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The Influence of Boys and Girls on Family Happiness

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Abstract: There has had a strong "boy preference" in China since ancient times. The birth ratio has increased in recent years, which has exacerbated the imbalance in the ratio of men to women. This imbalance has brought negative effects on the stable development of a moral society and the marriage market. This paper uses CHIP survey data, taking household consumption expenditure on non-essential goods as a proxy variable for household happiness, and using least squares estimation and maximum likelihood estimation to compare the differences in household happiness in different children's gender. The research results show that daughters bring higher happiness to the family than sons. This conclusion has certain guiding significance for solving the problem of China's gender ratio imbalance.

1. Introduction

China's patriarchal ideology is deeply ingrained, especially in areas with relatively low cultural levels such as townships. By comparing the two sets of data, it is found that the national birth ratio was 117 in the fifth census, and it was as high as 130 in a few provinces. However, the birth ratio of the sixth census rose to 121.21 nationwide, and the imbalance of the birth ratio was particularly obvious among the second-child births. Among them, the province with the highest second-child birth ratio was Anhui Province, reaching as high as 168.32. The sex ratios of births in the central and southern regions were generally relatively high, while those in the northern regions are mainly Henan, Shandong, and Gansu. Given this, China has also put forward related goals, tasks, and regulations, but there are many problems in actual implementation, at the same time, it is difficult to make much change in the adjustment of the population and birth policy and the change of traditional culture[1]. The imbalance in the birth ratio will directly lead to the imbalance in the number of men and women in the future, which will have a certain impact on the stability of social operation and moral standards, and the marriage market will also face tremendous pressure, a considerable number of males could not get married due to the high number of betrothal money to the bride. In China's concept of "passing on from generation to generation", men generally play a leading role, and the consumption value and investment value of sons are generally higher than those of daughters. Therefore, people generally have a strong "boy preference", which is the main reason for the imbalance in the modern birth ratio. Although, after the implementation of the population control policy, the birth rate has declined, and the ideal number of children for most women has also decreased, which has alleviated the imbalance in the sex ratio to a certain extent. However, these policies have not fundamentally solved the problem of the imbalance of the sex ratio at birth in China. This article uses CHIP survey data to explore the impact of children's gender on family happiness, trying to alleviate the stereotype of "preferring boys

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to girls ", providing people with a comparison of the relative value of boys and girls, and providing some reference for reducing social conflicts

2. Literature review

The issue of gender ratio has been paid attention to by many scholars early on. Shi compared the data of the Fifth and Sixth Census and found that the sex ratio at birth in China continued to rise[2]. Wang stated that even though the cyclical fluctuation of the sex ratio at birth is a major variable in the global sex ratio, this is not the main factor affecting the sex ratio at birth in China. Instead, sex selection behavior is the main cause of the imbalance of the sex ratio at birth[3]. In China's traditional view, sons' consumption value and investment value are generally higher than those of daughters. Therefore, people have a strong "boy preference ", which leads to an imbalance in the modern birth ratio. To explain this phenomenon from the perspective of economics, the difference in happiness that children can bring as consumer goods has led to an imbalance in the gender ratio at birth in China.

The impact of children's gender differences on the family can be divided into two aspects: economy and health. Luo found that the annual income of families giving birth to boys in rural areas of China is higher than that of families giving birth to girls[4]. Jaqueline found that the increase in the number of children can soar the financial support that parents receive from their children[5]. On the other hand, Wu and Li found that the number of minor children harms the health of parents. This is because when family resources are relatively tight, there is a competitive relationship between parents and children, but they did not distinguish different effects on the health of their parent caused by sons or daughters[6]. Wei and Wan have shown in their research that boy families have greater incentives to invest in real estate than families with daughters, rather than choosing high-risk financial assets[7]. The mechanism of this action is that gender imbalance intensifies the match-seeking competition and information asymmetry in the marriage market, which produces the difference in the total asset in the families of boys and girls.

In recent years, family well-being has gradually received attention in the academic field, especially in the field of women's gender to family well-being. In economics, happiness, often referred to as utility, is refers to consumers through consumption or enjoyment of leisure and so on to make their own needs, desires, and so on to get a degree to meet the amount. In the past, the measure of happiness was the psychological well-being score[8], but the drawback of this method is that the collected data is not objective enough, and different people's criteria for judging happiness consists a great variety, resulting in the inevitable error in the result. Huang applied income level to research as a proxy for utility, and research direction is similar, but the income level in the quotations, for example, has uncontrollable factors Happiness different consumer coefficient[9]. In Chen's empirical study on the impact of children's gender preferences on parent consumption, labor supply, and economic transfer payments, he used leisure time as a proxy variable for utility, which is insufficient[10]. The length of leisure time will vary depending on the type of work and the wage level varies, and the unemployed in this case is a counterexample. Their long leisure time may not necessarily be high. Therefore, in this paper, spending power will become a proxy variable of utility, that is, to study the impact of children's gender on parents' spending level and spending power.

Previous studies have mostly focused on the influence of the number of children and sex structure on parental life satisfaction and health as well as the gender of children linking with the well-being of older persons.[11][12][13] But few people have studied the direct relationship between the gender of children and the happiness of parents. This paper will make up for this loophole by empirically analyzing the happiness of parents by the gender of children in different families, in the meantime, helping balance the birth ratio and change people's stereotypes about having boys and girls.

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3. Research method (

3.1. Model set

This paper aims to explore the impact of children's gender on family happiness, using quantitative regression methods to conduct empirical research on this impact. The benchmark model is set as follows:

$$Y = \alpha + X\beta + \gamma Z + \varepsilon$$

Among them, Y is the dependent variable, namely family happiness. This paper takes logarithm of y, denoted as lny; α is the intercept; X is the core explanatory variables, which is the family child sex; β is the regression coefficients of core explanatory variables, which is also the main focus of the paper; Z is a series of controlled variables; γ is the regression coefficient of the control variables; ε is a random error term, this paper assumes that it is a standard normal distribution.

3.2. variable description and data sources

The explained variable in this paper, Y , is household happiness. Referring to the common practice in academia, this paper uses the minimum monthly household expenditure on non-essential items as a proxy variable for family happiness.[14][15][16] We believe that consumption can bring utility for household, so the more household expenditure is, the happier the persons are. Other scholars have used income level and leisure time as proxy variables. There are some uncontrollable factors such as different consumption habits and types of jobs. In summary, this paper selects the minimum monthly household expenditure on non-essential items as a proxy variable for household happiness. The core explanatory variable is the gender of the family's children, and the variable is recorded as core. If the gender of the children of the family is male, the core is 1. If the gender of the children of the family is female, the core is 2, and if the family has no children, the core is 0. The control variables in this paper include: family size, total family income, father's education level, mother's education level, father's health level , mother's health level , father's age , mother's age, father's age and mother's age, denoted as size , income , eduf2 , Healthf , agef , edum2 , healthm , agem , agefsq , agefsq . Table 1 shows the descriptive statistics of the variables.

Table 1 Variable descriptive statistics

Variables	Number	Mean	Standard Deviation	Minimum	Maximum
income	4,244	55,348	53,724	-158,554	1.959e+06
size	4,658	3.473	1.024	1	3
core	4,658	1.454	0.498	0	2
eduf2	4,753	30.74	3.496	0	20
healthf	2,778	3.575	1.527	-2	6
agef	4,801	50.40	12.99	17	90
edum2	4,610	9.916	3.692	0	21
healthm	2,328	3.630	1.586	-2	6
agem	4,702	48.08	12.98	20	96
agefsq	4,801	2,709	1,388	400	8,100
agemsq	4,702	2,480	1,296	289	9,216
lny	17,237	10.32	0.742	5.441	13.61

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The data sources of the above variables are all Chinese household income surveys. The Chinese Household Income Survey (CHIP) is a dynamic survey of income distribution in China which has conducted Five household surveys in 1989, 1996, 2003, 2008 and 2014 respectively. They collected income and expenditure information in 1988, 1995, 2002, 2007 and 2013, as well as other family and personal information. This research is based on the income and expenditure information of 2013. These surveys are part of the "China Income and Inequality Research" jointly organized by Chinese and foreign researchers and completed with the assistance of the National Bureau of Statistics, so they are extremely reliable.

3.3. regression

The data used in this paper are cross-sectional, so the least square method (OLS) and maximum likelihood estimation (MLE) are used for regression analysis. Least squares method is a type of parameter estimation method that estimates unknown parameters based on the minimum sum of the residual squares of sample observations and estimated values. The least squares method has loose requirements for the overall distribution and sample size, and does not require knowing the specific form of the overall distribution. The least squares method can be applied to small sample data, and it also has good estimation properties under small sample conditions. What satisfies the classical assumption is the best linear unbiased estimator. The maximum likelihood method is based on the principle of maximum likelihood. It believes that after randomly extracting n sets of sample observations, the most reasonable parameter estimator should be the estimator that maximizes the probability of extracting these n sets of sample observations. The maximum likelihood estimation methods generally only include the maximum likelihood estimation method (ML), which can fully reflect the maximum likelihood idea. The premise of using the maximum likelihood distribution is that the specific distribution of the overall variable is known, and the general assumption is that it obeys the normal distribution. If the hypothesis is true, the maximum likelihood estimator is more effective than the least squares estimator.

3.4. analysis of regression result

Table 2 shows the estimated results of OLS regression and MLE regression. Standard errors in parentheses.

Table 2 Estimated results of OLS regression and MLE regression

	OLS	**MLE**
core	0.021***	0.023***
	(0.025)	(0.024)
size	0.034**	0.033**
	(0.016)	(0.015)
income	0.000***	0.000***
	(0.000)	(0.000)
eduf2	0.022***	0.022***
	(0.007)	(0.007)
healthf	0.005	0.006
	(0.010)	(0.010)
agef	0.010	0.010
	(0.016)	(0.016)
agefsq	-0.000	-0.000

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	(0.000)	(0.000)
edum2	0.028***	0.027***
	(0.007)	(0.007)
healthm	0.014	0.013
	(0.010)	(0.010)
agem	0.001	0.001
	(0.015)	(0.015)
agemsq	0.000	0.000
	(0.000)	(0.000)
constant	9.392***	9.520***
	(0.239)	(0.230)
N	2366	2366
*p<0.1 **p<0.5 ***p<0.01		

In the regression of this paper, the explanatory variable is the minimum monthly household expenditure on non-essential items. This paper believes that it can represent family happiness. The core explanatory variable is the gender of the family's children. It can be seen from the table that whether it is OLS model regression or MLE model regression, the coefficient of the core explanatory variable is 0.02, and it is significant at the 99 % level. This shows that the gender of children has a significant impact on the minimum monthly expenditure on non-essential consumer goods. The positive sign indicates that when there are girls in the household, the monthly minimum non-essential expenditure is higher, and when the household is a boys, the monthly minimum non-essential expenditure is lower. This result is also consistent with the results of other studies. In addition, parents' educational background has a significant impact on the family's monthly minimum non-essential consumer spending. Whether in OLS or MLE regression, the regression coefficient is 0.02, and it is significant at the 99% level. This shows that parents enhances the level of education can increase consumer discretionary spending a family.

4. Conclusion

For a long time, the concept of "preferring sons over daughters" has been deeply embedded in the older generations, leading to China's fertility behavior, resulting in the birth ratio being much higher than normal in recent years. In the Chinese concept of "procreation", by a male -like play a leading role in consumption and investment values are generally higher than the value of his son's girl, so people have a strong preference for boys. However, this situation has a inferior impact on the good development of society and the marriage market.

This article uses the latest CHIP 2013 China Family Income Survey data to analyze the impact of children's gender on parents' happiness. This article selects the minimum monthly expenditure on non-essential consumer goods as a proxy variable for happiness. The regression results of OLS and MLE both indicate that the monthly minimum non-essential consumer expenditure in a family with a son will be lower than the monthly minimum non-essential expenditure in a family with a daughter. Consumer goods expenditure, that is, the happiness of having a son is generally lower than that of having a girl, and both are very significant. Thus, it can be seen that that the value of a son as a consumption good and investment product is not necessarily higher than that of a daughter.

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