The Impact of Flexible Employment on Women' s Fertility Intention

Authors: Yang Botian, Hu Yaoling, Hu Yaoling

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Abstract

The continuous decline in fertility rates has become a major factor constraining the high-quality development of China' s population. Based on data from the China General Social Survey, this study analyzes the impact of flexible employment on women' s fertility intentions and explores the underlying mechanisms. The research indicates that flexible employment exerts a positive influence on women' s fertility intentions, including second-child and third-child intentions. This effect exhibits heterogeneity across female cohorts of different ages and educational attainment levels, being more pronounced among women over 30 years old and those with lower educational attainment. This necessitates encouraging flexible employment among women, improving the social security system, and effectively enhancing women' s fertility intentions.

Full Text

The Impact of Flexible Employment on Female Fertility Intentions in China

Hu Yaoling[12], Yang Botian[1] (1. School of Economics, Hebei University, Baoding 071000, China; 2. Research Center for Population and Health Development, Hebei University, Baoding 071000, China)

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**Corresponding Author: Hu Yaoling, male, doctoral supervisor at Hebei University, E-mail: hubetter@126.com

Flexible employment, as a new form of employment, enhances women's work autonomy, alleviates psychological anxiety about career interruptions, and thereby boosts fertility intentions. The government should not only strengthen fertility support policies such as childbirth allowances and childcare subsidies but also

encourage and promote flexible working hours and remote work arrangements. These measures can continuously enhance women' s psychological expectations regarding work-life balance, reduce the psychological costs of fertility decision-making, and contribute to an effective rebound in the total fertility rate.

The persistent decline in fertility rates has become a major challenge facing China' s population development in the 21st century. Despite the successive implementation of the "universal two-child" and "three-child" policies, the total fertility rate has not shown a significant rebound. Fertility decisions depend on the fertility psychology and intentions of women of childbearing age, and the transformation of traditional family roles has made these decisions increasingly personalized and diversified (Miettinen et al., 2011; Chen Sijing et al., 2025). Under the dual pressures of family and work, women bear the responsibility of childcare while facing limited income potential, which reduces their fertility intentions (Chen et al., 2024; Song Quancheng, Xiong Fangzhou, 2025). The 2021 "Decision of the Central Committee of the Communist Party of China and the State Council on Optimizing Fertility Policies to Promote Long-term Balanced Population Development"also points out that women's concerns about career development have become a primary factor constraining fertility.

When making fertility decisions, families comprehensively consider the costs of childbearing and the returns from children (Becker, 1965). The costs of childbearing include not only direct costs but also the time and energy expended in raising children (Wang Weiguo et al., 2022). In traditional employment models, work and family are doubly separated in both time and space, which seriously affects women' s accumulation of work experience, reduces work efficiency, and subjects them to employer discrimination, thereby suppressing fertility intentions (Wang & Tan, 2024; Mao Xinyue, Kuang Kai, 2024). Chinese women have high employment aspirations and labor force participation rates, making the conflict between fertility and work more pronounced (Shang Qianqian et al., 2025). Against the backdrop of digital economy development, flexible employment has emerged as a new employment form characterized by task orientation, flexible working hours, and relatively loose labor relations (Kossek & Kelliher, 2023). In terms of work content and working hours, flexible employment grants practitioners greater autonomy, can eliminate the double separation between work and family in time and space, and enhances women' s fertility intentions (Kim et al., 2019; Wijk & Billari, 2024).

Flexible employment is widely considered an effective pathway to enhance women' s fertility intentions. However, existing research has three major limitations: First, at the theoretical level, most studies remain at the stage of phenomenological description and have not conducted rigorous model derivations. Second, at the empirical level, many studies only provide a general examination of women' s overall intentions without deeply analyzing the differential impacts of flexible employment on fertility intentions for different birth orders, nor investigating its heterogeneous effects among women with different characteristics. Third, at the mechanism level, discussions are insufficient,

with most studies neglecting the influence of psychological resources. Based on this, our study constructs a theoretical model and utilizes China General Social Survey data to systematically examine the impact, heterogeneity, and mechanisms of flexible employment on fertility intentions.

2 Model Construction

To investigate the impact of flexible employment on women' s fertility decisions, we construct a partial two-period overlapping generations (OLG) model that divides an individual's life cycle into two stages: childhood and adulthood (Croix & Doepk, 2003). During adulthood, women enter the labor market to earn income and make decisions regarding consumption and the number of children to bear, with the goal of maximizing their utility. The female utility function is specified as follows:

where t_c represents adult consumption, n represents the number of children, and $1 + t_h$ represents the human capital level of children. q denotes the weight placed on offspring welfare.

Under traditional employment patterns, adult women allocate their labor income among current consumption, savings for retirement, and child-rearing expenses. The budget constraint is as follows:

$$1 - t$$

where w represents the wage per unit of human capital, t_h represents the human capital level, total labor time input is 1, and the time cost of raising each child is t. e represents education expenditure on children, s represents savings, and p represents social security contributions.

Furthermore, the human capital level of children is jointly determined by parental education investment, parental human capital levels, and exogenous factors such as social averages:

Subject to the above constraints, women make decisions on t_c, s, n, e to maximize utility, thereby obtaining the optimal number of children:

$$q - g$$

Compared with traditional employment, flexible employment affects individual fertility decisions in three core aspects: income level, child-rearing time costs, and social security contributions. Women' s flexible employment is typically accompanied by higher income uncertainty and career instability, with the wage per unit of human capital being $\bar{w}$. Flexible employment grants women greater autonomy over their working hours, and by coordinating the relationship between work and family, significantly reduces the time opportunity cost of raising each child to $\bar{t}$, where $\bar{t} < t$. The social security contribution base and rate for

flexible employees are usually more flexible, with relatively lower contribution burdens $\bar{p}$. Therefore, the budget constraint for women in flexible employment is:

Under the above constraint, the optimal number of children for women in flexible employment is:

$$q - g + b + q$$

To clearly reveal the internal mechanism through which flexible employment affects fertility decisions, we compare the optimal number of children under the two modes and decompose its impact into two components: the "time cost effect" and the "income and social security effect" :

where twh and $\bar{t}wh$ represent total labor income under the two modes, and p and $\bar{p}$ represent the corresponding social security contributions.

The ratio can be regarded as the proportion of social security contributions to total labor income under the two modes. According to the reality of China' s social security system, the social security contribution base and rate for women in flexible employment usually have greater flexibility, and the contribution base is often lower than the wage level of traditional employees, resulting in a relatively lower actual burden rate of social security contributions. Since the social security contribution burden rates are both positive numbers less than 1, the following inequality holds:

Through inequality transformation, we obtain:

Therefore, the second term on the right side of equation (7) must be greater than 1. According to the model setup, the child-rearing time cost for women in flexible employment is lower, so the first term on the right side of equation (7) must also be greater than 1. Since both the time effect term and the income and social security effect term are greater than 1, their product is greater than 1. That is: [inequality] 1. From this, we can deduce that $\bar{n} > n$. Based on this derivation, this study proposes the following hypothesis: Flexible employment has a significant positive effect on women' s fertility intentions.

3.1 Data Sources

This study employs data from the China General Social Survey (CGSS) for empirical analysis. The CGSS is China' s earliest nationwide, comprehensive, and continuous academic survey project, covering over 10,000 households in 28 provinces, autonomous regions, and municipalities directly under the central government. It uses a four-stage stratified sampling design, and the questionnaire contains information at the individual, family, community, and societal levels, making the survey sample highly representative. This paper utilizes data from six survey waves conducted in 2012, 2013, 2015, 2017, 2018, and 2021. To ensure sample representativeness and research accuracy, after excluding outliers

and missing values, we obtain a final sample of 7,383 valid observations, with the analysis focusing on women aged 18 to 50.

3.2 Variable Selection

The dependent variable is fertility intention, specifically measured through the CGSS questionnaire question: "If there were no policy restrictions, how many children would you like to have?" Second-child intention is determined based on responses to this question, with a value of 1 assigned if the respondent chooses to have two children and 0 for other choices. Third-child intention is similarly determined, with a value of 1 assigned if the respondent chooses to have three children and 0 for other choices.

The independent variable is flexible employment. Flexible employment refers to an employment mode where workers engage in formal sector employment through part-time, temporary, or flexible work arrangements, or engage in various occupational activities in the informal sector (Guo Lu et al., 2025). It is measured through the questionnaire question: "Which of the following situations best describes your current employment status?" If a woman' s response indicates her current employment status as "boss/partner," "self-employed individual," "casual worker," or "freelancer," she is assigned a value of 1, indicating engagement in flexible employment; otherwise, she is assigned a value of 0, indicating no flexible employment.

Descriptive Analysis of Categorical Variables (N=7,383)

[Table content would be here]

Fertility intentions are influenced by multiple factors. Control variables can be divided into three dimensions. First are demographic characteristics, including age, ethnicity, place of residence, province, and education level. Second are family conditions, involving actual number of children and marital status. Finally, health status includes physical health condition, depression level, and life happiness. Specific details are provided in Table 1 and Table 2 .

Descriptive Analysis of Continuous Variables (N=7,383)

[Table content would be here]

Work autonomy serves as a mediating variable, measured through the questionnaire question: "In your current job, to what extent can you autonomously decide your work arrangements?" It is divided into four levels: completely cannot decide, rarely can decide, somewhat can decide, and completely can decide.

3.3 Model Specification

The ideal number of children exhibits ordinal characteristics, making it suitable for an ordered probit model. This study uses pooled cross-sectional data spanning six waves, so we include time fixed effects and region fixed effects. In this

model, fertility intention serves as a latent variable determined by the following relationship:

$$Xlm$$

where y represents fertility intention, β_0 is the intercept term, β_1 is the coefficient for the flexible employment variable, X_{flex} represents flexible employment, [other control variables] represents other control variables, β_i are regression coefficients, λ_t represents time fixed effects, μ_r represents region fixed effects, and ϵ is the random error term.

4 Baseline Regression

Analysis using the ordered probit model shows that flexible employment enhances women' s fertility intentions (β = 0.15, SE=0.03, p<0.001, N=7,383). Simultaneously, flexible employment has a significantly positive effect on second-child intentions (β = 0.17, SE=0.04, p<0.001, N=7,383), and its promoting effect on third-child intentions is also significant (β = 0.17, SE=0.05, p=0.001, N=7,383). Childbearing behavior negatively impacts women' s employment opportunities, wage growth, and career development (Fuller & Hirsh, 2019). By leveraging flexible time and space arrangements, women enhance their perceived control over work-family balance, which effectively alleviates the psychological anxiety of the "motherhood penalty," strengthens psychological expectations for fertility decisions, and thereby boosts women' s fertility intentions, particularly for second and third children.

5.1 Sample Screening Regression Validation

Since the study uses six waves of CGSS data from 2012 to 2021, the sample time points span different periods before and after the implementation of the "universal two-child" and "three-child" fertility policies, with different fertility policies exerting differential effects on women' s fertility intentions. Therefore, we restrict the data sample to the two survey waves from 2012 and 2013, prior to policy implementation, and focus on the female population aged 24-40. Regression results show that after excluding the influence of fertility policies, flexible employment still has a positive effect on women' s fertility intentions (β = 0.26, SE=0.08, p=0.001, N=1,426).

5.2 Propensity Score Matching

When analyzing the impact of flexible employment on women' s fertility intentions, to avoid biased estimates that may arise from selection bias in the ordered probit regression model, we use propensity score matching for robustness testing. Considering that different matching methods yield different average treatment effects, this study selects three methods—nearest neighbor matching,

radius matching, and kernel matching—to estimate the effect of flexible employment on women' s fertility intentions. Figure 1 [Figure 1: see original paper] shows that the data quality after matching is good.

According to the average treatment effect results in Table 3 , the propensity score matching results demonstrate good robustness. Regardless of which matching method is adopted, flexible employment has a significantly positive effect on women' s fertility intentions.

Propensity Score Matching Estimation Results

[Table content would be here]

Regression analysis using propensity score matching models, including nearest neighbor matching, radius matching, and kernel matching, further verifies that flexible employment has a significant positive impact on women' s fertility intentions. Nearest neighbor matching (β = 0.16, SE=0.04, p<0.001, N=4,308); radius matching (β = 0.15, SE=0.03, p<0.001, N=7,377); kernel matching (β = 0.15, SE=0.03, p<0.001, N=7,382).

Under different matching methods, the estimation results all show high consistency, indicating that the positive impact of flexible employment on women' s fertility intentions remains robust.

6 Heterogeneity Analysis

To deeply explore the heterogeneity of flexible employment's impact on women's fertility intentions, we group the female sample according to age and education level differences. At the age level, we divide women into three childbearing stages: 18-29 years, 30-39 years, and 40-49 years. At the education level, we divide them into two groups: a low-education group with highest education level of high school or below, and a high-education group with highest education level of college or above.

Individuals have different fertility psychological states at different life cycle stages, and their fertility intentions vary accordingly (Kuhnt et al., 2021; Chang Baorui et al., 2022). From the age perspective, among women aged 18-29, flexible employment has no significant effect on fertility intentions (β = 0.09, SE=0.10, p=0.376, N=1,124). Women in this age group are in the early stages of career development and wealth accumulation (Bari et al., 2021) and focus more on career development than childbearing. Among women aged 30-39, flexible employment has a significant positive effect on fertility intentions (β = 0.14, SE=0.05, p=0.010, N=2,860). Women in this age group are mostly in critical periods of career development, and the high autonomy brought by flexible employment enables them to more efficiently balance work and family roles, thereby enhancing fertility intentions (Bloom et al., 2024). Among women aged 40-49, flexible employment has a significant positive effect on fertility intentions (β = 0.18, SE=0.05, p<0.001, N=3,399). Women in this age group already have

a certain economic foundation, and flexible employment can alleviate the psychological conflict between fertility and employment, thereby enhancing fertility intentions.

From the education perspective, flexible employment has a significantly positive effect on low-education women' s fertility intentions (β = 0.19, SE=0.04, p<0.001, N=4,761). Women with lower education levels lack stable job opportunities and are more likely to engage in flexible employment, which offers strong work autonomy and smaller losses from career interruptions due to childbearing, thus enhancing women' s psychological expectations for fertility. In contrast, high-education women' s fertility intentions are less affected by flexible employment (β = 0.06, SE=0.08, p=0.465, N=2,622). Women with higher education levels typically have stable professional positions and more independent economic status (Chang Baorui et al., 2021; Tian Jun, Wanyan Hanyue, 2024) and are unwilling to sacrifice their socially visible personal values for childbearing, which weakens the positive impact of flexible employment on their fertility intentions.

7 Mechanism Analysis

Compared with traditional employment, flexible employment provides positive psychological support for women' s fertility decisions by enhancing work autonomy. According to results from 500 Bootstrap tests, flexible employment has a significant positive effect on work autonomy (β = 0.97, SE=0.02, p<0.001, N=7,383), and work autonomy plays a mediating role in the effect of flexible employment on fertility intentions (β = 0.02, SE=0.01, p=0.033, N=7,383), with confidence intervals for both excluding zero. Flexible employment features optional working hours and weak spatial dependence (Wu Qingjun, Li Zhen, 2018). At the temporal level, flexible employees can adopt flexible time work modes according to job demands and autonomously choose their schedules; at the spatial level, their workplaces are more mobile, allowing them to autonomously choose work locations (Lu Jiang, Liu Huihui, 2020). Work autonomy itself is a psychological resource that gives women a sense of control over work and life. When women perceive that they have the ability to shoulder both work and childcare responsibilities, the psychological resistance to fertility decisions is significantly reduced, thereby enhancing fertility intentions.

Flexible employment has a significant positive impact on women' s fertility intentions, including intentions to have a second and third child. Through its autonomy in work arrangements, flexible employment enables women to better coordinate the relationship between work and family, alleviates psychological anxiety about career interruptions, reduces the psychological costs of fertility decision-making, and thereby enhances fertility intentions.

The impact of flexible employment on fertility intentions varies among different age and education groups of women. For women over 30, who have typically accumulated certain work experience and wealth, they are better able to uti-

lize the autonomy of flexible employment to effectively integrate multiple roles and alleviate fertility anxiety. Compared with high-education women who have higher career development expectations, the impact of flexible employment on low-education women' s fertility intentions is more significant. Low-education women face relatively limited employment choices and lower career opportunity costs, making the positive effect more pronounced.

Work autonomy plays a mediating role in the process through which flexible employment affects fertility intentions. What flexible employment grants workers is not only convenience in time and space but also a sense of control over the work process. This sense of control itself is an important psychological resource that can satisfy individual efficacy and relieve work-life stress. At the policy level, encouraging new work forms such as flexible working hours and remote work provides support for improving women' s fertility expectations and better meets their psychological needs for childbearing. Simultaneously, improving the social security system for flexible employment and increasing childbirth and childcare subsidies can prevent the advantages of women' s flexible employment from being offset by income uncertainty and lack of security during childbearing periods, which will help effectively rebound the total fertility rate of women of childbearing age in China.

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Keywords: Fertility intentions, Flexible employment, Influencing mechanism
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Hu Yaoling[12], Yang Botian[1]
(1. School of Economics, Hebei University, Baoding 071000, China; 2. Research Center for Population and Health Development, Hebei University, Baoding 071000, China)

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Note: Figure translations are in progress. See original paper for figures.