

Analysis on the Cold Situation of “Universal Two-Child” Policy from the Micro Perspective

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Abstract. Since the implementation of the “universal two-child” policy, China’s population has not seen the sharp rise in birth rate and population rebound as expected by experts. Based on the cost-utility theory of children, combined with the quantity and quality substitution theory of children and the wealth flow theory, this paper analyzes the problem of the “universal two-child” policy being cold in China from the micro perspective, and finds that the utility of children in China is declining, and the cost is rising, and the rational choice of parents leads to the low fertility rate.

Introduction

In recent years, with the continuous decline of fertility level, China’s population problem has changed from the challenge brought by high fertility rate to the difficulties related to low fertility such as population aging, fewer children and labor supply shortage. The recent implementation of a series of progressive birth policy reform in China is a positive response to this change. On October 29, 2015, xinhua authorized the release of the communique of the fifth plenary session of the 18th central committee of the communist party of China (CPC), proposing to fully implement the two-child policy for a couple and actively carry out the action against the aging population.

Questions Raised

In 2016, the calculation and study on the population change of implementing the “universal two-child” policy, edited by Wang Pei’an, former deputy director of the national health and family planning commission, predicted the number of births in China from 2017 to 2021, as shown in Table 1.

Table 1. Annual estimated births for different programmes [Ten thousand]

Year	Policy not adjusted	After policy adjustment		
		High prediction	Medium prediction	Low prediction
2016	1767.2	1767.2	1767.2	1767.2
2017	1770.0	2195.1	2109.9	2023.2
2018	1724.8	2294.3	2188.6	2082.4
2019	1674.5	2172.7	2077.3	1982.2
2020	1583.0	2035.9	1935.8	1845.5
2021	1528.9	1740.9	1689.1	1641.7

However, the actual data are shown in Table 2.

Table 2. Birth rate, natural growth rate and number of births in 2016-2018

Year	Birth rate[‰]	Natural growth rate [‰]	Number of births [Ten thousand]
2016	12.95	5.86	1786
2017	12.43	5.32	1723
2018	10.94	3.81	1523

Data source: China statistical yearbook and data released by the National Bureau of Statistics

By comparing actual data with predicted data, it was found that the actual birth population in 2017 was 17.23 million, 3.002 million less than the lowest forecast. The actual number of births in 2018 was 15.23 million, 5.594 million less than the lowest estimate and 2.018 million less than expected without the “universal two-child” policy. Since the implementation of the “universal two-child” policy more than three years ago, the number of births in China has not exceeded 18 million, far below the minimum forecast.

Background of the Problem

High Fertility Costs

With the development of market economy, big cities take the lead in entering the fine parenting model for children, and the cost of parenting rises sharply. Bearing and raising children has become more and more expensive and rational behavior. Without better family economic conditions as a basis, some families want to have children but dare not. [1]

Transformation of Pension Mode

At the beginning of the 21st century, China’s aging population has been growing; the traditional family endowment gradually cannot meet the demand of the elderly primary endowment. Professor of Peking University institute of population Mu Guangzong said, “home care” for lack of survival risk control mechanism of emergency, only suitable for those who are healthy, have a spouse, a family member or a nanny. In the process of rapid social and economic development, the number of children is less, and parents are no longer taken as the highest value of life, the traditional family pension function with children as the core is facing impact and weakening.[2]

Intergenerational Flow of Wealth

According to the survey data on the status quo of intergenerational wealth transfer in Chinese families, the proportion of transfer payment of respondents to their children is as high as 29%, and the average annual transfer payment has reached 2,430 yuan, but the average annual transfer payment of children to the respondents is 1,912 yuan. [3]

Analysis Tools

Cost-Utility Theory of Children

In 1957, Harvey Leibenstein proposed the cost-effectiveness theory of children. The theory assumes that children have three types of utility: (1) consumption utility, the child is a special consumer goods; (2) work/income utility; (3) security utility, the main content of the pension is economic support, life care and spiritual comfort. And assume that children have two types of costs: (1) direct cost (food, clothing, housing, education); (2) indirect cost (opportunity cost caused by time loss, such as work income and leisure time). And let’s say that the utility of the n child is less than the utility of the n-1 child, and the cost of the n child is greater than the cost of the n-1 child; The utility of consumption is a constant, and the utility of work and security decrease with the increase of income. Costs increase as revenue increases. As shown in Figure 1, the conclusion is that with the increase in income, the fertility rate will decline due to the rising cost and declining

utility of children.

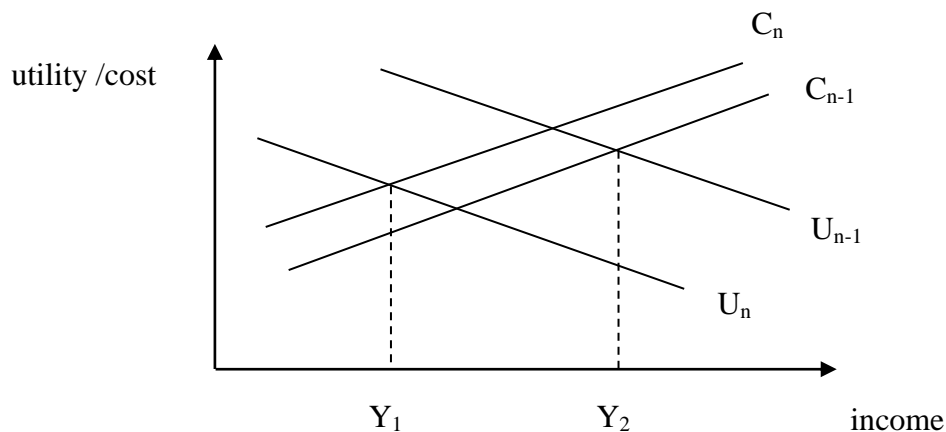


Fig. 1

Quantity and Quality Substitution Theory of Children

In 1960, Gray S Becker put forward the quantity and quality substitution theory of children, which assumed that parents' utility was constituted by the number of children, the quality of children and the consumption of other goods, and children were a kind of durable consumer goods. Utility function is established based on consumer behavior theory: $U=U(N, Q, S)$. Where N represents the number of children, Q represents the quality of children, and S represents other goods. By establishing budget constraints, figure out the shadow price of the number and quality of children. The shadow price of both quantity and quality of children contains variables related to each other, which becomes the basis of the interaction between quantity and quality of children. For example, the increase of the demand for quality will increase the shadow price of the number of children, while the decrease of the demand for the number of children will decrease the shadow price of quality.[4] A child is like a durable consumer good (long life and carefully purchased, such as home appliances). As incomes rise, parents' choices become more quality-oriented, so the cost of investing in the number of children shifts to the cost of the quality of the children, resulting in fewer children.

Wealth Flow Theory

John Caldwell, an Australian demographer, put forward in his book "fertility decline theory" that: the flow and exchange of wealth between generations in a family, thus affecting the family fertility rate. He believes that economic analysis method is the most fundamental method for studying changes in family size. Generally speaking, the economic structure within the family remains unchanged, and the family fertility rate will remain roughly the same. Once the economic structure of the family changes, the family fertility rate will also change. As long as the family maintains a structure of parental ownership of wealth, which is the dominant source of family wealth and allows the wealth acquired by children to continue to flow to their parents, the family will continue to maintain a pattern of high fertility. Once the family wealth starts to flow to the children, there will be a trend of family and even social fertility rate decline.

Problem Analysis

Utility Analysis of Children

Consumption Utility.

The consumption utility of children in a family is usually regarded as a constant, because it is

hard to imagine that the emotional utility brought to parents by family affection and companionship will change with the change of income.

Work/income Utility.

As mentioned in the background, in the investigation of the current situation of family wealth transfer in China, the trend of wealth flow is from traditional “children to family” to “family to children”. The neet group has been a social phenomenon in China for a long time. Nowadays, the bride price and wedding house for children’s marriage may exhaust their parents’ life savings and even require them to go into debt. Therefore, from the perspective of economic utility, the economic benefits brought by children to their parents are weakened to some extent due to the change in the direction of family wealth flow.

Security Utility.

As mentioned in the background, with the improvement of China’s social security system, family pension is gradually replaced by a variety of pension modes. Children no longer take supporting their parents as the highest value of life and the traditional family pension function is faced with impact and weakening. Therefore, for parents, the security utility of their children is decreasing.

Consumption utility is constant; income utility and security utility are decreasing to some extent. Overall, the child’s utility is decreasing.

Cost Analysis of Children

Direct Cost.

First of all, from the perspective of time span, generally the western accounting of fertility costs terminates in the adult independence of children, but in many families in China, fertility costs extend to the life, love and marriage of children after adulthood, especially for boys, this phenomenon is relatively common in China. Secondly, from the perspective of parents’ demand for children’s quality, with the continuous development of China’s economy and society and the continuous increase of residents’ per capita income, parents’ demand for children’s quality has also increased. Parents’ meticulous parenting of their children in big cities means imported milk powder, early education classes, school district rooms, all kinds of interest classes and tutoring classes. The amount of time, money and energy invested in raising children in this refined parenting model is unprecedented. According to the quantity and quality substitution theory of children, improving the quality of children will increase the cost of the number of children. According to the birth rate in various regions, the birth rate in developed regions such as Beijing, Shanghai and jiangsu is less than 10‰, because the economic pressure in these developed regions is greater.

Indirect Cost.

In addition to the time and effort it takes to have a child, it can also cost you money from your job, and it can easily lead to lost career opportunities and lost leisure time. China’s female employment rate is very high. According to the survey results of American bain company on gender equality in the workplace in 2016, Chinese female employment rate is as high as 73%, which is ahead of developed countries such as the United States, Britain and Australia, and is one of the countries with the highest female employment rate in the world. Therefore, the opportunity cost of having children is very high for women in our country. Especially in Beijing, Shanghai and other big cities, the cost of living is higher, and the pressure of job competition is bigger, and the indirect cost is higher.

To sum up, with the development of China’s economy, the utility of children is decreasing while the cost is increasing. According to the cost-utility theory of children, parents tend to choose fewer children by weighing the cost and utility of children.

Summary

In the three theories mentioned above, a common assumption is the continuous development of

the economy and society. The cost-utility theory of children suggests that the fertility rate will fall as the cost of children increases as income increases. The quantity and quality substitution theory of children assumes that as incomes rise, parents prefer quality, which will lead to higher shadow price of quantity, as a result, the number of children declined and the fertility rate dropped. The theory of wealth flow proposes that with the development of society entering industrialization, the change of family wealth flow leads to the decrease of fertility rate. According to the current situation in China, the utility of children is declining, the cost is rising and the fertility rate is decreasing year by year. The present situation of our country can confirm that the fertility rate decline is the trend brought by the economic and social development.

Under the reality of high cost and low utility of children, rational decisions of families have led to the decline of fertility rate in China. Therefore, the key to solving the problem of falling fertility rate should be considered from these two aspects. The development of the society is irreversible. How to improve the utility and reduce the cost through policy intervention so that families decide to have more children is the direction of consideration. For example, we should develop more comprehensive welfare policies for women, provide more welfare subsidies for families that have more children, expand education service resources, improve education fairness and reduce the education cost for children.

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