# Will Potential Mothers Encounter Discrimination? ——Evidence From China's Second-Child Policy

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**Abstract**

This study examines discrimination faced by prospective mothers in the labor market, attributable to anticipated fertility behavior. Utilizing China's second-child policy as a quasi-natural experiment, this research identifies discrimination against women with one child—who are now potential second-time mothers—employing a Difference-In-Differences approach. The analysis quantifies discrimination by assessing disparities in income, age, and educational attainment across various social demographics. Further, the paper explores the mitigating effects of maternity insurance on such discrimination, providing empirical support for the hypothesis that maternity insurance can serve as an effective countermeasure to workplace gender bias.

**Key Words:** Potential Mothers; Gender Discrimination; Second-Child Policy

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# 1 Introduction

Fertility discrimination towards mothers has been proven all around the world. Existing research, using evidence from various regions and years, has revealed the significant gender gap from the aspect of both wage and labor participation rates (Blau and Kahn, 2017). One of the main reasons is the motherhood penalty, which means in the labor market, childbearing women will tend to be discriminated against. Specifically, employers are less likely to hire mothers than women who don't have kids, and when they do hire a mother, they offer her a lower salary. Although part of the penalty is because of the less ability and responsibility, mothers still face discrimination even if they act the same as their counterparts (Correll, Benard, and Paik, 2007; Benard and Correll, 2010).

The discrimination against mothers can also spill over to potential mothers, but this is often overlooked. According to evidence from Germany, employers have statistically discriminating behavior against potential mothers due to wage continuation during maternity leave (J. Jessen, R. Jessen, and Kluve, 2019). Meanwhile, women are also easily pushed into "women's work", which is less important, because of potential motherhood (Ortiz and Roscigno, 2009). In China, gender discrimination in the workplace is a persistent issue, potential mothers are usually discriminated against since women are supposed to spend more time with their children than men. However, there is only less quantitative research that discusses the discrimination against potential mothers, although large numbers of existing papers have already illustrated the motherhood penalty and job discrimination against childbearing women from worldwide evidence. Therefore, this paper will focus on the **Discrimination against Potential Mothers** in the context of China's second-child policy.

In 2016, China's one-child policy had finally been replaced by a universal two-child policy, which means every Chinese couple can have two children at most, most Chinese families could only have one child before 2016. The second-child policy is proposed in October 2015 and implemented in January 2016, intended to solve aging issues, but it also revealed discrimination against potential mothers by making all one-child women potential mothers. In this paper, I will estimate the discrimination against potential

mothers through Difference-in-Differences by using the second-child policy as a natural shock. The treatment group is women with one child, who have suddenly become potential mothers after the policy; the compared group is women with more than one child, who are not potential mothers in all periods.

I asked the following questions about discrimination against potential mothers: (Q1) Does discrimination against potential mothers exist in China's labor market? (Q2) How does the discrimination against potential mothers vary among different social groups? (Q3) How to reduce the discrimination against potential mothers?

To tackle the question, I use panel data from the China Family Panel Studies (CFPS). The CFPS includes data from 2010 to 2021, while the second-child policy starts in 2016 and ends by 2020 (replaced by the third-child policy). Compared to the other micro data sets, the CFPS data includes relatively complete information about childcare inputs (the questionnaires are answered by their parents), which makes it available to control the fertility features and measure the precise potential mother discrimination. Specifically, the CFPS includes three types of data sets, individual, children, and family. The individual data set has IDs for each respondent and spouses' IDs for every married individual, which allows us to match respondents with their spouses, and control the husbands' features. Also, matching the individual and children's data sets can we control the fertility variables.

This paper contains five sections. In the next section, I review existing literature regarding discrimination against potential mothers and introduced the approach design. Section 3 introduces my data and shows the summary statistics by tables and figures. Section 4 uses the basic OLS and Difference-In-Differences method to estimate the discrimination against potential mothers. Section 5 discusses ways to reduce discrimination. In Section 6, I summarize my research and propose policy recommendations.

# 2 Literature Review and Approach Design

China's second-child policy is a natural shock that revealed potential mother discrimination. In the 1970s, China's Family planning policy which requires a couple to have only one child had been implemented. However, due to the aging population and declining fertility rates, the childbearing policy needed to be refined in the 2010s. In November 2011, China fully implemented the second-child policy for both-one-child parents, which means couples who are all the only children can have a second child. In December 2013, China implemented the second-child policy for one-child parents, allowing couples in which one of the spouses is an only child to have a second child. On October 29, 2015, in response to the severe population situation, the government formally adopted the universal second-child policy. The second-child policy had caused a moderate population increase and removed many negative effects caused by the one-child policy, such as unregistered children, and abnormal sex ratio (Zeng and Hesketh, 2016). Nevertheless, the policy has also resulted in more gender discrimination.

Gender discrimination is caused by the second-child policy in multiple ways. The current shortcomings in Chinese law for tackling workplace gender inequality will generate gender discrimination, including the absence of specific anti-discrimination legislation, the insufficient definition and classification of discrimination, and a shortage of enforcement institutions (Ziyi, 2021). The maternity protection policy accompanying the second-child policy will also impact the discrimination against potential mothers, as far as the female employees would maliciously (or considered maliciously) apply the three periods (pregnancy, obstetrical period, and nursing period) protection provision (F. Wang et al., 2017).

Existing papers have proposed diverse methods to reduce the motherhood penalty and help mothers back into the labor force market. Intergenerational care is the best substitution for mother care (Du, Y. Zhang, and Dong, 2018); public care such as public childhood education institutions and child care centers will lighten the mothers' childcare burden (K. Zhang and Y. Wang, 2021); the labor market regulation is also important (Gu, 2021). The methods above can reduce the motherhood penalty by providing substitutions

for motherhood childcare. Will these methods solve the discrimination against potential mothers as well? It is what we still need to work on.

As we can see, the research about discrimination against potential mothers still has research insufficiency: Firstly, there is less research about potential mothers. Since most research about fertility focus on mothers, there are fewer papers discussing the dilemma that potential mothers are facing in the labor market. Secondly, there is no quantitative research on China's motherhood discrimination. Although existing studies have shown a significant negative effect of fertility on the Chinese female labor supply, and also have discussed the inequality of the labor market, they never estimate the discrimination quantitatively. Thirdly, There is less research about the second-child policy's micro impact. Most economic or sociological research mainly focuses on the second-child policy's macro impact, such as population aging, pension burden, and sex ratio.

Therefore, this paper will be discussing China's potential mothers in the context of second-child policy. I decided to answer the three questions with the following methods: (Q1) The research will use DID and compare the labor participation rate of two groups (married women with one child & married women with more than one child); (Q2) The research will separate the sample into different social groups and use DID as Q1; (Q3) The research will test the effect of maternity welfare on discrimination. See Table 1 for DID notation.

Table 1: Difference-In-Differences Notation

| Notation | Interpretation | Groups |
|---|---|---|
| $potential\_mother_i = 1$ | potential mothers | women with 1 child |
| $potential\_mother_i = 0$ | non-potential mothers | women with more than 1 child |
| $period_i = 1$ | year after policy | 2016, 2018, 2020 |
| $period_i = 0$ | year before policy | 2012, 2014 |

*Note:* Since the policy is announced and implemented in January 2016, I treat 2016 as the year after the policy. The third-child policy that replaced second-child policy was announced and implemented in 2021.

To estimate the precise discrimination, the research needs to control diverse variables, the controlled variables can be divided into three categories. Firstly, the research will control personal features such as age, education level, and health status. Secondly, since

all the samples are married, the study will control family features such as wealth and household type (agricultural or non-agricultural). Thirdly, it is also essential to control the fertility features such as childcare inputs.

For answering Q1 (Does potential mother discrimination exist in China's labor market?), I will first use a basic OLS regression to test the effect of the number of children on working hours. The basic model is:

$$work_i = \alpha_0 + \alpha_1 child\_num_i + \sum \mu_{i,j} C_{i,j} + \varepsilon_i \tag{1}$$

In which $work_i$ stands for labor participation rate indicators of married women of childbearing age, which is calculated by working hours per week, $i$ means the $i$th respondent; $child\_num_i$ is the number of the $i$th respondent's children; $C_{i,j}$ is the $j$th controlled variable of the $i$th respondent; $\varepsilon_i$ is the error term.

In addition, I will test the discrimination using DID, by comparing the labor participation rate between women with one child and women (who become potential mothers after the second-child policy) with more than one child (who are not potential mothers). The DID model is:

$$\begin{aligned} work_i = {} & \alpha_0 + \alpha_1 potential\_mother_i + \alpha_2 period_i \\ & + \alpha_3 potential\_mother_i \cdot period_i + \sum \mu_{i,j} C_{i,j} + \varepsilon_i \end{aligned} \tag{2}$$

In which $potential\_mother_i$ is whether the $i$th respondent has one child, which means they will be influenced by the policy; $period_i$ is whether the second-child policy is implemented when the $i$th respondent answered.

For answering Q2 (How does the discrimination against potential mothers vary among different social groups), I will implement the model 2 among different social groups. Specifically, the research will test whether discrimination against potential mothers varies among different age groups, education groups, and household type groups.

For answering Q3 (How to reduce discrimination?), I will test the effect of maternity insurance on discrimination against potential mothers. However, as far as women with

children will benefit from maternity insurance, I will estimate the relationship between maternity insurance and working hours for women who don't have children. Therefore, I design the regression in Equation (3) intend to find the precise effect on potential mothers:

$$work_i = \beta_0 + \beta_1 maternity\_insurance + \sum \mu_{i,j} C_{i,j} + \varepsilon_i \tag{3}$$

While the samples are all women with no children.

This research is meaningful and reasonable because of the following reasons: Initially, the research is presenting new questions, which focus on the discrimination that potential mothers encounter. According to the literature review, there is less research focus on potential mothers. However, I thought potential mother discrimination is equally important as the motherhood penalty. Because employers define every woman as a future mother means women have to bond with the motherhood identity, even if they don't choose to give birth. Also, the potential mother discrimination will affect more women. Moreover, the research uses an exact natural experiment since the second-child policy is implemented across China and there are little time intervals between the policy's announcement and implementation. From the perspective of data, the research uses CFPS data from 2010 to 2020, which covered the time from the Chinese two-child policy's implementation to its abolition (since the third-child policy is implemented in 2021). As a result, the data is the most up-to-date while ensuring that the policy background is the same. The research also has model checks. To check the robustness, I will apply the heteroskedasticity hypothesis and see if the key variables are still significant. To check the consistency, I will change the dependent variable from "working hours per week" to "working days per month" and check if the models show a similar result.

# 3 Data

To prove and estimate the potential mother discrimination, this paper uses cross-section data from China Family Panel Studies (CFPS)[1], which is designed to collect individual-, family-, and community-level longitudinal data in contemporary China. The research uses CFPS micro-data from five years: 2012, 2014, 2016, 2018, and 2020. 2012 and 2014 are years before the policy, 2018 and 2020 are years after the policy, and 2016 is the year that the policy was implemented. As far as the research is about "potential mothers" and needs to focus on married women of childbearing age, so I chooses married samples from 20 to 49 years old since the childbearing age is 15 to 49 and China's legal age of marriage for women is 22. Meanwhile, I also drop samples not in the labor market (which means they are neither employed nor finding a job) because the potential mother discrimination only happens against working women.

In order to ensure data validity, I implement data cleaning. First, I remove samples that missed key data such as working hours per week and employment status, which would affect the research analysis. Second, I drop the small number of samples containing "refused to answer" or special conditions (e.g., foreign nationality). Finally, I remove samples that are not working but have salary income.

Table 2 shows the mean values of key variables and numbers of observations from 2012 to 2020. The variables used in this research are not limited to variables in Table 2, the research has also controlled multiple variables. In terms of personal features, I control age, squared of age, years of education, and household type[2]; in terms of family features, I controlled the spouse's age, squared of age, years of education, employment status, yearly income and working hours per week; in terms of fertility features, the research controlled youngest child's age, three types of childcare and educational inputs.

Figure 1 shows the difference in mean working hours per week of one-child women and two-children women. According to the figure, the trend of working hours is parallel

[1]China Family Panel Studies (CFPS) is a nationally representative, biennial longitudinal survey of Chinese communities, families, and individuals launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University, China.

[2]The Chinese household type, also named "Hukou", includes two types of agricultural and non-agricultural

Table 2: Summary statistics: mean of key variables by year.

| Year | 2012 | 2014 | 2016 | 2018 | 2020 |
|---|---|---|---|---|---|
| Working hours per week | 43.06 | 44.45 | 47.23 | 48.02 | 49.63 |
| | 12.91 | 22.79 | 23.81 | 19.98 | 20.86 |
| Number of children | 0.858 | 1.058 | 1.039 | 1.502 | 1.486 |
| | 0.903 | 1.002 | 0.953 | 0.795 | 1.426 |
| Youngest child's age | 7.175 | 6.552 | 5.572 | 6.310 | 7.039 |
| | 4.381 | 4.472 | 4.184 | 4.380 | 4.218 |
| Inter-generation childcare (=1) | 0.210 | 0.206 | 0.246 | 0.391 | 0.251 |
| | 0.407 | 0.404 | 0.431 | 0.488 | 0.434 |
| Formal childcare (=1) | 0.0625 | 0.0686 | 0.0868 | 0.122 | 0.0554 |
| | 0.241 | 0.253 | 0.282 | 0.327 | 0.229 |
| Father childcare (=1) | 0.0350 | 0.0442 | 0.0464 | 0.0748 | 0.0677 |
| | 0.185 | 0.206 | 0.210 | 0.261 | 0.251 |
| Educational time input (hours per week) | 0.829 | 0.472 | 0.449 | 2.521 | 3.078 |
| | 2.539 | 1.948 | 1.886 | 4.415 | 6.104 |
| Educational money input (k RMB per year) | 2.229 | 1.670 | 1.547 | 5.965 | 6.294 |
| | 5.642 | 3.709 | 3.893 | 10.08 | 11.74 |
| Observations | 1999 | 5045 | 1981 | 1431 | 1300 |

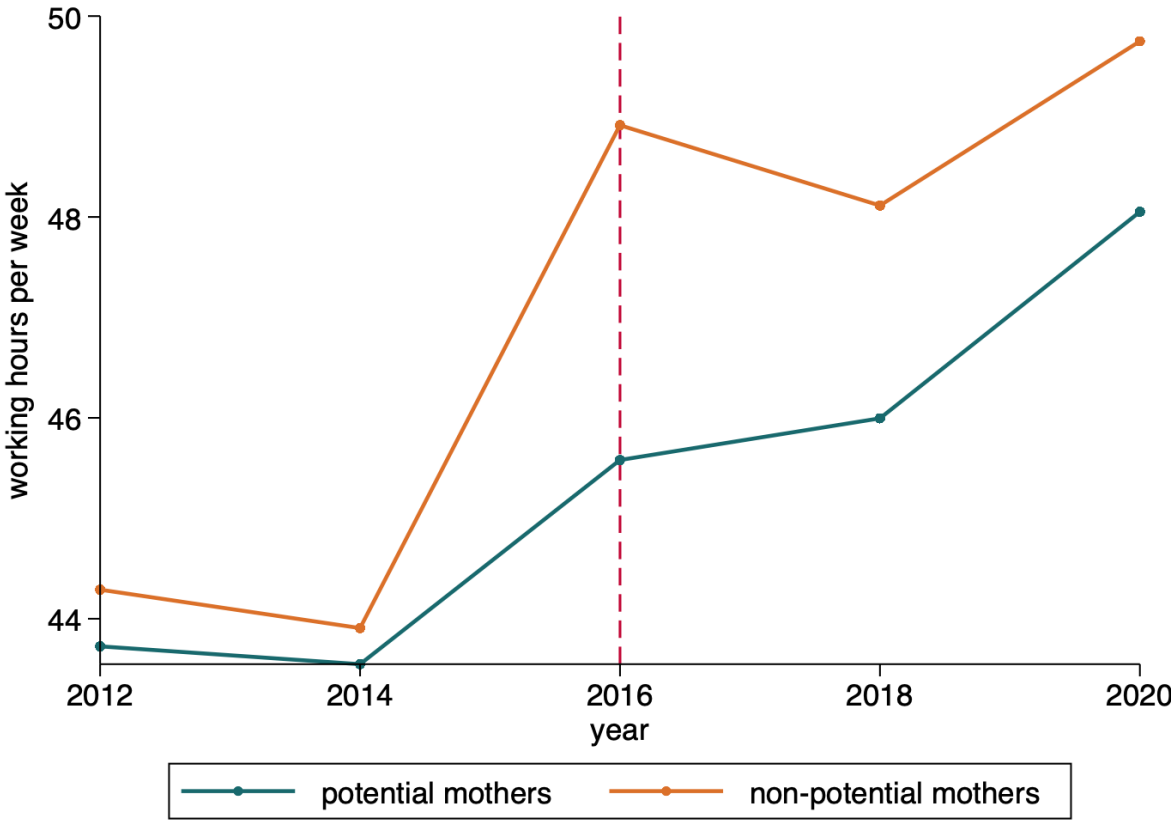


Figure 1: Working hours per week of potential mothers and non-potential mothers.

from 2012 to 2014, there is a gap in mean working hours between one-child and two-children women in 2016, and the gap narrowed after 2016. However, this phenomenon could be caused by other reasons, so the research still needs to perform the parallel trend test in order to find out whether there is a significant impact caused by the second-child policy.

When separating samples into different groups by age and education level, there are still gaps in working hours according to Figure 2 and Figure 3. These two figures illustrate the difference between potential mothers and non-potential mothers across all groups, but it still varied based on each group's unique social features. Specifically, in terms of age groups, there is an immediate and large gap between women older than 35, but the gap between women younger than 35 is gradually increasing. This phenomenon could probably illustrate that potential mothers older than 35 are considered more likely to have children and their postpartum work statuses are more likely to be affected. In terms of education groups, potential mothers with high school degrees are more severely impacted by the second-child policy, compared to the women without high school degrees.

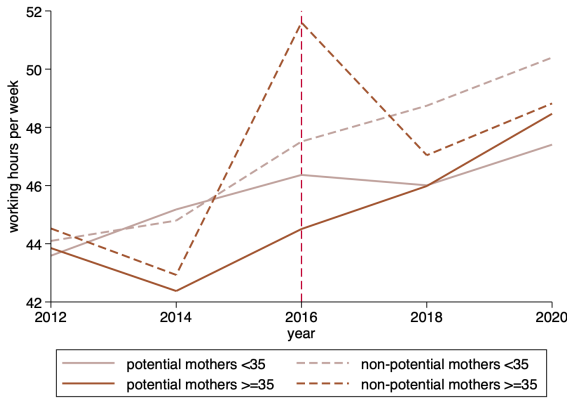


Figure 2: Different age groups

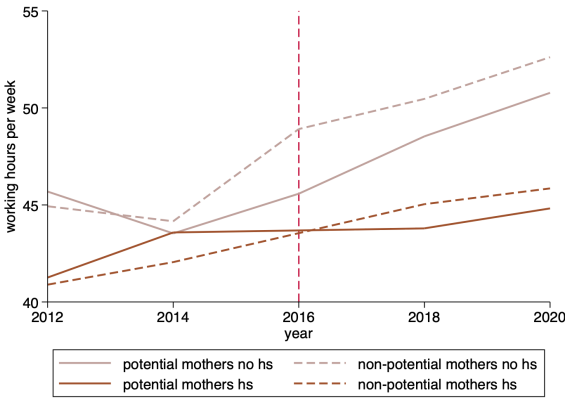


Figure 3: Different education groups

As women from different age groups and education groups may possess different human capital and capacity, they may be affected by the second-child policy to varying degrees. As a result, the research will work on the heterogeneity analysis.

# 4 Identify Discrimination Against Potential Mothers

## 4.1 Baseline Regression

To discover whether discrimination against potential mothers exists in China's labor market, this paper first uses simple OLS regression in Equation (1) to estimate the effect of the number of children on working hours. According to Table 7, compared with women with no children, women with children will have fewer hours of work. However, from column (3) and column (4) can we know that for childbearing women, the more children a woman has, the more hours she will tend to work when controlling the fertility variables. Compared with women with no children, women with one child will work 3.78 hours less under the 1% significant level; women with two children will work 3.31 hours less under the 1% significant level; women with three children will work 1.83 hours less under the 10% significant level; women with more than three children don't work less significantly.

The baseline regression has simply demonstrated that there is discrimination against potential mothers in the labor market, as far as women with more children are less likely to give birth in the future. The regression, nevertheless, still suffers from severe endogeneity problems. For instance, women's attitude toward careers may in turn affect their fertility behavior, their career preferences will then impact the working hours per week and the fertility decisions together. To deal with the endogenous problem, the research will implement DID in the next subsection.

## 4.2 Parallel Trend Test

Before using DID, I need to test the parallel trend and figure out if the treatment group (women with one child) and the control group (women with more than two children) share the same trend before 2016. I implement the parallel trend test with the following model, which drops $pre_{1i}$ to use 2014 as a reference group[3]. The coefficients of the parallel

[3]The model will contain a multicollinearity problem without dropping one of the parallel trend dummies.

trend test dummies will display the policy's effect this year.

$$work_i = \beta_0 + \alpha_1 pre_{2i} + \alpha_2 current_i + \alpha_3 post_{1i} + \alpha_4 post_{2i} + year_i + \sum \mu_{i,j} C_{i,j} + \varepsilon_i \quad (4)$$

In which $pre_2, pre_1, current, post_1, post_2$ are the parallel trend test dummies, multiplied by year dummies and $potential\_mother$. For details, see Equation 5.

As can be interpreted from the parallel trend test result from Table 8 and Figure 4, the policy dynamic effect was not significant from 2012 to 2014, which implies the trends of the two groups are paralleled before the second-child policy. However, there was a significant negative effect on one-child women from 2016 to 2018 but the negative effect slowly receded and became insignificant in 2020, which proves that impact of the second-child policy is significant but temporary, and the research design is reasonable.

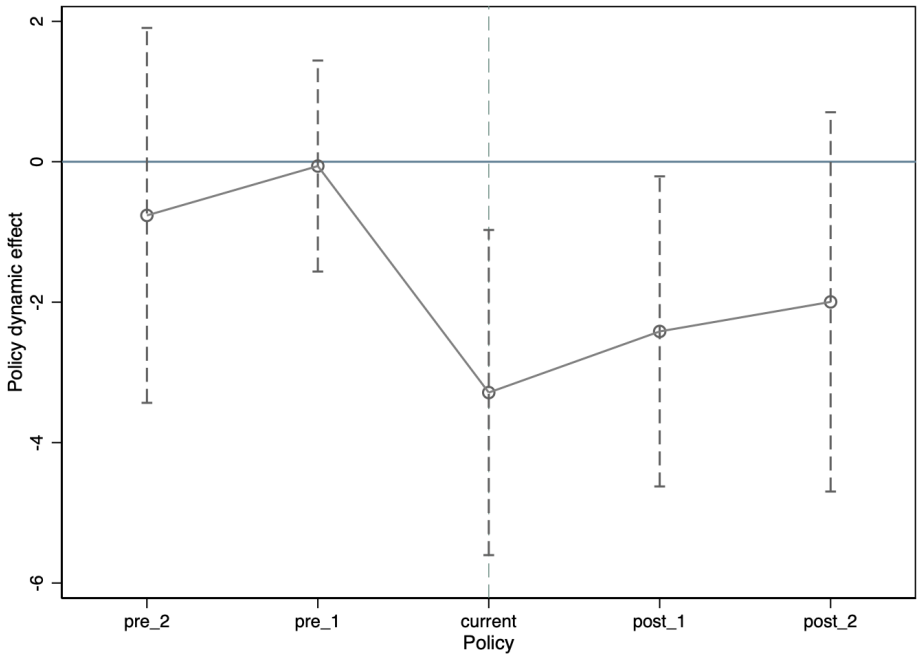


Figure 4: Parallel Trend Test

In order to explain the reduction of the negative effect, I observe the macro fertility rates in China from 1970 to 2020. As we can see from Figure (5), there is no significant macro effect on the fertility rates after 2016, the second-child policy hadn't brought a population boom as people expected. This phenomenon can also explain the third-child

policy implemented in 2021, intended to solve the aging population problem. Therefore, we can speculate that the reduction of negative effects is correlated with the gradual fertility rates, while employers and HRs had found the second-child policy didn't bring high fertility intentions among potential mothers.

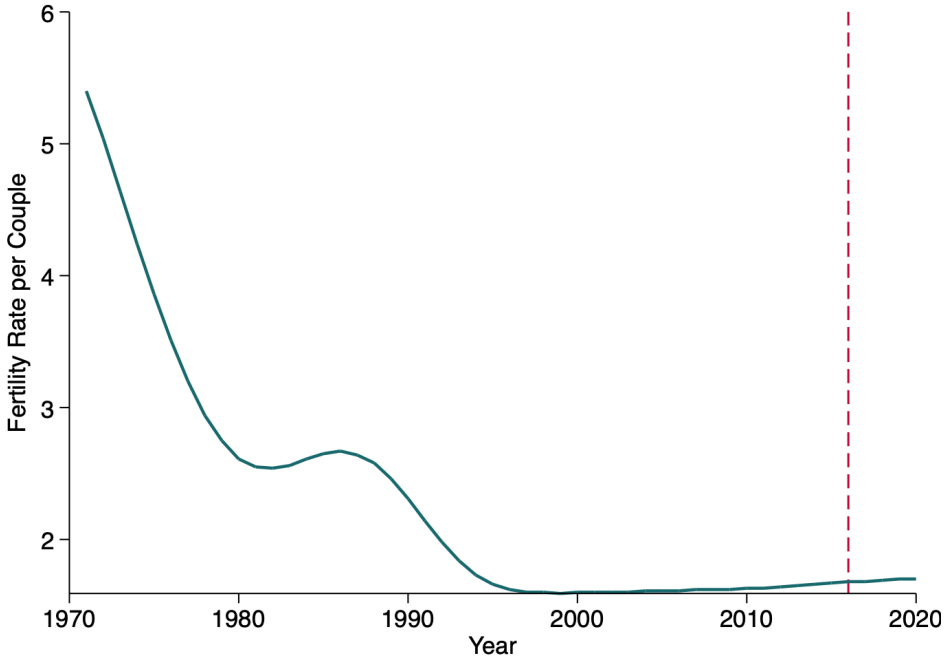


Figure 5: Macro Fertility Rates in China
*Source:* World Bank (https://www.worldbank.org)

## 4.3 Evaluating the Discrimination Against Potential Mothers

The main regression aims to determine whether the discrimination against potential mothers exists by Equation (2). The estimation results in Table 3 indicate that there is discrimination against potential mothers, which means that women who might become a mother tend to be discriminated against by employers.

Column (2) shows a decrease in working hours in one-child women relative to women with more than one child of 2.26 per week, statistically significant at the 5% level. According to columns (4) and column (6), women with wages above the median were exposed to more severe discrimination, whose working hours decreased by 2.93 per week with significance at the 1% level; in contrast, women with wages below the median don't experience significant potential mother discrimination. This result explains that potential mother

Table 3: Estimates of the discrimination against potential mothers

| | Full sample | | Above median wage | | Below median wage | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *potential_mother* | 1.233* | 0.0745 | 1.340* | 0.615 | 0.224 | -0.661 |
| | (0.660) | (0.676) | (0.781) | (0.798) | (0.984) | (1.013) |
| *period* | 4.124*** | 4.247*** | 4.646*** | 4.916*** | 1.779 | 2.041 |
| | (1.083) | (1.106) | (1.073) | (1.108) | (1.678) | (1.736) |
| *potential_mother · period* | -2.410** | -2.255** | -2.954*** | -2.926*** | -2.36 | -2.317 |
| | (0.942) | (0.938) | (1.079) | (1.077) | (1.446) | (1.447) |
| Control personal and family variables | Yes | Yes | Yes | Yes | Yes | Yes |
| Control fertility variables | No | Yes | No | Yes | No | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 8,369 | 8,369 | 3,983 | 3,983 | 4,386 | 4,386 |
| R-squared | 0.043 | 0.057 | 0.109 | 0.118 | 0.059 | 0.067 |

*** p<0.01, ** p<0.05, * p<0.1

discrimination exists and happens more to high-income women.

According to the six columns from Table 3, by controlling the fertility variables, the estimated discrimination against potential mothers will reduce. This phenomenon happens because of the development of other forms of childcare, which ease the burden of working mothers. Since the other forms of childcare have more effect on women wither more than one child, the discrimination against potential mothers will be underestimated without controlling the fertility variables.

## 4.4 Heterogeneity Analysis

According to Figure 2 and Figure 3, discrimination against potential mothers might vary among different social groups. Therefore, the research estimates heterogeneity between different age groups.

In order to estimate the age heterogeneity, I divided the samples into an older group and a younger group, with the two groups divided by 35 years old. The reason I use 35 as a dividing line is that people over 35 are considered to be middle age, and many jobs only recruit 35-year-old workers. According to column (4) and column (6) of Table 4, by controlling the fertility variables, the discrimination against potential mothers younger than

35 is more severe. To be more specific, women younger than 35 will encounter discrimination which decreases their working hours by 3.13 per week under a 5% significance level, while discrimination against women older than 35 is not significant. The interpretation of this result is that the optimal childbearing age is between 24 to 29, women younger than 35 are then considered more likely to have another child, more likely to give up work after childbirth, or have their work status affected by childbirth. At the same time, the coexistence of discrimination against potential mothers and fertility anxiety have put women younger than 35 into a more difficult dilemma.

For identifying the education heterogeneity, I separate the samples into two groups with and without high school degrees. Among them, the group with a high school degree has 2326 samples, and the group without a high school degree has 6043 samples. According to column (3) to column (6) of Table 5, when separating the samples by education level, we can still observe the discrimination under a 10% significance level. However, there is no significant heterogeneity in the education level. The heterogeneity analysis of education reveals that discrimination against potential mothers is not correlated with their education level.

### 4.5 Robustness Check

The research implements robustness checks by using the heteroskedasticity hypothesis in the parallel trend test. By Figure 6 and Table 8, the negative effect of the second-child policy on the potential mothers' working hours is still significant. By Table 9, the results in 4.3 still make sense.

## 5 How to Reduce the Discrimination?

Chinese maternity insurance is a part of the social insurance system in which the government provides medical care, maternity benefits, and maternity leave when women workers who are pregnant and give birth temporarily interrupt their work through legislation, and the government provides the necessary financial compensation and medical

Table 4: Heterogeneity of age

| | Full sample | | Older than 35 | | Younger than 35 | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *potential_mother* | 1.233* | 0.0745 | 0.435 | -0.666 | 2.128** | 1.051 |
| | (0.660) | (0.676) | (0.949) | (0.973) | (0.937) | (0.967) |
| *period* | 4.124*** | 4.247*** | - | - | 4.535*** | 4.278*** |
| | (1.083) | (1.106) | | | (1.469) | (1.513) |
| *potential_mother · period* | -2.410** | -2.255** | -1.786 | -1.868 | -3.521*** | -3.127** |
| | (0.942) | (0.938) | (1.433) | (1.427) | (1.268) | (1.267) |
| Control age and age squared | Yes | Yes | Yes | Yes | Yes | Yes |
| Control personal and family variables | Yes | Yes | Yes | Yes | Yes | Yes |
| Control fertility variables | No | Yes | No | Yes | No | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 8,369 | 8,369 | 4,104 | 4,104 | 4,265 | 4,265 |
| R-squared | 0.043 | 0.057 | 0.044 | 0.056 | 0.048 | 0.068 |

*** p<0.01, ** p<0.05, * p<0.1

*Notes:* I still control the age and age squared because age will impact the working hours even in the two age groups. There are multicollinearity problems in column (3) and column (4), which don't affect the DID coefficients.

Table 5: Heterogeneity of education

| | Full sample | | High school degree | | Non-high school degree | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *potential_mother* | 1.233* | 0.0745 | 1.864 | 1.326 | 0.967 | -0.195 |
| | (0.660) | (0.676) | (1.157) | (1.174) | (0.793) | (0.816) |
| *period* | 4.124*** | 4.247*** | 3.077** | 3.276** | 5.019*** | 4.889*** |
| | (1.083) | (1.106) | (1.375) | (1.420) | (1.435) | (1.479) |
| *potential_mother · period* | -2.410** | -2.255** | -2.409 | -2.432* | -2.149* | -1.917 |
| | (0.942) | (0.938) | (1.474) | (1.476) | (1.184) | (1.179) |
| Control education | Yes | Yes | No | No | No | No |
| Control personal and family variables | Yes | Yes | Yes | Yes | Yes | Yes |
| Control fertility variables | No | Yes | No | Yes | No | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 8,369 | 8,369 | 2,326 | 2,326 | 6,043 | 6,043 |
| R-squared | 0.043 | 0.057 | 0.037 | 0.049 | 0.047 | 0.062 |

*** p<0.01, ** p<0.05, * p<0.1

care to workers who give birth.

With the improvement of the legal system, the maternity policy has developed greatly. One of the changes is that the focus alters from family planning to individual rights, which demonstrates the humanistic care of the legal system. Meanwhile, the policies focus on both the workplace and the home instead of only the home. Also, the policy's attention to gender equity has increased(Liu, Yu, and H. Wang, 2020). China's maternity insurance benefits mainly include two kinds of benefits: maternity allowance and maternity medical treatment. Maternity insurance can reduce the rate of career interruption for childbearing women(Huang, 2014). Therefore, this research assumes that maternity insurance can help reduce discrimination against potential mothers.

The regression in Table 6 shows the effect of maternity insurance on the working hours per week. The estimation results indicate that maternity insurance can both reduce the motherhood penalty and the discrimination against potential mothers. Column (2) and column (3) show the effect of maternity leave on childbearing women. For women with one child, having maternity insurance can enhance their working hours by 9.27 per week under a 1% significance level. For women with more than two children, having maternity insurance can enhance their working hours by 13.32 per week under a 1% significance level. As a result, having maternity leave can help mothers continue their careers. Column (1) shows the effect of maternity leave on women with no child, which might encounter discrimination against potential mothers. For women with no child, having maternity insurance can enhance their working hours by 5.25 per week under a 10% significance level.

Therefore, maternity insurance can reduce discrimination against potential mothers under the 10% significance level. Compared to the effect of maternity insurance on childbearing women, it plays a weaker role in eliminating discrimination. The interpretation of this result is that although potential mothers are not using maternity insurance, the employers still assume that their potential fertility behavior is supported by insurance and will help them back to work.

Table 6: Effect of Maternity Insurance

| | No child (1) | One child (2) | More than two children (3) |
|---|---|---|---|
| *maternity_insurance* | 5.245* | 9.268*** | 13.32*** |
| | (3.188) | (1.582) | (1.871) |
| Control personal and family variables | Yes | Yes | Yes |
| Control fertility variables | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes |
| Observations | 395 | 1,662 | 1,624 |
| R-squared | 0.060 | 0.167 | 0.188 |

*** p<0.01, ** p<0.05, * p<0.1

# 6 Conclusions

Although women's rights protection has been highly developed in the past decades, discrimination against women workers still exists. While existing papers have proved the gender wage gap and motherhood penalty, this research mainly explores discrimination against potential mothers by providing two contributions.

First, this paper uses OLS and DID methods to identify the discrimination against potential mothers, which the latter solves the endogeneity problem. The results of the parallel trend test and regression show that this discrimination indeed exists in China's labor market, and is revealed due to the implementation of the second-child policy that made women with one child potential mothers.

Second, this paper also compared discrimination against potential mothers among different social groups. According to the research, women with higher incomes and younger ages will face more severe discrimination. However, the difference between education groups is not significant.

Third, this paper presents a solution to discrimination against potential mothers. Assuming maternity insurance can reduce discrimination, I use OLS to test the effect of maternity insurance. The result proves that maternity insurance can help potential mothers overcome discrimination, but its effect is bigger and more significant on childbearing mothers.

If possible, I will continue future work regarding the effect of formal childcare rates on discrimination against potential mothers. Potential mother discrimination occurs because employers believe hiring women who might become mothers is not good for their business, which shows the social perception that connects women to motherhood. Therefore, I suppose that the formal childcare rates in a province are related to the level of discrimination, and providing more formal childcare can help create a gender-friendly labor market. If the provincial childcare situation coefficient has a significant positive effect on the working hours even controlling the family-level childcare input, then providing more formal childcare institutions can reduce potential mother discrimination.

# 7 Appendix

Table 7: Baseline Regression of children numbers and working hours

| | (1) working hours | (2) working hours | (3) working hours | (4) working hours |
|---|---|---|---|---|
| $child\_num = 1$ | -3.474*** | -3.620*** | -4.051*** | -3.777*** |
| | (0.517) | (0.524) | (0.587) | (0.591) |
| $child\_num = 2$ | -3.736*** | -3.942*** | -3.563*** | -3.306*** |
| | (0.634) | (0.645) | (0.733) | (0.739) |
| $child\_num = 3$ | -2.380** | -2.712*** | -1.953* | -1.826* |
| | (1.001) | (1.007) | (1.073) | (1.076) |
| $child\_num \geq 4$ | -2.456* | -3.327*** | -2.005 | -2.215 |
| | (1.265) | (1.277) | (1.353) | (1.362) |
| $youngest\_child = 0, 1, 2$ | | | -4.049*** | -4.285*** |
| | | | (0.681) | (0.681) |
| $youngest\_child = 3, 4, 5$ | | | -2.562*** | -2.648*** |
| | | | (0.628) | (0.625) |
| Inter-generation childcare (=1) | | | 4.769*** | 4.477*** |
| | | | (0.511) | (0.510) |
| Formal childcare (=1) | | | 1.454* | 1.539** |
| | | | (0.783) | (0.781) |
| Father childcare (=1) | | | 2.588*** | 2.360*** |
| | | | (0.900) | (0.898) |
| Educational time input | | | -0.111* | -0.220*** |
| | | | (0.0623) | (0.0635) |
| Educational money input | | | 0.0699** | 0.0276 |
| | | | (0.0320) | (0.0323) |
| Education | -0.147** | -0.142** | -0.151*** | -0.125** |
| | (0.0570) | (0.0597) | (0.0573) | (0.0598) |
| Age | 1.089*** | 0.931** | 0.756* | 0.624 |
| | (0.382) | (0.381) | (0.391) | (0.390) |
| Age squared | -0.0178*** | -0.0155*** | -0.0129** | -0.0110** |
| | (0.00503) | (0.00502) | (0.00514) | (0.00514) |
| Household type | 1.611*** | 2.074*** | 1.702*** | 2.148*** |
| | (0.477) | (0.485) | (0.477) | (0.485) |
| Constant | 16.53*** | 20.23*** | 25.22*** | 27.86*** |
| | (5.016) | (5.090) | (5.548) | (5.569) |
| Control spouse's variables | Yes | Yes | Yes | Yes |
| Year fixed effects | No | Yes | No | Yes |
| Observations | 11,657 | 11,657 | 11,657 | 11,657 |
| R-squared | 0.037 | 0.045 | 0.047 | 0.055 |

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Parallel Trend Test Regression

| | Basic Regression | Robustness Check |
|---|---|---|
| *pre_2* | -0.764 | -0.764 |
| | (1.362) | (0.972) |
| *pre_1* | -0.0611 | -0.0611 |
| | (0.767) | (0.820) |
| *current* | -3.287*** | -3.287** |
| | (1.181) | (1.436) |
| *post_1* | -2.416** | -2.416** |
| | (1.126) | (1.094) |
| *post_2* | -1.996 | -1.996 |
| | (1.378) | (1.347) |
| Observations | 8,369 | 8,369 |
| R-squared | 0.051 | 0.051 |

*** p<0.01, ** p<0.05, * p<0.1

$$
\begin{aligned}
pre_{2i} &= year_{2012i} * potential\_mother_i \\
pre_{1i} &= year_{2014i} * potential\_mother_i \\
current_i &= year_{2016i} * potential\_mother_i \\
post_{1i} &= year_{2018i} * potential\_mother_i \\
post_{2i} &= year_{2020i} * potential\_mother_i
\end{aligned}
\tag{5}
$$

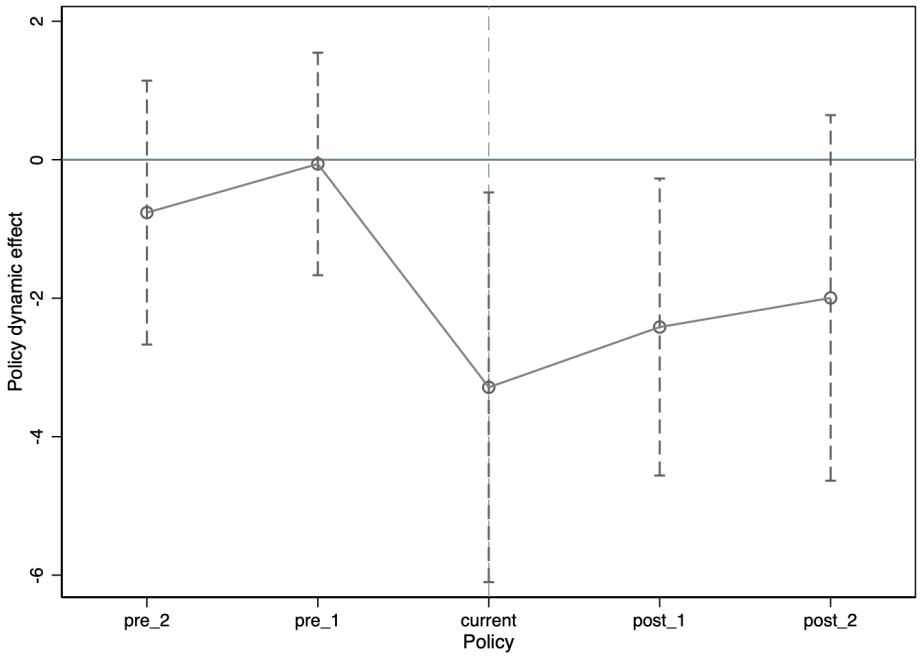


Figure 6: Robustness Check

Table 9: Robustness Check of discrimination estimating

| | Full sample | | Above median wage | | Below median wage | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *potential_mother* | 1.233* | 0.0745 | 1.340* | 0.615 | 0.224 | -0.661 |
| | (0.667) | (0.684) | (0.781) | (0.807) | (0.956) | (0.990) |
| *period* | 4.124*** | 4.247*** | 4.646*** | 4.916*** | 1.779 | 2.041 |
| | (1.005) | (1.030) | (1.153) | (1.203) | (1.543) | (1.599) |
| *potential_mother* · *period* | -2.410** | -2.255** | -2.954** | -2.926** | -2.360 | -2.317 |
| | (0.980) | (0.978) | (1.156) | (1.155) | (1.480) | (1.482) |
| Control personal and family variables | Yes | Yes | Yes | Yes | Yes | Yes |
| Control fertility variables | No | Yes | No | Yes | No | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 8,369 | 8,369 | 3,983 | 3,983 | 4,386 | 4,386 |
| R-squared | 0.043 | 0.057 | 0.109 | 0.118 | 0.059 | 0.067 |

*** p<0.01, ** p<0.05, * p<0.1

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