



中國人民大學
RENMIN UNIVERSITY OF CHINA

Ageing in China : Trend, Process and Character

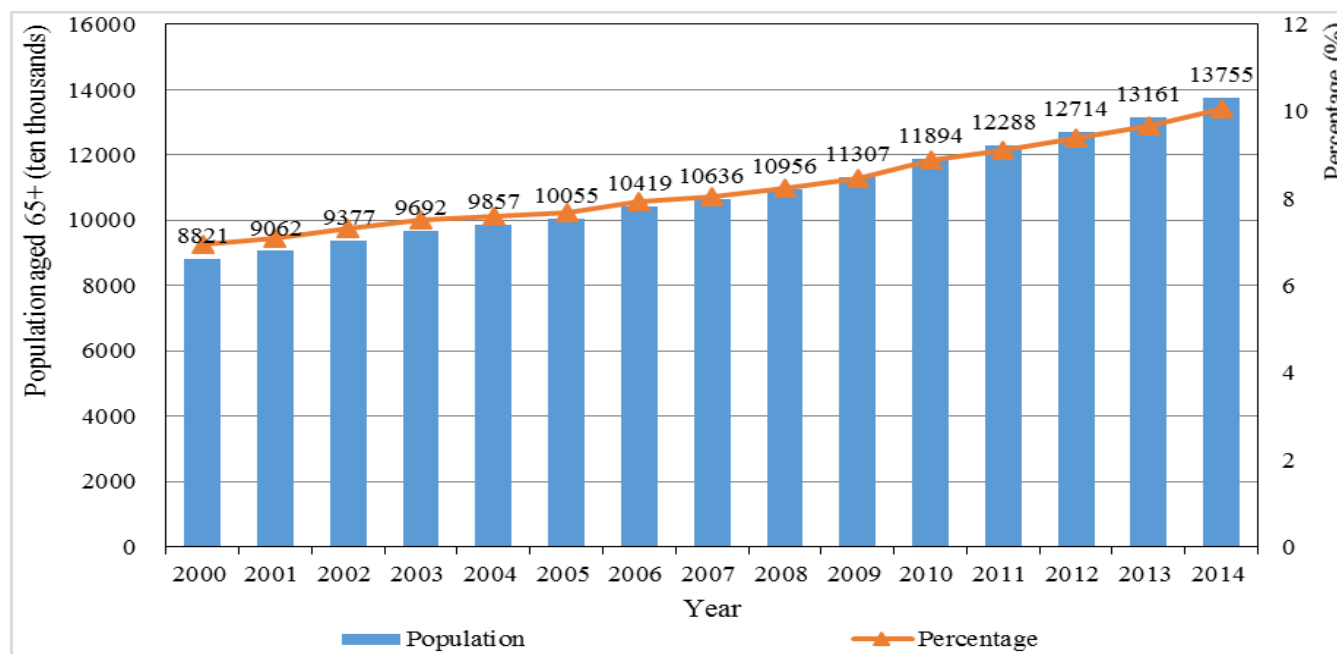
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Background



China mainland has experienced rapid fertility decline since the 1970s. At the same time, China mainland's life expectancy has increased dramatically. The rapid fertility decline combined with the increase in life expectancy has created a fast population ageing process. There are a lot of population projections (including aging projection) has been done in the past, but recently, a great change has taken place in population policy in China—Two child for a couple, This policy will affect future population very much both in short term and long term. We have to make a new projection with taking consideration of new policy change.



Population aged 65+ and the proportion of population aged 65+ in China mainland

Source: China Statistical Yearbook & Statistical Communiqué on the National Economic and Social Development

- **Base Year Data Used in the Population Projection**
 - China mainland's 2010 Population Census data is used as the base year data in projections
 - An adjustment has been made to account for the missing population by using the data from the Bureau of Statistics and the Ministry of Public Security
 - After adjustment, the total size of whole population in China mainland is 1.344 billion in 2010 with 51.4% male and 48.6% female



- **Mortality Assumptions**

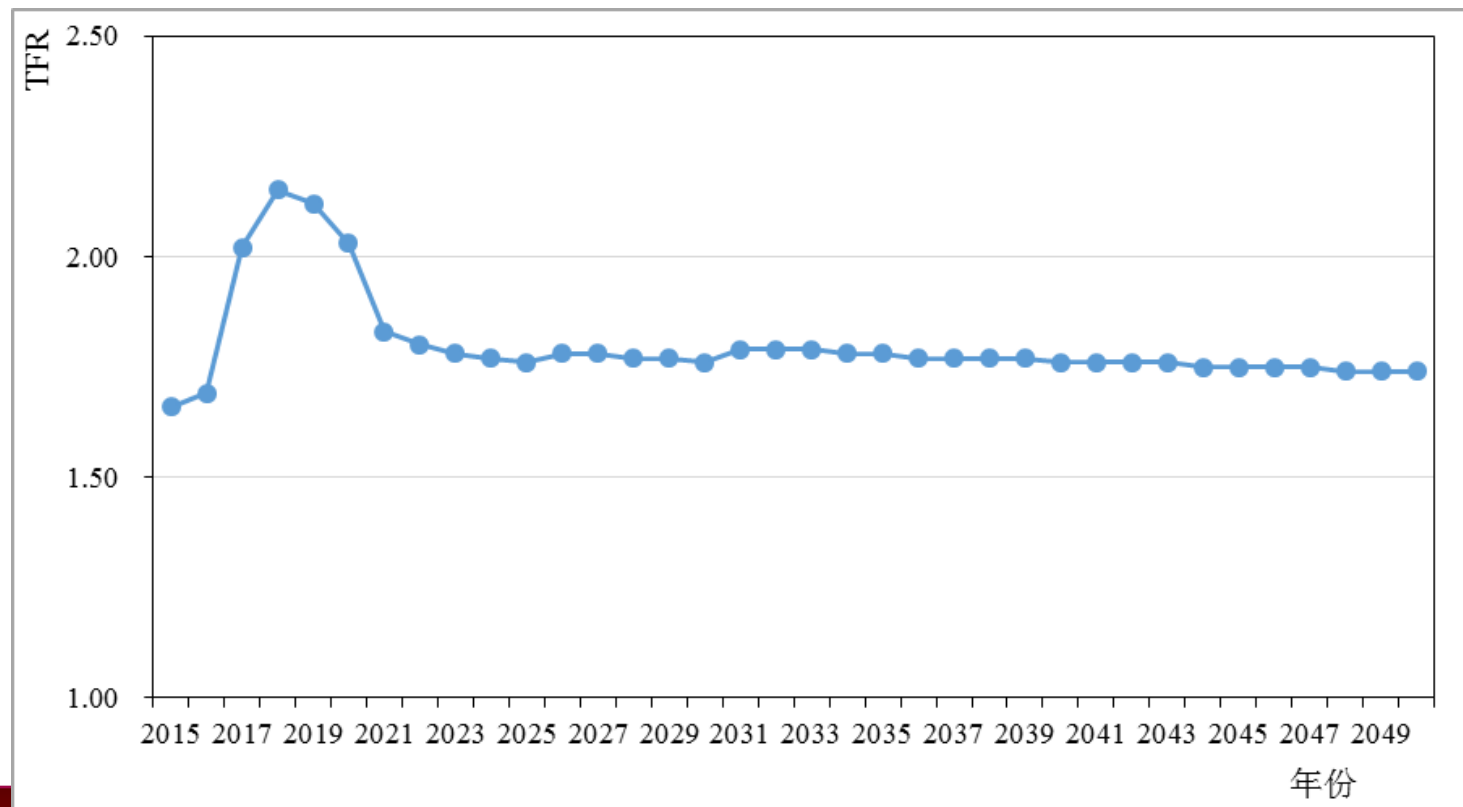
- Future assumptions about changes in life expectancy at birth are made following the United Nations models (medium paces) for mortality improvement
- China mainland's life expectancy at birth will increase from 72.4 and 77.4 in 2010 to 78.1 and 83.1 in 2050 for males and females respectively
- Coale-Demeny regional model life table (west) with the assumed life expectancy at birth in future years has been used to calculate the age-specific survival ratios

- **Fertility Assumptions**

- It has been taken into consideration that the current fertility policy will be changed to a two-child policy in the short term and China mainland would be approaching a TFR of 1.8 children per woman in the long term
- We choose the Asia pattern (one of the UN regional model fertility patterns) to fit the age distribution of projecting fertility
- China mainland's sex ratio at birth will decline from 118 in 2010 to 107 in 2025 and then will be constant at 107

Fertility change

fertility goes up rapidly and falls down in 5 years , then keep at about 1.8 level



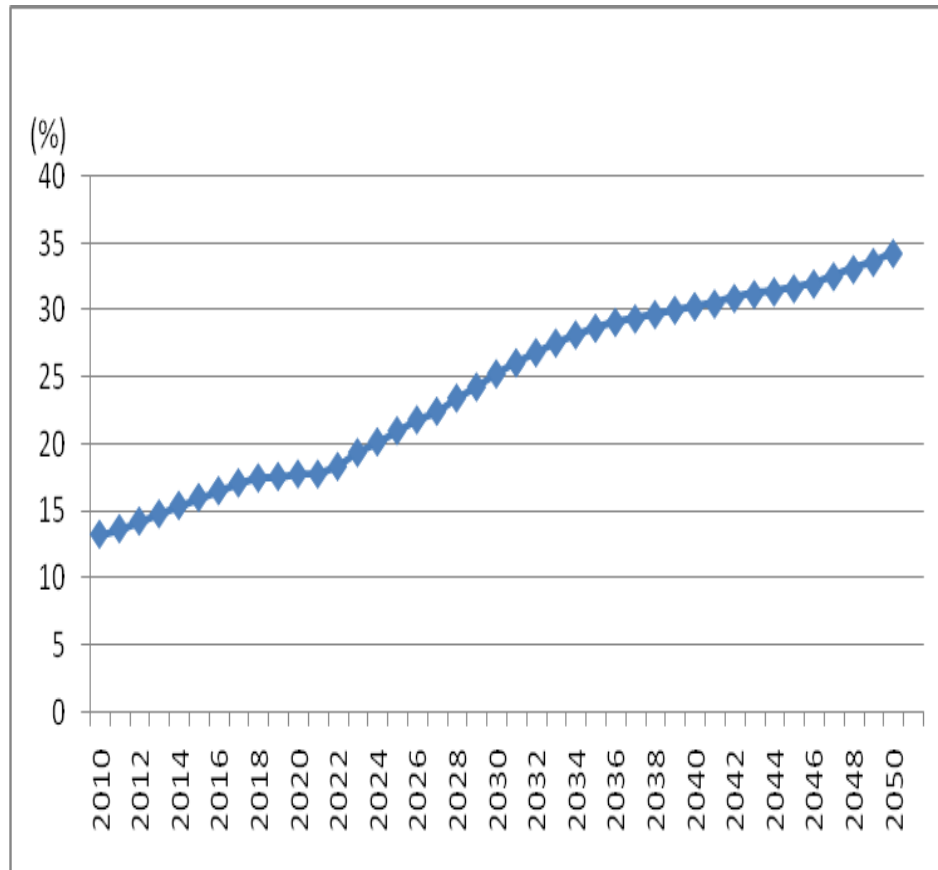
- **Migration Assumptions**
 - Since international migration is too small relative to China mainland's total population, we assume zero net migration in our projections
- **Methodology of the Population Projection**
 - The cohort-component method has been used to conduct our population projections



1.High Level with High Speed

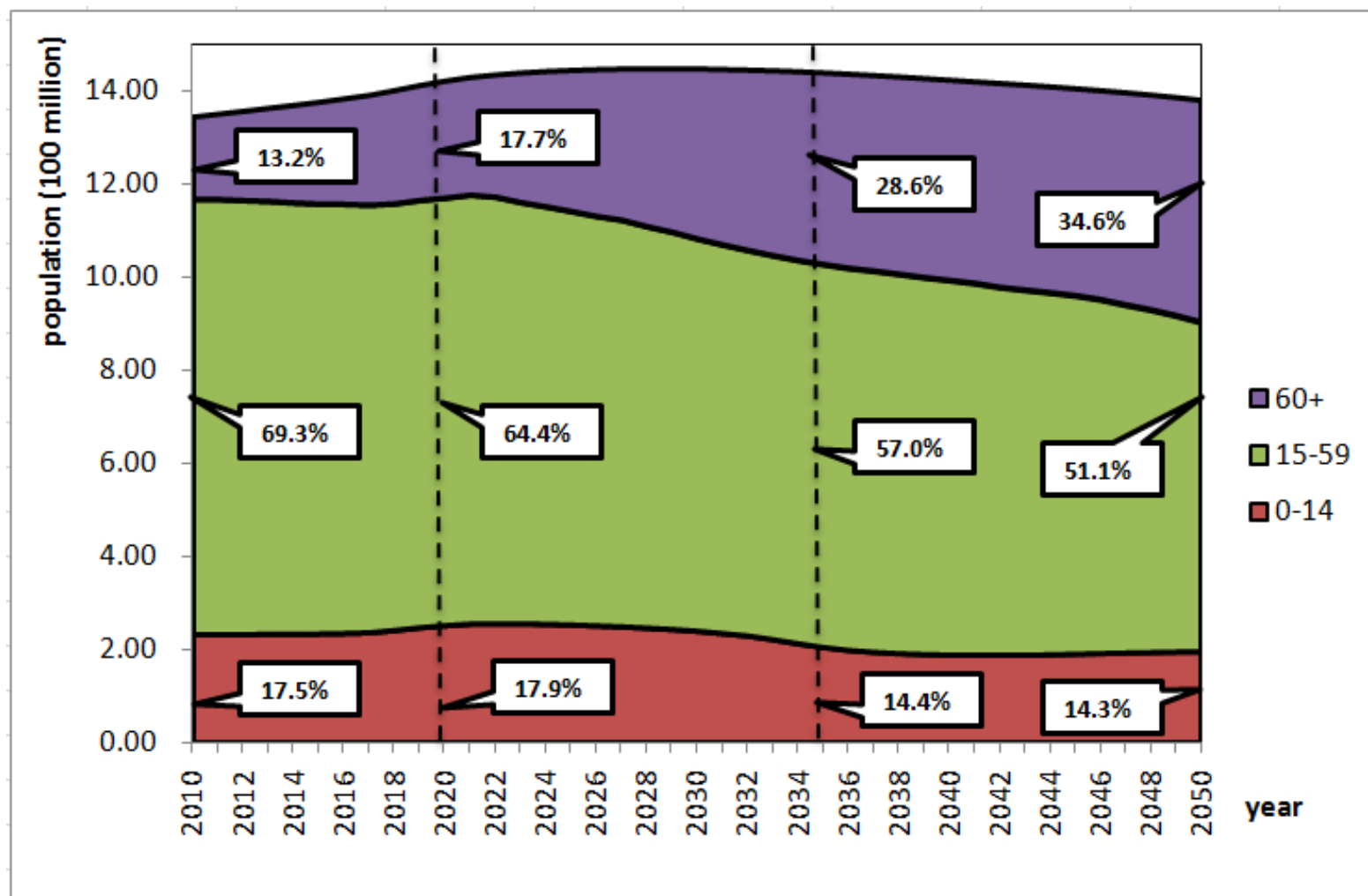
- The proportion of the elderly keeps rising at an increasing speed.
- 1st Rapid Ageing Period(2011~2015): From 13.64% to 15.98%, less than 0.5 percentage yearly
- 2nd Rapid Ageing Period(2021~2035): Average annual increase is 0.72 percentage
- 3rd Rapid Ageing Period(2046~2050): Average annual increase of 0.57 percentages

1.High Level with High Speed



- By 2050, the total size of the elderly aged 60+ will increase from 178 million in 2010 to 480 million;
- By 2050, the proportion of the elderly aged 60+ will reach 34.6%, 21 percentage points higher than year 2010 .

The Proportion of the Population Aged 60+ (2010~2050)



2.Salient Phased Features

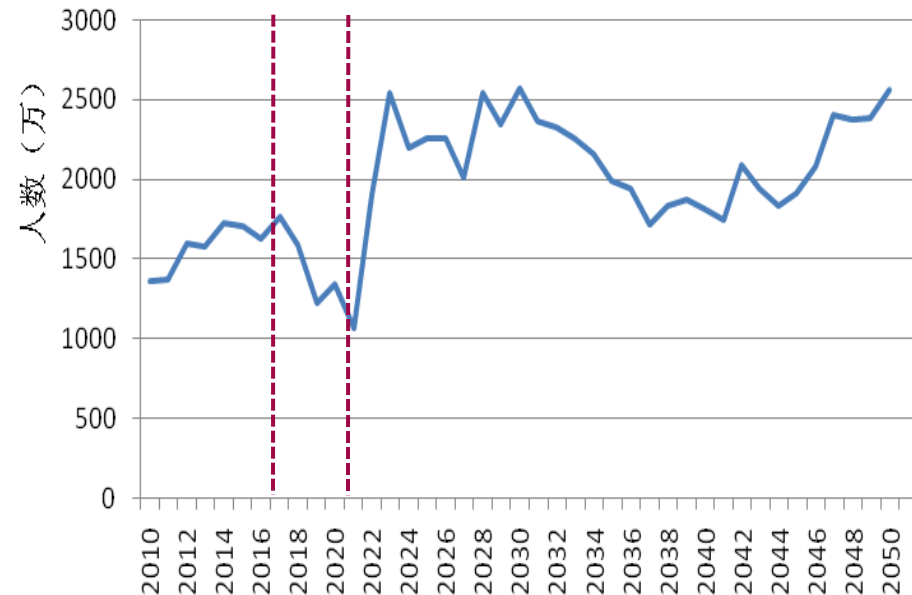
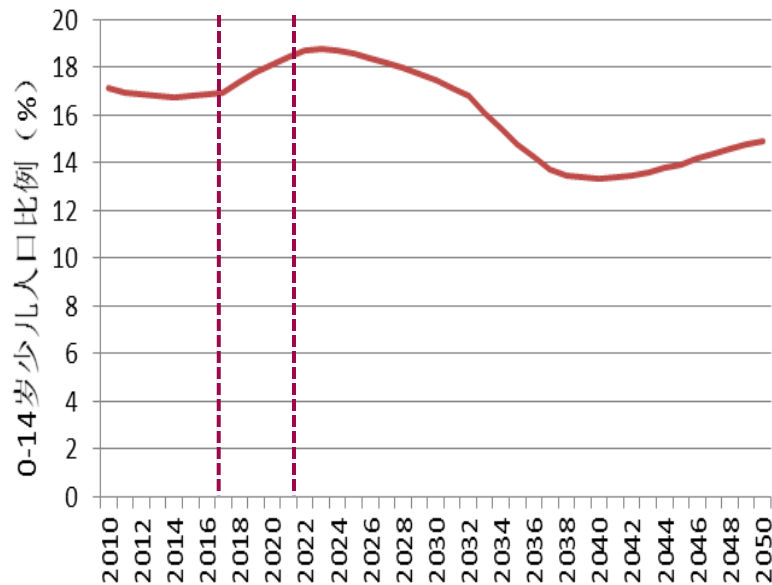
- The future process of China's ageing can be divided into 4 different stages.

Stage 1. 2017~2021: Bottom and top ageing both slow down.

- On the one hand, the adjustment of fertility policy will bring more new births and will raise the proportion of young population aged 0~14, which will lower the proportion of the elderly population ;
- On the other hand, after the first baby boom generation entered 60 during the “12th Five-year Plan” period, population newly entered 60 will significantly decrease in 2017~2021.

2.Salient Phased Features

Stage 1. 2017~2021: Bottom and top ageing both slow down.



The Proportion of the Population Aged 0-14 (2010~2050) Population Newly Entered 60 after 2010



2.Salient Phased Features

Stage 2. 2022~2036: China is entering Moderate Ageing Period at a high speed.

- China's elderly population will embrace the second growth peak. From 2022 to 2036, the total size of the elderly aged 60+ will increase from 0.265 billion to 0.422 billion with an average annual growth of 11.22 million;
- By 2023, the total size of the elderly aged 60+ will exceed the population aged 0-14 for the first time, which marks that China enters an era of elderly support from an era of children support;
- By 2024, the proportion of the elderly aged 60+ will reach 20.15%, breaking 20% , which means China enters the Moderate Ageing Period;
- By 2036, the proportion of the elderly aged 60+ will reach 29.1%.



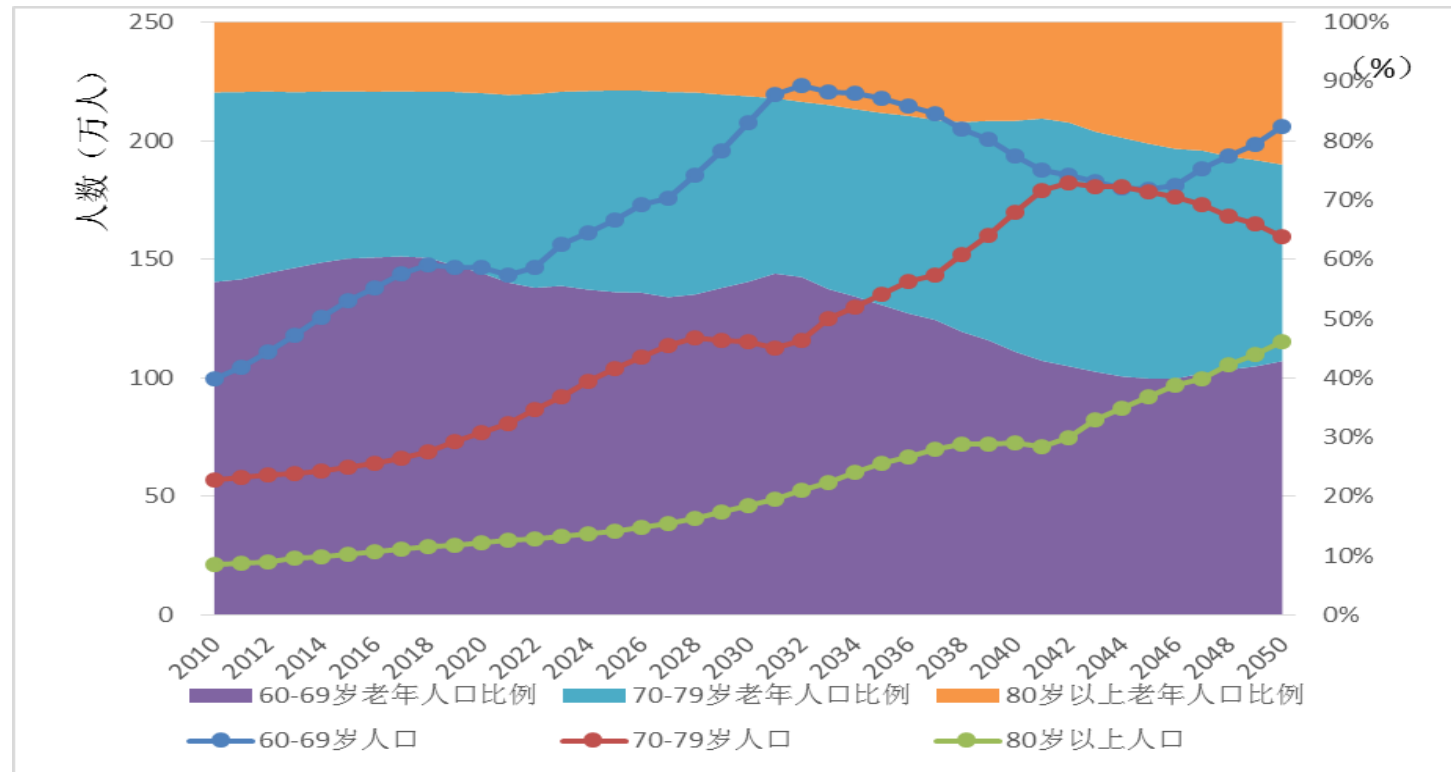
2.Salient Phased Features

Stage 3. 2037~2046: The speed of ageing will slow down and China is entering Severe Aging Period with a faster growth of population aged 80+.

- China's aging pace will slow down. From 2037 to 2046, the total size of the elderly aged 60+ will increase from 0.425 billion to 0.454 billion with an average annual growth of 3.22million;
- By 2039, the proportion of the elderly aged 60+ will reach 30%, which means China enters the Severe Aging Period ; By 2046, the proportion of the elderly aged 60+ will reach 31.97%;
- The proportion of the younger elderly continues to decrease while the proportion of the older elderly continues to increase. Specifically, the proportion of the elderly aged 60-69 begins to fall below 50%, while the proportion of the elderly aged 80+ rises from 16.48% in 2037 to 21.35% in 2046, almost two times as much as the proportion in 2010.

2.Salient Phased Features

Stage 3. 2037~2046: The speed of aging will slow down and China is entering Severe Aging Period with a faster growth of population aged 80+.



The Age Structure of China's Elderly Population (2010~2050)



2.Salient Phased Features

Stage 4. 2046~2050: The proportion of the elderly aged 60+ and the proportion of the elderly aged 80+ are both rising at a high speed.

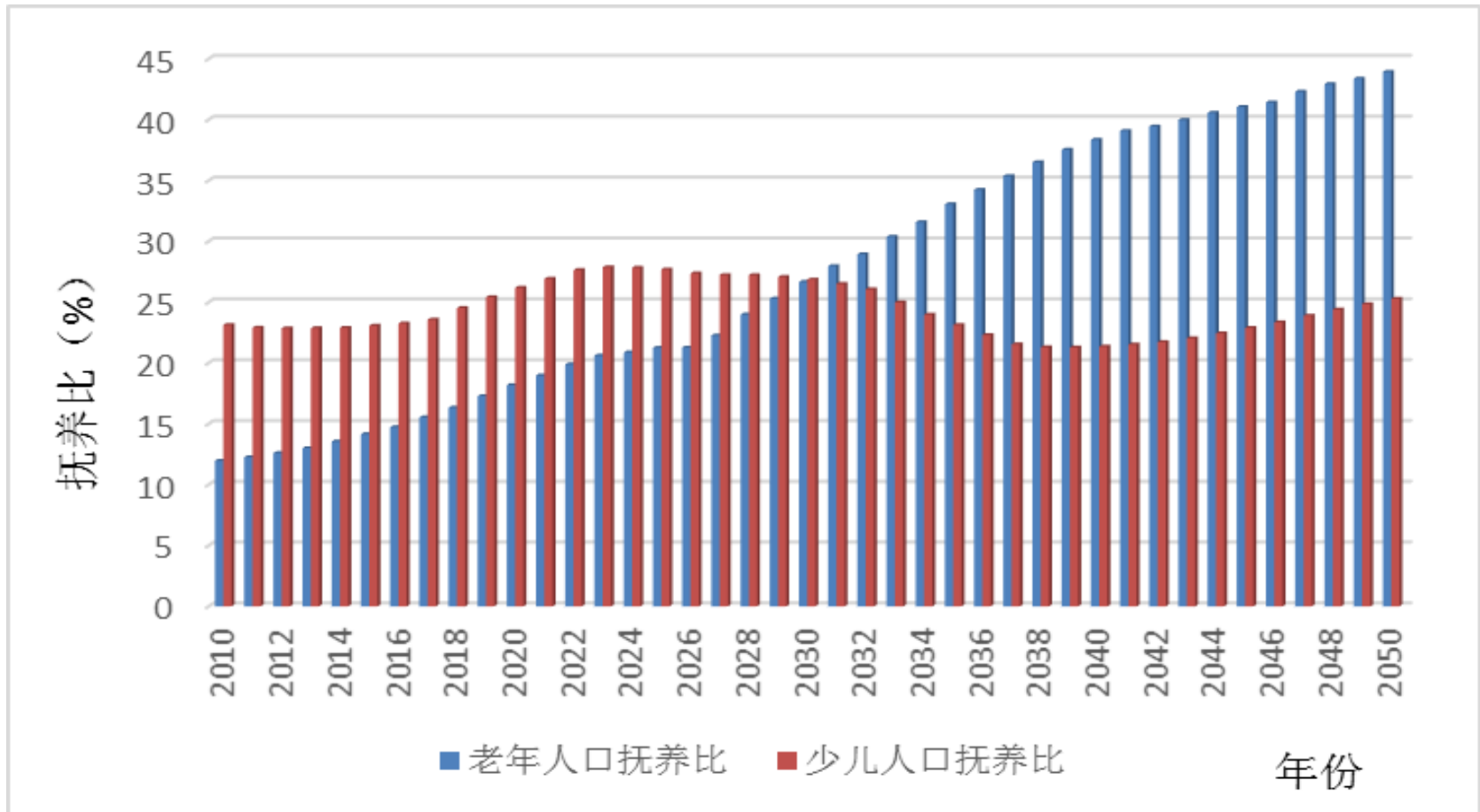
- The total size of the elderly aged 60+ will climb from 0.454 billion in 2046 to 0.481 billion in 2050, and the proportion of the elderly aged 60+ will reach 34.27% in 2050 with an average annual growth of 0.57%;
- The proportion of the elderly aged 60-69 will rebound from 39.87% in 2046 to 42.83% in 2050 with an average annual increase of 0.74 percentage points;
- The proportion of the elderly aged 80+ will increase from 21.35% in 2046 to 24.02% in 2050 with an average annual increase of 0.67 percentage points.



3. Rising Dependency Ratio

- China's elderly dependency ratio keeps rising and the total dependency ratio will approach 70% in 2050.
 - From 2010 to 2050, China's elderly dependency ratio will increase by an average of 0.8% per year and will reach 43.93% in 2050;
 - China's child dependency ratio will fluctuate during this period. From 2010 to 2032, child dependency ratio will keep rising and will be maintained above 26%. From 2033 to 2039, child dependency ratio will decreasing. From 2040 to 2050, child dependency ratio will increasing again and will reach 25.28% at last;
 - The total dependency ratio will increase sharply, from 35.09% in 2010 to 69.21% in 2050.

3. Rising Dependency Ratio

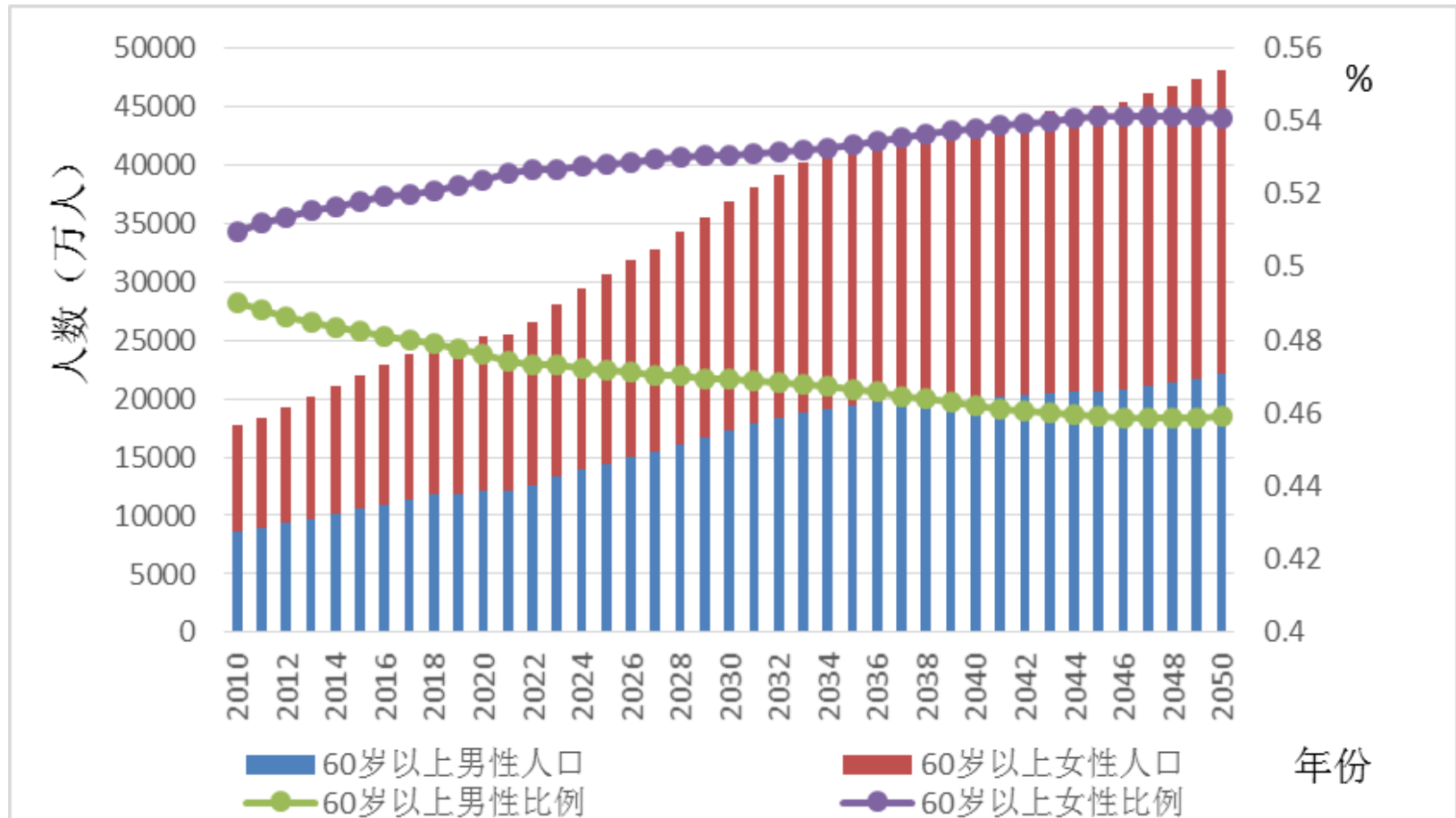


China's Elderly Dependency Ratio and Child Dependency Ratio (2010~2050)

4. Substantial Widowed Female Elderly

- The gap between the size of the female elderly and the size of the male elderly will be widened rapidly, with an increasing number of widowed female elderly living alone.
 - From 2010 to 2050, the total size of the male elderly will increase from 0.087 billion to 0.22 billion, while the total size of the female elderly will increase from 0.091 billion to 0.26 billion;
 - From 2010 to 2050, the proportion of the male elderly will decrease from 49.01% to 45.91%, while the proportion of the female elderly will increase from 50.99% to 54.09%. The gap between the proportion of the male and the female elderly is 1.98 percentage points in 2010 and will increase to 8.17 percentage points in 2050.

4. Substantial Widowed Female Elderly



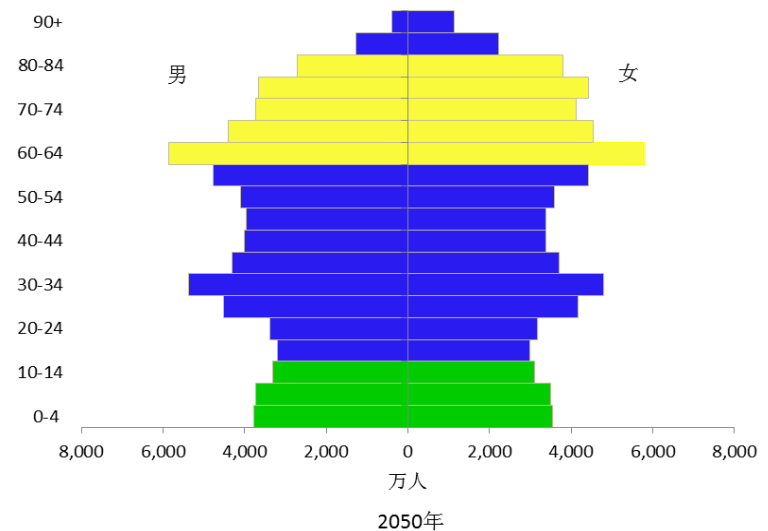
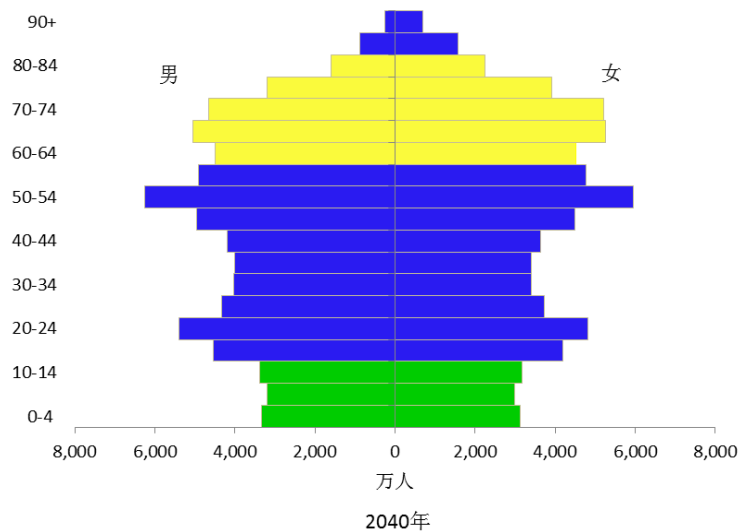
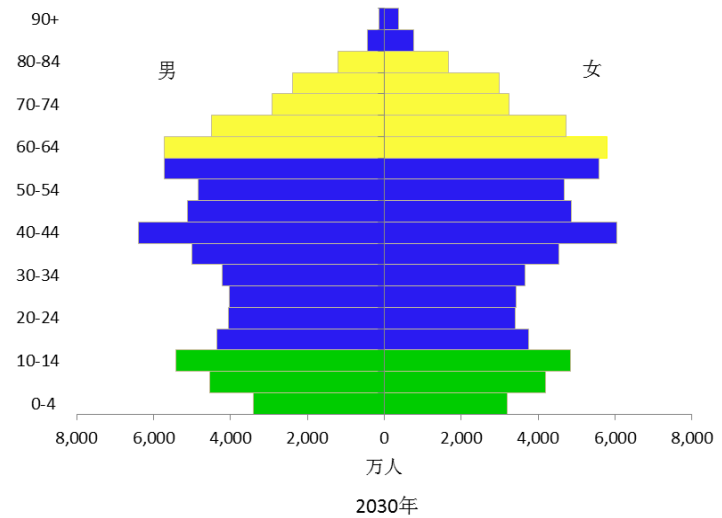
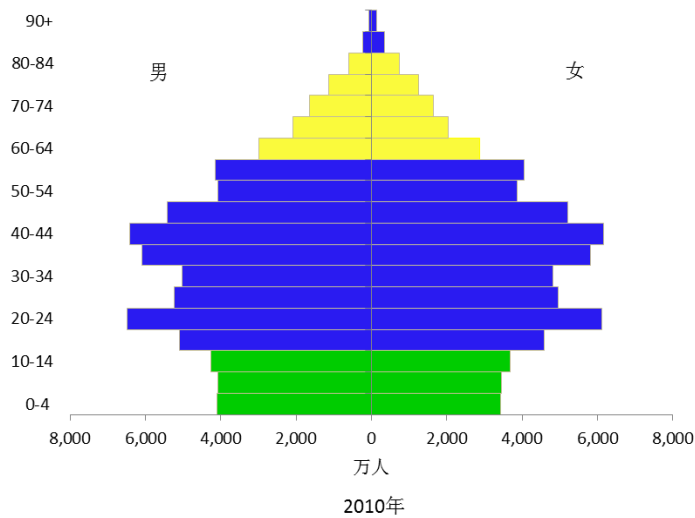
The Sex Structure of China's Population Aged 60+ (2010~2050)

4. Substantial Widowed Female Elderly

The Sex Ratio of Different Age Groups of China's Elderly Population (2010~2050)

<div>age year</div>	60~64	65~69	70~74	75~79	80~84	85~89	90+
2010	103.5	101.9	99.0	89.7	79.4	64.1	49.6
2020	100.4	94.6	91.9	85.3	76.5	61.6	42.7
2030	98.9	94.8	89.7	79.9	71.6	58.2	39.0
2040	99.6	96.0	89.4	81.3	70.5	55.7	37.5
2050	101.5	97.3	90.7	82.8	71.6	57.7	35.5

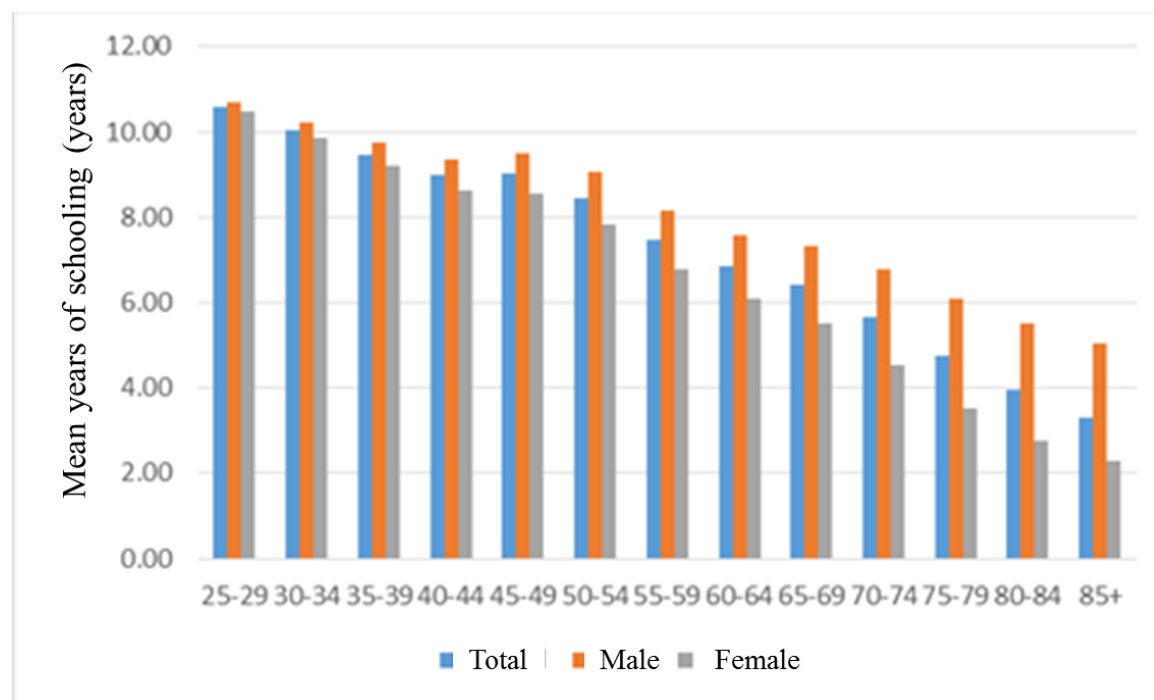
4. Substantial Widowed Female Elderly



New Features of the Elderly in China



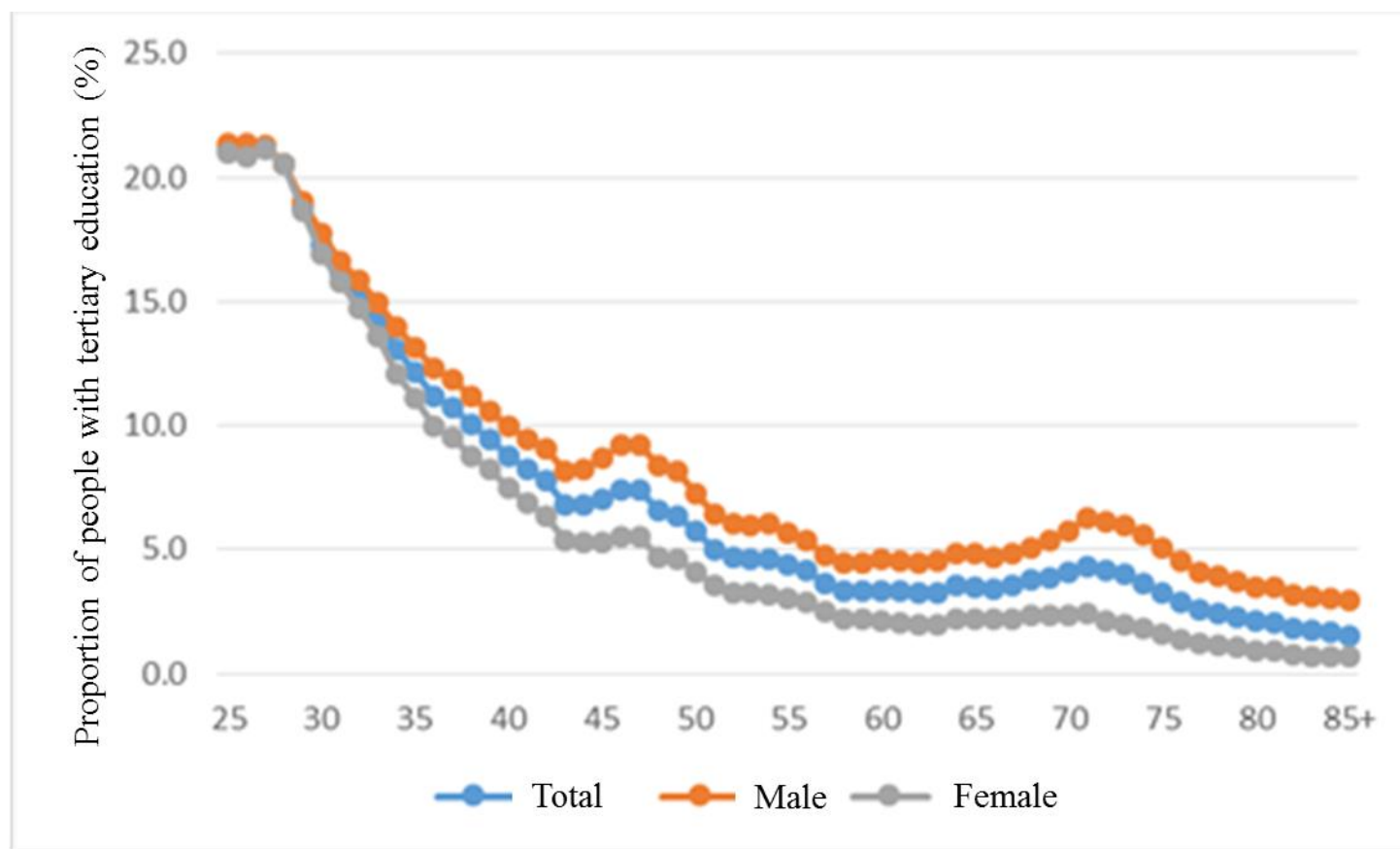
- Education level of elderly population is rising significantly and gender difference is narrowing gradually
 - Mean years of schooling of population aged 60-69 will be almost 9 in 2025 (less than 7 in 2010) and population aged 80 + will reach the same level in 2045 (less than 4 in 2010)



New Features of the Elderly in China

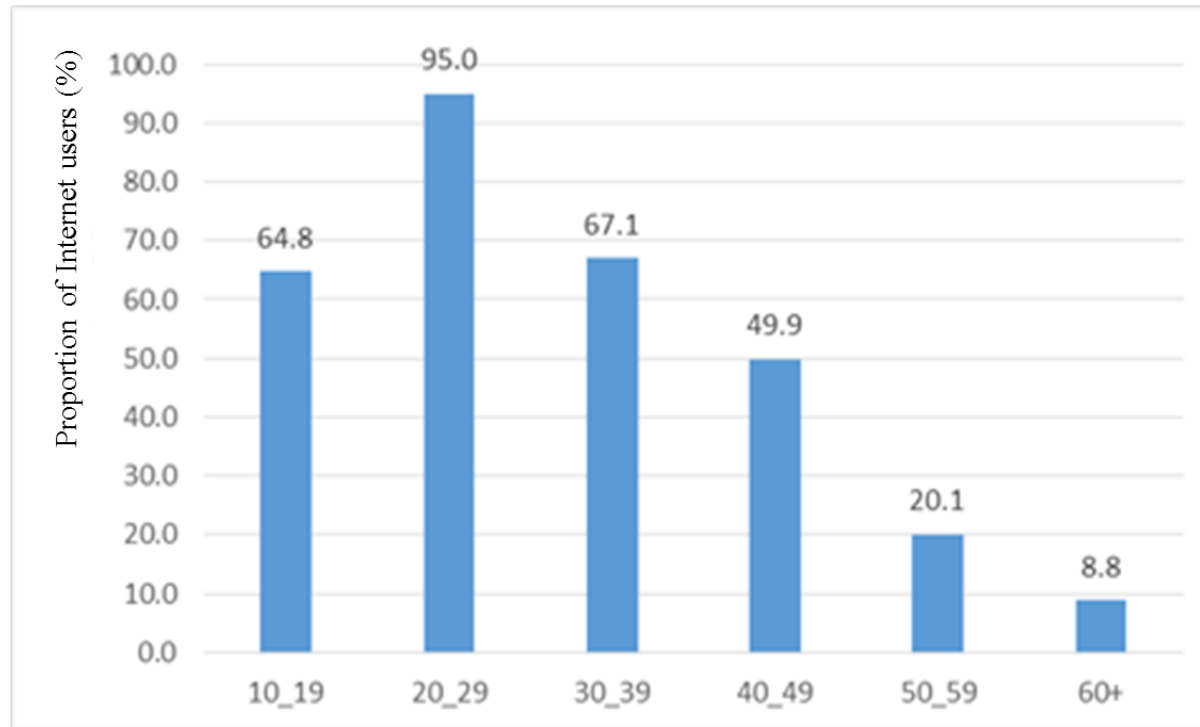


- Proportion of population aged 60+ with tertiary education will increase from about 3.5% in 2010 to 6% in 2025, and then will reach near 20% in 2045



Proportion of people with tertiary education by sex and age

- **Proportion of Internet users in elderly population is increasing and self supporting abilities of elderly population are improving consequently**
 - Proportion of population aged 60-69 with capacities to use Internet, which is less than 10%, will be at least 50% in 2035 and then will be more than 95% after 2050

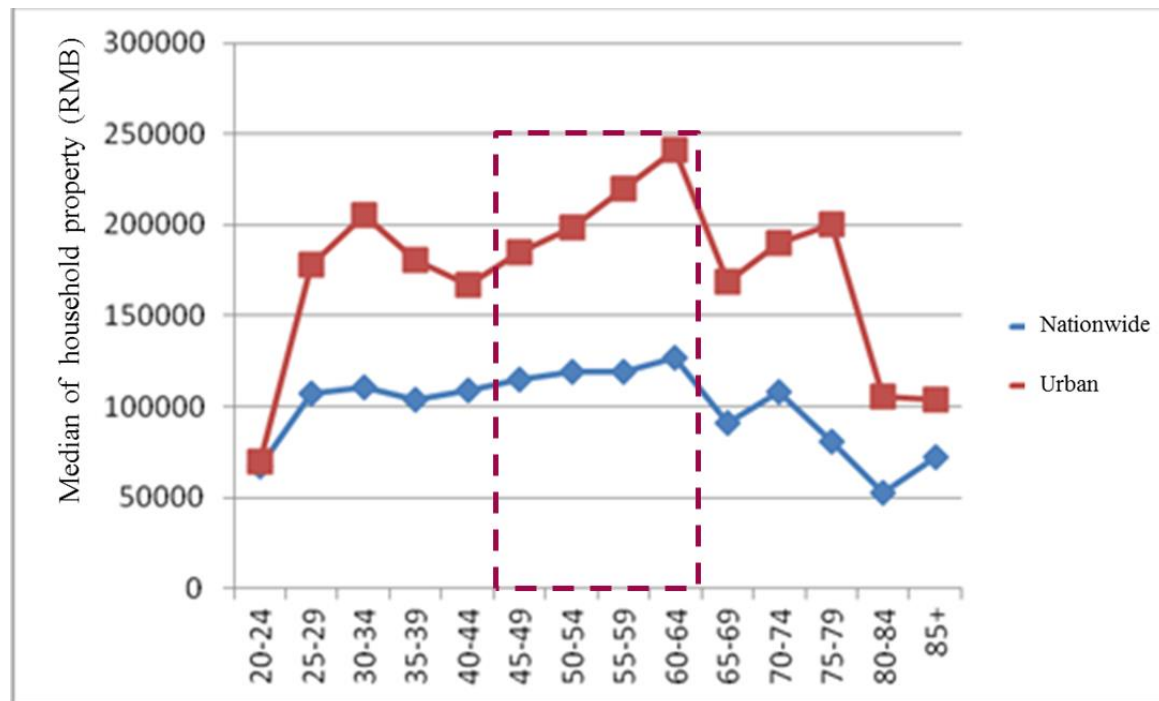


Proportion of Internet users by age

New Features of the Elderly in China



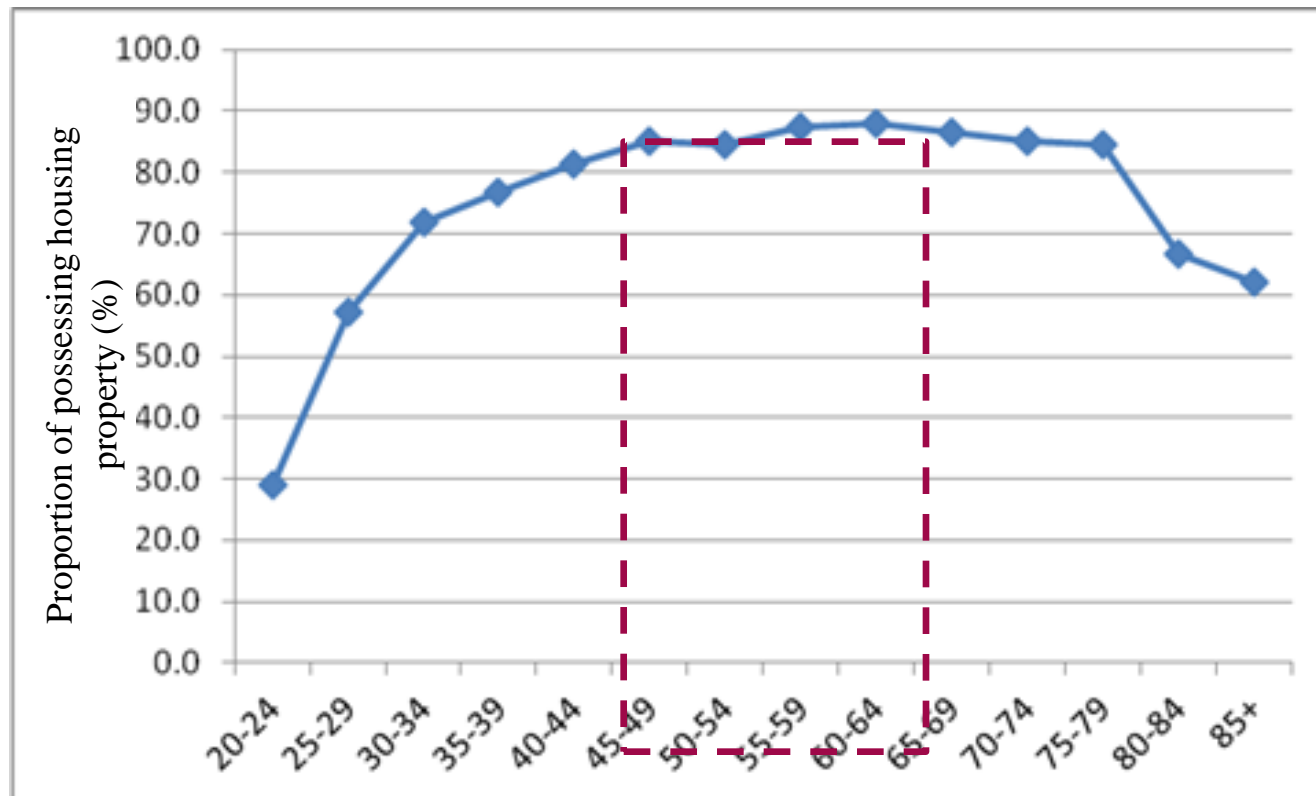
- The new elderly and the young elderly will possess the greatest amount of household property
 - The stocks of household property of population aged 60-64 are the highest followed by population aged 55-59 and the stocks of household property of population aged 45-64 are much higher than that of population aged 80+



New Features of the Elderly in China



- Proportion of possessing housing property is the highest in population aged 45-64, all of which can be more than 80%



Proportion of possessing housing property by age

- **The new elderly and the young elderly will possess the greatest amount of household property (richest generation)**
 - The stocks of household property of population aged 60-64 are the highest followed by population aged 55-59 and the stocks of household property of population aged 45-64 are much higher than that of population aged 80+



THANKS!