

Research on the effectiveness of second-child subsidy policy in high-cold areas based on multi-level model

Mengze Li¹, Dayong Niu^{1,*}, Yuxin Lin², Shuwei Li³, Xiaojing Wang⁴

¹ School of Economics and Management, Harbin Engineering University, Harbin, China

² Xiamen University, Malaysia, Malaysia

³ Shanghai University of Traditional Chinese Medicine, Shanghai, China

⁴ Beijing Institute of Technology, Beijing, China

* Corresponding Author Email: 1372626528@qq.com

Abstract. The number of births in China increased slightly in 2016-2017 after China implemented a two-child policy and provided certain subsidies for second-child births. However, since 2018, the overall number of births in China has begun to decline, reflecting the waning effect of the policy. High and cold regions, especially Heilongjiang Province, have seen their birth rates rise far below the national average despite adopting such policies. The passive response of the two-child subsidy policy in the northeast region in the high-cold environment reveals the underlying economic and social reasons. Then what economic and social factors have an impact on the effectiveness of the two-child subsidy policy in the high-cold region? For this reason, we have launched an in-depth investigation. To further analyze the effectiveness of the two-child subsidy policy, we further designed a more targeted questionnaire. The text selected Harbin City, Beijing City, Qingdao City and Nanning City to study the fertility intention, and carried out in-depth research online and offline. Since the questionnaires collected were targeted at four provinces in China, considering the multi-layer nesting of data, we adopted a multi-level model to analyze the changes of factors affecting the intention of having a second child before and after the introduction of regional variables, and then explored the differences of influencing factors among regions. Through the above research, we found that although the initial fertility policy promoted a certain degree of fertility intention and birth rate, the long-term impact was limited, and the effect of economic subsidies was eroded by high living costs, regional differences, and insufficient publicity and implementation. The increasing pressure on the cost of childbirth, education, medical care and housing further inhibits the willingness to have children. The second-child subsidy policy has significant differences in satisfaction and demand among provinces, and it is difficult to achieve the desired policy effect by relying solely on economic subsidies. It is necessary to consider regional differences and family personality differences to formulate comprehensive policies to encourage childbirth, including the implementation of economic subsidies, social support, career development, education and medical resources, maternity leave support and other comprehensive policies.

Keywords: Method, effect, ratio of maternity subsidy to average income, multi-level model.

1. Introduction

According to the preliminary summary results of the seventh population census conducted by the National Bureau of Statistics, the implementation of the two-child policy and supporting subsidies showed some results in 2016 and early 2017, with the number of births rising to 18.83 million and 17.65 million, respectively, an increase of more than 2 million and 1 million over the period before the policy was implemented. However, starting from 2018, the number of births fell back, indicating that the effect of the policy began to weaken. In the high-cold regions represented by Heilongjiang province, despite adopting similar policies, the short-lived rise in the birth rate is far below the national average, with only 3.34 per thousand births and a natural growth rate of -5.75 per thousand, according to the Statistical Bulletin of Heilongjiang Province's National Economic and Social Development in 2022. It shows that the relaxation of the birth policy and subsidies alone cannot effectively solve the problem of population decline.

In Northeast China, the slow response to the two-child subsidy policy reveals the impact of deep-seated economic and social factors on fertility willingness. In particular, the high cost of subscription-heating, the low construction factor, and the relatively high cost of living have combined to put significant pressure on the family economy. The region's aging industrial structure, low level of economic development, and inadequate income levels further exacerbate the financial burden on families when they decide to add new members. Economic factors specific to these regions not only raise the direct cost of raising children, but also deepen concerns about future economic stability by limiting households' disposable income. Secondly, the ageing of the population within the region cannot be ignored. As the proportion of the elderly population increases, the young workforce faces intensifying economic and family pressures, including the increased responsibility for old-age care, which further inhibits the willingness to have children. The aging social structure requires a more flexible and multi-layered policy response, not only direct subsidies for fertility incentives, but also broader support for young families, such as parenting resources, long-term care facilities and support for balancing family and work, among others. In addition, inter-regional economic disparities and the rural-urban gap also affect the effectiveness of policies. The Northeast's economy is more concentrated in a few cities, while rural areas face more challenges, such as limited job opportunities and poor infrastructure. This difference has led to the different incentive effects of fertility policies in different regions, and more refined policy design is needed to ensure that remote areas and vulnerable groups can also benefit from them.

Therefore, the strategy to raise the fertility rate in Northeast China needs to go beyond simple policy relaxation or economic subsidies, and adopt a series of comprehensive measures, including but not limited to promoting economic transformation and upgrading, improving the job market, raising residents' income level, optimizing living conditions, and reducing the overall living cost of families. An in-depth study of the effectiveness of the two-child subsidy policy and its incentive effect on different groups in different economic and social contexts is of great significance for maintaining social stability, promoting economic development and ensuring the sustainability of the pension security system.

2. Overview of the research

2.1. Domestic research status

Entering the 21st century, there has been a phenomenon of "ultra-low birth rate" in China, especially in recent years, the fertility rate in the country, especially in Northeast China, has continued to decline, and the evaluation of the effect of various birth policies has been increasing. So far, some domestic studies have revealed the implementation effect of some birth support policies. Such as whether it will improve women's fertility intention research and analysis of the influencing factors of fertility support policy:

2.1.1. Research on the effectiveness of maternity leave

Jia Baozhao et al. clearly pointed out five obvious shortcomings of China's maternity leave system in the comparison of Chinese and British maternity leave systems, and believed that the change of population structure and maternity policy forced the adjustment of maternity leave system. Only by taking the reform of maternity leave system as a breakthrough and optimizing the birth environment can young people's fertility willingness be improved. [8] Liu Chang et al. based on the data of the 2017 national fertility sampling survey and the natural experiment of revising maternity leave policies in 2016, investigated the impact of extended maternity leave on the fertility intention of women of childbearing age, and found that extended maternity leave had a greater impact on the fertility intention of women with urban household registration, employment, non-flexible employment and higher education. However, it has no effect on the fertility intention of women who have already reached the fertility limit. However, if maternity leave imposes a greater burden on employers

(especially small and medium-sized enterprises), women will certainly face more discrimination in the labor market, and even offset the positive effect of maternity leave on fertility intention. [9]

2.1.2. Research on the effectiveness of maternity allowance

Shen Yixin et al. believe that the increase of maternity subsidy will reduce the marginal cost of raising young people, increase the fertility rate, slow down the aging process, and in the context of the continuous improvement of life expectancy, it is necessary to increase the intensity of maternity subsidy to maintain the fertility rate. [10]

Zhao Huilin et al. introduced the family fertility process into the new Keynesian general equilibrium model and concluded that the fertility subsidy policy can indeed improve the family fertility intention and investment, but it will reduce the working time, which will have a negative impact on economic output and consumption. Therefore, the government should encourage fertility through the fertility subsidy policy, and corresponding policies should be implemented in support, to formulate reasonable fertility policies and improve the level of social fertility. [11]

2.1.3. Research on the effectiveness of the two-child policy

In 2014 and 2016, China made successive adjustments to the one-child policy. Among the three different assessments of the effectiveness of the two-child policy, which were cold, in line with expectations and effective, Shi Renbing pointed out that the policy adjustment had a significant effect on both the increase in the number of two-child births and the improvement of the two-child fertility level. However, in the medium and long term, the effect of the policy adjustment is very limited, and it cannot meet the needs of China's long-term population development. To achieve the long-term population development goal, we should accelerate the improvement of the family policy.

To sum up, there are many researches on birth support policies in China, but most of them focus on the combined effects of multiple birth support policies, such as subsidies, maternity leave, education support policies, etc. There is a lack of discussion on the effectiveness of the two-child subsidy policy and specific suggestions on the amount of the two-child subsidy policy in different regions. Moreover, most domestic researches are nationwide. Although local areas can be used for reference, there is a lack of targeted research and analysis on the effects and factors of the two-child subsidy policy in the three eastern provinces with a relatively low fertility rate in China, and a lack of comparison between different regions in China to explore the reasons affecting the effectiveness of the policy.

2.2. The status quo of foreign research

Because Western countries experienced the cost of living, the increase of women's career participation and the change of personal values earlier in the process of industrialization and modernization, they are at the forefront of the global trend of low fertility, so they are the first to take measures to deal with this crisis, and have introduced a number of fertility support policies aimed at improving fertility. As East Asian countries gradually go through similar social changes, the degree of modernization is deepening, there are delayed marriage and childbearing age, low fertility rate and aging situation, and they also begin to shift from restricting birth to encouraging birth policies. Governments and experts and scholars all over the world hope to reverse the trend of low fertility by establishing active fertility policies, to face the problem of population aging. The experience and lessons from this need to be deeply analyzed and considered, to provide references for evaluating and improving China's two-child subsidy policy.

2.2.1. The theory of birth support policy

The new family economics theory of fertility support holds that whether to have another child will depend on the marginal cost or shadow price of childbearing. Andersen et al. extended the new family economics, arguing that maternity allowances can influence people's childbearing decisions by changing the direct costs of childbearing and parental leave. The optimal child-rearing subsidy theory holds that the rate of child-rearing subsidy should change with the change of income level, and the

optimal child-rearing subsidy is manifested as subsidizing the formal child-rearing service used by the family, while the amount of child-rearing subsidy for low-income families should be higher. ; The conjugal bargaining theory of reproductive decisions holds that the distribution of childcare burden between parents is a key determinant of fertility, and that policies aimed at boosting fertility would be more effective if they targeted gender groups that are more likely not to agree to have another child. [16] Sandner Malte et al. investigated the fertility effect of German welfare reform and found that the decline of welfare will lead to the decline of fertility rate, and compared with the fertility rate of the total population, the fertility rate of welfare recipients is less responsive to financial incentives. [17] Archangelskiy V. Based on the data of fertility in the North Caucasus region after the implementation of fertility subsidies and the fertility of the whole Russia, found that the North Caucasus region had a higher fertility rate compared with other regions of Russia. [18] SUNG HYO HONG et al. analyzed the results of the birth subsidy policy implemented in a specific region of South Korea in 2004 and found that the birth subsidy policy significantly increased the net inflow of women to the subsidized region, and that every US \$1,000 increase in birth subsidy resulted in a 0.108% increase in the chance of having a child across all age groups.

2.2.2. Research on the factors affecting the effectiveness of the policy and the willingness to have a child

Claudia Goldin, winner of the 2023 Nobel Prize in Economics, argues that the current wage gap between men and women is not due to the unequal treatment of women at work (that is, different pay for the same work), nor is it due to the selection bias of women's positions (even if women's occupational distribution is the same as that of men, at most only one-third of the wage gap will be eliminated). Rather, it's because women scale back their careers by choosing to do so in the interest of their families. At the same time, some of her research has found that the speed and size of the fertility response are affected by three factors: a woman's age, the number and sex of her previous children, so the cost of raising a child, the experience of life after raising a child, and regional preferences for men and women can all affect a couple's willingness to have a second child and the effectiveness of the two-child subsidy policy. In addition, Billingsley (2014) found that policies aimed at promoting gender balance of paternity leave and parental leave are more conducive to improving fertility than traditional maternity leave.

2.2.3. Research on the effectiveness of birth support policies in alpine and cold areas

According to data from Human Fertility Database and national statistical offices, in the late 19th century, the five Nordic countries in the alpine region took the lead in experiencing a sustained transition from high fertility level to low fertility level, and completed this transition in the 1970s and 1980s, since then the total fertility rate has remained below the replacement level. Compared with other developed countries that have completed the fertility transition, the total fertility rate of the five Nordic countries is relatively high. In addition to their better economic development situation and comprehensive and high level of gender equality, the fertility support policies of the Nordic countries are worthy of attention to provide reference for China. [20] The core of the Nordic countries' fertility support policies is based on the principle of gender equality and the great importance of the well-being of children and their families.

3. Research on the mechanism and influencing factors of policy effectiveness

3.1. Policy content

The two-child subsidy policy has been implemented since January 1, 2016. There are three major forms of subsidies for mothers who have a second child: a maternity allowance, a free system for basic childbirth, and a reduction in the cost of maternity check-ups. Eligible families can receive a state subsidy of 20,000 yuan. The specific subsidy standards are as follows: families with one child and a second child, registered urban families, and those who meet the national family planning policy

will be given a one-time reward of 20,000 yuan per family; Rural families with household registration in line with the national family planning policy will be given a one-off reward of 50 percent of the per capita disposable income of local rural residents, up to a maximum of 20,000 yuan.

For Beijing, the standard of the general subsidy is the average monthly salary of the employee of the employer in the previous year at the time of birth, divided by 30, and multiplied by the time of maternity leave. For example, Xiao Wang's second child has a natural birth and enjoys 128 days of maternity leave. Assuming her average monthly salary is 6,000 yuan, then the maternity allowance she can receive is: $6000 \div 30 \times 128 = 25600$ yuan. These can reduce a lot of pressure on the cost of ordinary families, such as subsidized milk powder, clothes and other daily expenses. However, the limitation is that women who are unemployed or in some rural areas do not receive this subsidy, and the scope of the subsidy is limited.

In addition to the maternity allowance, maternity leave in Beijing can be extended from 98 days to 128 days after the birth of a second child, while in other regions, such as Shandong, it is 158 days, with seven days of nursing leave for the husband. However, in many enterprises, many women who have given birth do not take the appropriate maternity leave because the company has not implemented the corresponding maternity subsidies or they are worried about competition in the workplace.

3.2. Increase some labor supply

In the empirical study on the Impact of the Comprehensive two-child Policy on China's Labor Supply, Wang Mingjun found that after the introduction and implementation of the comprehensive two-child policy, China's labor supply has a significant increase trend, but the policy impact of the comprehensive two-child policy on labor supply is mainly targeted at middle-aged and elderly women with low educational characteristics, and it mainly appears in western China. However, for young and middle-aged people in the child-bearing age group, the influence of the policy is not significant. This is due to the high level of labor participation of young people in China, which makes it difficult to increase labor supply, and the close intergenerational relationship of Chinese families in general, so middle-aged and elderly people bear the consumption pressure brought by family reproduction.

However, the labor reserve army with the middle-aged and the elderly as the main force is limited, so if the fertility rate rises to a very high level, the promotion effect of the increase in fertility on the labor supply will be diminished until it completely disappears or reverses.

3.3. Comparative study of birth support policies at home and abroad

3.3.1. Comparison of maternity leave duration and subsidy amount at home and abroad

One of the most important demographic changes of the second half of the 20th century has been the continuing decline in global fertility. Due to the differences in politics, economy, culture and system among countries, the fertility rate transition shows a variable phenomenon, but with the advancement of industrialization, urbanization and modernization, the fertility rate of all countries has decreased to different degrees. When contemporary women face the conflict between balancing fertility and employment, the opportunity cost of taking care of family and bearing children seriously affects women's reproductive intention. To cope with the low fertility trap, countries have implemented many policies and legal norms to encourage reproductive behavior. According to the existing reproductive decision-making theory, reproductive cost determines family reproductive decision-making [22]. The fertility policy can relieve the family's fertility pressure and release the fertility will to a certain extent, so this paper studies the fertility policy of South Korea, Japan, Russia, the United States and Germany and the historical population changes, to provide reference for improving and adjusting the family fertility support policy in China.

China:

According to the CEIC database, China's average monthly income in 2023 is about \$1335, and the monthly maternity subsidy varies by province, with an average of about 500 yuan/month, so the ratio of maternity subsidy to monthly income is about 0.16.

For South Korea:

Subsidies: Families with babies aged 0-1 will receive 300,000 won (1,792 yuan) per month starting in 2022, rising to 500,000 won (3,000 yuan) in 2025, the Global Times reported, citing Yonhap News Agency. In addition, to encourage young people to have children, the government will provide a one-time cash subsidy of 2 million won to newborn families from 2022. The subsidy can be used for any purpose. The maternity medical insurance subsidy for pregnant women's physical examination, fetal health management and other items will be increased from 600,000 won to 1 million won. [27] Meanwhile, South Korean employees are entitled to 90 days of maternity leave and must take at least 45 consecutive days of maternity leave after giving birth. If the mother has twins, the leave allowance increases to 120 days. Parents with children under the age of one will receive up to 3 million won per person per month when they apply for three months of parental leave.

To sum up, South Korea can get a monthly maternity subsidy of about 300,000 won, while the average wage in South Korea is 2.88 million won, with tax deduction of 15.9%, the hand is 2.42 million won, and the average monthly income of subsidies is about 0.12.

Germany:

The average monthly income in Germany is €4,100 (29,839.88 yuan). Germany's monthly allowance is €1,800 (1.4w for parents) and €250 (1750) for children, for a total monthly allowance of €2,050.[28] At the same time, the total maternity leave in Germany is 14 weeks, 6 weeks before the birth and 8 weeks after the birth protection period (maternity protection period) do not have to work, and the maternity allowance can be obtained through medical insurance and the normal after-tax wage is equivalent.

3.1.2. Foreign birth support policies for reference in China's high-cold areas

- 1) Set up a special family policy department and formulate relevant laws and regulations
- 2) Promote the construction of public infrastructure services

Many countries have taken positive measures to enhance early childhood education and childcare services. In South Korea, for example, the policy allows children up to 48 months of age to attend kindergartens and enjoy free meals. After that, the cost of kindergarten education is relatively low, about 500 yuan per month. In addition, kindergartens in South Korea also provide services for children, so that parents can devote more time to the work force. Kindergartens in the country accept children from 5 months to 7 years old, providing parents with great convenience and comprehensive care for their children. However, nurseries for younger children are uncommon in China by comparison.

- 3) Promote equal parenting responsibilities between men and women, and help parents better balance work and family

France has one of the highest fertility rates in the European Union. Since 2002, fathers have been entitled to two weeks of paid parental leave, at an average rate of 90.4%. In the UK, mothers get 39 weeks of paid leave; Fathers get 1-2 weeks of paternity leave paid at 90.0% of the father's average weekly earnings; In addition, parents are entitled to up to 50 weeks of shared parental leave and can arrange their shared leave time freely. Sweden clearly regulates parental leave, abolishes gender differences, allows parents to share parental leave for 6 months, the average paid level is about 77.6%, parents can transfer parental leave to each other before the child is 8 years old. Germany requires employers not to fire employees during the leave, and stipulates that women's maternity leave is 14 weeks, during which the mother can receive 100% of the income during the original work period, but also receive maternity benefits from public funds. Sweden also has better gender equality, with a total of 480 days of paid maternity leave for a couple. Each person gets 90 days and the rest can be divided between them, so men can take longer leave as well.

- 4) Give family allowances to provide financial support

Four, five comparative research on the effectiveness of the two-child subsidy policy

4. Analysis of the influential factors of the two-child subsidy policy in high-cold areas

4.1. Issues of income, industrial structure and employment positions

The brain drain caused by factors such as Harbin's economic development status, employment positions, industrial structure and overall salary level is an important factor for the low fertility rate in Harbin, which represents the high and cold areas.

According to the data, the employment situation in Harbin is severe. In the first half of 2022, the average number of employees in enterprises decreased by 0.4 percentage points in China and 0.7 percentage points in Heilongjiang Province. According to the average unemployment rate of all provinces and cities in the first half of this year, Shanghai's unemployment rate was as high as 8.9%, ranking first; Heilongjiang ranked seventh, 6.1 percent, among the 31 provinces, municipalities and autonomous regions. In recent years, the central government has repeatedly put employment in the first place in the "six stability" and "six guarantees". Employment has always been the primary indicator to measure economic and social development in industrialized countries. The unemployment rate measures economic development.

The lower level of economic development and the corresponding level of income in the region mean that families are facing greater economic pressure. Even with the second-child subsidy policy, the amount of subsidy may not significantly ease the financial burden of raising a second child. Families may be more focused on long-term economic challenges than on the relatively small financial benefits of the subsidy.

4.2. Housing costs

Studies have shown that the house-buying pressure brought by high housing prices will inevitably affect people's subjective well-being to a large extent and then affect their fertility intention. At the same time, the demand for housing space brought by childbirth forces people to consider greater housing consumption. To a large extent, the problem of housing price has become a realistic problem that young people have to consider before making birth decisions.

Compared with the four first-tier cities in Beijing, Shanghai, Guangzhou and Shenzhen, where the housing price is tens of thousands or hundreds of thousands per square meter, Harbin's housing price is generally about ten thousand per square meter, and its fertility rate should not be the same or even lower than these first-tier cities.

4.2.1. The ratio of housing price to income

For the question of whether the house price is reasonable, there are many different levels and angles of measurement standards, of which the house price income ratio is the most important measurement index. This data index is mainly used to measure whether the housing price is at a reasonable level that the residents' income can support, and directly reflects the degree to which the housing price level matches the demand of most residents for self-occupancy.

We have collected the following data on per capita disposable income by province and autonomous region in 2022. Heilongjiang Province ranked low, with a per capita disposable income of 28,346 yuan in 2022. Subsequent collection of housing price data show that in 2022, the housing price of Harbin is 8975 yuan / m², the housing price of Guilin is 5742 yuan / m², the housing price of Nanning is 10,537 yuan / m², the housing price of Qingdao is 16,605 yuan / m², and the housing price of Beijing is 60269 yuan / m². Among them, the average house price difference between Guilin and Harbin in 2022 is more than 3,000 yuan, but the per capita disposable income of Guangxi Zhuang Autonomous region is only about 300 yuan lower than that of Heilongjiang Province, which will cause a mismatch between house price and income for Harbin residents.

4.2.2. The cost of burning a house

Just considering the house price is far from enough, and the expenses and costs related to housing are also important economic factors for young people to consider whether to have children. Different from the southern regions, in the high-cold areas such as Harbin, one of the housing costs that cannot be ignored is the cost of burning. According to the heating charge standard issued by Harbin Municipal People's government. (See appendix for details.) Residents in high-cold areas will pay thousands more per year than residents in other non-high-cold areas. The economic costs are real and often overlooked.

To sum up, the high-cold areas represented by Harbin face the problem of high housing cost and housing space. Due to the limited housing area, families having a second child may limit their willingness and ability to have another child. Therefore, the effectiveness of the subsidy policy of the two-child policy may be affected. Even with the subsidy policy, families may be cautious about having a second child if they are unable to provide enough space and comfort in their existing housing conditions. Therefore, when implementing the second child subsidy policy, the housing situation in different regions should be considered and corresponding policy measures should be taken to ensure the effectiveness of the policy. Possible measures include providing housing subsidies or building more family-friendly large housing units to meet the needs of families to have a second child.

4.2.3. Childbearing costs

The high cost of childbirth has a significant impact on China's two-child policy, leading many families to reduce their willingness to have a second child. This trend is particularly evident in international comparison, where the ideal number of children in many countries is generally more than two, while the ideal number of children in China's population of childbearing age is generally less than two.

In particular, the cost of raising a child to the age of 18, relative to per capita GDP, is almost the highest in the world in China. This is corroborated by a 2017 survey by the National Health and Family Planning Commission, which showed that financial burden, age and lack of parenting support were the main reasons why women of childbearing age did not want to have another child.

The huge difference in childbearing costs between different provinces also suggests that the subsidy policy needs to be localized. Taking the comparison of childbearing costs in Beijing, Shandong, Heilongjiang and Guangxi as an example, it is obvious that regional economic conditions have an impact on childbearing costs. Therefore, subsidy policies should be tailored to the actual situation in each region to ensure that all families can benefit, to truly increase the fertility rate nationwide.

Factors that must be considered by all families. If the cost of the first child has already put great pressure on the family's economy, families may be cautious about having a second child because of the financial burden.

5. Conclusion

Although the policy promoted certain fertility intention and actual birth rate in the initial stage, its long-term effect was not significant. The main reasons are that the actual effectiveness of the financial aid is eroded by the high cost of living, the stark differences between rural and urban areas, and the inadequacies of the policy promotion and implementation process. In addition, the increasing cost of childbirth and living pressure, especially in education, medical care and housing, have further dampened people's willingness to have children.

The demand for and satisfaction with the second-child subsidy policy showed significant differences between different provinces, reflecting inconsistent feedback on the policy and a general belief that the policy's impact is limited and satisfaction is not high. This difference is not only due to the absolute amount of financial assistance, but also due to the unique impact of special geographical and economic conditions such as high and cold regions, as well as families' demand for

childcare resources, career development support and comprehensive fertility policies. Therefore, when designing and implementing the second-child subsidy policy, policymakers need to go beyond a single economic subsidy model and formulate more precise and comprehensive incentive measures, taking into account individual and regional differentiated needs.

Satisfaction with the second-child subsidy policy will affect the intention to have a child, and the adoption of targeted fertility policies will have an incentive effect on the intention to have a child. The comprehensiveness of the policy support and the friendliness of the social environment are also important factors affecting the intention to have a second child. This shows that the policy makers need to consider the design of the fertility policy from a multi-dimensional perspective, paying attention not only to economic subsidies, but also to social support, career development support, children's education and medical resources, so as to form a more comprehensive and effective fertility encouragement policy system.

References

- [1] Shen Meng, Ma Liyuan, Hao Yubiao. Child rearing cost and welfare compensation: from the perspective of family consumption structure change [J]. *Population and Economics*, 2022 (06): 32 - 46.
- [2] [Wang Y, Long Y Q. Reduction of fertility cost and fertility rate: Based on experience and data from many countries [J].] *Theoretical Monthly*, 2018 (12): 177 - 182.]
- [3] [He Wenjuan. On the economic impact and social consequences of the comprehensive two-child Policy [J]. *Economic and Trade Practice*, 2016, 0 (8X): 289 - 290.
- [4] [Wang Yan. Two-child Policy and Sustainable development of social Economy. *Youth and Society*, 2014 (1): 202 - 204.
- [5] [Zhou Z Y. Demand for medical resources and countermeasures for implementing universal two-child policy. *Time Finance*, 2017 (36): 271.]
- [6] Liu Yang. On the status quo and countermeasures of pediatric medical services under the two-child policy [J]. *Journal of Modern Medicine and Health Research Electronic*, 2018, 2(05): 192.
- [7] Wei Kaihua, Jiang Lian-Mei. Prediction and analysis of labor supply scale trend under birth policy adjustment in China [J]. *Price Theory & Practice*, 2022 (07): 60 - 63.]
- [8] Jia Baozhao, Nie Aixia. British maternity leave system and its implications for China [J]. *Secretary*, 2020 (5): 64 - 76.
- [9] [Liu Chang, Jin Yongai. Maternity leave policy and fertility intention [J]. *World Economic Review*, 2022 (2): 57 - 68.]
- [10] [Shen X X, Zhang Z. Fertility subsidy, pension payment and fertility rate change [J]. *Local Finance Research*, 2022 (9): 92 - 103.]
- [11] [Zhao Huilin, Huang Jianzhong, Li Ming.] Monetary policy, fiscal subsidy and fertility decision: Based on Dynamic general equilibrium analysis [J]. *Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition)*, 2021, 42 (2): 120 - 128.
- [12] Qi Jing, MAO Zhuo-Yan. Research on fertility support policy from the perspective of life course [J]. *Journal of Fujian Normal University (Philosophy and Social Sciences Edition)*, 2020 (02): 112 - 121.
- [13] [Jia Z K, Gao Y. Construction and Improvement of China's positive birth support Policy under the background of low fertility rate: Analysis and Reflection based on foreign experience [J]. *Youth research*, 2023 (03): 44 - 56. DOI: 10.13583 / j. carol carroll nki issn1004 - 3780.2023. 03. 005.
- [14] Huang Qian, Fan Zi-Ang. Do fertility support policies improve women's willingness to have children? [Huang Q, Fan Z Ang. An empirical study based on firm-employee matching data. *China Population Sciences*, 2023, 37 (05): 18 - 34.]
- [15] [Yang X W. Analysis on the birth subsidy policy system: Policy changes, international experience and suggestions for improvement. *Financial Science*, 2022, (07): 42 - 51.]
- [16] [Chen Mei, Zhang Mengqing, Shi Zhilei.] Research progress of fertility support theory and practice abroad [J]. *Population Journal*, 2019, 43 (06): 54 - 67.]

- [17] Malte S, Frederik W. The Fertility Response to Cutting Child-Related Welfare Benefits[J]. *Population Research and Policy Review*, 2023, and (2).
- [18] V. A. Fertility dynamics in the North Caucasus: Do maternity subsidies make a difference? [J]. *Zhurnal Issledovanií Sotsial'noi Politiki*, 2019, 17 (1).
- [19] HONG H S, SULLIVAN R. THE EFFECTS OF SUBSIDIES FOR CHILDBEARING ON MIGRATION AND FERTILITY: EVIDENCE FROM KOREA [J]. *The Singapore Economic Review*, 2016, 61 (4).
- [20] Chen Jiaju, Jin Yongai. Analysis on the causes of fertility recovery in the five Nordic countries and its implications for China [J]. *Unity*, 2021, (06): 24 - 28+32.]
- [21] Rønsen, Marit, and Kari Skrede. "Fertility Trends and Differentials in the Nordic Countries — Footprints of Welfare Policies and Challenges on the Road Ahead." *Vienna Yearbook of Population Research*, vol. 6, 2008, pp. 103 – 23. JSTOR
- [22] Zhang F. The impact of childcare services on female fertility in the United States [D]. Shaanxi Normal University.
- [23] Wang Mingjun. Study on the Impact of Universal Two-Child Policy on China's Labor Supply [D]. Liaoning University.
- [24] [He Dan; Liu Houlihan; Development Trend, Influence and Countermeasures of Population Aging in China [J]. *Journal of Party School of the CPC Central Committee (Chinese Academy of Governance)*,2019(04).].
- [25] Shu-qin li. Northeast Asia countries the economic geography and population resources coupled coordination research [D]. Liaoning normal university, 2023. The DOI: 10.27212 /, dc nki. Glnsu. 2023.000267.
- [26] Wang Hongman, Yang Lei, Jin Junkai, Wang Yuqi. Historical changes in family birth support policies and fertility in the context of positive birth support: a comparative analysis of China, Japan, South Korea, Russia, the United States and Germany [J]. *Soft Sciences for Health*, 2019, 35 (12): 17 - 22+27.
- [27] Jin Yingyu. The implications of Japan, South Korea and Singapore's birth encouragement policy for China [J]. *Jilin Finance Research*, 2022, (12): 39 - 44.
- [28] [Gao Tianqi, Gao Shuguo.] Study on the policy of reducing the cost of child-rearing education in Germany [J]. *World Education Information*, 2019, 36 (02): 3 - 8.]
- [29] Fagnani J, Math A. Recent reforms in French and German family policies: similar challenges. different responses [J]. *Sociologia, Problemas e Praticas*, 2010, 64: 11 - 35.
- [30] Liu Yin. Influence of Universal two-child Policy on Female Labor employment in underdeveloped areas [J]. *Fortune Today (China Intellectual Property)*, 2021, (09): 232 - 234.
- [31] [Zhang Liping, Wang Guangzhou. A study on the characteristics and outstanding problems of negative population growth in Northeast China. *Social Science Bulletin*, 2023, (02): 129 - 142+238.].
- [32] Cui Shuyi, Li Lanyong. Study on the impact of population and family planning on social security in Shandong Province [J]. *Journal of Dongyue Journals*, 2011, 32 (11): 126 - 130.].
- [33] *Statistical Bulletin of the People's Republic of China on National Economic and Social Development in 2020*. National Bureau of Statistics, 2021. 2. 28.
- [34] Gao Ying, Gao Jie, Xu Lili, Gao Lihua. Analysis on the willingness of married women of child-bearing age to have three children and its influencing factors in Xi 'an [J]. *South China Preventive Medicine*, 2019, 49 (11): 1368 - 1372. (in Chinese).
- [35] Wei W Q, Ma J. From safety norms to parenting experience: The impact of housing on young people's reproductive intention [J]. *Chinese Youth Research*, 2023, (08): 5 - 13. DOI: 10.19633/j.cnki.11 - 2579/d. 2023. 0112.
- [36] Xiao Guoan, Zhou Muyuan. The effect of housing price to income ratio on fertility intention of childbearing population [J]. *Journal of Hunan University of Technology (Social Sciences Edition)*, 2023, 28 (02): 32 - 41.].
- [37] [Mei Z Q, Shi Y P. The influence of education level and occupation on the number of children born in the 1980s [J]. *Chinese Journal of Family Planning*, 2012, 20 (03): 168 - 170.].
- [38] Jiang Yibin, Cheng Caifeng, Liu Xinyu. Study on professional women's willingness to have a second child and its influencing factors [J]. *Market Weekly*, 2021, 34 (12): 29 - 33.

- [39] Miller W B, Rodgers J L, Pasta D J. Fertility Motivations of Youth Predict Later Fertility Outcomes: A Prospective Analysis of National Longitudinal Survey of Youth Data [J]. *Biodemography and Social Biology*, 2010, 56 (1): 1 - 23.
- [40] [Chen M K. Analysis of the impact of education expenditure on reproductive decision-making of childbearing age families in the context of low fertility rate [D]. Liaoning Province: Shenyang Normal University, 2022. [D].
- [41] [Zhong B H. Analysis of residents' willingness to accept the policy of equal maternity leave for men and women [D]. Jiangxi Province: Jiangxi University of Finance and Economics, 2019.].
- [42] XiaoQin, vivi. Income's influence on women's reproductive choice study [J]. *Journal of social science*, 2022, 5 (5): 76 - 83. The DOI: 10.16745 / j. carol carroll nki cn62-1110 / c. 2022.05.011.
- [43] Billingsley S., Ferrarini T. (2014), Family Policy and Fertility Intentions in 21 European Countries. *Journal of Marriage and Family*. 76 (2): 428 - 445.