

The Impact of Low Fertility Rate on Education in China and Its Countermeasures

Junjie Liu^{1,a,*}

¹Department of School of Economic and Management, Hubei University of Education, Wuhan, 430205, China

a. ljj@stu.sdp.edu.cn

*corresponding author

Abstract: The change of China's population structure is bound to have a great impact on China's education field. This change has put forward higher requirements for the country's economic and social development. Research on the impact of China's low fertility rate on education and corresponding measures can provide a scientific and powerful basis for government decision-making. This research aims at discussing the influence of low birth rate on Chinese educational development. By analyzing the available documents and positive studies, many factors influence educational development, such as reducing the number of students enrolled, the stress of teachers' job, the unequal allocation of educational resources and the deterioration of educational quality. To address the education challenges of a low birth rate, the following measures are proposed: increase investment in basic education, rationally allocate educational resources, encourage the development of high-quality educational institutions, innovate the education system, and increase support for the education industry. Through these measures, China can provide a better educational environment for the next generation, cultivate outstanding talents, and promote equitable education development. China can overcome the educational challenges brought about by low fertility rates and promote the development of education.

Keywords: Low fertility, education, educational challenges, educational reform, educational development.

1. Introduction

In the world, due to the population policy and education concept change in all countries, the low birth rate of China has gradually aroused people's attention. Low fertility rate has become a universal phenomenon facing the whole world. The construction and development of the future society, especially the change of fertility concept and lifestyle brought about by urbanization and industrialization, will lead to aging and fewer children in the world. This trend has had a profound impact on social structure and economic development. Especially in China, since the birth rate in China has been declining year by year, the change has caused a profound impact on China's social and economic development, and also raised new challenges and opportunities for the Chinese education system. The birth rate in China is constantly decreasing, and this phenomenon is particularly prominent in preschool education, basic education and higher education. According to the report, the number of students in kindergartens, primary and secondary schools, and universities

are all decreasing, which brings great difficulties to rural, vocational and private schools. As the number of children continues to decline, colleges and universities have been forced to change their admissions strategies and teaching resources to meet the needs of more age groups. National Economic & Social Development 14 Five-Year Plan and Outline of Vision Goals for 2035 The State Council in 2021, it is pointed out that the inclusiveness of the family policy should be improved, the potential of the family policy should be continuously tapped and released, and new opportunities should be created in times of change and in times of crisis [1].

The change of China's population structure is bound to have a great impact on China's education field. This change has put forward higher requirements for the country's economic and social development. Research on the impact of China's low fertility rate on education and corresponding measures can provide a scientific and powerful basis for government decision-making, provide impetus for education reform and innovation, provide important references for educators, and enable parents to have an accurate understanding of the future trend of education. Simultaneously, it is also conducive to promoting the equitable development of education, thus promoting the stable social development. In addition, studying the impact of low fertility on education can also help the government better understand the future education situation and make overall plans for future changes in the education pattern. Therefore, it is of great significance to study the impact of China's low fertility rate on education.

The topic of this study is the impact of China's low fertility rate on education and its measures. Through comprehensive analysis of existing literature and empirical research, the study will explore the mechanism, influencing factors and possible coping strategies of low fertility on education.

2. Present Situation of Low Fertility

2.1. Demographic Data

China's birth rate is falling. According to data the number of births in 2022 was 9.56 million. It was the first time since 1950 that the number of births fell below 10 million, down from 10.62 million in 2021. According to the National Bureau of Statistics, the number of births from 2016 to 2023 was 17.86 million, 17.23 million, 15.23 million, 14.65 million, 12 million and 10.62 million, and 9.56 million and 9.02 million(as show in figure 1), respectively. According to the seventh national census in 2020, China's working population has decreased by 40 million compared with 2010, and the number of people over the age of 60 has increased by 18.7 percent [2]. Based on the Seventh Population Survey in 2020, the Chinese birth rate is 1.3, which is an extremely low birth rate. This shows that our country is at an extremely serious birth risk [3].

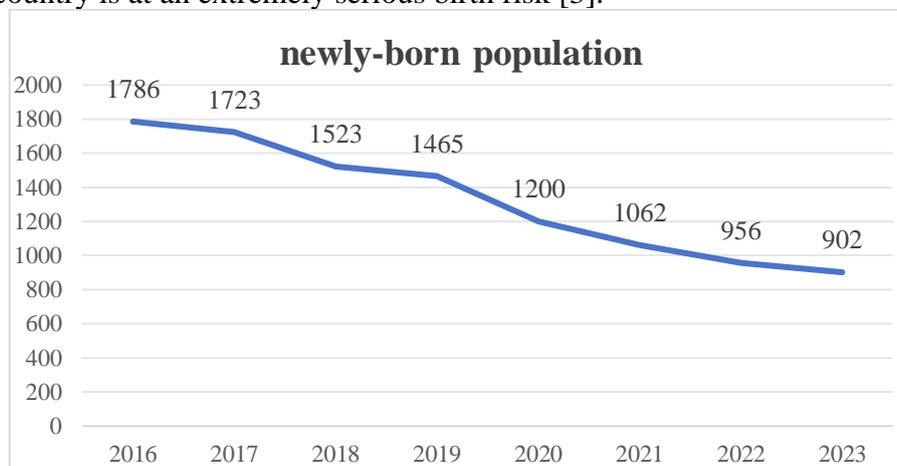


Figure 1: Chinese birth data table

2.2. Changes in Social Attitudes

Modern youth's ideas about marriage and bearing have been greatly changed, no longer taking marriage and childbearing as the main goal, but taking spiritual and material promotion as the main goal. The ideal marriage age of college students is 26.7 years old, nearly 70% believe that "life is not necessary to get married, should let nature take its course", nearly 11% hope to stay single or cohabitation, only about 20% think that "no matter what to get married". Those who want to have only one child accounted for 20.63%, those who want to have two children accounted for 42.29%, and those who want to have three or more children accounted for less than 3% [4].

2.3. Marriage Rate

Marriage rates are falling in China. On October 13, 2023, the "Statistical Communique for Civil Affairs Undertakings Development in 2022" was published by the Ministry of Civil Affairs, which indicated that in 2022 there were 6,835 million registered couples registered under the law, a decrease of 10.6 percent compared with last year. The proportion of married couples is 4.8, which is 0.6, 000 lower than last year. The National Bureau of Statistical and Civil Affairs reported that it was the first time that there had been fewer than seven million registered couples in the nation since 1980, hitting a 43-year low. Compared with the historical peak of 13.469 million couples in 2013, the number of marriage registrations in 2022 has nearly halved.

3. The Impact of Low Fertility on Education

3.1. School Enrollment

The decline in the fertility rate means that the market demand for education will decrease, according to the "National Statistical Bulletin of Education Development in 2021", the number of general undergraduate enrollment, vocational undergraduate enrollment and vocational (junior college) enrollment in 2021 will be 10.0132 million, higher than the number of new births in 2022 [5]. This means that the supply of universities in the future will be higher than the demand, which will lead to the merger and disappearance of some universities. International experience also shows that taking Japan, On June 19, 2023, Japanese media reported that the crisis of fewer children will also deal a blow to the education sector, and it is estimated that 200 universities will close down due to a lack of students. According to the Nihon Keizun Shimbun, in the first half of 2023 alone, the short-term college departments of Keizumi Women's Gakuen University, Kobe Sea Star Women's Gakuen University, Sophia University, and Ryutani University have announced that they will stop recruiting students.

3.2. Teacher Change

A low birth rate means fewer students and less demand for teachers. This will lead to increased employment pressure on teachers, and some teachers may face unemployment or employment difficulties. In 2022, the Ningbo Education Bureau announced to withdraw teachers in public primary and secondary schools and kindergartens who fail to pass the assessment. Since 2017, the national population has fallen between one and two million per year since last year. In 2017, yearly births peaked at 17.64 million, and have fallen every year since then, to just over 9.5 million in last year 22, a decrease of nearly half. Even if the number of children born each year stabilized at 9.5 million a year and all of them went to primary school, there would be only 57 million, and at most 3,562,500 teachers needed. In other words, in the best case, there may be more than 2 million primary school teachers facing unemployment, an average of two primary school teachers, one unemployed. When

these students go to secondary school and university, secondary school teachers and university teachers also face unemployment waves.

3.3. Allocation of Educational Resources

Low fertility means fewer students, which can lead to waste and uneven distribution of educational resources. Schools and educational institutions may need to reassess and reallocate resources to accommodate the decline in student numbers. Some regions may face the problem of excess education resources, while others may face the challenge of insufficient education resources. The demand for the scale of primary school buildings shows a downward trend, but according to the current scale, there is still a certain gap in primary school buildings in cities, counties and towns, and a large number of rural primary schools are idle [6]. With the decrease in enrollment scale, the number of degrees in each section will show a trend of changing from short supply to oversupply, and the conflict between the compression of demand for educational students and the expansion of the supply of educational resources will intensify, which will easily lead to the intensification of competition for high-quality students and a huge waste of educational resources [7].

3.4. Quality of Education

A low birth rate causes the school-age population to fall, and education resources are unevenly distributed. Simultaneously, the low fertility rate will exacerbate the aging population, making the problem worse, increasing social pressure and reducing the education budget. At the same time, the emergence of low fertility is partly because most people's conception of fertility has become eugenic and eugenic, and parents pay more attention to the quality of education. The above changes will affect the reform of education. This shift in mindset will shift education from quantitative expansion to qualitative improvement.

4. Education Reform and Development

4.1. Educational Policy Adjustment

The State should increase investment in preschool education, compulsory education and other basic education, and improve the quality of running schools and education.

4.1.1. Resource allocation

Due to the decrease of school-age population, schools are faced with enrollment problems, and educational resources should be allocated according to actual needs. The government can optimize the allocation of resources by merging rural schools and adjusting the number of teachers to ensure the rational allocation of educational resources.

4.1.2. The provision of quality educational resources

As families are more willing to invest in their children's education, the government can encourage and support the development of quality educational institutions and provide more quality educational resources. At the same time, more excellent teachers can be attracted to work in education by raising teachers' salaries and improving educational facilities.

4.1.3. Education system reform

The education system can be innovated and reformed to provide diversified education methods and curricula. For example, the introduction of vocational education to train more technical talents to meet

the needs of society for all kinds of talents. At the same time, the university should attach great importance to the overall development of the students, and focus on developing their innovation, practice and overall competence.

4.2. Education Industry

The government can increase support for education-related industries, which can not only increase education funds, but also provide more education jobs for the society. However, it is necessary to combine profits with public welfare organically to avoid the loss of the original intention of teaching and educating people due to excessive economic and industrialization. Because the emphasis on the industrialization of education is not to completely realize the reform of education as an enterprise, but based on promoting the development of the education industry, it is necessary to keep education from its original intention of teaching and educating people, so that the development of education is not separated from the control of the education department of the government, and the for-profit and public welfare are combined [8].

The government can improve quality education by encouraging diversity in education. The government can promote and support various kinds of schools, such as public, private, foreign, and so on. Through diversification of education provision, it is possible to satisfy the demand of various students and to enhance their educational quality. The establishment of government-controlled educational groups, the integration of certain rural and city schools into one community [9].

4.3. Educational Pattern

In terms of teaching scale, foreign small-class policies can be introduced, and students can be distributed into small classes. Such a practice can not only provide more personalized education for children, but also reduce the pressure on teachers, so that teachers can better pay attention to each student, communicate and provide help, improve the quality of education, and provide more jobs to solve the problem of teacher unemployment to a certain extent.

4.4. Family Education

This research has the benefit of allowing parents to adopt suitable home-schooling, which will have a beneficial impact on them [10]. Under the background of low fertility rate, each family has almost one child, and the focus of parents all focused on one child, paying more attention to the quality development and comprehensive development of children. Parents can actively find and use educational resources, such as libraries, educational institutions, online learning platforms, etc., to provide their children with a wider range of learning opportunities and resources. In addition, in addition to paying attention to academic achievements, parents also need to take care of their children's overall growth. Encourage children to participate in various hobbies and practical activities to cultivate their creativity, social skills, leadership and other comprehensive qualities. This can help children better adapt to the social needs of the future. Finally, parents must set up a right view on home education, and focus on developing their independent ability, self-confidence and sense of responsibility. Avoid overprotection and coddling, encourage children to face challenges and difficulties, and develop their adaptability and problem-solving skills.

5. Conclusion

In summary, the present state of low birth rate is having an important effect on the educational sphere. According to demographic data, the decline in the number of births has led to a decrease in the demand of the education market, which has caused problems in the allocation of education resources,

the employment of teachers and the quality of education. At the same time, changes in social attitudes have also had a profound impact on the concept of marriage and fertility, with young people paying more attention to spiritual and material advancement, and marriage and fertility are no longer the main goals.

The impact of low fertility on education cannot be ignored. The decline in school enrollment means that college supply will outstrip demand in the future, leading to the possibility that some colleges will merge or disappear. Teachers face increased employment pressure, as fewer students mean less demand for teachers. The allocation of educational resources is also facing problems, some regions may face the challenge of excess educational resources, while others face the challenge of insufficient educational resources. Moreover, the educational quality is also influenced. The decrease of school age population and unequal allocation of education resources will make this issue worse.

To cope with the education problems of low birth rate, educational institution need to reform and develop the education system. First, the government should increase investment in basic education, especially in preschool education and compulsory education, while improving the quality of schools. Secondly, educational resources should be redistributed according to actual needs, which can be realized by merging rural schools and adjusting the number of teachers. Educational institution should also encourage and support the development of quality educational institutions and provide more quality educational resources. The education system also needs to be innovated and reformed, providing diversified educational methods and courses, and cultivating more technical talents and comprehensive qualities. In addition, the government can increase its support for education-related industries to provide more educational employment opportunities.

Looking forward to the future, the study hope that through education reform and development, China can meet the educational challenges brought by low fertility. By optimizing the allocation of resources, improving the quality of schools, cultivating diverse talents and encouraging family education, educational institution can provide a better educational environment for the next generation, Cultivate more talented people and contribute to social development. Simultaneously, educational organizations should also focus on fairness and sustainability, and ensure that every child can enjoy equal educational opportunities. Although this study has already mentioned the impact of low fertility rate on education quality, it has not specifically discussed the impact of changes in education quality and uneven distribution of education resources on students' learning outcomes and comprehensive quality. Future studies will examine the specific impact of low fertility on education quality and offer recommendations for improvement. By working together, we can solve the educational issues caused by the low birthrate and improve education.

References

- [1] Cheng, Y. (2022). *High-quality Development: The Demands, Challenges and Responses of The Times of Preschool Education -- An Overview of the 7th Cross-Straits Preschool Education Forum*. *Journal of Shaanxi Preschool Teachers College*, 38(04), 15-21.
- [2] Cao, K. (2022). *A Comparative Study on the Cultural Construction of Preschool Education in Middle and Higher Vocational Schools from the Perspective of High Quality -- Based on an Empirical Survey of 3313 Middle and Higher Vocational Students in Guangdong Province*. *Journal of Xinjiang Vocational University*, 30 (02), 16-22.
- [3] Li, H., Chu, H.T. (2024). *Challenges and Countermeasures for High-quality Development of Pre-school Education under the Background of Low Fertility Rate*. *Journal of Heilongjiang Teacher Development College*, 43 (02), 135-138.
- [4] Mao, Z.Y., Ji, S.M., Wan, L.L. (2024). *Development Trend of Contemporary College Students' Love, Marriage and Fertility Concept under Low Fertility Rate: An Analysis Based on 32,282 Survey Data in China*. *Youth*, 02, 88-101.
- [5] Qu, X.B., Zhang, C. (2023). *The Impact of Demographic Change on Educational Distribution*. 2023.11.15. 2024.4.14. http://m.jyb.cn/rmtzcg/xwy/wzxw/202311/t20231115_2111117105_wap.html

- [6] Li, W., Yang, S.Y., Xu, J.B. (2024). *Demand Prediction and Planning of Compulsory Education Resources in Urban and Rural Areas in China under the Background of Population Change*. *Modern Distance Education Research*, 1-11.
- [7] Zhang, W., Xu, P.J. (2024). *How to Develop Education with High Quality under the New Situation of Population?*. *Qun Yan*, 01, 17-19.
- [8] Tan, J. (2022). *The Notion of Education Industry in China and Policy Innovation*. *Journal of Finance*, 28, 66-68.
- [9] Hao, Y. (2021). *Tightened Regulations on Education Industry in China: Reasons, Challenges, and Solutions*. *International Journal of New Developments in Education*.
- [10] Handayani, R., Purbasari, I., Setiawan, D., et al. (2021). *The Role of Family Education in Forming the Independent Character of Students in Elementary School*. *International Journal of Elementary Education*, 5(2), 291-297.