

Gender Discrimination in the Chinese Hiring Process

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Abstract

In year 2019, nine Ministries in China adopted a notice that prevents employers from asking about interviewers' marital status and fertility status. The goal is improve employment outcomes for women and thus promote gender equality in the labor market. However, this may lead to unintended consequences that when firms face uncertainty, they choose to hire less women employees. We adopt a "DID-like" approach to estimate this notice's pure effect on women's employment outcome. We find that this notice has little effect on increasing the probability of employment of young women but increase that by 6.1 percentage points for old women.

I Introduction

Gender discrimination in the workplace is still prevalent in China today. Two common forms of gender discrimination include fewer interview and job offers as well as lower wages for female candidates. Although the gender wage gap in China has historically been smaller relative to that in developed countries, there is evidence that the gap has increased dramatically over the past two decades, reaching levels similar to those seen in developed countries. [Iwasaki and Ma \(2020\)](#) According a report released by the World Economic Forum, "China's gender parity ranking in 2017 fell for the ninth consecutive

year, leaving China in 100th place out of the 144 countries surveyed (in 2008 China had ranked 57th)". [““Only Men Need Apply”: Gender Discrimination in Job Advertisements in China” \(2018\)](#) Though the gap and its expansion are likely closely related to the rapid development of China’s private sector and the state’s retreat from its ideological stance on gender equality due to the increased influence of Confucian patriarchal values, the fact that current discrimination laws are not strictly enforced is also a likely factor. [Iwasaki and Ma 2020](#); [L. Zhang and Dong 2008](#) Luckily, much progress is being made in this area. In 2019, the Chinese government was drafting its first Civil Code, and, on February 21, 2019, the Ministry of Human Resources and Social Security posted a notice concerning the status of these gender discrimination laws. [of Human Resources, of Education Ministry of Justice Health Commission SASAC, and of Trade Unions All-China Women’s Federation Supreme People’s Court \(2019\)](#) The notice reiterated the government’s current laws by forbidding employers from (1) asking about a female candidate’s marital or fertility status during the hiring process, (2) restricting births as an employment condition, or (3) asking a female candidate to take a pregnancy test as a hiring condition, among other actions. [Ornstein and Tucker \(2019\)](#) The notice also emphasized that enforcement would be strict from that day forward. [of Human Resources et al. \(2019\)](#)

The 2019 Chinese government notice indicated that there would be strict enforcement of gender discrimination laws for the first time. [of Human Resources et al. \(2019\)](#) This was part of a larger effort to curb gender discrimination in the workplace, specifically during the hiring process. However, we worry that this notice could potentially have the opposite effect of what was intended. Employers may instead react to the notice by deciding to hire

fewer women, since the marital and fertility status of all female candidates will now be unknown. Thus, we aim to examine whether or not this policy had its intended positive effect by analyzing changes in the gap between young men’s and women’s employment status over the relevant time period. We would like to see if the gap, and thus gender discrimination in the workplace, has decreased as intended, or if it has instead increased as a result of introduced uncertainty surrounding a female candidate’s marital and fertility status. The paper will also control for a set of individual characteristics in its analysis.

II Related Work

The marital and fertility status of female candidates largely contribute to the gender gap for employment and wages found in the literature. Taking this fact as given, we will concentrate on the effect to the gender gap for employment and wages of these factors remaining unknown to employers. Since the notice was only issued recently, there is little to no formal research on the policy’s effects. As a result, we take influence from policy evaluation research on related topics.

One form of workplace gender discrimination commonly studied in the literature is fewer interview and job offers for female candidates. An experiment involving fictitious resumes for recent college graduates in China found that, among otherwise-identical female and male applicants, female applicants were 7.6 percent less likely to receive a callback than male applicants. [J. Zhang, Jin, Li, and Wang \(2021\)](#) Another form commonly studied is wage discrimination. Through China’s transition period, the gender wage gap was 9.2 percent, with rural regions and privately owned enterprises (POEs) having significantly

more wage discrimination against women, according to a recent meta-analysis. [Iwasaki and Ma \(2020\)](#) Firm-level analysis also finds a significant negative association between wages and the share of female workers in a firm’s labor force and similarly concludes that the gender wage gap is smaller than the productivity gap in state owned enterprises (SOEs), while the converse is true in POEs. [L. Zhang and Dong \(2008\)](#) Especially when comparing young women and women with lower education to their otherwise-identical male counterparts, the situation has especially deteriorated since China’s transition period. [Gustafsson and Li \(2000\)](#) These studies indicate key populations that we should differentiate between and pay special attention to in our analysis.

For our structure and methods, we closely follow the works of [Lee \(2012\)](#) and [Doleac and Hansen \(2020\)](#). [Lee \(2012\)](#) examines the impact of the one-child policy on gender-based educational disparities in China. The paper achieved this through using individual-level data to analyze changes in the gap between boys’ and girls’ educational opportunities that occurred between the time periods before and after the policy’s implementation. [Doleac and Hansen \(2020\)](#) similarly used individual-level data and exploited variation in the adoption and timing of state and local “Ban-the-Box” policies for their analysis. This paper aimed to examine the effects of “Ban-the-Box” policies on changes in employment for young, low-skilled black and Hispanic men in the United States. These “Ban the Box” policies adopted in the United States prevented employers from asking about job applicants’ criminal records until late in the hiring process. [Doleac and Hansen \(2020\)](#) suspected and confirmed that employers, when faced with greater uncertainty concerning a young, low-skilled black or Hispanic man’s criminal records, decide to pursue their

candidacy significantly less due to this introduced unknown. This finding motivated our interest in pursuing the potential unintended consequences of China’s 2019 government notice on gender discrimination laws. Both papers additionally influenced our decision to use individual-level data and to analyze changes in the gender gap of employment that occurred between the time periods before and after the policy’s implementation. Further details concerning our data and empirical strategy follow.

III Data and Methods

To investigate our research question, we will take data from the China Family Panel Studies (CFPS), provided by the Institute of Social Science Survey (ISSS) of Peking University. The survey is a nationally representative, biannual longitudinal survey of Chinese families. Each year, approximately 30,000 individuals participate in the survey and the response rate is approximately 70%. This data set includes useful individual characteristics such as gender, age, region of residence, level of education attained, and current employment status.

We first briefly describe our variables. The variable “policy” is our policy dummy variable. It indicates whether the observation was recorded before or after the release of the government notice. We code someone as employed (variable “employ1”) if they answer “yes” to the following question: “Have you worked for at least one hour last week?”. This was the same definition of employment as was used by [Doleac and Hansen \(2020\)](#). We believe that this is the most reliable available measure of employment for our sample population since temporary, seasonal, and informal jobs are common within our sample.

The presence of agricultural workers in the sample especially skew other measures of employment recorded in the survey. We consider four levels of educational attainment: has no bachelor's degree, has bachelor's degree, has master degree, and has PhD degree. We did not distinguish a respondent's high school graduation status as a level of educational attainment because there was no significant difference between those two populations. The "hukou" variable represents whether the respondent comes from a rural or an urban area (0: Rural, 1: Urban). The "region" variable provides the respondent's region of residence. (1: Shanghai, 2: Liaoning, 3: Henan, 4: Gansu, 5: Guangdong, 6: Other Provinces). Though many regions were grouped into the "Other Provinces" category, this was likely due to the homogeneity of the relevant characteristics for those regions, so we do not believe this will limit our analysis. Finally, the "mstatus" variable represents an individual's marital status (0: Not Married, 1: Married). We would have liked to include a respondent's industry of employment or job as individual characteristics or as groups for analysis, but very low response rates and unreliable recording for these variables led us to decide against using them.

We restrict our sample to those who might participate in the Chinese labor force (those aged between 16 and 64 years of age). From this group and for the years 2016, 2018, and 2020, we construct a pooled, cross-sectional data set (each person appears only once) due to the high degree of consistency of a person's employment status and wage over the relatively short period of time that we observe. To motivate our choice of years, the three-child policy was enacted on May 31st, 2021. In order to avoid complications surrounding this, all of our data was taken from the time period of the two-child policy.

The two-child policy was enacted on October 29, 2015, so we take data from 2016, 2018, and 2020. Table 1 provides relevant summary statistics for our sample population. Our sample population has an average age of 33 and there is almost an equal distribution between male and female participation. The majority of participants appear to live in more rural areas, have a bachelor’s degree or lower, and are married. The employment of our sample conforms to expectations, further confirming our decision to use this definition of employment.

Table 1: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
policy	16,749	0.142	0.349	0	1
employ1	16,749	0.780	0.414	0	1
region	16,749	4.749	1.534	1	6
hukou	16,749	0.228	0.420	0	1
age	16,749	33.818	9.852	16	64
gender	16,749	0.496	0.500	0	1
education	16,749	0.124	0.361	0	3
mstatus	16,749	0.748	0.434	0	1

To capture the notice’s effect, we make the critical assumption that, before 2019, the employer asked and knew a female candidate’s marital and fertility status as well as how many children under 16 years of age that they had. Additionally, we assume that, after 2019, employers heed the notice and do not ask or know these conditions. For our model specification, we adopt a “DID-like” approach which takes the following form:

$$employ1 = \alpha_{it} + \beta_1' * X_{it} + \beta_2 * policy + \beta_3 * gender + \beta_4 * gender * policy$$

where X_{it} is a set of control variables, and the coefficient of the interaction term between

gender and policy β_4 captures the pure policy effect.

We believe this policy might have heterogeneous effects on different age, education, and rural-urban area classification groups. Therefore, we not only complete a regression of our full-model specification on our entire sample population but also individually on these groups. For age groups, we separate young people (those under 35 years of age) and older people (above 35 years of age), regressing the two groups separately and comparing their results. For education groups, we also conduct separate regressions for those with lower levels of education (those without a bachelor’s degree) and those with higher levels of education (those with a bachelor’s degree or more) to see whether their results differ. Finally, we consider rural-urban area classification groups by checking to see whether the government notice had a significantly different effect on Guangdong province, one of the most developed province in China, than it did on Gansu province, a much less developed province in China.

IV Results

In Table 2 and Table 3, we compare the notice in effect between young (Age from 16 to 34) and old people (Age from 35 to 64). In our richest specification (Column 5) the coefficient of the interaction variable for young woman and policy (Table 2) is insignificant, meaning that the existence of policy has little effect on employment status of young women. In Table 3, however, the coefficient of the interaction variable for old people is 0.061 and significant in 5% significance level, implying that the policy has made older women approximately 6.1% more likely to be employed. We interpret the increase in

Table 2: Regression with Young People

	<i>Dependent variable:</i>				
	employ1				
	(1)	(2)	(3)	(4)	(5)
gender	−0.236*** (0.009)	−0.237*** (0.009)	−0.237*** (0.009)	−0.237*** (0.009)	−0.219*** (0.009)
policy	−0.020 (0.016)	−0.015 (0.016)	−0.011 (0.016)	−0.016 (0.016)	−0.026* (0.016)
interaction	0.007 (0.022)	0.005 (0.022)	0.006 (0.022)	0.007 (0.022)	0.011 (0.022)
age		0.011*** (0.001)	0.010*** (0.001)	0.010*** (0.001)	0.016*** (0.001)
hukou			0.054*** (0.010)	0.034*** (0.011)	0.029*** (0.011)
region			0.004 (0.003)	0.004 (0.003)	0.003 (0.003)
education				0.060*** (0.011)	0.043*** (0.011)
mstatus					−0.107*** (0.011)
Constant	0.873*** (0.007)	0.588*** (0.026)	0.572*** (0.029)	0.572*** (0.029)	0.461*** (0.031)
Observations	9,729	9,729	9,729	9,729	9,729
R ²	0.076	0.088	0.091	0.093	0.102
Adjusted R ²	0.075	0.088	0.090	0.093	0.102

Note:

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

probability as employing older women reduces the uncertainty a firm faces in terms of marital and fertility status compared with young women. The insignificance of the coefficient of the interaction term for young female workers, instead of a negative coefficient, could be explained by the expansion economy and the decrease of total employment rate in China from 2016 to 2019.

Table 3: Regression with Old People

	<i>Dependent variable:</i>				
	employ1				
	(1)	(2)	(3)	(4)	(5)
gender	−0.159*** (0.009)	−0.158*** (0.009)	−0.158*** (0.009)	−0.157*** (0.009)	−0.159*** (0.009)
policy	−0.061*** (0.023)	−0.083*** (0.022)	−0.084*** (0.022)	−0.086*** (0.022)	−0.086*** (0.022)
interaction	0.057* (0.030)	0.060** (0.030)	0.059** (0.030)	0.058* (0.030)	0.061** (0.030)
age		−0.008*** (0.001)	−0.008*** (0.001)	−0.008*** (0.001)	−0.008*** (0.001)
hukou			−0.031*** (0.011)	−0.041*** (0.011)	−0.041*** (0.011)
region			−0.003 (0.003)	−0.003 (0.003)	−0.003 (0.003)
education				0.056*** (0.019)	0.055*** (0.019)
mstatus					0.055*** (0.016)
Constant	0.899*** (0.007)	1.248*** (0.028)	1.279*** (0.031)	1.269*** (0.031)	1.215*** (0.035)
Observations	7,023	7,023	7,023	7,023	7,023
R ²	0.046	0.069	0.070	0.071	0.073
Adjusted R ²	0.046	0.068	0.069	0.070	0.072

Note:

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

Other variables also enter in line with intuition. For both young and old women, education has a positive effect on their probability of being employed. For young women, the age has a positive effect. For young woman, getting married decreases one's probability of being employed while for the group of old age, getting married increases that probability.

Table 4: Comparison between Low and High Education Group among Young People

	<i>Dependent variable:</i>	
	employ1	
	(1)	(2)
gender	−0.239*** (0.010)	−0.100*** (0.022)
policy	−0.033* (0.018)	−0.018 (0.033)
interaction	0.027 (0.025)	−0.028 (0.046)
age	0.016*** (0.001)	0.021*** (0.004)
hukou	0.026** (0.013)	0.006 (0.020)
region	0.005 (0.003)	−0.003 (0.006)
education		−0.043 (0.031)
mstatus	−0.117*** (0.012)	−0.053** (0.025)
Constant	0.472*** (0.033)	0.400*** (0.101)
Observations	8,192	1,537
R ²	0.111	0.048
Adjusted R ²	0.110	0.043

Note:

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

column (1): low education; column(2): high education

Since for a young woman, being married increases the likelihood of giving birth within next a few years, but for a old female employee, it means the stability of her personal life. Additionally, having an urban “hukou” increases one’s probability of getting employed when they are young but decreases that probability when they are old. This is in line

Table 5: Comparison between Low and High Education Group Among Old People

	<i>Dependent variable:</i>	
	employ1	
	(1)	(2)
gender	−0.162*** (0.010)	−0.105*** (0.035)
policy	−0.091*** (0.023)	−0.010 (0.070)
interaction	0.064** (0.031)	0.060 (0.089)
age	−0.008*** (0.001)	−0.004 (0.005)
hukou	−0.046*** (0.011)	0.084* (0.051)
region	−0.002 (0.003)	−0.013* (0.008)
education		−0.007 (0.054)
mstatus	0.058*** (0.016)	−0.003 (0.058)
Constant	1.214*** (0.036)	1.073*** (0.193)
Observations	6,659	364
R ²	0.073	0.051
Adjusted R ²	0.072	0.030

Note:

column (1): low education; column(2): high education

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

with the fact cities need more young labor force.

In Table 4, we make a comparison between potential employees that received high education (with bachelor's degree) and low education group (with bachelor's degree) among

Table 6: Comparison between Young and Old People in Gansu

	<i>Dependent variable:</i>		
	employ1		
	(1)	(2)	(3)
gender	−0.207*** (0.024)	−0.148*** (0.021)	−0.183*** (0.016)
policy	−0.069* (0.036)	−0.077 (0.048)	−0.081*** (0.028)
interaction	0.039 (0.049)	−0.006 (0.067)	0.043 (0.039)
age	0.019*** (0.003)	−0.003** (0.002)	0.046*** (0.005)
agesq			−0.001*** (0.0001)
hukou	0.015 (0.030)	−0.110*** (0.032)	−0.029 (0.022)
education	0.038 (0.029)	0.031 (0.053)	0.046* (0.024)
mstatus	−0.110*** (0.027)	0.011 (0.037)	−0.088*** (0.021)
Constant	0.435*** (0.069)	1.087*** (0.077)	0.090 (0.087)
Observations	1,539	1,027	2,566
R ²	0.115	0.070	0.116
Adjusted R ²	0.111	0.063	0.114

Note:

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

(1): young people; (2): old people (3): all people

young people. Both coefficients of the interaction variable are insignificant (though signs are different), implying that the policy has little effect on employment status of young woman, regardless of education attainment.

Table 7: Comparison between Young and Old People in Guangdong

	<i>Dependent variable:</i>		
	employ1		
	(1)	(2)	(3)
gender	−0.188*** (0.030)	−0.179*** (0.033)	−0.188*** (0.022)
policy	0.065 (0.046)	−0.111* (0.067)	0.008 (0.038)
interaction	−0.099 (0.067)	0.140 (0.095)	−0.019 (0.055)
age	0.017*** (0.004)	−0.010*** (0.002)	0.048*** (0.007)
agesq			−0.001*** (0.0001)
hukou	0.074** (0.031)	−0.038 (0.036)	0.018 (0.024)
education	0.073* (0.039)	−0.049 (0.072)	0.053 (0.033)
mstatus	−0.164*** (0.034)	0.017 (0.060)	−0.128*** (0.028)
Constant	0.466*** (0.089)	1.315*** (0.110)	0.090 (0.113)
Observations	972	647	1,619
R ²	0.100	0.099	0.092
Adjusted R ²	0.093	0.089	0.088

Note:

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

(1): young people; (2): old people (3): all people

In Table 5, we compare the effects between potential employees that received high education (with bachelor's degree) and low education group (without bachelor's degree) among old people. For people with low education, the coefficient of the interaction variable is significant, implying that the policy makes low-education female 6.4% more likely of get-

ting employed. This result suggests that, for old people, low-education female are less discriminated against high-education. This is probably due to that occupation requires less skills put less weight on human capital, which would be greatly impaired if a woman give birth to a child.

In Table 6 and in Table 7, we run regressions using data of people from Gansu province, one of the most under-developed province in China, and Guangdong province, one of the most developed province in China. The coefficients of the interaction variable are not significant for all regressions. This prompts us to hypothesize that this policy has noticeable effects on neither the most developed nor most under-developed regions but on regions between them. However, this hypothesis is beyond this research and we would leave this for future work.

V Conclusion

The 2019 Chinese government notice strove to improve the enforcement of its current gender discrimination laws. Its intended effect was to reduce discrimination that women face in the hiring process. We suspected that the notice could have the opposite effect, effectively reducing female employment due to the introduction of uncertainty surrounding a female candidate’s marital and fertility status. We conducted a DID-like analysis using individual-level data from the China Family Panel Studies (CFPS) in order to examine the notice’s potential effect. Our results indicate that the notice likely did not have a significant impact on female employment over the relevant time period. The notice was associated with a statistically significant impact on the employment of older women, with

a 6.1% increase in the probability of employment over the relevant time period. Level of educational attainment and the rural-urban area classification was not associated with a heterogeneous effect to employment during the time period of the notice’s announcement. It appears that the government notice was not associated with an improvement in women’s employment nor a deterioration of it. Future research will have the opportunity to further investigate the impact of the notice and to investigate causality, an aspect that our data could not address.

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