

From Aging Process to Aging Problem: Will China Confront the Most Serious Aging Problems in the World in the New Century?

Short abstract

This paper will start by comparison of the level and the speed of aging process between China and other countries in the world. The data show that the level of aging in China will not be as high as that of most developed countries, but the speed of aging will be among the fastest one in the world in the first half of the century. Putting the aging process into socioeconomic, institutional, and cultural context, compared with other countries, China is under less developed level in economy, worse health status of their people, smaller number of the people secured by social security, faster shrink of number of children as the sources of family support and care of the elderly, and more unconscious and unprepared settings for couple's old life due to lack of family support which caused by forced family planning. Such factors will be compared through empirical analysis.

The extended abstract

In the early of the 21st century, Chinese people are confronting challenges of two sharp transitions: the transition of age structure toward aging mainly caused by the effective family planning program and the transition of socioeconomic institutions from traditional planned economic system into the market economic system. The first transition has led to the sharp decrease of the number of children, who will be the key sources of the family support of the elderly. The second transition has led to the breakdown of the old social security system. The objectives of this paper is to explore the potential hardness and difficulties, caused by the sharp transition of the age and family structures, i.e. population aging, and the sharp transition of social institution, that China and its people will confront in the early of the new century.

The coming hardness of the aging problems in China is attributed to five exclusive components:

1) The fast aging process.

China's fertility rate has been decreasing for 40 years. In 1963, right after the economic crisis of 1959-1961, the total fertility rate (TFR) reached its peak of 7.5, and began decreasing afterwards with some fluctuations. Since the early 1970s, China has universally implemented a family planning program. Initially, the policy-required number of births for couples was approximately two. Despite the fact that this limitation was not strictly enforced, fertility declined drastically. Within only 10 years, the total fertility rate (TFR) decreased from 5.8 in 1970 to 2.2 in 1980. In 1980, the government released a new policy, requiring people in both urban and rural areas to have only one child. By the year 2000, the TFR had decreased to 1.6¹, which approached the average level of 1.5 existing in developed countries. At the same time, life expectancies were also increasing, from 61.0 years for males and 61.4 years for females in 1963 (Qiao 2001) to 70.7 years

¹ This result was adjusted upward based on 2000 Chinese Population Census. As a matter of fact, the direct result of TFR calculated by the census data was only 1.22.

for males and 74.4 for females in 2000². The dramatic fertility and mortality declines at the end of the 20th century imply that sharp changes of age and family structure will occur in the first half of the 21st century.

I conducted a population projection shown at Table 1. From the result of the projection we can find that the total number of elderly population aged 65 and over will increase from 88 million in 2000 to 316 million in 2055, and the proportion will increase from 7% in 2000 to 29% in 2060. Such changing of age structure means that after struggling with the pressure of a huge number of population issues in the 20th century, China will begin to struggle with serious aging issues following the sharp decline of the fertility rate produced by the effective governmental family planning movement.

Table1. Trends of Age Structure in China 1964-2060

Year	Population	Number (Million)			Proportion (%)			Median age	Dependency Ratio of the Elderly (%)
		Under 15	15-64	65+	Under 15	15-64	65+		
Census Results									
1964	689.7	280.7	384.5	24.6	40.7	55.7	3.6	20.4	6.4
1982	1003.9	337.3	617.4	49.3	33.6	61.5	4.9	22.7	8.0
1990	1130.5	313.0	754.5	63.0	27.7	66.7	5.6	25.3	8.3
1995	1207.8	317.4	815.3	75.0	26.3	67.5	6.2	27.7	9.2
2000	1265.8	289.8	887.9	88.1	22.9	70.1	7.0	30.9	9.9
Population Projection									
2005	1304.3	245.5	957.4	101.4	18.8	73.4	7.8	33.3	10.6
2010	1338.0	238.5	989.0	110.5	17.8	73.9	8.3	35.6	11.2
2015	1364.5	252.0	983.9	128.6	18.5	72.1	9.4	37.1	13.1
2020	1372.1	239.2	973.8	159.2	17.4	71.0	11.6	38.8	16.4
2025	1363.3	215.1	968.9	179.3	15.8	71.1	13.2	40.8	18.5
2030	1346.6	191.4	939.6	215.5	14.2	69.8	16.0	43.0	22.9
2035	1323.0	181.3	884.1	257.6	13.7	66.8	19.5	45.2	29.1
2040	1290.4	178.5	828.8	283.1	13.8	64.2	21.9	46.2	34.2

² The life expectancies in 2000 (from October 1st 1999 to September 30th 2000) were calculated directly from the data of the 2000 Population Census without any adjustment to the data.

2045	1248.8	170.2	793.2	285.3	13.6	63.5	22.8	46.4	36.0
2050	1199.1	155.0	752.2	291.8	12.9	62.7	24.3	46.9	38.8
2055	1147.2	139.2	691.2	316.8	12.1	60.2	27.6	47.9	45.8
2060	1098.5	127.7	655.7	315.2	11.6	59.7	28.7	49.0	48.1

Note: The 1964, 1982, and 1990 census data came from the BASIC DATA OF CHINA'S POPULATION, edited by Yao, Xinwu and Hua Yin, China Population Press, p.132; The 1995 data came from 1995 National One Percent Population Survey; The 2000 data came from the China Fifth Population Census.

2) Lack of social security

China pension system started from the early 1950s. Such pension system corresponded to the old institution, the planned economy. Such general pension system produced a positive effect in protecting the normal lives of the elderly in both urban and rural areas at that time. The old system was consistent with the poverty and the less developed economic situations and with the welfare pursuit of the socialist countries. In the old system, the pension was closely affiliated with the enterprises and the government, which was called enterprise and government pension. Changing from the old system to a new system was not caused by the imperfection of the old system, but due to that the old system had no longer adapted the new economic system, the system of market economy, which has been under effect in the entire development in China. The purpose of the pension reform is to separate the enterprises and the government from the burden of the pension. Such underlying idea has been directing the means of the pension reform. The goal of the pension reform is to change the pay-as-you-go system to fully-founded system eventually in urban areas. Because the current old people can still take the pension form the old system supported by the government, and the current young people can benefit from the new system 40 years late. However, the current middle age people who will be retired within the next 40 years will be hard to be supported from both the old and the new systems. Apart from the social security in urban areas, the social security in rural areas has become blank due to the breakdown of the rural collective institution. Now and in next 20 years, there would be at least 60 percent of elderly who are lack of support from social security.

3) Lack of family support

Once the social security is empty and insufficient, as Chinese tradition, the elderly will rely on their children in old security. However, the current middle aged people have less number of children then current elderly

Corresponding to the steps of the change of the age structure in China, the changes of the family structure will also be sharp. Traditionally, in connection with old Chinese socioeconomic system, securing elderly parents in China was the duty of adult children, making the words, "having children for security when getting old," very popular in China. Originally, China was an agricultural country. This means that most people carried out agricultural work and lived in an agricultural system. Since

1949 when China was founded, the few people who lived in urban areas³ could get a pension after they retired. There was no pension or social insurance in rural areas, and most elderly in rural areas had to be solely supported and cared for by their children when they were no longer able to work and take care of themselves. It was crucial for couples to have more children, especially sons, to secure their lives when they became elderly. This is why Chinese people have a much stronger desire to have both more children and male children than people in other countries, and why fertility rates were very high before family planning programs were induced in the 1970s. Due to the efforts of the government, the family planning programs were successful. Fertility rates dropped quickly and the average number of children per family decreased dramatically. Because the family planning programs in China started in the early 1970s, the effect of shrinking family size on elderly security has not yet happened, so that serious aging problems have not yet been explicitly manifested. Table 2 shows the average number of children ever born by women in different age groups.

Table 2 Average number of children ever born by age group of women, 2000⁴

Years in 2000	Years reaching to age 65	Average number of children ever born
30-34	2031-2035	1.53
35-39	2026-2030	1.86
40-44	2021-2025	2.04
45-49	2016-2020	2.37
50-54	2011-2015	3.24
55-59	2006-2010	4.02
60-64	2001-2005	4.61

³ The Chinese population was divided into two kinds of population, urban and rural residents, based on the type of household licenses. People who have an urban household license, based on the employment policy, can automatically be given a job by the government and get a pension from the institution they worked for before they retire. In contrast, people who are rural residents are not allowed to work in urban areas, but work in agriculture in rural areas. Once they are unable to work due to old age, they have no pension, and they have to rely on their children.

⁴ The average number of children ever born by women aged less than 50 was calculated based on the 2000 census because only women aged 50 and less were required to answer the question. The remaining averages were based on the 1990 census due to the question asked to women aged 64 and less. In addition, the average number of children ever born for women age 30-34 can almost represent the complete fertility rate because 98 percent of women had finished childbearing before age 30 based on the result of the 1997 National Population and Reproductive Health Survey.

65-69	1996-2000	5.04
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Source: The data comes from both 1990 and 2000 censuses.

The current average number of children⁵ for the elderly women aged 65 to 69, the youngest elderly, was around five; women who reach age 65 from 2001 to 2010 still have over four children, on average, available to support and care for them. We find that the number of children declines very quickly as the age of women decrease. The women who reach age 65 after 2025 will have less than 2 children available, on average, which will decrease by one half the number of children to care for them, compared with the women who reach age 65 before the year 2015. Such change will be so fast that both society and the elderly will not be well prepared for its consequence.

In regards to the support and care for the elderly in China, the Chinese government still emphasizes and advocates family support and care for the elderly. The Law of the Security of the Right of the Elderly was issued by the People's Congress in 1996, and regulated that children have the responsibility for supporting and taking care of their elderly parents. This means that enforcement by Law of the support and care for elderly parents exists without any conditions. However, the challenge is that despite the adult children having a desire to care for their elderly parents, they may not have the ability to do so because of either the diminished number of children to share the burden or fewer available resources.

In terms of the economic support, we have taken the elderly in rural areas as the example because they have no pension and no income once they could not work. Table 3 shows the relationship between the number of children and the amount of income the elderly received from their children and the average amount of support from each child. We can see that the greater the number of children the more the income they have provided by their children, and the less burden each child carries. The differences of the burden were very large between one, two, and three children. If most families had only one child, the elderly parents would receive less income from the child, and the child would carry the entire burden from their parents.

Table 3 The mean income of the elderly from children and mean income provided by each child based on the number of children the elderly have in rural areas (RMB Yuan), 1992

Number of	Mean income	S. D. of income	Number of cases	Mean income
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⁵ For accuracy, we should use the average number of children alive. Because the number of children ever born given at table 2 and the number of children alive were similar, we use the average number of children ever born here instead of the average number of children alive.

children	from children		(elderly age 60+)	received per child
0	0	0	250	0
1	193	290	870	193
2	209	256	1145	105
3	227	282	1517	76
4	243	333	2103	61
5	288	347	1932	58
6	371	536	1301	62
7	386	556	661	55
8	441	562	251	55
9+	391	476	164	41
Total	268	383	10194	

Source: data from the 1992 Survey on China Support System for Elderly

In terms of care for the elderly, by Chinese convention, some children (usually one son) have to live with their elderly parents in order to provide daily care for them. When the parents need more care, all their children have to share the burden, and take care of the elderly parents in turn. However, in most one-child families, if the only child took the obligation to take care of their elderly parents, he or she had to give up the right to pursue life-long promotion, or even give up working. Currently, there are about a hundred million young people in rural areas who left their parents behind and work in urban areas in China. If such a trend holds in the future, the responsibility of taking care of the elderly and the right of working for young people would be in major conflict.

The real situation in the coming years is that the child or the children will be less available to support and take care of their elderly parents due to the decreased number of children in families, and the elderly will get less support. Therefore, the virtue in Chinese tradition of supporting and taking care of their elderly parents will no longer exist following the aging of the parents who are the generation of the one-child policy.

4) Unprepared for aging problem

Even though there are many countries which encouraged the family planning in the world, the decision of family planning or the number of children the couple are going to have were made by couples themselves, so that the couple understand the potential consequence of lowering the number of their children. This means that the couples who limited the number of children have well prepared for their future. In the contrast, the decision of the number of children in each Chinese family is made by the government, rather than couple themselves, so that it is hard for Chinese couples to

realize what they will confront when they are getting old if they cannot deliberate the changing situation. In addition, Chinese elderly have been used to being supported by the government that had experienced for over 50 years. The situation is that the security of the elderly can be automatically provided by the government in urban areas and by their children in rural areas, and that care can be gotten from their own children. The people take such support and care for the elderly for granted. They have never thought and prepared for the coming difficulties that they will face as they age. The sufficiency of personal preparation for self-support can be measured by the proportion of personal savings. We have no such data dealing with middle-aged people. However we have some data dealing with current elderly (see Table 4). Most of the people aged 60-64 were just retired. 47.7 percent of people aged 60-64 in urban areas and only 17.2 percent people in rural areas had savings in 1992. Those who had no savings must rely on the financial support of their children. This means that children are the main supporters for their elderly parents. In other words, because of such large proportions of the elderly with no savings and no other source of support⁶, without support from their children, they could not live.

Table 4 Proportion of elderly who had savings in 1992

Age	Proportion	Standard Error
Urban areas		
60-64	47.72	0.86
65-69	45.61	0.96
70-74	37.47	1.09
75-79	35.66	1.45
80-84	26.98	2.00
Rural areas		
60-64	17.16	0.67
65-69	13.93	0.65
70-74	13.08	0.76
75-79	9.92	0.83

⁶ Chinese elderly have almost no personal properties which could be used for their financial needs when they are getting old, such as apartments, houses, social or commercial insurance, non-working incomes, etc. Relative support was also limited, so the spouse and their children's support are prominent.

80-84	9.35	1.19
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Source: the data comes from the 1992 Survey on China Support System for Elderly

The reform of the health support system in urban areas started in the late 1990s. The purpose of the reform is to eliminate free public health service, which had been provided by the government for long time, and to try to create a health insurance system paid by individuals. This means that retirees have to pay all the expense of health services themselves. In the old system, the government paid most of the expenses of health services through the original working institution of the retirees. In the 1992 National Survey on China Support System for Elderly, a question was asked, “who paid the most of your health expenses of the last year?” The result is in Table 5. We can see that before the reform, most of the expenses of health services were paid by State-owned collective enterprises and administrative institutions. Self-paid expenses were relatively small. During the transition period, enterprises have to pay the expenses of health services for their retirees instead of these expenses being paid by the national government. However, because enterprises have difficulty paying such large amounts of money, 24.4 percent of qualified retirees⁷ expenses for public health services had not been reimbursed by their original working institutions by the end of year 2000. In the early part of the 21st century, the payment of health services by state-owned and collective enterprises and by the administrative institutions will be eliminated, and most of the health expenses will be paid by the elderly themselves. However, the current middle-aged people could not realize that this would happen to them when they retired. The burden they have to bear will be heavy in the future.

Table 5 The Proportion of Those Who Paid Most of the Health Expenses of Retirees in Urban Areas Before Reform of the Public Health Service, 1992

	Supporter	Proportion	Standard Error
Self		10.09	0.35
Spouse		0.54	0.09
Children		1.61	0.15
State-owned enterprise		34.71	0.56
Collective enterprise		14.58	0.42

⁷ This result comes from the 2000 National Urban and Rural Elderly Cross-sectional Survey conducted by the China Aging Research Center.

Administrative	21.16	0.48
Others	1.12	0.12
Unknown	16.2	0.43
Total	100	

Source: the data comes from the 1992 Survey on China Support System for Elderly

5) Worse health status

Compared to the health expectancy with other countries, we found that the unhealthy duration and proportion of Chinese elderly were longer than those of the countries having similar level in economic development. The unfavorable health status of Chinese people, especially the elderly, will lead to the coming aging problems more serious in China than most of other countries with similar situation.

The conclusion of this research is that China will face inevitable and serious aging problems within the 40 or 50 years. Not only have their people but also the government and the society not been well prepared now. The historical experiences have told us that we had already lost the best opportunity in settling the population problems once we found that the problems had already appeared.