190,000 surplus female deaths each year. Every year in the 1990s, between 700,000 and 800,000 women were therefore the direct or indirect victims of a system of norms and values that, despite economic modernization, continues to favour males at the expense of females (Attané 2012). Boys and girls are thus regularly in competition with each other within the family, mainly for economic reasons, whether in access to education, employment or health, and sex is a key factor in parents' reproduction strategies. Given the sharp fertility decline, boys are usually preferred over girls, who have always been less valued socially than boys, especially in rural areas. In many respects, Chinese women benefit from quite enviable living conditions (education and work) compared with most developing countries, including in Asia. However, the improvement in women's status achieved through the reforms of the past 40 years is meagre in relation to China's formidable economic progress, and the gender equality promised by Mao's Communist regime clearly has not been attained. In some ways, the status of Chinese women has even deteriorated since the end of the 1970s. They have been obliged to revive ancestral practices, including infanticide (which today takes the form of sex-selective abortion), and have become the victims of trafficking for the purposes of forced marriage or prostitution (Attané 2005). The question remains as to whether this lack of respect for women is a transitory symptom, corresponding to a period of adaptation in a society that is very attached to traditional values while undergoing very rapid economic modernization, or whether this mode of social functioning is likely to endure and therefore have important demographic consequences.

As a subject of research, the shortage of females in the Chinese population and its socio-demographic impact in the short and medium term is far from exhausted. Indeed, in many ways the Chinese situation, like the Indian one, is a textbook case. Both countries are undergoing unprecedented transformations which, quite apart from the sex imbalance issue, deserve to be studied by the scientific community, not least because more than one-third of the world's population is concerned. China's and India's demographic transitions are already influencing the size and structure of the world population today. If the masculinization process that characterizes both countries were to become a lasting phenomenon, it would impact the demographic and social balance of the entire planet.

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Index