SHANGHAI COMING TO GRIP WITH ITS AGING POPULATION PROBLEMS

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Executive Summary

1. Shanghai has experienced a dramatic population transition during the past few decades, from high fertility and high mortality to low fertility and relatively low mortality with a negative natural growth rate.

2. The current total fertility rate (TFR) in Shanghai has reached 1.3, meaning that a couple on average produces 1.3 children. Coupled with a longer life expectancy due to reduced mortality, this below replacement level fertility had led to the serious problem of population aging.

3. By 2007, there were 2.8 million elderly aged 60 and over, accounting for 20.8% of the city's total population, a level similar to many developed nations. The accelerated aging process is expected to continue and reach its peak around 2030. By then, the number of people aged 60 and above is estimated to be 6.6 million or 32.3% of the total population in Shanghai.

4. A major challenge that population aging has brought to Shanghai is that the age and sex structure of Shanghai has been changed dramatically, which has increased the dependency burden of the producing population in Shanghai.

5. To ease the aging process, the Shanghai government has adopted a number of strategies which include building a pension system for both urban and rural dwellers. Institutionalized old-age care and services are established as alternatives to community and family based old-age care systems. The city is also constructing facilities for elderly care and encouraging people to be involved in voluntary services for the elderly.

6. Population policies are under modification as well. Shanghai officials are now pushing for the "two-child" population policy to increase birth rate. This "two-child" policy is applicable to the general population. It is not restricted to couples who are both single children in their families themselves.

7. Policies of selective migration have been implemented to supplement its aging population and to enhance the quality of the workforce in Shanghai. Migration may well be the most effective way to change future demographics of Shanghai.

8. In sum, Shanghai represents the demographic future of many Chinese cities. Population policies undertaken by Shanghai would have significant impacts on national population policies and profound implications for other Chinese cities.

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ZHANG Li*

A Historical Review of Shanghai's Demographic Transition

1.1 With a total population of 18.9 million, Shanghai is the largest city in China. It is now ranked the fifth most populous city in the world after Tokyo, Mexico City, Sao Paolo, and New York City.

1.2 During the past few decades, Shanghai has gone through a dramatic demographic transition from high fertility and relatively high mortality to low fertility and moderately low mortality.

1.3 In the first half of the twentieth century, Shanghai's fertility rate closely resembled the national fertility rate. In 1951, the crude birth rate (CBR) in Shanghai was as high as 45.9 births per 1,000 persons. The crude death rate (CDR) in the same year was 14.1 deaths per 1,000 persons. [1]

1.4 In 1954, Shanghai's crude death rate (CDR) dropped as low as 7 deaths per 1,000 population. As a result, Shanghai's population exploded from 1949 to the late 1950s.[2]

1.5 During the Great Famine (1959-62) following the Great Leap Forward, the TFR of Shanghai and the country as a whole decreased to about 3.0 by 1961.

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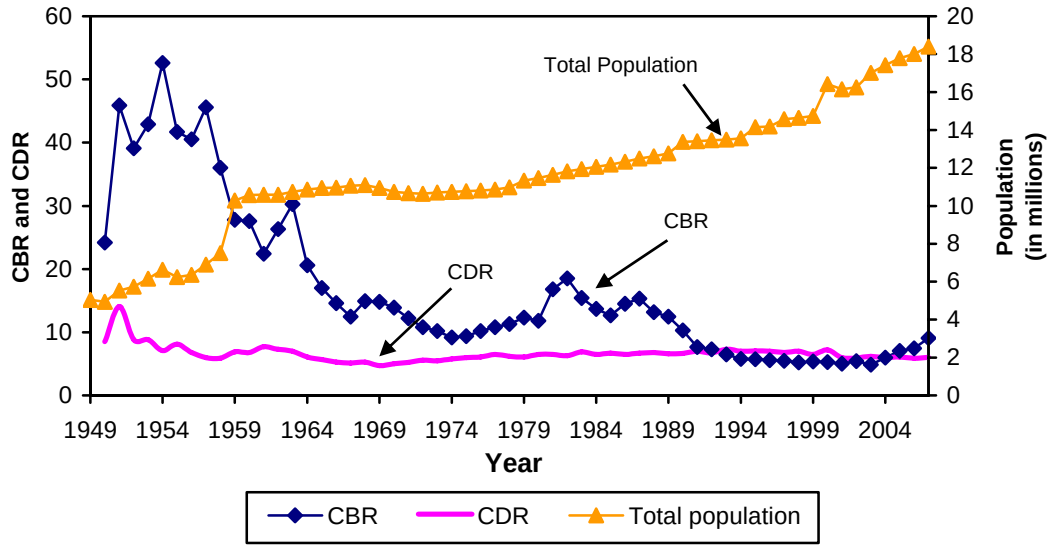
1 China Population Statistics Yearbooks, China Statistics Press.

2 China Population Statistics Yearbooks, China Statistics Press.

Accompanied by moderately declined mortality rates, the population in Shanghai has registered steady growth since the early 1960s.

1.6 Such a steady population growth pattern continued until recent years due to Shanghai's declining fertility rate, especially after China launched the "one-child" policy in the late 1970s. The TFR in Shanghai has reached a level as low as 1.3. Due to fertility and mortality reductions, in 1993, Shanghai for the first time reached negative population growth (NPG). [3] Figure 1 depicts the demographic transition in Shanghai during the past five or so decades.[4]

FIGURE 1 TOTAL POPULATION (IN MILLIONS), CBR AND CDR: SHANGHAI, 1949-2007



Source: China Population Statistics Yearbooks.

Population Aging in Shanghai

2.1 One of the inevitable outcomes of the demographic transition in Shanghai is population aging, a direct result of a rapid decline in fertility coupled with a steady improvement in life expectancy due to moderately reduced mortality.

[3] China Population Statistics Yearbooks, China Statistics Press.

[4] In Figure 1, CBRs instead of TFRs are used because this figure aims to demonstrate total population change associated with fertility and mortality variation rather than fertility change itself. The TFR of Shanghai will be discussed in a later part of the brief.

2.2 The fast aging process has made Shanghai the first metropolis in China with an aged population. [5]

2.3 The aging process in Shanghai has taken place very rapidly. Shanghai's elderly population increased from 10% to 18% within 20 years,[6] a transition that would take about 100 years in many European countries.

2.4 By the end of 2000, there were 2.46 million aged 60 and over, which accounted for 13.7% of Shanghai's total population. This population included 299,000 elderly aged 80 and above and 306 centenarians. By July 2009, Shanghai's over-60 population already exceeded 3 million, or 21.6% of *registered* residents.[7]

2.5 It is projected that the accelerated aging process will continue and reach its peak around 2030. By then, the number of people aged 60 and above is estimated to be 6.6 million or 32.3% of the total population in Shanghai. The annual rate of increase is estimated at 2.5% (see Table 1).

TABLE 1 TOTAL POPULATION, OLDER POPULATION AND OLDEST OLD POPULATION [8]: SHANGHAI, 2000 TO 2040

Year	Total	Older	Oldest Old
2000	16,408,000	2,458,000	299,000
2010	18,194,000	3,273,000	551,000
2020	18,956,000	5,351,000	648,000
2030	18,752,000	6,690,000	879,000
2040	17,449,000	7,327,000	1,616,000

Source: Poston, Dudley, Baochang Gu and Hua Luo. 2009. "The Effects of the Fertility and Mortality Transitions on the Elderly and Eldercare in China, and in Shanghai, Beijing and Tianjin." Unpublished paper.

[5] According to the United Nations' definition, the proportion of the elderly population aged 60 and above among the total population exceeding 10% is the threshold of an aging population. Another commonly used criterion is the proportion of the elderly population aged 65 and above exceeding 12% of its total population .

[6] Shanghai Population Census Office.

[7] http://www.guardian.co.uk/world/2009/jul/24/ageing-population-china-shanghai-one-child-policy

[8] The "old population" refers to population aged 65-79 and the "oldest old population" refers to population aged 80 and over.

Shanghai's Population Age Structure

3.1 The aging process has significantly changed and will continue to change Shanghai's population age structure.

3.2 As the pair of population pyramids in Shanghai presented in Figures 2 and 3 show, Shanghai's population age structure has changed dramatically since 1953. There are proportionally more persons aged 65 and over in Shanghai in 2000 than in 1953 (see Figure 2).

FIGURE 2 SHANGHAI AGE AND SEX, 1953 (SHADED) AND 2000

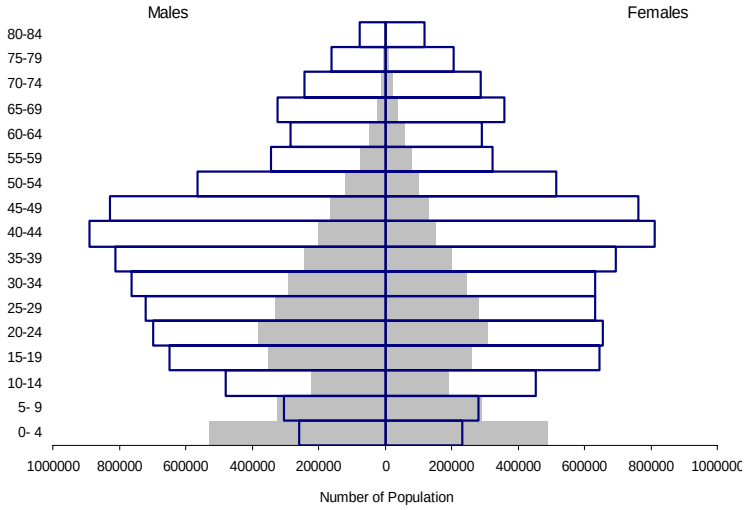
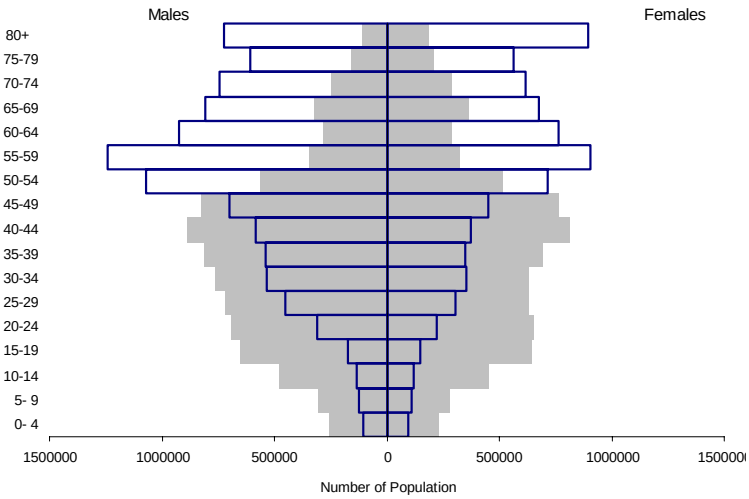


FIGURE 3 SHANGHAI AGE AND SEX, 2000 (SHADED) AND 2040



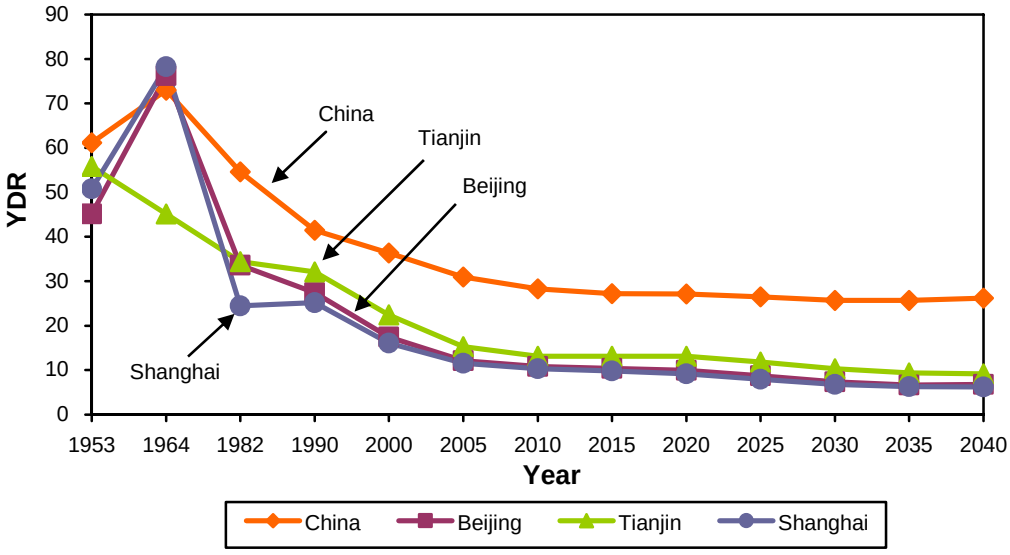
Source: U.S. Census Bureau, International Data Base.

3.3 Figure 3 shows that the aged situation changes even more remarkably in 2040. There will be very small numbers of persons in the youngest age groups and exorbitantly large numbers of persons in the older age groups. The age and sex structure of Shanghai is projected to resemble an inverted pyramid.

3.4 The dependency ratios, including the total dependency ratio (TDR), youth dependency ratio (YDR) and aged dependency ratio (ADR), are often used to capture the age structure of a population.

3.5 Figures 4 and 5 compare the youth dependency ratios (YDRs) and the aged dependency ratios (ADRs) in Shanghai, Beijing, Tianjin and China as a whole to demonstrate the serious aging situation that Shanghai is facing.

FIGURE 4 YOUTH DEPENDENCY RATIOS (YDRs): CHINA, SHANGHAI, BEIJING AND TIANJIN, 1953-2040

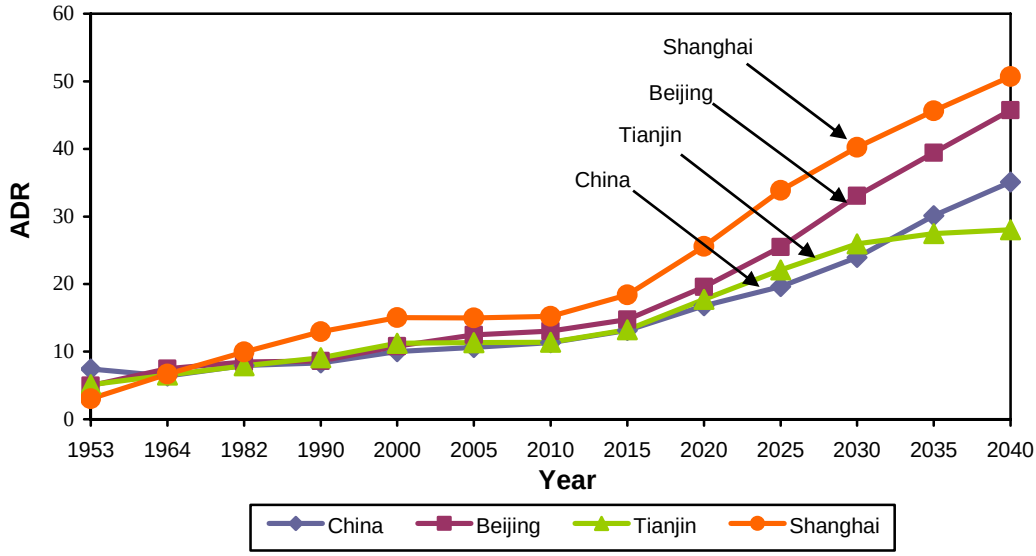


Source: Poston, Dudley, Baochang Gu and Hua Luo. 2009. "The Effects of the Fertility and Mortality Transitions on the Elderly and Eldercare in China, and in Shanghai, Beijing and Tianjin." Unpublished paper.

3.6 As Figure 4 shows, compared to Beijing, Tianjin, and China as a whole, Shanghai has the lowest YDR (about 15 in 2000) due to its lower fertility rate. Despite a lower YDR is less of a burden to the working age population, the low YDR represents that Shanghai will have a lower producing population in the near future.

3.7 Compared to two other cities, Shanghai has the highest ADR. The ADR in Shanghai increased from around 3 in 1953 to 15 in 2000. The ADR for Shanghai is projected to be 50 in 2040, meaning every two working-age persons need to support one aged person in 2040 (see Figure 5).

FIGURE 5 AGED DEPENDENCY RATIOS (ADRs): CHINA, SHANGHAI, BEIJING AND TIANJIN, 1953-2040



Source: Poston, Dudley, Baochang Gu and Hua Luo. 2009. "The Effects of the Fertility and Mortality Transitions on the Elderly and Eldercare in China, and in Shanghai, Beijing and Tianjin." Unpublished paper.

Tackling An Aging Population

4.1 To cope with the problem of population aging, the Shanghai government is adopting a number of strategies, one of which is to establish two pension schemes to cover Shanghai's urban and rural elderly population.

4.2 The urban pension scheme combines funds collected from the government and society for old-age care with individual accounts. A special government agency (Labor and Social Security Bureau) has been set up to take full responsibility of collecting and managing the pension fund.

4.3 Though individual savings and family support remain crucial economic resources for the rural elderly in Shanghai, the government has considered

relying on commercial insurance to cover the old age care cost for this group of people. The commercial insurance is to be paid mainly by the individuals.

4.4 In terms of care and services for the elderly, non-governmental organizations (NGOs) and companies are invited to develop housing for the elderly. The financial aid comes from various sources, including indirect government support and direct financial investment from the public, companies and the international community. Community-based centers offering comprehensive services for the elderly have been established and operated with the support of volunteers and NGOs.

4.5 Besides the economic support, care and service made available by the Shanghai government for the elderly, the social and population policies may need to be adjusted to cope with the challenge of population aging.

4.6 A suggestion that has been made to offset the impact of a shrinking labor force is to raise the retirement age.

4.7 The current total fertility rate (TFR) in Shanghai is 1.3, which is below the replacement level of fertility.[9] In order to boost birth rate to ease the problem of population aging, the longstanding "One Child" population control policy is now being relaxed by the city of Shanghai.

4.8 However, unlike Singapore, another demographically challenged city, Shanghai has not yet announced any financial incentives to encourage baby boom.[10]

4.9 In-migration is another effective way to slow down the aging process and to maintain a productive young labor force. As early as in 1998, a selective migration policy has been adopted to allow a huge inflow of young graduates to Shanghai. Students from other provinces are encouraged to enroll in

[9] http://demographymatters.blogspot.com/2009/07/on-aging-of-shanghais-population.html.

[10] Reported by Shanghai Daily, July 24, 2009. See http://www.businessweek.com/globalbiz/blog/eyeonasia/archives/2009/07/shanghai_pushes.html.

Shanghai's secondary schools to fill the gap created by Shanghai's shrinking middle school student population and to increase Shanghai's future young labor supply.

4.10 Shanghai would do well not to restrict its floating population[11] as it may well solve some of its major demographic problems in the years ahead.

4.11 Floaters are overwhelmingly young individuals. Reliable estimates indicate that among the floating migrants of 100 to 150 million persons, 80% are under age 35. [12] Since Shanghai is one of the major destinations for the floating population, the floaters will serve as producers to support the projected large number of elderly in Shanghai.

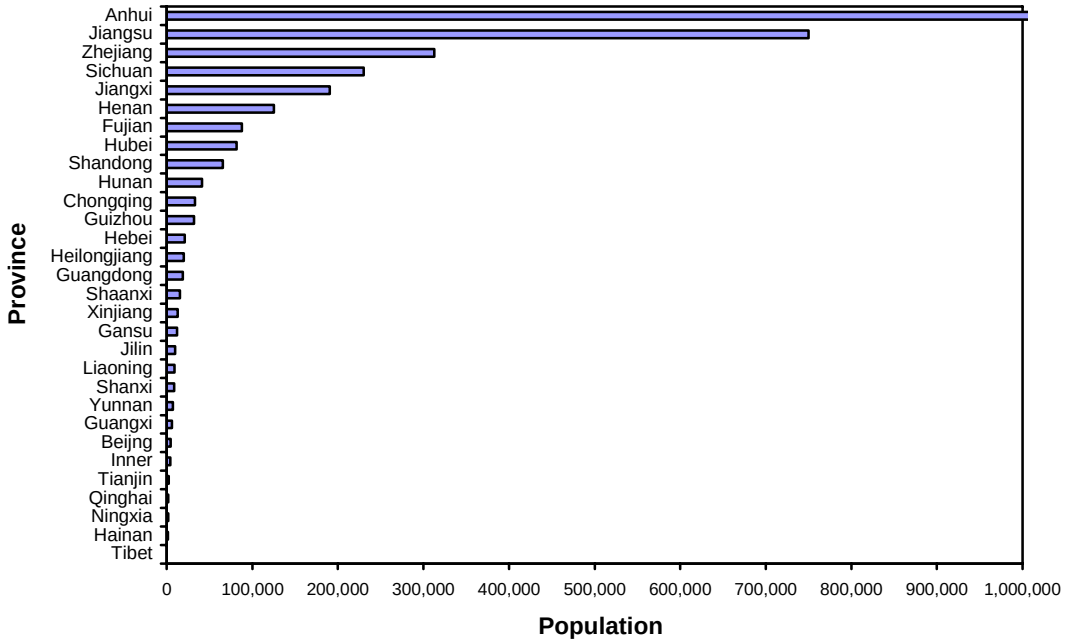
4.12 Migration data for 1995 to 2000 reveal that floaters from the adjacent provinces made up the main stream of floating migrants to Shanghai. Thus, if in-migration eases Shanghai's population aging, then migrants from the adjacent provinces such as Anhui, Jiangsu and Zhejiang may be the key players in this respect (see Appendix 1 for floating migration to Shanghai by province).

4.13 The Shanghai phenomenon is representative of the demographic future of many Chinese cities. Thus, population policies adopted by Shanghai would have significant impacts on national population policies and profound implications for other Chinese cities.

[11] The floating population refers to people who do not have a household registration status in the destination place after a stay of six months.

[12] Zhang Xiaohui et al. 1997. "Age Difference among the Rural Labor Force in Interregional Migration." *Population Science of China*, Vol. 9, No. 3: 193-202.

APPENDIX 1 NUMBER OF FLOATING MIGRANTS TO SHANGHAI BY PROVINCE: 1995 TO 2000



Source: China's fifth national census