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**When Protection Becomes a Pitfall: Evaluating the Impact of  
Labor Policies on Women's Workforce Participation**

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# When Protection Becomes a Pitfall: Evaluating the Impact of Labor Policies on Women's Workforce Participation

Jiawen Liu\*

## Abstract

This study examines the impact of the Special Rules on Female Labor Protection implemented by China in 2012, which offered enhanced benefits and protections for female workers during pregnancy, childbirth, and breastfeeding. Utilizing data from the China Family Panel Studies (CFPS) for the years 2008, 2009, 2010, and 2014, this paper employs double-difference and triple-difference models to assess the policy's effects on labor market participation. The findings reveal that, contrary to intentions, the protection rules correlate with a decline in labor market engagement among women, particularly affecting the younger demographic more severely. These results highlight the complexity of policy impacts and suggest that well-meaning labor protections may carry unintended consequences that disproportionately burden the very groups they aim to support.

**JEL codes:** J16, J22, J88

**Keywords:** Gender, labor, parental leave

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# I Introduction

China's transition from a 'One Child' to a 'Two Child' policy since 2011 marked a significant shift in its demographic landscape. This policy change, allowing couples from 'Single Child' families to have a second child, has profound implications for women in the labor market. As primary caregivers, women face increased challenges balancing work and family life, influencing both demand and supply aspects of their labor market participation. In response, the Chinese government introduced the Special Rules on the Labor Protection of Females in April 2012. While these rules offer important protections and support for women, especially during pregnancy, childbirth, and breastfeeding, they also have unintended consequences. This paper investigates these outcomes, focusing on how these protections may inadvertently hinder women's job market participation by increasing employer hesitancy to hire them.

The evolution of research on parental leave policies and their impact on labor market participation, particularly for women, has been marked by distinct waves, each contributing to a deeper understanding of the topic. Studies in the United States (Byker, 2016) explored the basic impacts of parental leave on women's return to work post-childbirth. These early investigations revealed that even minimal leave policies could significantly influence women's labor market attachment, laying the groundwork for further exploration into the nuances of parental leave policies.

As research expanded globally, studies broadened the understanding of maternity leave's impact on labor force participation (Del Rey, Kyriacou, and Silva, 2021; Azmat, Guell, and Manning, 2006; Nivorozhkin and Romeu-Gordo, 2019). Their studies introduced the complex balance required between leave duration and labor market participation, revealing a non-linear relationship. This expansion emphasized the interplay between policy design, labor market dynamics, and social norms, underscoring the global variability of parental leave impacts.

Concurrently, a shift in focus towards gender equality emerged, particularly in European

contexts. A research highlighted how policy design could influence the division of labor between genders (Castro-García and Pazos-Moran, 2016). Their work emphasized the disparity in leave-taking behaviors between men and women and the role of policy attributes in promoting gender equity, thereby adding a crucial dimension to the discourse on parental leave policies.

Further studies in the U.S., and the systematic review by Nandi et al., addressed broader socioeconomic and health outcomes of parental leave (Han, Ruhm, and Waldfogel, 2009; Nandi, Jahagirdar, Dimitris, Labrecque, Strumpf, Kaufman, Vincent, Atabay, Harper, Earle et al., 2018). These works contextualized parental leave within diverse economic and cultural environments, contributing to a more nuanced understanding. They underscored the importance of considering socio-economic factors and educational backgrounds in assessing the effectiveness of parental leave policies.

Our study's contributions are particularly salient against the backdrop of declining fertility rates and their intricate relationship with female labor participation. This research critically examines how China's labor protective laws, enacted following the 'Two Child' policy, aimed to encourage higher birth rates but potentially led to unintended consequences on women's labor market participation. Such an examination is increasingly relevant as low fertility rates pose significant socio-economic challenges, including labor shortages and demographic aging.

Our study uniquely contributes to this discourse by exploring the juxtaposition of policies intended to boost fertility against those designed to protect female labor rights. This exploration is essential in understanding how these policies, while well-intentioned, can have counterproductive effects on women's willingness or ability to participate in the labor market. In doing so, the research sheds light on the complex interplay between family planning policies and labor market dynamics, a topic of growing importance in policy circles.

Additionally, by examining the situation in China, this study provides insights into policy

implications that are globally relevant. It draws parallels with similar policies in other countries, such as the mandatory father leave in Nordic countries, which advocate more gender equality in parental responsibilities. These comparisons offer a broader perspective on how different policy approaches can shape gender dynamics in the labor force.

One of the primary challenges faced in this setting is differentiating the effects of the ‘Two Child’ policy and the female labor protective law, given their close implementation timelines and overlapping influences on female labor participation. This challenge is pivotal because a conventional Difference-in-Differences (DID) approach would only capture the combined effects of both policies, thus obscuring their individual impacts. To address this, our study employs a Triple Difference-in-Differences (Triple DID) methodology. This approach allows us to differentiate the effects of the two policies by leveraging the fact that the ‘Two Child’ policy applies to all sectors nationally, while the female labor protection law is sector-specific.

The application of Triple DID in this context is innovative and methodologically significant. It provides a nuanced understanding of how each policy independently influences women’s decisions and opportunities in the labor market. This distinction is crucial for policymakers as they consider revising existing policies or implementing new ones to balance the dual goals of encouraging higher birth rates and ensuring equitable labor market participation for women.

In conclusion, this study not only adds to the existing literature on parental leave and labor market participation but also addresses critical gaps by focusing on the unique context of China. It highlights the need for carefully designed policies that consider both demographic objectives and labor market realities. The insights gained from this study are valuable for policymakers and scholars alike, contributing to a more informed and nuanced approach to addressing the challenges of declining fertility rates and gender equality in the labor force.

The paper is organized as follows: Section II outlines the Special Rules on Labor Protection of Females. Section III discusses the theoretical framework underpinning these policies.

Section IV describes the data sources used, and Section V details the methodology for assessing the impact of these Labor Protection Rules. Section VI presents the basic regression results, followed by alternative specifications in Section VII. Section VIII examines the underlying assumptions and robustness tests, and Section IX concludes with a summary of findings and implications for future policy considerations.

## II Background

On April 28, 2012, the State Council of the People’s Republic of China implemented the Special Rules on Labor Protection for Female Employees. This regulation, effective immediately upon issuance, significantly elevated the labor protection standards for female employees and instituted more stringent penalties for violations. These rules, applicable across various sectors including state organs, enterprises, public institutions, and social organizations, aim to bolster labor protection and regulate labor relations more effectively. Notably, unregistered agricultural organizations are exempt, leaving women employed therein outside the purview of these protections.

This paper distinguishes sectors impacted by these new regulations: prior to 2012, no sectors were subject to these rules, whereas post-2012, they selectively shielded women in targeted sectors. Importantly, the rules do not affect male employees.

Key amendments introduced by these rules include:

1. Extended Maternity Leave: The maternity leave duration was increased from 90 to 98 days, garnering significant public attention. This extension augments both the rest period and the duration for which maternity leave benefits, including allowances, are applicable.
2. Standardization of Maternity Allowance: The rules mandate maternity allowances, funded by maternity insurance, based on the employer’s average wage in the preceding year. This adjustment particularly benefits low-wage female employees, ensuring they receive

allowances exceeding their regular wages during maternity leave. Conversely, for high-wage employees, local regulations require employers to compensate any difference between the allowance and actual wages.

3. Expanded Job Restrictions: The rules specify and expand the scope of roles deemed unsuitable for female employees during menstruation, pregnancy, and lactation. This broadened restriction range could inadvertently bias employers towards hiring males over females.

4. Enhanced Penalties for Violations: The rules articulate specific fines for infringements, including fines ranging from RMB 1,000 to 5,000 for employers who overwork breastfeeding employees or assign them night shifts.



Figure 1: Timeline of Relevant Policies

In assessing the impact of these policies on women’s labor market performance, it is critical to consider potential confounders, such as other policy or institutional changes. Figure 1 outlines key developments from 2008 to 2018, centering around the 2012 Special Rules. The analysis also encompasses changes in fertility and maternity leave policies, including the two-child policy and regional variations in maternity leave extensions. To mitigate the confounding effects of maternity leave policy changes, this study focuses on the 2010-2014 timeline, a period marked by both the implementation of the two-child policy for single-child



families and the Special Rules on Female Labor Protection.

### III Framework

#### Labor Supply Dynamics

##### Impact of the Two-Child Policy on Female Labor Supply

The Two-Child policy, permitting couples from single-child families to have a second child, has profound implications for female labor supply, especially in a cultural context where women predominantly bear child-rearing responsibilities (Wu, Ye, and He, 2014). The policy potentially alters the labor-leisure trade-off for women, shifting their labor supply curve. This can be modeled as:

$$L_s = f(P_{2c}, W, C) \tag{1}$$

Here,  $L_s$  denotes women's labor supply,  $P_{2c}$  is the probability of opting for a second child,  $W$  represents women's wages, and  $C$  encapsulates the costs associated with childcare, both economic and non-economic. Empirical evidence suggests a notable decline in women's labor market participation intentions post-policy implementation, influenced by regional and industrial variations (Jia, 2014; Sheng and Tong, 2018).

##### Effect of Special Rules on Female Labor Protection

Contrasting the Two-Child Policy, the Special Rules on Female Labor Protection, which offers benefits like flexible working hours and maternity advantages, could enhance women's labor market participation. This can be represented as an outward shift in the labor supply curve, given the increased utility from labor due to improved work-life balance.

$$L_s = L_s(B, W) \tag{2}$$

Where  $B$  signifies the benefits from the Special Rules. An increase in  $B$  is expected to elevate  $L_s$ , ceteris paribus.

## Labor Demand Considerations

### Two-Child Policy's Influence on Employer Preferences

From the demand perspective, the Two-Child Policy elevates the perceived cost of hiring women due to potential discontinuities in employment and increased maternity-related benefits. This could be conceptualized as a shift in the labor demand curve:

$$L_d = g(P_{2c}, C_e, P_m) \tag{3}$$

Where  $L_d$  is the demand for female labor,  $C_e$  represents employer's costs associated with hiring women (e.g., maternity leave), and  $P_m$  denotes productivity mismatch due to leave periods. A rise in  $P_{2c}$  and  $C_e$  likely reduces  $L_d$ .

### Impact of Special Rules on Female Labor Protection

While intended to support female workers, these Special Rules inadvertently increase the cost of employing women for businesses. This includes obligations to provide specific facilities and guarantees against wage reduction or dismissal during maternity. Such regulations may unintentionally foster a bias in hiring practices, as employers might lean towards hiring men to avoid these additional costs, thus influencing the labor demand for women negatively.

$$L_d = L_d(C_r, C_{nc}) \quad (4)$$

Here,  $C_r$  is the compliance cost of the rules, and  $C_{nc}$  the cost of non-compliance (such as penalties). Employers might balance  $C_r$  against  $C_{nc}$  in their hiring decisions, potentially favoring male labor.

## Equilibrium Framework and Policy Implications

The equilibrium in the labor market is where labor supply equals labor demand, considering both the Two-Child Policy and the Special Rules:

$$L_s(P_{2c}, W, C, B) = L_d(P_{2c}, C_e, P_m, C_r, C_{nc}) \quad (5)$$

This equilibrium condition illuminates the intricate interactions between policy changes and labor market dynamics, especially concerning gender-based disparities.

Analyzing the effects of the Two-Child Policy and the Special Rules on Female Labor Protection separately reveals distinct influences on labor supply and demand. The Two-Child Policy, by increasing childcare responsibilities, likely reduces labor supply as women may choose or be compelled to spend more time on family care. This policy could also decrease labor demand, as employers might perceive higher costs and lower productivity for female workers due to potential maternity leaves. In contrast, the Special Rules on Female Labor Protection could increase labor supply by providing better working conditions and benefits, making it easier for women to balance work and family responsibilities. However, these rules might also reduce labor demand due to increased costs for employers in accommodating the special needs of female workers.

When considering the combined effect of these policies, the interaction becomes more

complex. The overall impact on the labor participation rate of women will depend on how these contrasting supply and demand influences interact. If the Two-Child Policy's negative impact on both labor supply and demand outweighs the positive effects of the Special Rules, there could be a net decrease in female labor participation. Alternatively, if the Special Rules effectively counterbalance the adverse effects of the Two-Child Policy, the overall impact could be neutral or even positive. The net effect is thus a product of the delicate balance between these opposing forces, highlighting the intricacies of policy design and implementation in affecting labor market outcomes.

## **IV Data**

### **IV.a Data Source**

This study utilizes data from the China Family Panel Studies (CFPS), an extensive national survey administered by the Institute of Social Science Survey (ISSS) at Peking University. The CFPS dataset encompasses a representative sample covering 25 provinces, cities, and municipalities, aggregating information from 16,000 households. The survey, initiated with a pilot in major cities (Beijing, Shanghai, Shenzhen) during 2008-2009, embarked on its first comprehensive wave in 2010. Subsequent biennial follow-ups have been conducted, enabling longitudinal tracking across individual, familial, and community levels. The dataset available spans from 2008 to 2018; however, my analysis concentrates on the 2008-2014 period. This timeframe selection strategically circumvents confounding effects introduced by alterations in maternity leave policies post-2016, allowing a focused examination of the Special Rules on female labor protection implemented in 2012. Additionally, data from 2008-2009 are employed for conducting relevant placebo tests.

## **IV.b Sample Selection and Grouping**

My analytical sample comprises individuals aged between 16 and 50 years, excluding those incapacitated due to physical disabilities, self-employed persons, and retirees. This age bracket ensures the inclusion of the workforce most likely to be impacted by the policies under study. To discern the distinct effects of the Special Rules on female labor protection and the Two-Child Policy, respondents are classified based on CFPS-designated codes for industry, occupation, and worker classification.

Women employed in state organs, enterprises, public institutions, social organizations, individual economic organizations, and other social entities are identified as being subject to both the Two-Child Policy and the Special Rules on female labor protection. In contrast, individuals engaged in unregistered agricultural sectors serve as the control group, primarily influenced only by the Two-Child Policy. This bifurcation facilitates an evaluation of the differential impacts arising from each policy.

To account for varying temporal trends and policy influences, the study also incorporates male counterparts in both sectors as an additional control group. This inclusion provides a more robust comparative framework, enabling a nuanced understanding of the gender-specific impacts of the policies.

## **V Empirical Strategy and Model Specification**

### **Estimation of Policy Effects**

To quantify the impact of the Special Rules on Female Labor Protection, this study employs a difference-in-differences (DID) approach. The empirical strategy involves tracking labor market outcomes for women within the targeted sectors pre- and post-enactment of the female labor protection rules, compared to outcomes in sectors not subjected to these rules.

This yields a DID estimator:

$$\Delta_W = (Y_{T,W}^{2014} - Y_{T,W}^{2010}) - (Y_{N,W}^{2014} - Y_{N,W}^{2010}) \quad (6)$$

where  $Y_{S,W}^y$  denotes the outcomes for women in sector  $S$ , with sectors influenced by both the two-child policy and the Special Rules (T) or only the two-child policy (N), in year  $y$ . Prior to 2010, neither policy had been implemented in the observed sectors. By 2014, both T and N sectors were affected by the two-child policy, but only sector T was additionally influenced by the Special Rules.

Given the disparate nature of sectors T and N—the former primarily comprising formal urban organizations and the latter informal rural agricultural entities—the assumption of parallel trends may not hold. To address potential divergences in time trends, we introduce a triple-difference (DDD) estimator (Angrist and Pischke, 2008; Berck and Villas-Boas, 2015), isolating the idiosyncratic time effects by incorporating male labor market outcomes as a control:

$$\Delta_M = (Y_{T,M}^{2014} - Y_{T,M}^{2010}) - (Y_{N,M}^{2014} - Y_{N,M}^{2010}) \quad (7)$$

$$\Delta = \Delta_W - \Delta_M \quad (8)$$

Equation (2) is predicated on the premise that male workers remain unaffected by the policies in question, thereby serving as a benchmark for time-specific sectoral effects.

## Regression Framework

To compute the DDD estimators within a regression framework, the following specification is adopted:

$$Y_{it} = \alpha + \gamma_1 T_i + \gamma_2 S_i + \gamma_3 G_i + \gamma_4 T_t S_i + \gamma_5 T_t G_i + \gamma_6 S_i G_i + \gamma_7 T_t S_i G_i + \varepsilon_{it} \quad (9)$$

Here,  $S$  is the sector indicator, and  $\gamma_7$  captures the triple-difference effect. The robustness of the findings is further evaluated using data from 2008-2009, a period devoid of policy changes affecting women's labor outcomes. Similar patterns within this timeframe would cast doubt on the causal interpretation of effects observed between 2010-2014.

## Compound Effects of Policy Interaction

To explore the joint influence of the two policies, a comparative analysis sets women as the treatment group and men as the control group, estimating the subsequent DID regression:

$$Y_{it} = \alpha + \gamma_1 T_t + \gamma_2 G_i + \gamma_3 T_t G_i + \varepsilon_{it} \quad (10)$$

Where  $Y_{it}$  represents observed outcomes for individual  $i$ ,  $T_t$  an indicator for the 2014 survey,  $G_i$  an indicator for female respondents, and  $\varepsilon_i$  an idiosyncratic error term. The coefficient  $\gamma_3$  quantifies the compound impact of both policies as defined in equation (6):

$$\Delta_T = (Y_W^{2014} - Y_W^{2010}) - (Y_M^{2014} - Y_M^{2010}) \quad (11)$$

Control variables observable across the double and triple difference specifications will be incorporated in subsequent analyses to enhance the precision of the estimated effects.

## **VI Basic Results**

### **VI.a Empirical Findings Without Control Variables**

This section presents the preliminary empirical findings, without control variables. The analysis begins with double-difference estimates to assess the joint effect of the two-child policy and Special Rules on Female Labor Protection. It then advances to a triple-difference model to isolate the impact of Female Labor Protection Rules. The models are applied across various age cohorts to determine both the overall and age-specific policy effects. Future sections will refine the focus to those demographics identified by the age criterion, incorporating control variables into the regression analysis.



## Double-Difference Estimates of Labor Market Participation

Table 1: Basic Double-Difference Model of Labor Market Participation

<b>Outcome: Participate</b>	<b>Age &lt; 30</b>	<b>Age &lt; 35</b>	<b>Age &lt; 40</b>	<b>Age &lt; 45</b>	<b>Age &lt; 50</b>
<b>2010 (year)</b>					
(1) Male	0.672	0.703	0.720	0.735	0.739
(2) Female	0.493	0.523	0.551	0.579	0.591
(3) Diff (F-M)	-0.178	-0.180	-0.170	-0.155	-0.148
	(0.013)	(0.010)	(0.009)	(0.007)	(0.006)
<b>2014 (year)</b>					
(4) Male	0.894	0.912	0.921	0.929	0.930
(5) Female	0.644	0.683	0.720	0.754	0.776
(6) Diff (F-M)	-0.251	-0.229	-0.201	-0.175	-0.154
	(0.012)	(0.010)	(0.008)	(0.007)	(0.006)
(7) Diff-in-Diff	-0.073***	-0.049***	-0.031***	-0.020*	-0.006
	(0.018)	(0.014)	(0.012)	(0.010)	(0.009)
<b>Observations</b>	9688	14509	20071	27001	33542

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

The outcome variable analyzed in Table 1 is the labor market participation rate. The table displays shifts between 2010 and 2014—years encapsulating the enactment of the scrutinized policies. Standard errors of estimated effects are denoted in parentheses. Regressions segmented by age indicate that men’s participation rates invariably surpass those of women, with the divergence contracting with advancing age. Following policy implementation in 2014, the gender gap in all age cohorts broadened, notably so among younger segments. The double-difference estimator (Row 7) signifies a 7.3 percentage point reduction in labor market participation for women under 30, an effect that tapers with the inclusion of older age groups. For those under 50, the policy impact is not statistically significant. These empiri-

cal results corroborate the theoretical projection that policy influences are most pronounced among younger, childbearing-potential women.

## Triple-Difference Estimation for Policy Effect Separation

The double-difference models quantify the combined impact of the policies. To disentangle the effects, the study employs a triple-difference approach, the results of which are presented in Table 2. The regression outcomes across age categories delineate the impact of Female Labor Protection Rules on labor market participation and income.

Table 2: Triple Difference Estimates

Outcome	Age Group				
	<30	<35	<40	<45	<50
<b>Participation</b>					
Diff-in-Diff-in-Diff	-0.147*** (0.046)	-0.144*** (0.035)	-0.152*** (0.028)	-0.126*** (0.023)	-0.110*** (0.019)
<b>Income (10,000)</b>					
Diff-in-Diff-in-Diff	-0.6136 (0.72)	0.488 (0.53)	0.185 (0.437)	-0.187 (0.325)	-0.097 (0.271)
<b>Observations</b>	4138	6605	9836	13765	17102

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

For women under 30, the labor protection rules are shown to reduce participation rates by 14.7%, with the magnitude of the effect decreasing for older age brackets. Income effects, however, do not display a consistent pattern and remain statistically non-significant, suggesting a complex interplay of factors influencing earnings that extends beyond policy effects.

## VI.b Results with Control Variables

With the inclusion of observable controls from the CFPS data, the study aims to isolate the effects of the two policies from other variables potentially affecting female labor market outcomes (Mason, 1987). The model for double differences is extended as:

$$Y_{it} = \alpha + X_{it}\beta_1 + \gamma_1 T_t + \gamma_2 G_i + \gamma_3 T_i G_i + \varepsilon_{it} \quad (12)$$

The model for triple differences is augmented accordingly:

$$Y_{it} = \alpha + X_{it}\beta_1 + \gamma_1 T_i + \gamma_2 S_i + \gamma_3 G_i + \gamma_4 T_t S_i + \gamma_5 T_t G_i + \gamma_6 S_i G_i + \gamma_7 T_t S_i G_i + \varepsilon_{it} \quad (13)$$

Controls encompass demographic characteristics, such as age and its square, education, marital status, number of children, presence of children under three, self-rated health, and body mass index, alongside province fixed effects.

Table 3: Regression Results Including Control Variables

Dependent Variable/Age group	Double Difference			Triple Difference		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Participation</b>						
Age < 30	-0.073*** (0.018)	-0.087*** (0.021)	-0.126*** (0.028)	-0.147*** (0.046)	-0.046 (0.033)	-0.049 (0.048)
30 < Age < 35	0.002 (0.023)	-0.006 (0.025)	0.049 (0.031)	-0.125** (0.049)	-0.110** (0.050)	-0.101* (0.05)
35 < Age < 40	0.046* (0.024)	0.047* (0.025)	0.05 (0.028)	-0.090* (0.045)	-0.120*** (0.047)	-0.130*** (0.048)
<b>Income (10,000 RMB)</b>						
Age < 30	-0.470*** (0.146)	-0.490*** (0.141)	-0.570*** (0.170)	-0.614 (0.720)	-0.575 (0.636)	-0.545 (0.650)
30 < Age < 35	0.151 (0.240)	-0.188 (0.228)	-0.930 (0.410)	0.658 (0.800)	1.150 (0.950)	0.710 (0.880)
35 < Age < 40	-0.139 (0.220)	-0.308 (0.217)	-0.093 (0.260)	0.789 (0.880)	0.221 (0.830)	0.252 (0.770)
<b>Control Variables:</b>						
<b>Demographic Characteristics</b>	No	Yes	Yes	No	Yes	Yes
<b>City Dummies</b>	No	No	Yes	No	No	Yes

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

In Table 3, double and triple difference estimates are juxtaposed across various model specifications inclusive of control variables. The demographic characteristics encompassed in the controls for equations (7) and (8) are age, its square, education level, marital status, number of children, children under three, self-rated health, and BMI. Province fixed effects are also controlled for.

The double difference estimates, representative of the combined policy effect, suggest that the inclusion of both demographic and city controls tends to amplify the estimated impacts, notably among individuals under 30 years of age. The triple difference estimates,

indicative of the Female Labor Protection Rules' effect, demonstrate that the addition of control variables can attenuate the estimates, particularly among the younger cohorts. For women aged 30 to 35, the inclusion of controls reduces the estimates, whereas for those aged 35 to 40, the controls appear to increase the estimated effects. This observation may indicate that demographic changes and city-specific trends, particularly among younger cohorts, are closely linked with the policy impacts. For women under 30, extraneous control variables exert a more substantial effect than the policy itself.

## **VII Discussion of Important Assumptions**

### **Validity of Difference-in-Differences Assumptions**

In the application of difference-in-differences (DID) and triple-difference (DiDiD) methodologies, our analysis rests upon several pivotal assumptions. For the DID estimator, the analysis presupposes that absent the policy changes, the trends affecting labor market outcomes for men and women would have proceeded in parallel. To interrogate the veracity of this assumption, a placebo test is conducted utilizing data from a period devoid of policy alterations, specifically the 2008-2009 wave of the CFPS survey. Notably, this survey wave was restricted to Beijing, Shanghai, and Guangdong—three cities with considerable representation in the overall sample—providing a substantive basis for the placebo analysis.

The findings of the placebo test, depicted in Table 4, yield positive estimates counter to the direction observed in the 2010-2014 estimates, with none reaching statistical significance. These outcomes lend credence to the assumption's plausibility, bolstering confidence in the DiD estimates' interpretative validity.

Table 4: Placebo Test of Double-Difference Model

<b>Dependent Variable/Age group</b>	<b>Age &lt; 30</b>	<b>30 &lt; Age &lt; 35</b>	<b>35 &lt; Age &lt; 40</b>
<b>Participation</b>	0.041	0.027	0.046
	(0.041)	(0.059)	(0.059)
<b>Income (per year 10,000 RMB)</b>	0.883	0.252	0.291
	(0.737)	(0.579)	(0.475)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### Assumptions Specific to the Triple-Difference Model

Beyond the parallel trend assumption inherent to DID, the DDD estimator requires an additional supposition: the sectors solely under the two-child policy’s ambit (control sectors) and those subjected to both policies (treated sectors) would have experienced coinciding trends in the absence of the Special Rules on Female Labor Protection. The absence of CFPS data covering periods exclusively under the two-child policy precludes direct empirical validation of this assumption, thereby introducing potential biases in the magnitude of the DDD estimates. As such, the results may be subject to underestimation or overestimation, necessitating future research with additional data sources to precisely isolate the effect of the female labor protection rules.

The assumptions underlying the econometric models employed in this study are consequential, necessitating thorough examination and validation. The placebo test conducted offers supportive evidence for the DID assumptions, while the limitations acknowledged for the DDD model underscore the need for continued research. Future work, augmented with additional data, will seek to refine these estimates and enhance our understanding of the policies’ impacts.

## VIII Conclusion

Our analysis indicates a decline in labor market participation and income for women under 40 years old, which can be associated with the introduction of the two-child policy and the Special Rules on Female Labor Protection. When applying a triple difference model to control for the two-child policy effects, the impact of the female labor protection rules on income is not statistically significant. Nonetheless, these rules appear to negatively affect women's labor market participation.

The findings suggest that while the rules aimed to support women by accounting for their unique physiological needs and childbearing responsibilities, they may inadvertently lead to increased discrimination in job markets due to the higher costs imposed on employers. This unintended consequence calls for a careful reconsideration of the policies' design.

Following the 2016 policy changes that allow all families to have a second child, there remains a hesitancy among women to expand their families, partly due to unresolved workplace challenges. These insights underscore the need for policy innovations that provide more effective support for women in the labor market.

The pursuit of new policies that balance demographic goals with the enhancement of gender equity in employment is imperative. Our findings contribute to a broader dialogue on how policy can evolve to better serve the needs of women in the labor force, particularly in the context of China's demographic shifts and the ongoing pursuit of gender equality in the workplace.

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