

# **The Change and Implication of Population Momentum in China:**

## **National and Provincial Evidences**

**Zhuoyan MAO**

**National Research Institute for Family Planning**

Since the beginning of the 1990s, the total fertility rate in China has been under the replacement level for almost twenty years. It's estimated the driving force of the coming population growth in China will mainly be population growth momentum, which also been the crucial consideration to emphasizing stabilizing current fertility policy by Chinese government. Yet, few studies so far have discussed about China's population growth momentum in a systematic, accurate, and quantified manner rather than a simply labeling it as the huge one. Moreover, it hasn't been known completely that population momentum's impact on population dynamics and the future's development under low fertility.

The population momentum, that is, the age-structure's effect, describes that the size's change of a previously growing population if its fertility rates were immediately reduced to the replacement level and maintained thereafter at the new level until the stationary population of fixed size is attained. The population can generate not only positive momentum but also negative momentum which is nearly neglected among the countries whose previous fertilities were high. By using the simple equations which have been resulted in previous research on the demographic determinants of population momentum (Preston 1986; Kim and Sarma, 1991) we estimate the population momentum in China systematically and roundly, with collecting and calculating some significant data, including the census data from 1953 to 2000, the 1% sample survey of population in 1995 and 2005, the fertility estimates for provinces of China (1975-2000). We calculate the national population momentum from 1953 to 2005, and compare the urban and rural population momentum, the age-specific population momentum from 1982 to 2005 as well. Further, we analyze the great change of provincial population momentums because the fertility pattern and population transition procession have great discrepancy over the decades given the local social and economic conditions, which makes it difficult to describe accurately at the national level. Best of all, in order to get more scientific results, all analysis pay attention to the different data resources because the accuracy of fertility was in hearted argument in China.

The main findings and conclusions are as follows:

1. The power of population growth momentum is disappearing rapidly. (table 1) The national growth momentum has been obviously falling down during recent 50 years. We can tell that the momentum multiplier in 1953 equaled 1.35, grew up to 1.76 in 1964, but fell down to 1.09 in 2005.
2. Since the 1980s, the urban and rural population growth momentums are

declining sharply although the rural population momentum was significantly higher than the urban one. (table 2) At present, China's urban population momentum multiplier equals 1, which means the cities are in the turning point of population momentum from positive to negative growth while China's population growth was wholly attributable to momentum in the rural areas with momentum multiplier being 1.09.

3. The national population momentum in China is essentially decreasing with time, yet the age-specific population momentums play the different roles.( table 3) Actually, population momentum below 30 years of age keeps unchanged, but population momentum between 30 to 60 years of age has been negative and the force of population growth has been from the population above 60 years old since 2000.

4. We separate population momentum into six groups. From 1982 to 2000, every province's positive momentum dropped at very high speeds, which is shown clearly that 17 provinces were in the group whose population momentum are from 1.5 to 1.7, while only 2 provinces were in this group after two decades (Chart 1). In 2000, 70% of all provinces' positive momentums, below 1.3, mean very weak momentums, and population momentums of 4 provinces, such as Beijing, Tianjin, Shanghai and Liaoning, have been negative, which we can tell easily from Chart 2.

These findings remind that national and provincial population momentums have challenged our traditional option. The inherent laws of population momentum tell that we need to provide against a rainy day, otherwise we have to face many unpredicted consequences in near future. China's TFR has been under the replacement level for almost twenty years since 1990s , so it is time to consider how to change the fertility policy. We discuss significant policy implications in China from the analysis of population momentum above, which will be stated in detail in the final version of the paper.

Table 1 The Change of Total Population Momentum Multiplier, 1953-2005

<b>Year</b>	<b>Total Population Momentum Multiplier</b>
<b>1953</b>	1.35
<b>1964</b>	1.76
<b>1982</b>	1.57
<b>1990</b>	1.43
<b>1995</b>	1.29
<b>2000</b>	1.16
<b>2005</b>	1.09

Table 2 The Change of Population Momentum Multiplier in Urban and Rural

Area, 1982-2005

Year	Urban	Rural
1982	1.40	1.59
1990	1.29	1.52
1995	1.15	1.37
2000	1.12	1.20
2005	1.00	1.09

Table 3 The Change of the Age-specific Population Momentum Multiplier,

1982-2005

Year	0-29	30-59	60+
1982	1.00	1.97	3.88
1990	1.00	1.68	3.43
1995	1.00	1.36	2.80
2000	1.00	1.12	2.60
2005	1.00	0.84	1.99

Chart 1 the Change of Provincial population momentums: 1982-2000

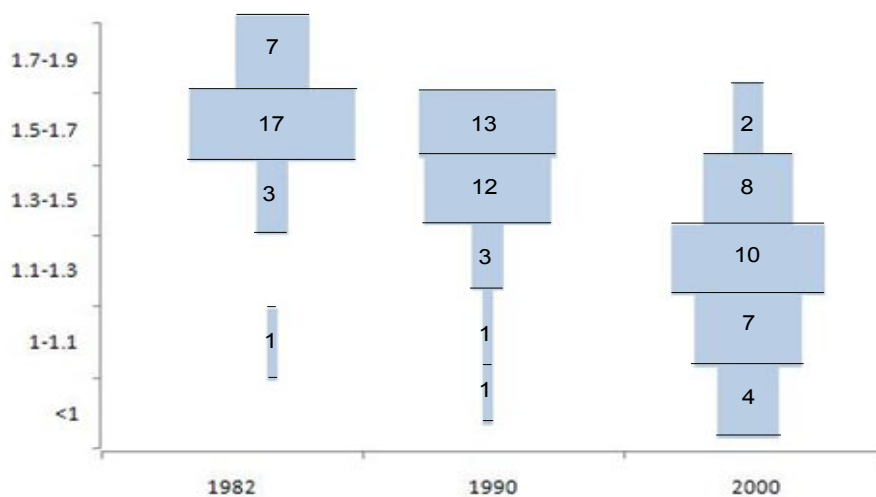


Chart 2 Geographical Distribution of Provincial Population momentums:1982-2000

