Abstract:

This chapter aims to provide a comprehensive review of China's fertility transition and its socioeconomic impacts. It is divided into five sections. It begins with a historical review of China's fertility transition over the past half a century, and revisits the marked regional, ethnical and rural-urban variations in terms of the fertility transition. The second section of the chapter discusses the role of the government population policies and programmes on fertility transition. It claims that China's population programme is a decentralised one, characterised by varied regional family planning regulations and practices. The one-child policy is an overly simplified term to employ. The third section examines the factors determining the regional variation. Analyses show that the government population policies and local socioeconomic developments are the two most crucial determinants of the local fertility level. Meanwhile, changes in people's fertility desire and reproductive behaviour are important driving factors. The fourth section focuses on the socioeconomic impact of fertility transition in China. It reveals that China's rapid fertility decline has resulted in the aging of population and is linked to an abnormal sex ratio at birth, which may have profound socioeconomic and demographic consequences. The fifth section is the conclusion part. There are ever-rising concerns about the negative effects of very low fertility and debate on modification of China's family planning regulations has been intensive in recent years. The author concludes that China's official population policy will maintain in effect over the next few years while local modifications on family planning regulations can be expected. Dealing with the aging problem will become one of the most challengeable public policy issues facing the Chinese government and the society.

Fertility Transition and Its Socioeconomic Impacts in China

Dr. Peng Xizhe, School of Social Development and Public Policy
Fudan University, Shanghai, China

Over the last half a century, China witnessed a very rapid fertility transition. Its total fertility rate declined from around 6 in the 1960s down to below replacement level in the 1990s and has maintained at such a low level since then. The Chinese fertility transition is characterised by its rapidity and strong government intervention, and has profound impacts on China's socioeconomic development.

I. Past and current fertility in China

Although the Chinese culture traditionally desired large family, the natural fertility level in China was relatively low. According to historical studies, the TFR in the natural fertility regime was around 7-8 in Chinese society[1]. High fertility was balanced by high mortality, which resulted in slow and undulated population growth in Chinese history.

The 1950s and the 1960s witnessed very high fertility, except for the period of 1959 - 1961 when mismanagement and natural disaster caused massive excess mortality and very low fertility (Peng, Xizhe, 1987). Early fertility decline emerged in China's urban area in the middle 1960s immediately following up the compensational fertility rebound after the faming-induced postponement of childbearing. China's nation-wide fertility transition started in the early 1970s, which was initialised by the government sponsored family planning programme. The national total fertility rate declined sharply from 5.8 in 1970 to 2.8 in 1979, a more than fifty per cent decrease. This is one of the rapidest fertility declines ever recorded in the world. While the government programme has played a crucial role in bringing down Chinese fertility, the fundamental changes that have taken place in China's socio-economic fields since 1950 have also undermined the century-long reproductive norms and paved the way to the fertility reduction.

[1] For example, see Zhongwei Zhao, 'Deliberate Birth Control Under a High-fertility Regime: Reproductive

It is often assumed that once the fertility transition has started, the momentum would maintain and fertility will inevitably reach replacement level (Cleland & Wilson, 1987). However, China's marked fertility reduction that had occurred in the 1970s did not get the same momentum into the 1980s despite government efforts in implementing the much more rigid family planning regulation, the so-called "One-Child per family" programme. The potential for fertility decline created by the socio-economic changes of the 1950-70s seems to be exhausted by the 1980s, leading to a TFR fluctuating between 2.3-2.9.

Patterns of fertility transition in the 1980s indicate that China might have experienced two different kinds of fertility decline in these two decades. While the decline in the 1970s was mainly from very high to low fertility, the 1980s witnessed a decline from low to near or even below replacement-level fertility. The two kinds of fertility decline cannot be considered different only in the numerical sense. It is more likely that the early transition is relative easier and could proceed fast in a very short time period, but the later is much more difficult and requires somewhat more fundamental shift in socio-economic condition and the value system related to reproduction.

The early 1990s witnessed another nation-wide downward trend of fertility, with the coastal 'opened-up' areas at the fore. This new wave of fertility decline is certainly benefited from the economic reform and remarked social changes generated from economic development. Moreover, the impact of the re-affirmed government commitment to population control should never be under-estimated. According to official statistics, the TFR was reduced from 2.3 in 1990 to 2.0 in 1992, and has remained below replacement level since then.

It has been a subject of controversy whether fertility in China was dropping as rapidly as indicated by the official statistics. Some demographers argue that the official birth statistics are subject to serious undercounting (Attane & Sun 1999). The State Family Planning Commission may be the only government agency in China that openly admits the problems in its statistics and tries to correct them. The commission has conducted annual random surveys to double check the quality of population data and made great efforts to improve the accuracy of statistics. Results from these surveys varied widely among provinces and regions. In areas like Shanghai and Jiangsu, it was reported

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Behavior in China before 1970', *Population and Development Review*, 23(4): 729-767

that more than 99 per cent of the births were registered, while underreporting could mount to more than 20 per cent in some other rural locations[2].

It is interesting to note that the total fertility rates of the 1990s that were derived from several national surveys, both conducted by the State Statistics Bureau and the State Family Planning Commission, were consistently around 1.5, in spite of changes in sample selection and methods of field work[3]. These estimates to some extent are in contradiction to people's general impression on China's reality as 2 or 3 children per family is still a prevailed phenomenon in many rural areas. The debates on the real level of China's fertility rate are even more serious during the first few years of the 21st Century. Scholars like Feng Wang , Zhigang Guo and others argued that China's TFR should be around 1.5 or lower based on various unadjusted nation-wide surveys and census[4]. So far, there is no single estimation of TFR that is widely accepted by the scholars. However, the publicised official figure of TFR around 1.7-1.8, in my opinion and also commonly cited by researchers, is not far away from the reality[5].

Figure 1 about here

The big rural-urban gap in total fertility rate emerged firstly in the early 1960s when the compensational fertility surge did not occur in the same magnitude in the urban area as in the countryside. In the cities, the use of contraceptive and other birth control services became available in the 1960s after the country's recovery from the national famine, and urban couples responded to the availability of contraceptive services very positively, which led to the earlier fertility decline in China's urban area. By the early 1970s, when the nation-wide family planning programme started, the fertility rate in urban China had already declined to

[2] As these surveys were conducted in small scale, these data could not be used to represent the provincial features of birth reporting, or to infer to the national pattern.
[3] These surveys include 1992 Fertility Survey (Sample size of 380,000) conducted by the State Family Planning Commission, and 1995 1% National Population Sample Survey, and many surveys at provincial level.
[4] Wang， Guo and claimed that the adjustment made by Chinese government on TFR may cause misleading. Papers presented at Shanghai Forum organized by Fudan University in May 2008.
[5] For example, In Chinese Government Directive issued in March 2000 and December 2006, it just simply indicates that China's fertility is below 'replacement level'. See also Yu Xuejun & Xie Zhenming eds. *China's Population Development Review*, P. 41-43，Beijing: People's Publishing House, 2000.

around the replacement level. In other words, urban fertility transition is somewhat at least 10 years ahead of the rural one.

The reproductive behaviour has continued to be differentiated between China's rural and urban population, which could be mainly attributed to the factors linked to differential policy measures and socioeconomic settings. At present, while "one child per couple" is a common practice in Chinese cities, "two children per family" is the general phenomenon in China's countryside. The average total fertility rate for China's urban population as a whole is around 1.1-1.2 at present. In some large cities, such as Shanghai, the TFR has remained below 1 for many years[6].

There are always marked regional variations in fertility level among China's provincial units, but the gap has been narrowing in the recent years. This phenomenon is clearly associated with the different paths of fertility transition among China's provincial units. While big municipalities such as Shanghai and Beijing began their fertility decline as early as in the middle 1960s, fertility transition only started in 1980s in some of the western provinces. Even with this regional variation, it seems clear that there has been a general trend of fertility convergence over time, which is evidenced by the decline of the fertility variance among provinces[7].

Figure 2 about here

Fertility levels remain quite different among ethnic population groups. As birth control has long been vigorously implemented among the majority of the Han population, family planning programme has just started its formation for some minority nationalities (such as Tibetan population). Among China's 55 minority groups, the fertility levels of Korean and Manchurian women were very low, but were the highest among some Muslin nationalities such as the Uygurs and Kazaks. The relative high fertility is one of the main causes that resulting in the increased share of China's minority population among the total population.

[6] The TFR in Shanghai was 0.96（2000）, 0.79（2001）， 0.77（2002）， 0.64（2003）， 0.88（2004）， 0.87（2005）， 0.81（2006）， 0.95（2007）.

[7] Based on population censuses, the standard deviation of provincial TFR was 0.62 and 0.59 for 1990 and 2000 respectively, while the range declined from 2.89 in 1990 to 2.68 in 2000. All calculations exclude Tibet as there is no numerical family planning regulation.

II. The role of government population policy and programme

China's general population policy at present can be described as "maintaining the below-replacement fertility, taking comprehensive measures to cope with China's population problems", including controlling population quantity, improving the quality of life, and making efforts to solve aging problem[8]. The family planning programme is the core of China's national population programme, which is mainly managed by the State Population and Family Planning Commission with support from other government agencies and various NGOs such as China Family Planning Association and All-China Women's Federation etc.

The success of China's birth control has for a long time been heavily dependent on government administrative intervention. The programme was initialised at the first instance by the central government and carried out through a top-down administrative network. Since later 1980s, a target responsibility system has been established. The system requires that the heads of Party organisations and governments at all levels take the full responsibility for implementing the population programme, through comprehensive management and co-operation between governmental departments and non-governmental organisations, and between different development policies and programmes. It aims to ensure the fulfilment of the population growth plan that is set up for each locality. Meanwhile, individual cadres' career development and promotion would be closely affected by their achievements in family planning work. Among the evaluation mechanism of carders performance, the so-called "Veto power of birth control" is one of the very important ones[9].

The basic principles of the family planning programme are "to promote late marriage and deferred childbearing, to encourage people to have fewer but healthier births, to promote the practice of 'one child per couple' and to encourage a longer birth spacing for couples who have practical difficulties if they only have one child." The current family planning policy took the original form in the middle 1980s, and further improvements have always been a topic for internal discussion over the last two decades.

[8] See the recent government document issued in December 2006 which can be found in: http://news.xinhuanet.com/politics/2007-01/22/content_5637713.htm

[9] The veto power of birth control was reaffirmed in December 2006 government document.

This debate becomes a serious one in more recent years, even though the Government repeats the confirmation of 'keeping the family planning policy stable' each year and stated in the CCCP's documents of the seventeenth plenary congress.

One of the salient features of China's family planning programme is its decentralised policy formation and operation. It is the local governments, primarily at the provincial level that are responsible for the formulating and implementation of the programme, under the general guidance from the central government[10]. In other words, local authorities have been given some flexibility in adapting the national policy in order to accommodate the vast regional differentials in social, economic and cultural conditions. As a result, the current family planning regulations can be grouped into five major categories[11]. (Table 1)

Table 1: Comparison of Various Local Family Planning Regulations, 1990s

Group	Major Policy Regulations	Coverage
1	One child with very few exceptions in allowing couples to have two children	All urban residents and rural couples in Jiangsu and a few other provinces
2	Two children if the first one is a girl (1.5 child policy)	Most rural couples in 19 provinces
3	Two children with a four-year spacing	Farmers in 6 provinces and autonomous regions
4	Two or three children	Minorities in the rural areas of minority autonomous regions
5	No numerical regulation	Rural Tibetan population

Sources: Details of provincial family planning regulations are available at www.cpirc.org.cn (accessed 15 Aug. 2002).

[10] Actually, it is the local People's Congress, the Chinese Parliament, that with the authority in drafting local family planning regulations and making it a local legal document.

[11] Detailed discussion of the issue could be seen in Xie Zhenming, 'Population Policy and the Family Planning Programme', in Peng Xizhe and Guo Zhigang (eds.), *The Changing Population of China*, pp.54-55, Oxford: Blackwell Publishers, 2000.

In general, the rigid one child policy is implemented mainly in urban area and majority of China's farmer' families can have 1.5 to 2 children while minority families are entitled to have even more children. Based on population distribution in 2000, Guo and his colleagues estimated that the one-child, 1.5 child, 2 children and 3 children policies were implemented among 35.4%, 53.6%, 9.7% and 1.3% of China's population respectively[12]. In other words, if all Chinese couples follow local family planning regulations, the total cohort fertility rate in China should be 1.62 in 1990s[13]. The figure declined to around 1.5 as more Chinese become urban residents.

The complex policy reflects the greatly varied economic and social realities in different Chinese regions. Furthermore, the differential local policy is a compromise between the central guidance on population control and the local situation, both in terms of socio-economic development and the political commitment of the local government. Chinese farmer families can have two children in general, which is rationalized by the factor that farmer families depend on strong labour for agricultural production and family support (primarily support by married son(s)) for older age security, as there is almost no well-functioned government sponsored pension system operating for Chinese farmers. The success of the family planning programme relies on local government commitment, affected by local socioeconomic conditions and influenced by the persistence of local traditional culture, etc.

Financial incentive and disincentive measures have been widely used in the programme. Since 1991, the political commitment to population control has been reaffirmed and the mass is widely mobilised once again[14]. As a positive result of these commitments, financial input for family planning has increased steadily. More personnel have been recruited and trained to work in the family planning programme. The quality of birth control services has to some extent been improved. Moreover, the government requires that relevant social and economic policies should be in compliance with the

[12] Guo Zhigang et al, "Diversity of China's Fertility Policy by Policy Fertility", Population Research, No.9, September, 2003 (in Chinese)

[13] This is refereed as the policy fertility, which is a weighted average assuming reproductive behaviours of all couples in different locations and of different nationalities following the local government family planning regulations. The figure was calculated by the State Family Planning Commission in early 1990s based on demographic structural pattern (rural-urban, Han-minority, etc.) that was prevailed at that time.

[14] Such as the fully implementation of family planning responsibility system, the start of the annual conference on population and family planning work which is held during the time of the annual national

population policy. These measures worked effectively in terms of public awareness and the implementation of population programmes, and played an important role in facilitating fertility decline in the 1990s.

Along with the strong government commitment, the programme has now put more emphases on people's volunteer participation. Couples are expected to, under the general guidance of government population policies, make autonomous decisions regarding the methods of contraception, birth interval and other reproductive health matters. Efforts have been made to promote education and information dissemination, and on provision of better, continuous and regular contraceptive service. Moreover, family planning programme has extended to other fields relevant to people's daily life in order to attract wide voluntary participation. Various experimental projects relating family planning programme with women's empowerment and community development have also been carried out. Many of them are supported by international organisations such as the Ford Foundation and UNFPA. In more recent years, more attention has been paid to the provision of social welfare to the rural elderly who followed up the government family planning regulation in the past[15].

As other mass programmes, there are shortcomings in China's family planning programme. China's family planning programme is heavily reliant on female contraceptive methods[16]. The local family planning policies to some extent institutionalise the traditional patriarchal ideas and son preference, as many provinces allowing rural couples have two children if the first child is a daughter. The programme has been promoted for a long time with relatively little support from other socio-economic institutions, so that it has been mainly implemented through government administrative network. The programme requires couples to reduce the number of children they produce, but is unable by it itself to provide adequate social support for people to adjust their strategy for family formation and necessary compensation for couples to alleviate life risks in the context of low fertility. The later task is certainly beyond the capacity of the family planning programme.

People's Congress in March, and participated by all central and provincial top leaders.

[15] The Chinese government has provided, beginning from March 2004, financial reward to farmers 60 years of age and older who had not violated family planning policies in the past. Some details of the programme can be found in http://www.chinapop.gov.cn/jlfzsd/xgwj/t20050610_23125.htm.

[16] According to government statistics, male methods accounted for only 14.7 and 13.1 pert cent of total contraception in 1994 and 1999 respectively.

Punitive packages, in some cases turning into serious coercive actions, were widely used particularly in the 1980s by local cadres, despite the government emphasis on Mass Line and against coercion in general[17]. Levying fines become one of the causes of social tension between cadres and the public especially in the rural areas. The issue of reproductive rights has become a topic in China's policy formation since middle 1990s after the Cairo International Conference on Population and Development. However, the relationship between societal interests and individual rights remains an area that needs to be improved.

In spite of all the shortcomings, China's family planning programme has been supported in large by the public. On the whole, it has brought about dramatic changes in people's fertility behaviour in a relatively short period, and successfully slowed down the rapid population growth in China, which also has profound impact on the stabilisation of the world population. There should be no technical difficult for China's to reach its population target. Research and production of contraceptive devices have always been put at a very favourable position. The deepened involvement of China into globalisation of world economy may further facilitate the introduction of new and more effective birth control methods and new thinks of the role of the government in intervention of people's reproductive matters as well.

III. Factors that affecting fertility variations

As discussed in the previous section, the government commitment and population programme are major determinants of China's rapid fertility decline. However, given the characteristics of China's fertility transition, two other factors, the socio-economic development, and reproductive culture, must be taken into consideration in any analysis of the past and future fertility trend in China. China's fertility transition is a process of diffusion: it started from some developed regions and urban centres, and then diffused to other parts of China. There are always marked regional variations in fertility patterns, both in terms of the absolute level and the path of change.

[17] For instance, the State Family Planning Commission issued a "notice" listing 'Seven Don't" in 1995 to prevent harsh treatments to those who violated birth planning regulations. See E. Winckler, Chinese Reproductive Policy at the Turn of the Millennium: Dynamic Stability, *Population and Development Review*, Vol. 28, No. 3, pp. 379-418

Based on our understanding of the fertility transition, relevant socio-economic indicators are chosen and conventional statistical analysis is carried out. Results from table 2 reveal that the general relationships between fertility level and selected socio-economic variables are maintained. It means that the general development level is negatively correlated with the fertility level. Figure 3 is just an example of such close relations.

Table 2. Correlation Coefficients between TFR and selected socio-economic variables

Variables	1980s	1995	1997-99
Per Capita GDP	-0.61	-0.74	-0.601
Proportion of Urban Population	-0.57	-0.71	-0.513
Per Capita Consumption	-0.55	-0.69	-0.569
Policy TFR	0.76	0.69	0.792
Female late Marriage Rate	-0.55	-0.19	-0.193
Female Contraceptive Prevalence	-0.81	-0.23	-0.334
Female Illiterate Rate	0.56	0.60	0.713

Data Source: 1. China Statistics Yearbook, selected years, 2. China Population Statistics Yearbook selected years, 3. China Family Planning Yearbook selected years

Figure 3 about here

On the whole, the government population policy and programme (indicated by Policy TFR) and general level of socio-economic development (represented by Per Capita GDP and Consumption, and Proportion of Urban Population etc.) are the most crucial determinants of China's regional fertility variation.

In order to assess the relative importance of independent variables, step-wise regression method is employed, which results in a simplified regression model for the 1990s:

$Y=1.090-0.017X_1+0.923X_2$

$R^2=0.723$，$F=33.95$，$\beta X_1=0.486$，$\beta X_2=-0.538$

Y：TFR in 2000

X_1：Per Capita Consumption, X_2：Policy TFR

The two variables used in the equation are Policy TFR and the Per Capita Consumption. They could explain 72.3 per cent of regional fertility variations.

The variable of Policy TFR reflects both the government commitment on population control and the population composition including ethnic and rural-urban difference, while the variable of Per Capita Consumption indicates the general economic development level. This analysis is consistent with findings by some other researches, which show that both government family planning programme and the socioeconomic development are closely associated with China's regional pattern of fertility transition. Higher level of social and economic development is an explanation for lower fertility rates in China's provinces[18].

At the family and individual level, profound changes in people's marriage and reproductive norms have been occurring over the last several decades. The traditional pattern of universal marriage is undergoing a gradual shift. The average age at first marriage for China as a whole increased from 22.23 years in 1990 to 23.14 years in 2000, a 0.91 year rise during a ten-year period. The trend of delaying marriage is more visible in big cities. It reported that the average age at first marriage for women in Beijing was 26.30 years in 1990, and 28.83 years in 2000 increased by 2.53 years, while the marriage age for men increased by 3.27 years[19]. Such a trend will continue as the "single-child" cohort is reaching the marriageable age. In big cities, to help or persuade women who are well-educated, with high salary and social positions, to get married has become a hot public topic not only within the family, but also in the media including internet. Economic independence and high opportunity cost of marriage and childbearing are some of the causes behind the trend.

Small family size has become a social norm not only in urban areas but also in China's countryside. Based on a 2002 national survey, the average desired family size (number of children) was 2.05 for China as a whole, with only 17.3% of interviewees desiring 3 or more children if there were no family planning regulations[20]. Among listed

[18] See for example, Dudley L. Poston, Social and Economic Development and the Fertility Transitions in Mainland China and Taiwan, Population and Development Review, Vol. 26, Supplement: Population and Economic Changes in East Asia. (2000), pp. 40-60.

[19] See Huang Rongqing, "The impact of population change on elementary education in Beijing", *Market and Population Research*, 12(3):57-60 (in Chinese)

[20] Chen Shengli and Zhang Sikuan (eds.), Research on Marriage and Fertility Desire: 2002 urban and rural

reasons for child-bearing are: family continuation (35%), economic consideration particularly old-age support (22.4%), emotional need (19.9%), social responsibility (11.5%) and so on. Many other case-studies support this finding[21].

One of the salient demographic phenomenons nowadays is the large-scale rural urban migration. It is estimated that more than 140 million farmers are away from their villages and working in cities and eastern regions. An overwhelming majority of them are young labours aged 20-40 years old. With the time passing, more and more young migrants settled down in urban areas but retained their farmer status, so as to keep their entitlement of childbearing. Researches show that the fertility level of these migrants is commonly lower than their peers in the countryside, but higher than their urban colleagues. The increased economic opportunity cost is certainly one of the major explanations for this behaviour change, as the primary motivation for them to work in cities is to earn higher income. We do not know whether these migrants will shift back to their original reproductive desire in the future. However, the huge economic opportunities created by China's economic reform have certainly contributed to the continued fertility decline in China since the 1990s, or at least delayed childbearing of these rural migrants[22].

It is interesting to note that nowadays fewer young couples want the second child even if they are entitled to do so based on local family planning regulations. In Jiangsu province, only less than 30 per cent of rural families that are entitled to have two children are actually giving birth to the second child[23]. Much more attention is put on the couple's own life, and increased cost of child rearing is another commonly cited reason for stopping childbearing. Another study using national survey reveals a similar message. 57 per cent of all 39585 interviewed women prefer to have two children and 35 per cent

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population's fertility desire, China Population Publishing House, 2003. (in Chinese)

[21] Such as Liu Shuang's study on Yicheng county of Shanxi province, and Wang Jinying's research on Chengde of Hebei province, presentations at the Workshop on China's Population Policy, 23 May, 2008, Shanghai, orgainsed by Fudan University.

[22] Schultz and Zeng Yi's work supported the hypothesis that institutional reform increased the economic cost of childbearing, and discouraged and delayed childbearing among rural Chinese. See Schltz, TP and Zeng Yi, The impact of institutional reform from 1979 through 1987 on fertility in rural China, China Economic Review, 1999, 10, pp.141-160 .

[23] Zheng Zhenzhen, "Findings from fertility desire and reproductive behavior survey in Jiangsu". Paper presented at the Shanghai Forum, 26 May 2008.

prefer one child. The preferred number decreased with age and higher education and is lower among urban women[24].

IV. Socioeconomic impact of fertility transition

At the launch of the so-called "One-Child-Policy", the intention was made clear that this should be a policy measure for a period of only 20 to 30 years[25]. After more than 20 years of implementation, it has met its primary objective of slowing down China's population growth. It is estimated that China could now have 400 million more people if no family planning programme was carried out over the past four decades. On the other hand, there are also profound socio-economic and demographic consequences. Current policy debates have concentrated on these issues.

China entered the so-call "aged society" in 2000, when 7 per cent of Chinese population, or 88.11 million in number, were aged 65 years or older. This is a historical moment in China's history.[26] The total elderly population (aged 65+) increased up to 100.45 million in 2005, occupying 7.69 per cent of the overall population, an increment of 13.58 million over this five-year period. The number is expected to increase continuously and will reach the peak in the middle 21st century.

An aging population has long been a major challenge faced by many cities and the wealthier rural areas in the eastern region. Shanghai became an "aged city" in 1979 and 13 per cent of the city population is 65 and above at present. On the other hand, Qinghai province is projected to enter the aged society in as late as 2014. Regional variations in population aging are very similar to the regional variations in current fertility, indicating that the differentiated aging process is mainly caused by the pattern of fertility decline.

In general, the Chinese society is not fully prepared for the aging process both in terms of social awareness and socioeconomic institutional arrangements. By mid-2005, China's urban pension system only covered a total population of 168.68million, including

[24] Qu Jian Ding and Therese Hesketh (2006), "Family size, fertility preference, and sex ratio in China in the era of the one child family policy: results from national family planning and reproductive health survey", BMJ Vol 333 19 August.
[25] See *Guanyu kongzhi woguo renkou zengzhang wenti zhi quanti gongchan dangyuan, gongqing tuanyuan de gongkaixin* (An Open Letter to All Members of the Communist Party and Communist Youth League), Central Committee of Chinese Communist Party, 25 Sep. 1980.
[26] National Bureau of Statistics of the People's Republic of China, *Communiqué on Major Figures of the 2000 Population Census*, no. 1, 28 Mar. 2001.

about 42 million pensioners and 125 million employees who contribute to the pension fund. Only 30 per cent of all urban residents, or 15 per cent of all employees, were covered by the program, far less than the world average.

The soaring number of senior citizens has put a severe strain on China's social security, medical care and the social service sector. China's urban pension system has carried out many reforms over the last decade and a multiplier system is gradually in shape. However, it is still a pay-as-you-go system in general and fragmented one. The total annual net input from China's Government revenue into urban pension fund to balance the system amounted to 52.4 billion Yuan in 2004, and the accumulated input reached 170 billion between 1998 and 2005. There is a total deficit of 2.5 trillion Yuan in China's urban pension system if all current notional individual pension accounts become real ones. The estimated ratio of implicit pension debt (IPD) to national GDP would range from 80.8 percent to 145.4 per cent, based on different assumptions of the discount rate used in simulations[27]. The decline of support ratios (working-age population to elderly population) indicates that to provide sufficient economic resources to meet the need of ever increased elderly population will be a great challenge faced by the Chinese society and the government.

The aging issue is much more complicated in China's countryside. There is very limited social welfare provision to the rural elderly, such as "five-guarantee" system and poverty relief subsidies. On the whole, the elderly farmers in China are still depending on their families, particularly their sons, to provide old age support both in terms of finance and service provision. Furthermore, large scale rural-urban migration, featured by millions of young people moving out, has worsened the old-age support arrangement in China's rural area.

Abnormal sex ratio at birth is another issue linked to China's fertility transition. Researchers in the late 1980s attributed the situation mainly to misreporting of female births[28]. However, after more than 20 years research, it is clear that the abnormality was real and pre-birth selective abortion in favour of boys was the primary cause. The

[27] For example, see: Yan Wang et al, Implicit pension debt, transition cost, options, and impact of China's pension reform, Policy Research Working Paper 2555, The World Bank, 2001.

[28] For example, Zeng Yi, et al., "Causes and Implications of the Recent Increase in the Reported Sex Ratio at Birth in China," *Population and Development Review* 19, no.2 (1993): 283-302.

situation has worsened over the years despite government efforts to cope with the matter. The ratio was 108.5 in 1982 and 110.9 in 1987. It was reported that in 2005 for every 100 new-born girls, there were 124 boys, compared to 119.92 in 2000 and 111.42 in 1990.

Some blamed the rigid implementation of the family planning programme as the major cause. Indeed, there is some kind of relationship between the fertility level and abnormality of sex ratio at birth. Provinces with a normal or slightly higher sex ratio at birth actually belong to two groups. The sex ratio at birth is at normal range in provinces and autonomous regions with large concentration of minority population and relaxed family planning regulations. In low fertility regions, the sex ratio at birth is slightly higher than the normal level. The most serious problem is occurring in the provinces/regions located in the central part of China where 1.5 to 2 children per family is the common family planning regulation for rural couples. However, scholars also argue that similar abnormality can be found in South Korea and India with very different family planning programmes.[29]

The issue is deeply rooted in Chinese traditional culture and related to the special stage of socioeconomic development. Son preference has its rational particularly with the current old age security in China's countryside. The government has applied rigid policy measures to fight against the problem, including serious crackdown on illegal sex identification. Sex identification of the fetus or sex-selective pregnancy termination for non-medical purpose is strictly forbidden and medical personnel involved in this wrong conduct will be seriously penalized[30]. Programmes such as "care for girls project", "Happiness Project" and the "Spring-bud Programme" have been carried out to promote gender equality. The government's target is to balance the currently unbalanced sex ratio in 2010. It is not an easy job.

A marriage squeeze is expected by a thorough study on China's population development strategy. It is estimated that there will be 30 million more men than women

[29] See for example, Chai Bin Park and Nam-Hoon Cho, "Consequences of Son Preference in a Low-fertility Society: Imbalance of Sex Ratio at Birth in Korea," *Population and Development Review* 21, no. 1 (1995): 59-84.

[30] Regulations, including heavy penalties, have been set up in many provinces/regions to prevent medical doctors from using ultrasound machines to identify the sex of the foetus. See for example, http://sdrd.sd-china.com/zfjd/400012 (accessed 23 Nov. 2002).

in the age groups of 25-40 by the year of 2025[31]. The Chinese society has to cope with the problem seriously regardless the cause of the problem.

There are some other consequences caused by or closely linked to China's population programme. The different paths of fertility transition have resulted in the varied regional patterns of labour force supply, which is one of the major causes of large-scale labour migration from rural to urban, and from inland provinces to coastal regions. By the early 21st century, the cohort of 'Single Child' has amounted to more than 100 million. This cohort has many unique characteristics that will have profound effects on China's future socioeconomic development, societal and family structure, and even political reform.

V. Future perspectives

In March 2000, the Chinese government issued a directive to reaffirm its commitment to population control[32]. Seven years later, a new document has been publicized calling for the continuous efforts in China's population struggle[33]. Stabilizing the low fertility level is viewed as a primary task for population and family planning programme in the new era, and the 11th Five-Year Plan Period is regarded as the critical time for fulfilling this task. It seems certain that the Chinese government will maintain its commitment to population control, and will make every effort to make the present population policy more or less in effect so as to achieve its population target in the 21st century. The 2007 Statement pledged to keep the nation's population under 1.36 billion by 2010 and under 1.45 billion by 2020. The population annual increase rate in China is expected to maintain at a low level, but the absolute number of the increase will stand at 8 to 10 million people every year for the next 20 or more years.

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[31] See: Jiang Zhenghua et al (eds.), *the National Population Development Strategy Report*, published by China's Population Publishing House, Beijing 2007.

[32] "Decision on Strengthening Population and Family Planning Work, Maintaining low Fertility", Directive issued by CCCP and the State Council, 2nd March 2000.

33 "Decision of the Central Committee of the Communist Party of China and the State Council on Fully Enhancing Population and Family Planning Programme and Comprehensively Addressing Population Issues" , 17 January, 2007, http://www.npfpc.gov.cn/en/en2007-01/news20070124.htm.

Given China's current socio-political settings, the government population policy will decide the basic level of China's fertility for the coming years. The deviation from this line will be determined jointly by the government's capacity in enforcing its population policy and programme, the societal change caused by China's social, economic and political reform, and people's general desire for family size.

Family planning is first and foremost a rural issue in China . Even after more than 30-years' rural reform, an extra child means not only an extra helping hand to a rural household in sharing the agricultural workload in the field and raising farm productivity, but also an extra caregiver and provider for the parents in old age. To promote the family planning policy in rural areas, a subsidised pension programme to reward parents with only one child or two girls, has begun its implementation since 2004. The system provides a pension-like subsidy of no less than 600 RMB Yuan ($75) each year to rural parents aged 60 and older who have only one child, or have two daughters. After initial experiments, the programme has become a national one with the local governments at rich regions taking more financial responsibilities. This is also an incentive for younger parents to exercise birth control. This programme is one of the initiatives to establish a comprehensive social security system for millions of Chinese farmers.

The population issue is an important component of the government's functions of public management and social services. It is required that the fiscal input into population and family planning programmes should increase at a rate greater than the increase of current fiscal revenues, so as to guarantee the fund availability for implementation of family planning programme and other social support and preferential measures. Hence, per capita annual fiscal input into population and family planning programme at all levels shall reach RMB 30 Yuan per capita[34]. Efforts have also been made to effectively improve the development of a grassroots-focused Reproductive-health and family planning service delivery system. Reproductive health and reproductive right were introduced to China in middle 1990s and have been widely publicised and become well-know terms in China.

Meanwhile, people's volunteer participation and free determination will play much more important roles in determining the future fertility level in China. While the society

interests remain as the major rational for China's population policy and programme, individual's rights get more attention. There have always been gaps between the targets of the programme and public acceptance, but the gaps reduced with the time passing. Small family norm has been widely accepted by the public, especially in those advanced regions and among the young generation.

There are ever-rising concerns about the negative effects of very low fertility and debate on modification of China's family planning regulations has been intensive in recent years. At the government side, there is the fear of the vulnerability of China's fertility transition and the possibility of fertility rebound if the government, either voluntarily or forced to, loses control on population issues. China's increased demands for food and energy, and the environment pressure from large population are some of the main evidences used in favour of keeping the current population policy unchanged.

On the other hand, scholars argue that current fertility in China has already been too low and will not be able to recover if the population policy dose not modified quite soon[35]. The experiences of European and Eastern Asian countries to reverse the low fertility are often cited to support the quick action proposal to relax the birth control. There is a fear that China may suffer from a low fertility trap. Changes in marriage and family norms among the young generation, especially among the single-child cohort have already attracted wide attention of the society. Options for possible policy changes have been suggested by researchers[36]. One of the crucial issues is to figure out the real fertility level in China at present.

It seems most likely that China's official population policy will maintain in effect over the next few years while local modifications on family planning regulations can be expected. 'Two Children Per Family' will finally replace the present family planning policy. Meanwhile, reproductive behaviour of young Chinese, especially those urban residents, will continue to change towards the one similar to that prevailed in Japan and other European countries. Whether future Chinese youngsters would like to take the two children family as a universally practised family pattern in China remains questionable.

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[34] Listed in government document, see http://www.npfpc.gov.cn/en/en2007-01/news20070124.htm.
[35] Wang Feng, Can China afford to continue its one-child policy? Asia Pacific Issues 77, pp.1-12, 2005
[36] See for example, Zeng Yi, "Options for fertility policy transition in China", *Population and Development Review*, Vol. 33, pp. 215-246, and also *the National Population Development Strategy Report*, published by China's Population Publishing House, 2007.

China's population aging process will inevitably speed up in the coming future, and dealing with the aging problem will become one of the most challengeable public policy issues facing the Chinese government and the society as well. These demographic changes will in consequence restructure China's economy and social institutions, and extend their impacts to the international scale.

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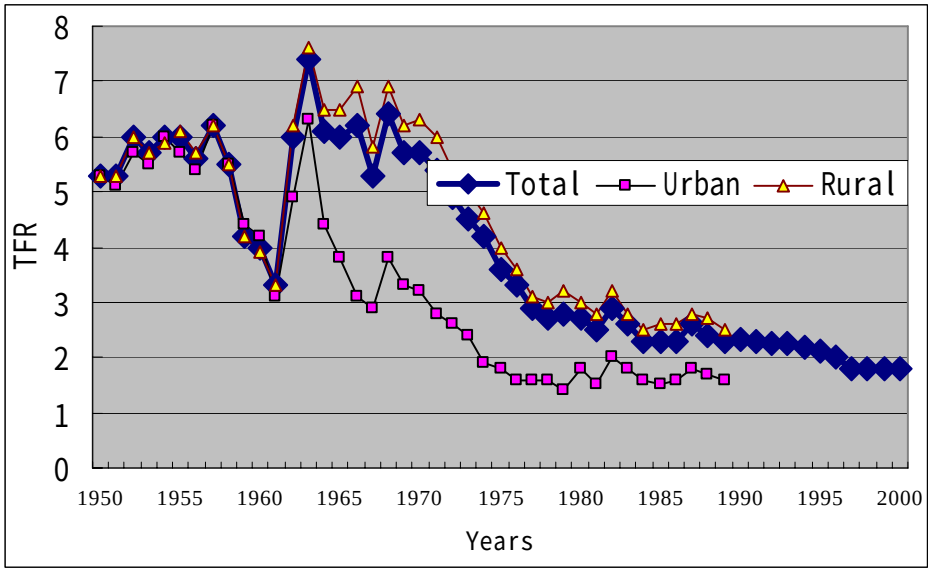
Useful website:

State Population and Family Planning Commission of PRC, website: http://www.chinapop.gov.cn

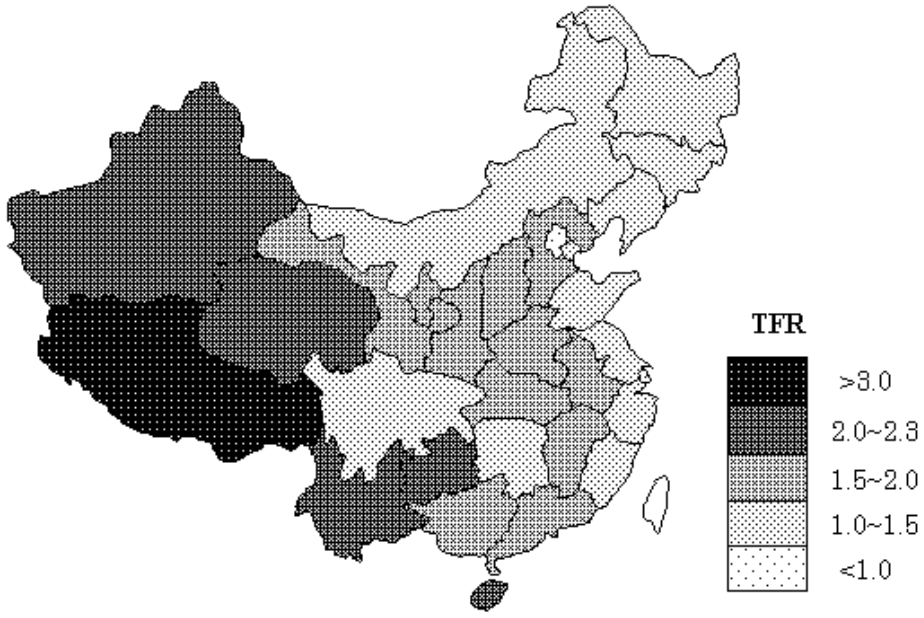
China Population Information Network, website: http://www.cpirc.org.cn

Figure 1. Fertility Trend in China, 1950-2000



Source: Peng, Xizhe and Guo Zhigang, 2000

Figure 2 Provincial Fertility Pattern in China, 1997-1999



Note: Based on estimation by China's State Family Planning Commission.
Data for Taiwan, Hongkong and Macao are not included.

Figure 3. Relationship Between Fertility Level and Economic Development