

Analysis of the decline of fertility rate in contemporary China - -Based on the Rebinstein “reasonable choice model for marginal children”

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Abstract: The data of the seventh census shows that the total fertility rate of Chinese women of childbearing age has fallen below the warning line, which not only affects the population number and structure of the country, but also affects the overall social and economic development of the country. According to lebinstein’s “reasonable choice model of marginal children”, with the development of social economy, the cost of raising children keeps rising and the benefits keep declining, making modern people tend to have late childbearing and fewer children.

Key words: marginal cost; marginal benefit; fertility rate

I. Introduction of Leibenstein’s “Marginal Child Rational Choice Model” Theory

In 1957, the American economist Leibenstein proposed the marginal child rational choice model to explain the problem of declining fertility in the process of sustained economic growth, and put forward the “comparative cost-benefit theory” to establish a microeconomic model of fertility, and on this basis, he examined the family’s On this basis, we examine the fertility decisions of families.

(1) Costs of having children

In the “Marginal Child Rational Choice Model,” Reibenstein argues that children, like commodities, cost money to raise and bring economic benefits to the family. Therefore, a couple should consider the benefits and costs of children when making childbearing decisions. When the costs of raising children outweigh the benefits, families tend to have fewer children; when the benefits outweigh the costs, families tend to have more children.

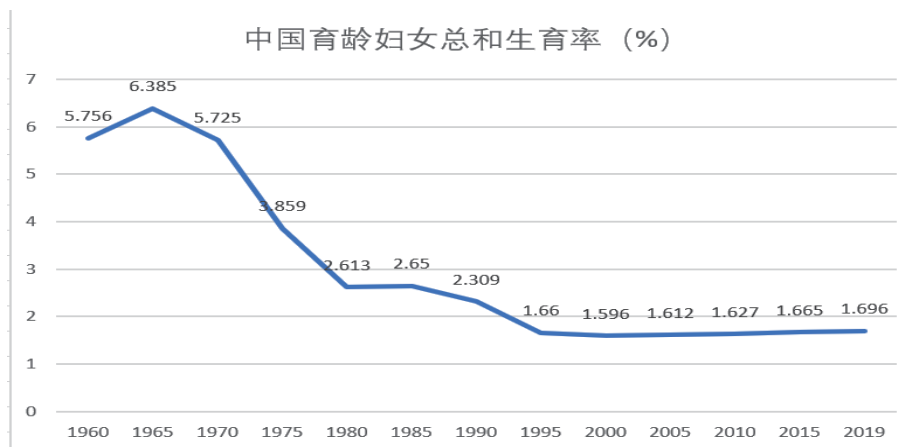
(2) Benefits of having children

Reibenstein uses the “marginal benefit theory” of economics to explain the ideal number of children that families decide to have, and he divides the utility of having more children into three kinds: 1. security. In a further analysis, Leibenstein added three new utilities, which are: 1. the economic risk role, the child can share the economic risk of the family; 2. the role of maintaining the status of the family, for example, the child can provide income and security for the family; 3. the utility of contributing to the expansion and development of the family.

II. The current situation of childbearing among women of childbearing age in China

(1) Choice of the number of births

In the second half of the 20th century, the fertility level of women of childbearing age in China has experienced a rapid decline. before 1980, the total fertility rate in China had been maintained above 3, but after 1980, the total fertility rate level has dropped rapidly to about 2. according to the data of the seventh national census, the total fertility rate in China has dropped to 1.3. but 1.3 is far below China’s 2.1 population replacement level.



(Source: World Bank)

In order to alleviate the low fertility rate in China, the government liberalized its fertility policy in 2016. The development of fertility technology in current Chinese society, institutional changes, the transformation of traditional fertility culture, the improvement of women’s status and education, and the expansion of women’s fertility autonomy have led modern people to shift from the traditional fertility view of having more children and more happiness to the fertility view of having fewer children and more children.

(2) Gender preference

The sex ratio of the birth population is a direct manifestation of modern gender preference. The sex ratio at birth refers to the ratio of male babies to female babies born in a certain period of time in a certain country or region, usually expressed in terms of the number of male babies for 100 female babies, and the normal sex ratio at birth is between 102 and 107. In the 1980s, when family planning was introduced, the sex ratio at birth in China began to deviate from the normal range, and this situation was accompanied by a decline in the fertility rate, where a couple could only have one child, and then there was a preference for a boy.

National Sex Ratio at Birth 1990-2015

Year	Urban	Rural	Total population
1990	109.93	111.83	111.45
2000	116.41	121.67	119.92
2010	120.15	122.09	121.21
2015	112.53	114.8	113.54

(Data source: National Statistical Office)

The above table shows that there is a serious imbalance in the gender ratio in our country. With the improvement of people's education, especially women's education and the change of women's social status, the "male preference" concept of childbirth is receding and people gradually tend to have no preference for childbirth.

(3) The age of first marriage and first childbirth is increasing

According to the national fertility sampling data, the age of first marriage for women of childbearing age in China showed an obvious rising trend from 2006 to 2016, rising from 23.6 years old in 2006 to 26.3 years old in 2016. The age of first marriage for urban women rose from 24.6 to 26.9; the age of first marriage for rural women rose from 22.8 to 25.6. If we roughly consider the age of first marriage as the age of first childbearing, the increasing average age of first marriage for women means that the age of childbearing for women in China is increasing, as well as the quality and civilization of our population is also increasing. It also means that women's status is improving, their education level is increasing, and the majority of women are no longer dependent on their families but more seeking their own independence and development.

Average age of first marriage of women of childbearing age by urban and rural areas, 2006-2016

Year	National (years)	Urban (years)	Rural (years)
2006	23.6	24.6	22.8
2008	23.8	24.7	23.0
2010	24.0	24.9	23.3
2012	24.8	25.6	23.9
2014	25.6	26.2	24.9
2016	26.3	26.9	25.6

(Data source: 2017 National Sample Survey on Fertility Status)

III. Reasons for fertility decline explained by Leibenstein's "cost-effectiveness of children" theory

By analyzing Leibenstein's theory, children exist as a special commodity, and there are costs associated with raising children, but parents also gain benefits from them. The costs of raising children include direct costs and indirect costs, such as the cost of living, education, and medical care. Indirect costs include hidden costs and opportunity costs, such as time and energy. The indirect costs of raising a child include the loss of wages during pregnancy and breastfeeding, the loss of education and work opportunities to care for the child, and the damage to the body during childbirth, which makes women think more about having children.

In Reibenstein's "cost-benefit of children" theory, the benefits of children are what motivate people to have more children, but the utility of children is diminishing as the economy grows. When parents view children as special consumer goods, they can derive moral satisfaction from them, which is replaced by the stress of having children as they grow up. Second, children have a certain economic utility. The economic utility here is the child's existence as a labor force and a means of production in the family. In contemporary China, the use of children as a source of economy decreases, mainly because in modern society, raising children depends mainly on the wealth of the fathers, when wealth in general flows from the fathers to the children. Lastly, the potential role of children as an old-age security, as Chinese society enters an early aging stage, which will lead to a squeeze on resources for raising children as social resources are tilted toward the elderly, will also lead to a continued decrease in people's willingness to have children.

The above "cost-utility" analysis of child rearing shows that a couple should consider both utility and cost when considering child rearing. In contemporary society, the cost of raising children is increasing and the benefits are decreasing, so the marginal utility of children decreases as family income increases, i.e., the marginal utility of children decreases.

IV. Summary and Reflection

Looking at the development of human society as a whole, the decline of people's fertility is an inevitable result of the increase of social development level, and economy is an important factor affecting people's willingness to have children. Through Leibenstein's cost and benefit theory of children, it is a rational way for people to consider the cost and benefit when they have children. But this rational way of considering also has flaws. By viewing children as a commodity or consumer good, Leibenstein does not take into account the irrational factors that people take into account when they have children. If people's reproductive behavior is treated in a completely rational way, there will be many loopholes, such as saying that poor people do not have children because they do not have enough costs to raise a child? This argument is clearly incorrect; people's reproductive behavior is not only based on costs and benefits, but also on personal emotions, etc.

In conclusion, Leibenstein's utility analysis of the costs of having children provides a favorable theoretical tool for explaining modern people's fertility intentions and fertility behaviors, especially in the context of China's complex demographic situation, and is of great significance in guiding the construction of a fertility culture in China through the role that the costs and utilities of children play in fertility intentions and behaviors.

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