

# ***Changes and Solutions in the Education Market***

## ***—Economic Research Based on Era of Negative Population Growth in China***

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**Abstract:** Faced with the current negative population growth in China, the education market will face new challenges and changes. The top priority of the economic downturn in the education market is, first and foremost, to solve the problem of a decrease in the number of students. Based on the reduction of student sources, the supply-demand imbalance in the education market can be analyzed first, followed by several direct reasons, such as social pressure and government fiscal deficits. After identifying the problem, the root cause of the school's student population can be solved based on the problem, or corresponding measures can be taken to alleviate the surplus of teaching staff caused by negative population growth, such as providing no age-limitation or establishing international enrollment, adjusting regional development imbalance in the education field, adjusting teacher resources and the nature of work, and reallocating learning resources. These measures can promote the reform of the Chinese education market, alleviate the financial crisis caused by the decrease in enrollment in Chinese schools, and make the Chinese education market constantly full of vitality and vigor.

**Keywords:** Education market, negative population growth, supply-demand imbalance, student population, international enrollment.

### **1. Introduction**

This article focuses on the plights and challenges that the Chinese education market will experience in the context of negative population growth. This article discusses the impact of China's negative population growth, the problems that have arisen in the Chinese education market, and how to alleviate the crisis in the education market through education reform.

### **2. The impact of negative population growth on education**

In the 1970s, China gradually implemented a one-child policy, mainly advocating for late marriage, late childbirth, fewer births, and better birth, in order to systematically control the population. Since the formulation of this basic national policy on family planning, it has made an undeniable contribution to China's rapid population growth and population development issues[1]. At the beginning of the 21st century, China officially entered an aging population society, and China

adjusted its population and childbirth policies. In 2015, the "two child policy" was lifted. As the birth rate in China continues to decline year by year, China will fully relax its family planning policy in 2021. The two slowdowns in the family planning policy have briefly increased the birth rate, but they have never been able to change the trend of negative population growth[2]. In 2022, China officially entered the era of negative population growth. However, the number of applicants for the Teacher Qualification Certificate has been as a upward trend in these years. So the teaching market environment will face a long-term crisis because of the imbalance between supply and demand.

With the negative growth of China's population, the number of teenagers and young children in China has significantly decreased. The annual decline of China's new population will inevitably lead to a decrease in the number of eligible educated population. Referring to the situation of school mergers and teacher unemployment caused by negative population growth in Japan and the United States, such situations are not conducive to China's education and development[3]. In order to avoid such problems in Chinese schools, timely and reasonable education reform is of utmost importance for the development of education in the new era of China.

At present, there is a general trend of shrinking enrollment in Chinese schools. According to statistics, the number of preschool children aged 3-5 in China has shown a downward trend since 2022, a decrease of 3% compared to the previous year. At the same time, the number of kindergartens in 2022 is also decreasing yearly, a decrease of 5600 compared to 2021. It is estimated that by 2025, the number of preschool children in China will decrease by 39.9% compared to 2020[4]. The emergence of such an educational dilemma will inevitably affect the development of China's education market and economy, and China must find a suitable way out this decline trend of education market development[5].

On January 12, 2023, Minister of Education Jinping Huai mentioned four profound understandings at the National Education Work Conference, with the third key point being "a profound understanding of the urgent requirements of population and social structural changes for the adjustment of education layout structure and resource allocation". However, universities are still in a hot stage and never seem to expected to experience a decline in enrollment in 10 years. A lot of universities continuously expand campus to get enrollment expansion. However, 20 years later, there will be only half of the students. At that time, some universities will face the trend of closure and merger. In the "Opinions on the Establishment of Higher Education Institutions during the 14th Five Year Plan Period" released by the Ministry of Education in July 2021, it was emphasized to strictly control the number of university settings, focus on optimizing the stock, and avoid being greedy for perfection to make blind expansion[6].

### **3. Analysis of Education Issues Currently Faced by China**

According to the data analysis, it can be known that the population of preschool, primary school, and school-age in China will reach their peak in 2022 and 2023, respectively. The school-age population of junior high school, high school, and higher education is expected to peak in 2029, 2032, and 2035. The number of the students has shown the downward trend in China.

However, at the same time, the team of teachers is still growing. According to statistics, the number of applicants for the Teacher Qualification Certificate in 2023 was 11.442 million(as shown in Figure 1), while the number of births in 2023 was 7.88 million, resulting in a significant mismatch between the supply and demand of teachers and students. The teaching staff is too abundant, and the school-age population is decreasing, which greatly occupies the education expenses of schools. At the same time, the unlimited quota of teaching materials and exams also brings greater pressure on many normal students.

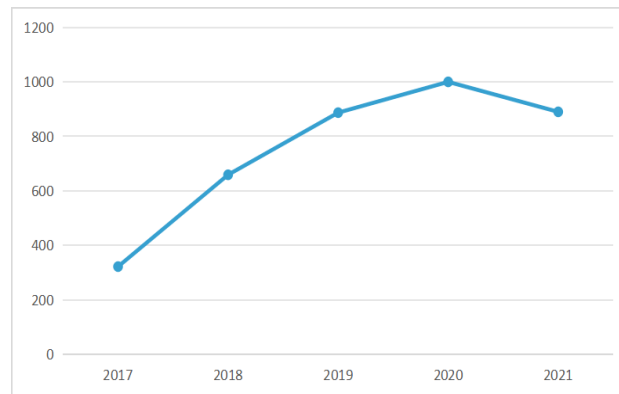


Figure 1: The number of applicants for the the Teacher Qualification Certificate in recent years

Education is a highly valued issue in the new era of China. The average length of education not only represents a country's education level, but also positively reflects individual income levels to a certain extent, promoting national economic development. The average length of education refers to the average total number of years a population group in a certain region has received academic education (including adult education, excluding various educational training) during a certain period of time. Academic education refers to the highest level of education that an individual receives, without distinguishing between graduation, dropout, and school completion[7].

The average length of education in China has been continuously increasing in recent years. From 5.5 years in the fourth population census to 8.8 years in the sixth population census, as of the seventh population census in 2020, the average education level of China's total population is 9.91 years. However, there are differences in the average level of education among different ethnic groups in our country. In western of China, there are lower length of education comparatively. There are some data to analysis the regional development differences(as shown in Figure 2).

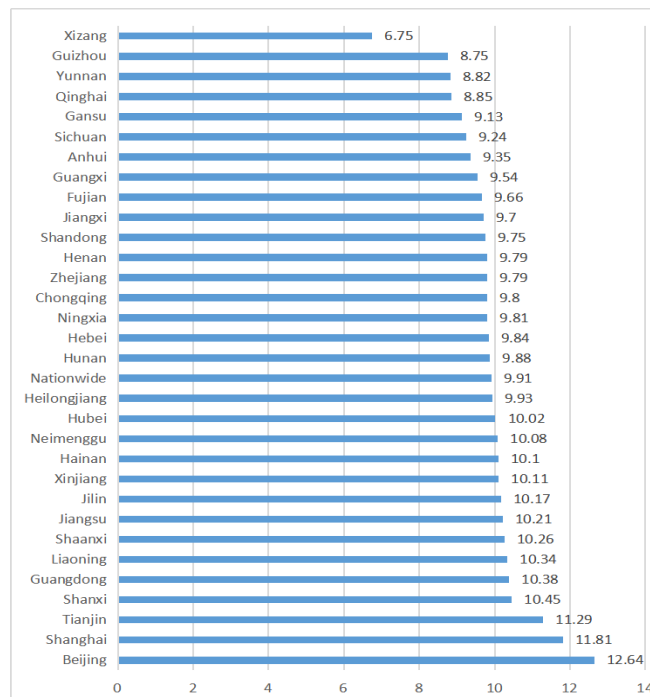


Figure 2: The average years of education for the population aged 15 and above in various regions of China's seventh population census

In 2020, referring to the per capita education years in developed countries, the United States had 13.4 years, Canada had 14.6 years, Australia had 14.4 years, the United Kingdom had 14 years, France had 13.1 years, and Japan had 11.1 years, all of which were longer than the average education level in China[8]. How to focus on improving China's per capita education years by spending more efforts on north-western of China has to be solved rapidly. Therefore, as a starting point to alleviate the decline of China's school-age population, it will inevitably bring more thinking to China's education reform.

According to the results of the seventh national population census, the total fertility rate of women of childbearing age in China in 2020 was 1.3, which is below the "highly sensitive warning line". Furthermore, the Chinese government's expenditure promotes post pandemic economic recovery and reduces funding for childbirth and education. The state must first ensure the healthcare and social welfare of the people, as well as the wages and salaries of national enterprises and units, to ensure the normal operation of necessary and important units of the state[9].

Meanwhile, some schools continuously create better learning resources and environments for students to enhance their competitiveness, such as inviting renowned teachers to teach, teaching on tablets, using built-in computers in the classroom, building laboratories, and enriching the variety of restaurant dishes. These increased funds for school construction will be transferred to teachers and students. Teachers will take more responsibilities to achieving the index rate of entering higher schools so that they can meet the standards setting by schools. As the number of students decreases, the pressure they bear will become more significant and bring hidden burdens to their families.

#### **4. Education reform suitable for China's national conditions**

To face the Difficulties that China has faced recently, it is appropriate for China to reform by carrying out age free education, establishing an international education department, and expanding the source of students.

As China's aging population becomes increasingly severe, the elderly population in China is gradually occupying an indispensable part of the country's population. According to statistics, there are 260 million people aged 60 and above in China, and both the quantity and quality are significantly increasing. Therefore, China can vigorously develop indefinite education and increase the average length of education in China. Chakraborty[10] demonstrated a positive relationship between secondary school enrollment and economic growth using cross-sectional data from 94 countries, while Lee[11] demonstrated a positive relationship between education inequality and economic growth. Therefore, improving the education level of the Chinese population can not only alleviate the problem of declining student sources, but also cultivate more talents. At the same time, establish international departments to promote international academic exchange and friendly exchanges. Recruiting international students can alleviate problems such as a decrease in the number of Chinese students and financial pressure on schools, and promote education reform in China.

It is definitely a good approach that the government make effort to promote innovative reform and adjustment of the teaching staff and redistribution of educational resources. Against the backdrop of a decrease in the number of students in schools, the corresponding demand for teachers has decreased due to the decrease in the number of students [12]. In order to balance income and expenditure, schools will definitely pay attention to resource conservation. The salary of surplus teachers is undoubtedly the primary consideration for schools. The decrease in teacher salaries and layoffs may affect the reform and change of the relatively fixed and stable nature of teaching profession in China. China should attach importance to teachers' structure reform. Therefore, the ratio between teachers and students can be adjusted to make it easier to achieve refined education from teachers to students. Such as the construction of a "dual teacher" teaching team, to improve the quality of education and teaching in higher education institutions [13].

Furthermore, the government should coordinate the allocation of educational resources, provide students with richer educational resources, improve the basic qualities of students in the new era, and enable them to develop comprehensively [14]. In order to achieve refined education, some universities in the United States and Japan have abolished the evaluation of tenured professor positions, and full-time teachers are gradually being transformed into part-time or specialized teachers[15]. This allocation method not only allows students to learn the most advanced and refined education for each part of knowledge, but also stimulates their learning potential and enjoyment, achieving twice the result with half the effort. It should be noted that the reduction of full-time teachers will inevitably affect the teaching enthusiasm of teachers. The country and schools need to strictly control the quality of teaching to provide protection for students. In recent years, China has gradually transformed its "demographic dividend" into a "talent dividend". Only by continuously improving the quality and ability of future labor force, enhancing the knowledge reserves and practical skills of students in the new era, can China make greater contributions.

## 5. Conclusions

Overall, China is facing a situation of negative population growth, which has been gradually demonstrated in preschool childcare institutions and will invade primary schools in the coming years. According to population inertia, unless there are special circumstances, China will continue to develop according to this population trend in the next decade, and education reform is urgent. Among the solutions proposed in this article, implementing age free education and establishing an international education department are the basic measures to expand the student source in the Chinese education market. The development of "indefinite education" provides new and valuable learning opportunities for the middle-aged and elderly groups in China (the group with the largest number of people in China at this stage), increases the average number of years of education and the level of cultural knowledge in China, and then contributes to China's economic development. The decline in teacher salaries and the cancellation of staffing in society will greatly affect the relatively fixed and stable nature of the teaching profession in China, causing many people to hesitate about the teaching profession. At the same time, the cancellation of teacher staffing has complex and far-reaching impacts on the education industry and society. How the country and society will control the quality and salary of teachers is a question worth considering. The new social changes in China will have a significant impact on the country, government, society, schools, families, and other aspects. Faced with the many difficulties and development risks brought by the education market in the new era, China should accelerate the speed and intensity of education reform, create more scientific solutions, and bring more "talent dividends" to China's development.

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