Women Seeking Jobs with Limited Information: Evidence from Iraq

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Abstract

Do women apply more for jobs when they know the hiring probability of female job seekers directly from employers? I implemented a randomized control trial and a double-incentivized resume rating to elicit the preferences of employers and job seekers for candidates and vacancies in Iraq. The treatment reveals the job offer rate for women, calculated using the employers' selection of women divided by the total number of female candidates. After revealing the treatment, the women applied for jobs by three more percentage points than the men in the control group. This paper highlights the value of revealing employers' preferences to improve the match between female candidates and employers when women underestimate the chances of finding a job.

JEL codes: J61, J64, J70

Key words: Application for jobs, Information treatment, Labor market matching, Gender difference

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1 INTRODUCTION

Job seekers apply for vacancies using limited information on employers' preferences for hiring female and male workers (Altonji & Pierret 2001, Arcidiacono et al. 2010, Kahn 2013). People looking for employment may be discouraged from applying for positions without knowing the employers' demand for skills and characteristics of workers (Belot et al. 2019, Mueller et al. 2021, Carranza et al. 2022). Although the literature has shown how career choices and social norms from patriarchal societies undermine women's decision to apply for jobs (Gneezy et al. (2009), Cortés et al. (2022), Balgova et al. (2022), as examples), this paper provides new evidence to understand whether women are affected by the perception that their probability of being hired is below the actual hiring rate. In the following three steps, I tested the effect of providing women with the probability of receiving a job offer by designing a randomized control trial (RCT). First, I ran an incentivized resume rating (IRR) for Iraqi employers to calculate the women's hiring rate per sector. The IRR allows managers to choose hypothetical candidates with the incentive of receiving real workers based on their selections. Second, the treatment group received the women's hiring rate calculated as the ratio between the number of women selected by employers in a specific sector and the number of female profiles in the same sector. The treatment is randomly assigned to half of the sample and not to the other half. Third, I calculated the outcomes from another IRR of job seekers who selected hypothetical vacancies to calculate the difference in the job application rate between the treated and control groups.

The IRR consists of employers who evaluate resumes that they know to be hypothetical since the beginning of the experiment. The IRR method eliminates the deception component of traditional resume audit studies, as employers' evaluations are rewarded with a pool of real candidates who match their preferences (Kessler et al. 2019, for the details).¹ As in other developing countries, receiving real resumes is a valuable incentive for Iraqi

¹In traditional audit studies, employers spend time evaluating resumes without knowing they are looking at fake people (Bertrand & Mullainathan 2004, Ewens et al. 2014, as examples). Hypothetical candidates are fake profiles that take characteristics from real job seekers.

employers, as the search for candidates occurs through informal networks, such as family and friends, with little information on the experience and skills of the candidates (IOM 2022).

I hypothesized that women underestimate their chances of getting a job offer. Of 100 Iraqi women in focus groups launched before the main experiment in this article, 72 stated that women have a 5% probability of receiving a job offer, 17 women reported that the chances of women are 0%, eight women seeking jobs said 10% and three informed 20%. Furthermore, 23 out of 100 male employers in focus groups will hire women for their businesses. Female job seekers have reasons to think their chances of finding a job are lower than men's probabilities. However, they might be more inclined to apply for jobs if they knew that their chances are 20% instead of 5%.²

My dataset comes from a partnership with the International Organization for Migration (IOM) in Iraq. The NGO collected information from 3,521 employers and 9,062 job seekers in 2022. The data represent the poorest people in Iraq's most populated urban and rural areas (IOM 2022). Information details sales, revenues, number of workers, sector, location, and demographic characteristics.³ The experimental sample consists of 200 employers and 500 job seekers from pools of 3,521 employers and 9,062 job seekers to evaluate hypothetical resumes and job posts, respectively. The selection of employers' samples follows a randomized stratified design in four sectors: agriculture (40%), services (30%), manufacturing (20%), and commerce (10%). The final selection of employers has 80% male and 20% female managers following the actual distribution of 3,521 employers.

In the IRR method, an employer evaluates a hypothetical resume with name, migration status, age, education, and experience. These are the typical variables asked in the informal Iraqi labor market. The names and surnames come from the 55 most common

²Female job seekers answer the following question 'Of 100 women in the labor market, what percent of women would receive a job offer? Options: a) 0%, b) 5%, c) 10%, d) 15%, e) 20%, f) 25%, g) more than 25%.' The question for male employers in the focus groups is, 'Would you hire a woman for a vacancy in your business? a) Yes, b) No.'

³Employers and job seekers are in 14 governorates, 37% in Ninewa, 25% in Anbar, 11% in Kirkuk, 9% Diyala, 6% in Erbil, 3% in Sulaymaniyah, and 9% in the other eight governorates. Iraq is divided into governorates, similar to states in the US.

job seekers' names in the NGO database, only including those that distinctly identify women and men. Then, I randomly combined names and surnames to create the complete list of hypothetical candidate names.

Each of the 200 employers evaluated six profiles for 1,200 responses (200×6) . After reading the consent form and explaining the experiment, the enumerators read a profile and asked each of the following questions. The first question involves assigning a number between zero and ten depending on the employer's interest in each candidate. The second question is Yes/No, asking if the employer will offer the job to the hypothetical resume. The former variable is about the intensive margin, while the latter is about the extensive margin of offering a job. Employers evaluate each profile independently and do not need to choose one profile out of the six.

The treatment comes from the employers' evaluation of hypothetical profiles. The actual hiring rate of women in a sector is the ratio between women who received a job offer and the total profiles of women in the same sector. The treated group consisted of 125 women who received the job offer rate, and the control group of the same size did not receive the actual job offer rate for women. The data also divided 250 men, half of whom received the men's chances of getting a job offer, while the other half did not. Neither women nor men see the job offer rate for workers of the opposite sex.⁴ To increase the content of the message in the treatment, a woman looking for a job observed the job offer rate of women in a specific sector. For example, a treatment message was that 'the hiring rate of a woman is 16% in commerce.'

The 500 job seekers each evaluated six hypothetical vacancies, showing the name, migration status, age, and education of the employer, the sector, the number of employees, and the salary range of the vacancy (500 \times six for 3,000 observations). Each job seeker evaluates her interest in applying for a vacancy, her beliefs about getting the job (using a number between zero and ten), and whether or not she would apply. The parameter of

⁴Presenting to female job seekers the men's hiring rate could disincentivize the job application of women. The treatment could decrease the female job application rate if the message is above the 95^{th} percentile of the population's belief distribution (see Coffman et al. (2015) for details about information nudge).

interest is the difference in the rate of job application between the women who observed the treatment and those who did not see additional information.

The employer IRR reveals that 33% of the employers offer a position to women and 51% to men. The likelihood depends on the sector where commerce and manufacturing report the lowest and highest rates of women hiring, 16% and 65%, respectively. The hiring rate by sector and gender becomes the treatment for job seekers. The main results show that women who observed the employers' job offer rate are three percentage points more likely to apply for a job than male job seekers in the control group. These results are robust to controlling for different characteristics of vacancies, job seekers, and employers. The findings are also robust for clustering the standard error at the individual level and using nonparametric bootstrapping to estimate errors.⁵ Finally, the analysis estimates heterogeneous effects by risk aversion and self-confidence indexes, showing that women apply more for jobs when they are risk lovers and self-confident.

This research contributes to the literature on the job search with imperfect information about the characteristics that employers seek in the labor market. Mueller et al. (2021) show that unemployed people are more likely to find a job when they believe that they have a high probability of finding a new job. My paper confirms that the mismatch between job seekers' expectations and employers' preferences hurts the search process and makes people believe that they have less chance than actual employment opportunities.

This paper also adds to the literature on practical solutions to increase the participation of women in the labor force. Bursztyn et al. (2020), for example, show that telling Saudi Arabian men that their neighbors support women can work outside the home increases the rate of inscription of women on a platform to find jobs. In a similar line of research, my article aims to increase the female application rate by filling the information gap between the preferences of job seekers and employers with the chances of receiving a job offer in Iraq. The idea is to eliminate "pluralistic ignorance" when most people privately

⁵Spillover effects, where women tell female job seekers in the control group the probability of obtaining a job, are unlikely since subjects live in different parts of Iraq. If any, spillover will reduce the difference in application between control and treated women, and my parameter of interest will become a lower bound effect of the revealing employers' preferences.

hold an opinion but incorrectly believe that most others hold a contrary opinion and therefore act against their own interest (Katz et al. 1931).

My article contributes to the growing literature showing that education and experience have become less important in explaining the gender difference in wages (Blau & Kahn 2017). A substantial gap is due to differences in educational fields and career choices, which depend on different preferences and psychological attitudes (De Paola et al. 2021). Other reasons behind the wage gap are that women are more risk averse, less selfconfident, and avoid negotiations (Goldin & Rouse 2000, Gneezy & Rustichini 2004, Niederle & Vesterlund 2007). My results show that more self-confident women are more likely to believe in the revealed information about employers' preferences (the treatment) and apply for jobs than less confident women.

The remainder of the article is organized as follows: Section 2 describes the Iraqi context. Section 3 describes the experimental design. Section 4 presents the descriptive statistics of hypothetical resumes and vacancies. Section 5 shows the equations for the principal results and mechanisms. Section 6 presents the main results, robustness tests, and the potential mechanism behind the increase in application rate. Finally, Section 7 highlights the implications of the findings for policymakers.

2 Iraqi Context

The Iraq War (2013-2017) destroyed the economic activity and political stability of a country with 40.2 million people and an economy heavily dependent on oil revenues. About half of the Iraqi GDP and most of its exports are based on oil exploration (World Bank 2022). The volatility of global crude oil prices and the COVID-19 outbreak worsened the economic and social situation (UNSDCF 2021). The conflict left 1.52 million internally displaced people (IDPs) and 4.35 million returnees. The war also left women in charge of one out of ten Iraqi households (OCHA 2019). After the conflict, informal connections are the principal channel for finding a job (see IOM (2022), ILO (2021), and OCHA (2019) for details).

Iraq ranks 152 out of 153 countries in the 2020 Global Gender Gap Report. The index measures economic, education, health, and political criteria (Sharma et al. 2021). In 2021, the participation of women in the labor force was 15.1%, and 71.8% for men (ILO 2022). The UN Women have shown that only half of the Iraqi women believe that some sectors are more suitable for women than others, and only 5% of women state that females should not work. Domestic responsibilities and social perception are the reasons for claiming that some jobs are more suitable for women workers (OCHA 2019). Female skilled workers are in education and medical services, whereas unskilled workers work in manufacturing and services. Women tend to work with only women or children (Kaufman & Williams 2013).⁶

In this paper, I collaborated with the International Organization for Migration (IOM) in Iraq to elicit employers' and job seekers' preferences. Since 2018, the organization has assisted internally displaced people to return and reintegrate in post-conflict Iraqi areas (IOM 2022).

3 EXPERIMENTAL DESIGN

This paper describes a double-incentivized resume rating (2IRR) to elicit the preferences of employers and job seekers. The research design consists of three parts: (i) Elicit employers' preferences about hiring candidates; (ii) Build the treatment with the employers' choices about hiring women in a specific sector and randomly reveal the information to some job seekers and not to others; (iii) Elicit preferences of job seekers for applying to vacancies and compare the job application rate between treated and control group. Figure 1 summarizes the research design with the number of employers and job seekers in each part of the experiment.⁷

Since the beginning of the experiment, employers and job seekers knew that they evaluated hypothetical profiles and vacancies, respectively. The IRR avoids the deception

 $^{^{6}}$ Women can choose their partners with parental approval, and couples tend to live with extended households (Althalathini et al. 2022, OCHA 2019).

⁷The codebook for employers and job seekers is here. Participants did not receive any monetary payment.

component of traditional audit studies since subjects received real profiles that matched their initial choices.⁸ A critical design decision to help ensure that subjects accurately and truthfully report their preferences does not provide an additional incentive to participate in the study beyond the real resumes of job seekers. As in other developing countries, receiving information on profiles and vacancies is a valuable incentive in the Iraqi context, as employers and job seekers hire and search mainly through informal channels with little information about the characteristics of employers and candidates.

Data collectors called employers to read the consent form and explain the experiment. At the beginning of the experiment, the surveyor informed the employers that the evaluations were based on hypothetical resumes and that they would receive real candidates depending on the employers' choices.⁹ When an employer agreed with informed consent, the data collector asked three questions for each resume and repeated the same questions for six profiles in total. The survey ended with a questionnaire on current workers, the hiring process, and vacancies. For job seekers, the enumerators called and explained that they would evaluate hypothetical vacancies and receive actual job positions based on their selections. If the job seekers agreed with the consent form, they answered two questions per vacancy and evaluated six job posts in total, followed by questions about guessing employers' beliefs, background characteristics, and the job application process.

The research design does not require open slots when the experiment is carried out. Employers evaluate candidates for current or future vacancies. Once a position opens, the managers receive the three most suitable candidates according to their evaluations. Job seekers also choose vacancies knowing that their selection will apply for open job posts now or in the future. SME owners did not contact the candidates and vice versa. IOM used machine learning techniques to choose the most suitable candidates and vacancies in the organization's databases.

 $^{^{8}}$ Kessler et al. (2019) proposed the IRR for employers hiring recent college graduates

⁹In the online appendix, Figure A-1, Panel A shows the initial instructions for the employers. Figure A-2 presents the consent form.

3.1 Subject pool

The IOM maintains records of 3,521 employers and 9,062 job seekers. Data come from registering people in IOM databases through collection events, labor market assignments, and voluntary inscriptions in local offices to receive financial support. These databases are representative of the poorest population in rural and urban Iraq. The employer sample consists of 200 randomly selected 3,521 SME owners and 500 out of 9,062 job seekers. The design follows a stratified selection by sector for employers, and *gender* and sector for job seekers. The sectors are agriculture, manufacturing, commerce, and services. These four sectors represent 80% and 74% of small business owners and individuals looking for jobs in the population, respectively. Figure 2 shows the geographic distribution of employers and job seekers in the final sample. To increase power, half of the job seekers are women, and the other half are men, but the distribution of people looking for jobs in the labor market is 80% men and 20% women.¹⁰

3.2 Creation of resumes and vacancies

The research design builds hypothetical resumes and vacancies from actual candidates and job posts. A resume includes name, age, education, years of experience working in the vacancy sector, migration status, and distance from the job post. These are the characteristics commonly displayed on Iraqi resumes. For identification, I chose the 55 most common names and surnames among the 9,062 job seekers. These names and surnames are randomly matched to create full names. By avoiding names that women and men can use, the name is a proxy of gender. The complete list excludes names that could reveal ethnicity (e.g., Sunni or Shia). However, it is difficult to tell a Shia or a Sunni by their names (Wehrey 2017).¹¹ Thirty participants in focus groups, 20 employers, and 20 job seekers evaluated the final list of names, and they reported that the list revealed

¹⁰Power analysis reveals a minimum of 2,000 observations to estimate an average increase of three percentage points in the application rate between women within control and treated groups with a power of 80% and a statistical confidence level of 95%. Similar to other IRR studies, an observation in my research is an evaluation of a hypothetical vacancy (e.g., Kessler et al. (2019), Carranza et al. (2022), Abebe et al. (2021)). Thus, the final number of observations is 3,000, equal to 500 job seekers who evaluate six vacancies each.

¹¹Chalabi, for example, is a well-known Shiite name, and Pachachi tends to be Sunni.

sex but not ethnicity.

The IRR faces a trade-off between creating realistic profiles that follow the distribution of real candidates and having the power to have enough observations per category to make an inference. This paper prefers to create realistic candidates to make the hiring rate per sector more accurate, which becomes the treatment in the RCT. Following the population distribution (9,062 job seekers), the age distribution is between 20 and 58 years, and 20% of the profiles have zero years of education, 37% have primary, 31% high school, respectively, and 12% post-high school. Employers see the years of experience in their sector as four dummies (in brackets the percentage of hypothetical resumes in each category): no experience (25%), less than one year (26%), one to two years (18%), and three to five years (31%).¹² Migration statuses are three categories: never migrated (49%), returnees to the original place after the conflict (35%), and IDP (18%). Distance to the job includes walking (51%) and driving (49%) to the job post, depending on the geocoded data of employers and job seekers.¹³

Hypothetical vacancies show the employers' name, migration status, age, and education of the employer, sector, number of employees, and salary range. As in the case of resumes, the list of names avoids those that women and men can use and those linked to a religion or ethnicity. Migration status, age, and education followed the same distribution of characteristics in the employers' population (3,521 SME owners). The age distribution is between 25 and 61 years, and 8% of vacancies have 'read and write only' as education level, 24% have primary education, 31% secondary, and 37% postsecondary. The experience categories of the employers in the vacancies are less than one year (9%), 1 to 2 years (20%), 3 to 4 years (22%), 5 to 6 years (26%), 7 to 8 years (16%), and 8 to 9 years (7%), in brackets the percentage of vacancies per category. Forty percent of the vacancies are in agriculture, 30% in manufacturing, 11% in commerce, and 29% in service. Managers are also classified as never migrate (52%), IDP (11%), or returnee (37%). The categories

 $^{^{12}}$ Due to the ISIS invasion of Iraq between 2014 and 2017, most people have up to five years of experience (USIP 2021).

¹³In the online appendix, Figure A-3 shows an example of a hypothetical profile that the enumerators read to employers.

for the number of employees are 1 to 2 employees (18%), 3 to 4 employees (43%), 5 to 6 employees (22%), 7 to 8 employees (10%), and 9 to 10 employees (14%). The monthly wage range has 11 categories, from 100 to 650 USD. The vacancies present salaries in Dinars (Iraqi currency 10,000 IQD = 6.85 USD on January 25, 2023).

3.3 TREATMENT AND OUTCOMES

Each of the 200 employers evaluates six hypothetical profiles for 1,200 total candidates. After seeing the characteristics of the resumes, an SME owner answers the following question: Would you offer the job to the candidate? Yes/No. By this question, employers will reveal the hiring rate of female and male candidates. The probability of a woman receiving a job offer is the number of employers choosing women's resumes in a sector divided by the total number of female candidates in the same sector. Revealing the probability of a woman (man) receiving a job offer is the treatment in this study. The treatment is randomly assigned to half of the job seekers, 125 women and 125 men in the treated group, and the same distribution is in the control group.

When job seekers are in the treatment group, the enumerators provide the opportunity to receive a job offer for women (men) to female (male) candidates in the vacancy sector. For example, when the vacancy is in the commerce sector, data collectors reported to job seekers that the hiring rate of females (males) is 16% (58%) in commerce. Note that each individual only sees the information about his gender. The job seekers in the control group did not receive additional information from the hypothetical vacancies. Figure A-4 presents an example of how people in the treatment group receive the message of the average hiring rate in the vacancy sector.

Finally, 500 job seekers evaluated six hypothetical vacancies each for 3,000 observations. After receiving or not the hiring rate of women (men) in a specific sector, job seekers answer the following question: Would you apply for the job? Yes/No. This question is the extensive margin behind the decision to apply for a job. Job seekers also answer the following questions per vacancy: (i) How interested would you be in applying for this position? (ii) How likely do you think the employer will offer you the job if you apply for the vacancy? The first question is the intensive margin of the decision to apply for a job (a variable from zero to ten). The second question addresses whether women do not apply for jobs because they guess a low job offer rate from employers.

3.4 Other questions for employers

Employers answer two more questions per hypothetical resume: (i) How interested would you be in hiring the candidate? (ii) How likely do you think the candidate would accept a job in your business? Both questions show a scale between zero and ten. Employers may be uncertain about a profile with the available information that they see in the experiment but may be interested in the profile at some level. The second question is a hypothetical scenario in which employers guess job seekers' chances to accept a job offer. This question helps to understand whether employers do not offer jobs to women because SME owners believe that women, on average, reject more job offers than men. This question addresses the intensive margin, while the Yes/No question about offering a job addresses the extensive margin for the decision to offer a job.

4 Descriptive statistics

Most of the 200 employers in the database reported that high school was the highest level of education (33%), followed by technical education (28%) and university (11%). On average, SME owners had five workers and made 729 USD in monthly profits. The average wages of skilled and unskilled employees were 370 and 244 USD, respectively (see Table 3). Approximately half of the employers hired people for six months to one year, and 28% of the managers had recruited job seekers for two years. On average, employers receive 20 applications and interview ten candidates to fill a vacancy. The job acceptance rate is 60%. Figure A-5 in the online appendix presents the profit distribution, the company workers' time, the application and interviewers per vacancy, and the acceptance percentage when making an offer. Using a direct question about the preference of employers to hire women instead of men, Figure 4 shows that all SME owners prefer to hire men over women in commerce (100%), half in agriculture (50%), a third in service (33%), and 17% in manufacturing. The most selected reasons to hire men over women are 'men are more qualified than women' and 'men work more hours' (89% each), followed by 'men have more connections than women' (78%), and 'men mostly work in this sector (67%)' (see Figure 5). About 56% of the employers said that other SME owners prefer to hire men instead of women.

On average, the 500 job seekers in the sample reported high school as the highest level of completed education and one year or less as the maximum time of experience. About 46% of job seekers are unemployed, 24% worked on daily wages, 25% had a contract for one year or more, and 5% had their own business. Most job seekers said that finding a job is very difficult (46%) or somewhat challenging (35%). On average, job seekers had four interviews and spent 100 days looking for jobs before finding one (see Table 4). On a scale of one equal to 'not good' to five equal to 'extremely good,' job seekers said that they have the skill to express their ideas priestly (3.8) but not the ability to decide quickly, learn new concepts and ideas, and persevere in obtaining long-term goals (1.3 each), on average.¹⁴

Table A-3 in the online appendix shows the characteristics of job seekers by gender. On average, women and men have one to two years of experience (categories 2.06 and 2.24, respectively). About 44% of women and 48% of men have children under 12 years of age. Furthermore, only 14% of women are employed for one year or more, and 19% of women seeking employment are employed with daily wages. More men than women are employed (38%) or have daily wages (29%). Approximately half of women and men are unemployed (44% and 48%, respectively). Finally, women had more interviews than men before finding a job, five and three, respectively. Women spent 143 days finding a job, while men found a job in 46 days.

 $^{^{14}}$ The average number of job seekers with low-scales in variables such as decide quickly, learn new concepts, and persevere in obtaining long-term goals contradicts the 72% of employers who stated that candidates have the required skills in the labor market.

4.1 Hypothetical resumes and vacancies

According to the research design, the only difference between hypothetical resumes is gender, with 600 female and 600 male profiles. Table 1 shows that age, experience, education, or migration status are not different between the female and male profiles in the hypothetical resumes. Table A-2 shows the balance of randomization within sectors in the online appendix. By design, the only difference in hypothetical resumes across sectors is gender. On average, the profiles do not differ in age, experience, education, migration status, and proximity to the job post.

For hypothetical vacancies, Table 2 presents that women and men received job positions that looked similar, on average, in the demographic characteristics of the employer, the number of employees, and wages between the treated and control group. On average, vacancies present employers who are 31 years old (12%), have five to six years of experience, and have never migrated from the current location during the war (52%). Most employers have three to four workers (43%), and 18% pay 251 to 300 USD, 17% 301 to 351 USD, 13% 151 to 200 USD (among others) in the hypothetical vacancy (see Figure A-6).

5 Empirical strategy

5.1 Job offer rate from employers

The first step in the analysis is to calculate the rate of job offer for women and men in all sectors. Revealing the job offer rate became the treatment in this study. Each of the 200 employers answered a Yes/No question about giving a job to six hypothetical resumes depending on profile characteristics such as age, education, experience, among others. The following equation analyzes the difference in offer rate by sector:

$$Offer \ Job_{e,p,s} = \beta_1 A griculture_s + \beta_2 Commerce_s + \beta_3 Manufacutring_s + X_{e,s}\Theta'_1 + X_p\Theta'_2 + \gamma_d + \epsilon_{e,p,s}$$
(1)

Where $Offer \ job_{e,p,s}$ equals one if employer e offers a job to profile p in sector s. Agriculture (β_1), commerce (β_2), and manufacturing (β_3) are dummies equal to one for each of the sectors where the employer e is located (the omitted category is commerce). $X_{e,s}$ are the characteristics of the employer e in sector s and X_p the variables in the profile. γ_d shows district-fixed effects. $\epsilon_{e,p,s}$ are standard errors clustered at the sector and district levels.

5.2 Effect of showing the Job offer rate to Job seekers

The next step is to evaluate the effect of the treatment information, reveal the employers' preferences about hiring women (men), and calculate the increase in the application rate. The following equation builds a difference-in-differences-type equation where one dimension compares the treated and control group, and the other dimension women with men:

$$Apply \ Job_{i,v,s} = \beta_1(Treatment_{i,v,s} * Female_i) + \beta_2 Treatment_{i,v,s} + \beta_3 Female_i + X_{i,s}\Theta'_1 + X_v\Theta'_2 + \gamma_s + \gamma_d + \epsilon_{i,v,s}$$

$$(2)$$

Where Apply $job_{i,v,s}$ equals one if job seeker i applies to vacancy v in sector s. Treamnt_{i,v,s} equals one when the job seeker i receives the treatment information for vacancy v and sector s. The treatment is between subjects, which means that job seekers in the treatment group receive the average probability that a woman (or man) gets a job offer for each hypothetical vacancy. Female_i equals one when job seeker i is a woman. $X_{i,s}$ are the characteristics of job seeker i in sector s and X_v the variables in vacancies. γ_s includes dummies for manufacturing, services, and agriculture, where the omitted category is commerce. γ_d shows district-fixed effects. β_1 is the parameter of interest, the difference in applying for a job between the female and male job seekers in the treated and control group.

Additionally, $\epsilon_{i,v,s}$ are robust standard error clusters at the sector, district, and gender levels. Following Abadie et al. (2022), the clustering of standard errors comes from the sector and district-level sampling. For robustness, I clustered the standard errors at the treatment level in other specifications (i.e., clustered at the individual level as Bertrand et al. (2004) suggested).

For heterogeneous effects, this paper tests whether risk aversion plays a role in applying for a job. The literature presents evidence that women, on average, are more risk-averse than men. Another dimension to explore is how the belief in getting a job affects the likelihood of applying. The following question shows a tripe-difference specification to explore the effects across risk aversion and self-confidence:

$$\begin{aligned} Applying \ Job_{i,v,s} &= \beta_1(Treatment_{i,v,s} * Female_i * Dimension_i) \\ &+ \beta_2(Treatment_{i,v,s} * Female_i) + \beta_3(Treatment_{i,v,s} * Dimension_i) \\ &+ \beta_4(Female_i * Dimension_i) + \beta_4 Treatment_{i,v,s} + \beta_5 Female_i \\ &+ \beta_6 Dimension_i + X_{i,s}\Theta_1' + X_v\Theta_2' + \gamma_s + \gamma_d + \epsilon_{i,v,s} \end{aligned}$$

$$(3)$$

Where the equation controls for the characteristics of job seekers and vacancies and cluster errors in the sector, district, and gender. The *Dimension_i* equals one for risk lovers classified as job seekers who answered that they are willing to take the risk (an index greater than five on a scale from zero to ten). In a different specification, *Dimension_i* equals one for job seekers who reported that they believe SME owners would offer the job (an index greater than four on a scale from zero to ten). The parameter of interest is β_1 , which shows the difference in the application rate between women and men in the control and treated group, comparing job seekers with higher and lower indexes in one of the dimensions.

6 Results

6.1 Employers' preferences for female job seekers

The probability that women will receive a job in a specific sector is the ratio between job offers to women in a sector and the total of female vacancies in the same sector. By construction, the experiment contains 150 hypothetical female profiles in agriculture, 108 in commerce, 222 in manufacturing, and 120 in service. The probability of receiving a job offer for women and men does not need to add one. Figure 3 shows the probability of offering a job by sex and sector. The job offer rate for women is 65% in agriculture, 25% in manufacturing and service each, and 16% in commerce. Men are more likely to receive an offer of work in commerce (58%), manufacturing (46%), and service (42%). Agriculture is the only sector where women and men are equally likely to receive an offer. These results support the hypothesis that women underestimate the chances of receiving a job offer since most women in the focus groups (70 out of 100) perceived that women have a 5% chance of getting a job.

Table 5 shows the correlation of Equation (1) between a dummy variable equal to one when an employer gives a job to a female job seeker. The results follow the logic of the raw data since agricultural employers are more likely to hire female job seekers, and small business owners are less likely to hire women in commerce, manufacturing, and service. The findings are valid after including controls and the four dummies per sector in one regression where the omitted variable is service. The standard errors in the estimates are clustered at the sector and district levels.¹⁵

6.2 Effect of revealing hiring rates

The treatment consists of randomly revealing women's hiring rate before applying for hypothetical vacancies (e.g., receiving the message 'consider that the hiring rate of women in manufacturing is 25%'). On average, women apply less than men for jobs, 35% and 37%, respectively. After assigning treatment, women apply more for jobs than men (0.41%

 $^{^{15}145}$ out of 200 employees called at least one of the real candidates that the SME owners received from IOM (73%).

and 0.38%, respectively). The increase is statistically significant comparing women in control and treated groups (see Figure 6).

This section presents the results of Equation (2), which shows the effect of revealing the probability of getting a job when applying for a position. Table 6 shows the interaction effect between a dummy equal to one for job seekers receiving treatment and a dummy for being a woman. Column 1 shows the coefficient without controls, Column 2 includes characteristics of job seekers, Column 3 controls for vacancy features and not job seekers variables, and Column 4 includes all characteristics. Four columns control for sector-fixed effects and standard errors clustered at the sector, district, and gender levels. The last column is the based model, which has all the controls and fixed effects.

The findings show that after knowing the likelihood of receiving a job offer, women applied three percentage points more than men who did not receive the treatment for the job posts (column 4). The treatment accounts for an increase in the application rate of 8% (0.031/0.483). The coefficient is similar in magnitude and statistically significant across the specifications in Table 6. The results of Equation (2) also show that women apply less than men (Column 4, $\beta = -0.019$), and the treatment increases the application rate of women and men (column 4, $\beta = 0.012$).¹⁶

6.3 Robustness

This subsection presents the different tests for the based model (Column 1 in Table 7) to validate the magnitude and statistical significance of the parameters. The first test includes employers' characteristics such as annual profit, the wage for skilled and unskilled workers, time of employees in the business, the number of applicants when having an open vacancy, interviews per vacancy, and the acceptance rate of candidates when they offer a job. The set of controls also includes the channel to find candidates with four categories: applying without previous connections, having networks with the owner, consumer or supplier, and friends. The second test is to choose controls using

¹⁶In the online appendix, Figure A-7 shows that fewer job seekers in the treated group believe that employers prefer to hire men rather than women.

machine learning techniques, following Belloni et al. (2014). This method uses variable selection models to choose a set of variables that are helpful in predicting the outcome and the treatment. The final test includes controls for job seekers, vacancies, employers, and district-fixed effects. The different models show similar results as the based model, an increase in job applications statistically significant to the different specifications.

The following results analyze whether the coefficients are statistically significant after changing the clustering level of standard errors. The first test is to perform a nonparametric bootstrap estimation cluster at sector, district, and gender levels (Column 2 in Table 8). The bootstrapping process estimates the statistics by resampling the data in memory with replacement (see Abadie et al. (2022) for more details). The second test is to cluster the standard errors at the individual level, which is the level of randomization since the treatment is randomly assigned to half of the job seekers and not to the other half (Column 3). The final test allows the standard errors clustered for sector, district, and gender to include spatial correlation of first-order, following Müller & Watson (2022) (Column 4). These standard errors ensure that each individual in the control group has at least one neighbor who received the treatment. A circle with a radius of 5 kilometers defines the neighborhood. For robustness, I estimate the spatial correlation standard errors using 10- and 15-radius circles to identify neighbors (nonshown in the table). Across the columns, the interaction between the treatment dummy and female variable is statistically significant regardless of the cluster level or the bootstrapping model.

6.4 Heterogeneous effects

This subsection revisits stylized facts from the literature that show risk aversion and self-confidence behind the decision to apply for a job (see Hillesland (2019), Doan & Iskandar-Datta (2020), for examples). Figure 7 shows the distribution from one to ten, answering the question: 'Are you generally a person who is fully prepared to take risks, or try to avoid taking risks? Where one is 'not all willing to take risks,' and ten is 'very willing to take risks.' On average, men have a higher index than women, 4.4 compared to 5.6. This raw data goes in the same direction as the literature, showing that men are more

risk lovers than women. However, the Kolmogorov–Smirnov equality-of-distributions test does not reject the null hypothesis that both distributions are equal. Table 9 presents the triple difference using Equation (3) for a dummy variable equal to one when the index is greater or equal to the median (six). Adding the risk-lover dummy reduces the double interaction by two percentage points between the treatment and the female dummy (from 0.031 to 0.029, Column 2). The triple specification shows that women who received the treatment and are more risk lovers apply more for jobs (Column 3).

Another dimension behind the likelihood of job application is self-confidence (e.g., Barber & Odean (2001), De Paola et al. (2021)). Figure 8 shows the distribution of the question, 'How likely do you think the SME owners would be to offer a job?' Where zero is not likely, and ten is very likely. The raw data shows no difference between the beliefs of female and male job seekers about getting a job offer. The distributions are not statistically different from each other. If any, more men than women are in the two extreme points of the distribution. Similarly, as in the risk aversion analysis, Table 10 presents the triple difference using Equation (3) for a dummy equal to one for job seekers who report that the belief in getting a job is greater or equal to the median (four). Women who received the information about the likelihood of hiring female job seekers in a sector are more likely to apply when their beliefs about receiving an offer are above the distribution's median.

6.5 INTEREST IN APPLYING - INTENSIVE MARGIN

This subsection studies the intensive margin effect of revealing the likelihood of receiving a job offer on the interest for applying to a hypothetical vacancy using a scale from zero, not interested, to 10, very interested in the job. The interest index expands the extensive margin analysis from applying or not to a hypothetical vacancy. Figure 9 shows that female and male job seekers are, on average, equally interested in hypothetical vacancies (4.19 and 4.18, respectively). Indeed, the distributions are not statistically significant from each other after using a Kolmogorov-Smirnov test. Job seekers may still need additional information when deciding to apply from the information available in the vacancies. The interest index might provide a more accurate measure of the willingness to work for the SME owner in the job post.

Table 11 presents the results from Equation (2) using the interest to apply for a job as the dependent variable. As in the extensive margin analysis, Columns 1 to 4 show the results without controls, adding the characteristics of job seekers, controlling only for the feature of vacancies, and including both sets of controls, respectively. All estimations included standard errors clustered at the sector, district, and gender levels. When comparing female job seekers in the treated group with men who did not receive the message, the informational treatment on the probability of getting a job offer in a specific sector increases the interest in applying for a job by 1.35 points on a scale of 1-10 (column 4). This estimator is equivalent to an increase of 0.4 of a standard deviation (SD) from the control group with an SD in the interest index of 3.345. The parameter is similar in magnitude and statistically significant in all different specifications.

7 Conclusion

This analysis addresses the issue of the low participation rate of women in the labor market and how an information treatment can incentivize the application rate of women job seekers. In particular, this study conducts a randomized controlled trial to estimate the effect of revealing the likelihood of getting a job offer on application rates. The data comes from a partnership with IOM Iraq, which has access to employers and job seekers. The treatment involves eliciting employers' preferences using an incentive resume rating (IRR). Then, job seekers are randomly assigned to see employers' preferences or not acquire additional information. Finally, job seekers apply to hypothetical vacancies in a new IRR where half of the women in treatment access the likelihood of receiving a job offer in a specific sector. The findings show an increase in the application rate when comparing women in the treated group with men in the control group.

The findings of this study are relevant for different frameworks beyond Iraq, where female labor participation is below the percentage of men in the labor market. The literature has studied the reasons behind the lower application level for female job seekers, but the lack of information from the employers' demand was not directly studied before. Thus, this paper fills the literature gap by showing how revealing employers' preferences could benefit women applying for jobs.

Economists have used audit studies for years to measure the call-back rate or the interest of employers in candidates. However, the new studies on discrimination using incentivized resume rating (IRR) eliminate the deception component of traditional audit studies. The benefits to participants are to receive vacancies or employers, depending on their choices. This paper is novel in using a double IRR for job seekers and employers to analyze how the real and expected equilibria of the demand for workers affect the supply of female labor in developing countries.

Providing information to women or other populations is a relatively inexpensive task that policymakers can perform with the contact information of employers and job seekers. The key feature of the analysis is to calculate the employer's preferences correctly. Including questions in national surveys to elicit employers' demand for women, men, and other groups can be helpful in understanding how the expected demand for workers can differ from the real demand for job seekers.

8 References

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9 FIGURES

Figure 1: Research design summary



Figure 2: Employers sample distribution



Notes. 200 Employers interviewed in Iraq.



Figure 3: Employers' offer rate

Notes: 200 employers x six hypothetical resumes = 1,200 observations. Question: Would you offer the candidate the job? Yes or No.



Figure 4: Prefer to hire men instead women

Notes: 200 employers x six hypothetical resumes = 1,200 observations. Question: Do you prefer to hire men over women? Yes or No



Figure 5: Reasons to hire men instead women

Notes: 200 employers x six hypothetical resumes = 1,200 observations. 50% employers said they prefer to hire men over women. Questions: Why would you prefer male candidates over female candidates [Multiple selections question]?



Figure 6: Compare women with men

Figure 7: Job seekers' willingness to take risks



Notes. 500 job seekers. Question: Are you generally a person who is fully prepared to take risks, or do you try to avoid taking risks? [=1 not all willing to take risks; =10 very willing to take risks]



Figure 8: Job seekers' beliefs about getting a job offer

Notes. 500 job seekers. Question: How likely would the SME owner be to offer a job? [=0 not likely; 10= very likely].

Figure 9: Job seekers' interest in applying a hypothetical vacancy



Notes. 500 job seekers. How interested would you be in applying for this job? [=0 not interested; 10= very interested]

10 TABLES

Variable	Female	Male	Difference
(1)	(2)	(3)	(4)
Age	34.58	35.12	0.54
	(1.24)	(1.24)	(1.77)
	[10.57]	[10.57]	
Experience	1.51	1.46	-0.55
	(0.14)	(0.14)	(0.19)
	[1.20]	[1.17]	
Education	2.45	2.29	-0.16
	(0.10)	(0.10)	(0.15)
	[0.83]	[0.86]	
Migration status	1.86	1.86	0.00
	(0.10)	(0.11)	(0.15)
	[0.89]	[0.94]	
Far from business	0.5	0.47	-0.03
	(0.06)	(0.06)	(0.08)
	[0.50]	[0.20]	

Table 1: Difference in means for hypothetical resumes

Notes. 1,200 hypothetical resumes. 50% of women. Standard [deviation] errors in [square] brackets.

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Variable	Treatment	Control	Difference (C - T)
(1)	(2)	(3)	(4)
Age	41.44	42.33	-0.89
	(10.32)	(10.20)	(1.35)
	[0.86]	[1.04]	
Experience	3.28	3.09	0.19
	(1.21)	(1.27)	(0.17)
	[0.10]	[0.13]	
Education	2.98	2.93	0.05
	(0.96)	(1.00)	(0.13)
	[0.08]	[0.10]	
Migration status	1.63	1.51	0.12
	(0.72)	(0.62)	(0.09)
	[0.06]	[0.06]	
Far from business	0.56	0.58	-0.03
	(0.50)	(0.50)	(0.07)
	[0.04]	[0.05]	
Employees	2.40	2.44	-0.03
	(1.05)	(1.13)	(0.14)
	[0.09]	[0.12]	
Wage	4.69	4.95	-0.26
	(2.32)	(2.31)	(0.31)
	[0.19]	[0.24]	

Table 2: Difference in means for hypothetical vacancies

Notes. 3,000 hypothetical vacancies. 50% in the treatment. Standard [deviation] errors in [square] brackets.

Table 3:	Employers'	characteristics
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Variables	Mean	Std. Dev.	Min.	Max.
Business' characteristics	(1)	(2)	(3)	(4)
Years of education	3.11	1.15	1	5
Annual profit in 2022	8755.55	6930.56	1100	28000
Employees in 2022	5.28	3.32	0	14
Wage for skilled workers (in USD)	369.71	139.87	35	600
Wage for unskilled workers (in USD)	244.44	76.71	100	400
Time of employees in the business	2.72	0.93	1	4
Hiring process				
Hiring in the last two months (=1 Yes)	0.44	0.5	0	1
Hire directly without receiving applications $(=1 \text{ Yes})$	0.39	0.49	0	1
Applications per vacancy	20.36	19.62	1	60
Interviews per vacancy	10.33	10.32	1	40
Acceptance rate of job offers	62.22	24.25	10	100
Employees apply to the job without previous connections $(=1 \text{ Yes})$	38.33	19.55	0	70
Employees referred by connection with the owner $(=1 \text{ Yes})$	42.08	24.23	20	100
Employees referred by connection with consumer or supplier $(=1 \text{ Yes})$	31.67	11.63	20	50
Employees referred by connection with friends $(=1 \text{ Yes})$	40.56	23.79	10	80
Skills in the labor market (=1 Yes)				
Job seekers do not lack any skill in the labor market	0.72	0.45	0	1
Communication skills	0.33	0.47	0	1
Numeric skills	0.17	0.37	0	1
Skills to quickly understand	0.44	0.5	0	1
Skills to focus	0.17	0.37	0	1
Skills to maintain interest	0.17	0.37	0	1
Employers' preferences $(=1 \text{ Yes})$				
Other employers prefer to hire men over women	0.56	0.5	0	1
Prefer to hire men over women	0.5	0.5	0	1
Men have more connections than women	0.78	0.42	0	1
Men are more qualified for the job than women	0.89	0.32	0	1
Consumers prefer to be served by men than by women	0.33	0.47	0	1
Men can move more safely and quickly within the city than women	0.89	0.32	0	1
Men can work more hours than women	0.44	0.5	0	1
More men apply for a job in my business than women	0.11	0.32	0	1
Women miss more workdays or ask for more permission than men	0.67	0.47	0	1

Notes. 200 employers. Years of education have five categories: reading and writing, primary school, high school, technical level, and university. Employees' time in the business has four categories: less than six months, one to two years, and more than two years.

Variables	Mean	Std. Dev.	Min.	Max.
	(1)	(2)	(3)	(4)
Years of experience	2.16	0.92	0	3
Years of education	1.05	1.16	0	3
Have children younger than 12 years old $(=1 \text{ Yes})$	0.46	0.5	0	1
Employed for one or more years $(=1 \text{ Yes})$	0.24	0.43	0	1
Employed with daily wages $(=1 \text{ Yes})$	0.24	0.43	0	1
Own business $(=1 \text{ Yes})$	0.05	0.23	0	1
Unemployed $(=1 \text{ Yes})$	0.46	0.5	0	1
Satisfaction with your life $(=1 \text{ strongly})$	6.19	2.49	1	10
dissatisfied; $=10$ strongly satisfied)				
Risk-aversion $(=1 \text{ not willing to take risks};$	4.73	2.17	1	10
=10 willing to take risks)				
Skills in the labor market				
=1 is definitely not good: =5 extremely good				
Furpress ideas presider	20	1 17	1	5
Express ideas precisely	0.0 1.9	1.17	1	Э F
Lecide quickly, but considering an the variables	1.0	1.92	0	э г
Learn new concepts and ideas	1.3	1.93	0	Э Г
Focus on specific task	2.19	1.88	0	Э Г
Persevere in obtaining long-term goals	1.27	2.07	0	Э
Finding a job				
Never tried to find a job $(=1 \text{ Yes})$	0.05	0.23	0	1
Not at all difficult $(=1 \text{ Yes})$	0.08	0.27	0	1
Somewhat difficult $(=1 \text{ Yes})$	0.35	0.48	0	1
Very difficult (=1 Yes)	0.46	0.5	0	1
Filled application to find a job $(=1 \text{ Yes})$	0.62	0.49	0	1
Interviews to get before finding a job	4.03	4.53	0	20
Days to find a job	100.84	227.17	1	1000

Table 4: Characteristics of job seekers

Notes. 500 job seekers. Years of education have four categories: no experience, less than one year, one to two years, and three or more years. Years of education have four categories: no education, primary school, high school, and post-high school.

	Dep var: Offering a job to women $(=1 \text{ for offering})$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
=1 agriculture / $=0$ control	0.395***				0.375***	0.415***	0.540**
	(0.137)				(0.179)	(0.157)	(0.261)
=1 commerce / $=0$ control		-0.198^{*}			-0.083^{**}	-0.041^{*}	-0.107^{*}
		(0.105)			(0.042)	(0.023)	(0.061)
=1 manufacturing / $=0$ control			-0.125^{*}		-0.031^{*}	-0.030^{**}	-0.065^{**}
			(0.072)		(0.017)	(0.015)	(0.032)
=1 service / $=0$ control				-0.096^{*}	_	_	—
				(0.051)			
Constant	0.229^{***}	0.365^{***}	0.375^{***}	0.346^{***}	0.250^{*}	0.389	0.043
	(0.061)	(0.067)	(0.078)	(0.015)	(0.129)	(0.683)	(0.763)
Obs hypothetical resumes	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Obs employers	200	200	200	200	200	200	200
R-squared	0.056	0.056	0.056	0.056	0.138	0.322	0.427
Controls							
Resumes' characteristics	No	No	No	No	No	No	Yes
Employers' characteristics	No	No	No	No	No	Yes	Yes

Table 5: Employers' preferences for female job seekers

Notes. Resumes' characteristics: age, experience, education, migration status, distance to business. *Employers' characteristics:* education, annual profit, employers, wages, and hiring processes variables. Standard errors clustered at **sector** and district are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Table 0. 500 S	eekers pre	terences		
Dep var:	Applying f	or a vacan	cy $(=1 \text{ for})$	applying)
	(1)	(2)	(3)	(4)
Treatment X Female	0.039***	0.036**	0.035***	0.031**
	(0.010)	(0.015)	(0.013)	(0.014)
=1 treatment/ $=0$ control	0.014^{**}	0.013^{**}	0.018^{**}	0.012^{**}
	(0.007)	(0.006)	(0.008)	(0.005)
=1 female/=0 male	-0.025^{**}	-0.021^{*}	-0.023^{**}	-0.019^{*}
	(0.012)	(0.011)	(0.010)	(0.010)
Obs. of hypothetical vacancies	3,000	3,000	3,000	3,000
Obs. of job seekers	500	500	500	500
R-squared	0.089	0.355	0.373	0.396
Mean DV (=0 control)	0.365	0.365	0.365	0.365
Standard deviation DV (=0 control)	0.483	0.483	0.483	0.483
Controls				
Job seekers characteristics	No	Yes	No	Yes
Vacancy characteristics	No	No	Yes	Yes

Table 6: Job seekers' preferences

Notes. Job seekers' characteristics are age, experience, education, having children (0 - 12 years old), skills, number of applications, and interviews when applying for jobs. *Vacancy characteristics* included the SME owners' age, experience, education, migration status, wages, sectors, and the number of employees in the business. Standard errors clustered at **sector, district, and gender** are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Dep var: Applying for a vacancy $(=1 \text{ for applying})$				
	(1)	(2)	(3)	(4)
Treatment X Female	0.031**	0.027*	0.030***	0.028**
	(0.014)	(0.015)	(0.010)	(0.013)
=1 treatment/ $=0$ control	0.012^{**}	0.011^{*}	0.010^{**}	0.012^{***}
	(0.005)	(0.006)	(0.005)	(0.004)
=1 female/=0 male	-0.019^{*}	-0.018^{*}	-0.020^{**}	-0.018^{**}
	(0.010)	(0.010)	(0.009)	(0.009)
Obs. of hypothetical vacancies	$3,\!000$	$3,\!000$	3,000	3,000
Obs. of job seekers	500	500	500	500
Mean DV $(=0 \text{ control})$	0.365	0.365	0.365	0.365
Standard deviation DV (=0 control)	0.483	0.483	0.483	0.483
Controls				
Job seekers characteristics	Yes	Yes	No	Yes
Vacancy characteristics	Yes	Yes	No	Yes
Employers characteristics	No	Yes	No	Yes
Machine learning controls	No	No	Yes	No
District fixed effects	No	No	No	Yes

Table 7: Job seekers' preferences including more controls

Notes. Standard errors clustered at **sector**, **district**, **and gender** are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

1		0		
Dep v	ar: Applyi	ng for a vac	ancy $(=1 \text{ for})$	r applying)
	(1)	(2)	(3)	(4)
Treatment X Female	0.031**	0.031***	0.031***	0.031***
	(0.014)	(0.001)	(0.007)	(0.000)
=1 treatment/ $=0$ control	0.012^{**}	0.012***	0.012***	0.012***
	(0.005)	(0.000)	(0.002)	(0.001)
=1 female/=0 male	-0.019^{*}	-0.019^{***}	-0.019^{***}	-0.019^{***}
	(0.010)	(0.002)	(0.004)	(0.001)
Obs. of hypothetical vacancies	3,000	3,000	3,000	3,000
Obs. of job seekers	500	500	500	500
Mean DV ($=0$ control)	0.365	0.365	0.365	0.365
Standard deviation DV (=0 control)	0.483	0.483	0.483	0.483
Cluster				
Sector	Yes	Yes	No	Yes
District	Yes	Yes	No	Yes
Gender	Yes	Yes	No	Yes
Bootstrap	No	Yes	No	No
Individual	No	No	Yes	No
Allow spatial correlation	No	No	No	Yes

Table 8: Job seekers' preferences including more clusters

Notes. All controls. Standard errors are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Dep var: Applying for a vacancy $(=1 \text{ for applying})$					
	(1)	(2)	(3)		
Treatment X Female	0.031**	0.029**	0.017**		
	(0.014)	(0.014)	(0.009)		
Treatment	0.012^{**}	0.013^{***}	0.008^{***}		
	(0.005)	(0.004)	(0.003)		
Female	-0.019^{*}	-0.023^{**}	-0.021^{*}		
	(0.010)	(0.010)	(0.011)		
Treatment X Female X Risk-lover			0.005^{**}		
			(0.002)		
Risk-lover (=1 if index ≥ 6)		0.004^{**}	0.002^{**}		
		(0.002)	(0.001)		
Obs. of hypothetical vacancies	3,000	3,000	3,000		
Obs. of job seekers	500	500	500		
Mean DV $(=0 \text{ control})$	0.365	0.365	0.365		
Standard deviation DV $(=0 \text{ control})$	0.483	0.483	0.483		

Table 9: Heterogeneous effects of job seekers by risk index

Notes. All controls. Standard errors clustered at **sector**, **district**, **and gender** are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Dep var: Applying for	a vacanc	y $(=1 \text{ for } s)$	applying)
	(1)	(2)	(3)
Treatment X Female	0.031**	0.028**	0.024**
	(0.014)	(0.013)	(0.012)
Treatment	0.012^{**}	0.009^{***}	0.010^{***}
	(0.005)	(0.003)	(0.002)
Female	-0.019^{*}	-0.018^{*}	-0.020^{*}
	(0.010)	(0.009)	(0.011)
Treatment X Female X Belief in getting a job			0.012^{***}
			(0.004)
Belief in getting a job (=1 if index ≥ 4)		0.001^{***}	0.003^{***}
		(0.000)	(0.001)
Obs. of hypothetical vacancies	3,000	3,000	3,000
Obs. of job seekers	500	500	500
Mean DV $(=0 \text{ control})$	0.365	0.365	0.365
Standard deviation DV (=0 control)	0.483	0.483	0.483

Table 10: Heterogeneous effects of job seekers by believing in getting a job

Notes. All controls. Standard errors clustered at **sector**, **district**, **and gender** are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Dep var: Interest in applying $(=1 \text{ not interest to } =10 \text{ interest})$					
	(1)	(2)	(3)	(4)	
Treatment X Female	1.348**	1.349**	1.353^{*}	1.350**	
	(0.612)	(0.686)	(0.798)	(0.674)	
=1 treatment/ $=0$ control	1.251^{**}	1.250^{**}	1.252^{*}	1.249^{**}	
	(0.605)	(0.638)	(0.719)	(0.631)	
=1 female/=0 male	-1.018^{**}	-1.019^{**}	-1.023^{**}	-1.021^{**}	
	(0.448)	(0.451)	(0.512)	(0.406)	
Obs. of hypothetical vacancies	$3,\!000$	$3,\!000$	3,000	3,000	
Obs. of job seekers	500	500	500	500	
R-squared	0.141	0.443	0.448	0.507	
Mean DV ($=0$ control)	3.351	3.351	3.351	3.351	
Standard deviation DV (=0 control)	3.345	3.345	3.345	3.345	
Controls					
Job seekers characteristics	No	Yes	No	Yes	
Vacancy characteristics	No	No	Yes	Yes	

Table 11: Job seekers' preferences – intensive margin

Notes. Job seekers' characteristics are age, experience, education, having children (0 - 12 years old), skills, number of applications, and interviews when applying for jobs. Vacancy characteristics included the SME owners' age, experience, education, migration status, wages, sectors, and the number of employees in the business. Standard errors clustered at **sector, district, and gender** are shown in parentheses. *** is significant at the 1% level, ** is significant at the 5% level, * is significant at the 10% level.

Figure A-1: Initial instructions

Panel A: Employer

Hello, my name is [first name of the enumerator]. I am speaking on behalf of the International Organization for Migration (IOM). We identified you through a search of IOM assisted businesses who listed vacancies as part of your application for IOM.

IOM is currently conducting a survey to better understand the prospects of jobseekers in your area. We're calling you today to see if we can do a survey with employers who have recently opened, filled, or will open vacancies.

You will evaluate six hypothetical resumes of job candidates and ask three questions:

a. How interested you are in hiring the candidate.

b. A hypothetical situation to guess how likely the candidate would accept the offer.

c. Whether you will offer the job.

IOM will use your answers to the three questions to recommend real job candidates in IOM databases for your current or future vacancies. After evaluating the hypothetical candidates, I will ask a few more questions to help us better understand your firm.

Completing the tool should not take more than 40 minutes.

All the information you give us is confidential. Job seekers or other people won't identify your participation. IOM won't share your identification with any regulatory commission or organization.

If you decide not to participate, that is fine. If you choose to participate and later change your mind, you can withdraw at any time. You do not need to provide reasons.

If you have any questions please feel free to contact the project team, Email. IraqEDF@iom.int

Panel B: Job seekers

Hello, my name is [first name of the enumerator]. I am speaking on behalf of the International Organization for Migration (IOM). We identified you through a search of IOM assisted businesses who listed vacancies as part of your application for IOM.

IOM is currently conducting a survey to better understand the prospects of jobseekers in your area. We're calling you today to see if we can do a survey with job seekers who have recently applied, or will apply for vacancies.

You will evaluate 6 hypothetical job vacancies and ask three questions:

a. How interested you are in applying for the vacancy.

b. A hypothetical situation to guess how likely the employer would offer you the vacancy.

c. Whether you will accept the offer.

IOM will use your answers to the three questions to recommend real vacancies in IOM databases for you open now or in the future. After evaluating the hypothetical vacancies, I will ask a few more questions to help us better understand your skills.

Completing the tool should not take more than 40 minutes.

All the information you give us is confidential. Employers or other people won't identify your participation. IOM won't share your identification with any regulatory commission, organization, or other organization. If you decide not to participate, that is fine.

If you choose to participate and later change your mind, you can withdraw at any time. You do not need to provide reasons.

If you have any questions please feel free to contact the project team, Email: IraqEDF@iom.int

Figure	A-2:	Informed	$\operatorname{consent}$
--------	------	----------	--------------------------

0.1. Do you agree to participate in the study?	*
• Yes	
○ No	
	-
0.2. If yes, do you agree that your interviews are noted? you may participate to in the study without agreeing on this.	î
• Yes	
○ No	
0.3. Do you understand that the research team will keep the information you provide confidentially?	*
• Yes	
○ No	
0.4. Do you understand that the information you provide can be used in future research?	*
♦ Yes	
○ No	
0.5. Do you understand that you can withdraw from the study anytime and for any reason without affecting the services you receive?	*
♦ Yes	
○ No	
0.6. The coder inserts a unique code to merge with the profile of the candidate.	*
Format RR-000000	



h

Candidate 2	
Select:	*
Her name is Sabeeha Hussain. She is 40 years old. She has no experience working in your business sector. Her maximum education level is only read and write. She is a host community member. She lives in driving distance of your business.	
1. How interested would you be in hiring the candidate? Use a scale from 0, no interested, to 10, very interested.	*
2. If you offer the candidate a job, how likely do you think the candidate will accept the offer? Use a scale from 0, no likely, to 10, very likely.	*
3. Would you offer the candidate the job?	*
🔿 a. Yes	
🔿 b. No	

Figure A-4: Hypothetical vacancy

I will read 6 hypothetical vacancies for your profile. Recall that your evaluation is important since IOM will send your profile to three real vacancies according to your evaluations.

We may wish to repeat this questionnaire up to two or three times with you to better understand the evaluation per candidate.

Vacancy 1

Select:

The SME owner is Zaid Ali. He is 45 years old. His maximum education level is high school. He is a host community member. His business has been in the manufacturing sector for 5 to 6 years. The business is far from your house. He has 3 to 4 employees. He has a vacancy paying between 301 and 350 USD per month. /// Consider the hiring rate of women in manufacturing is 25% ///

1. How interested would you be in applying for this job? Use a scale from 0, no interested, to 10, very interested. [=0 not interested; 10= very interested]

2. How likely do you think the SME owner would be to offer a job? (This is a hypothetical situation) Use a scale from 0, no likely, to 10, very likely. [=0 not likely; 10= very likely]

*

3. Would you apply for the job?

🔵 a. Yes

🔵 c. No



Figure A-5: Employers' characteristics

Notes: Questions: A. What is your annual profit in 2022 (USD)?; B. How long have most workers been in your business?; C. On average, how many applications do you receive for one job opening?; D. On average, how many applicants do you usually interview to make an offer of a job?; E. When you make a job offer to a candidate, what percentage of these applicants accept the offer?



Figure A-6: Characteristics of hypotherical vacancies

Notes: Distribution of variables in hypothetical vacancies. Half of the 500 job seekers are female and 3,000 hypothetical vacancies. Sectors are agriculture (40%), manufacturing (30%), service (19%), and commerce (11%).

Figure A-7: Job seekers' beliefs about the percentage of employers who prefer to hire men rather than women



Notes. Question: Do you think employers in your sector prefer to hire men over women? The graph is only for women

.1 Online Tables

Female r	names	Male names				
(1)	(2)	(3)	(4)			
Abeer Majed	Nadia Suleiman	Abbas Salman	Kamal Attieh			
Amina Sultan	Nadine Sadiq	Mohsen Jabbar	Karrar Qadir			
Anisa Shamoun	Nahida Omran	Abdullah Mohsen	Khalaf Hammandi			
Asmahan Rashid	Nasra Jaafar	Hassanah Alwan	Khalil Rasho			
Aya Taleb	Nawal Rahima	Fadel Hamed	Laith Muhammed			
Huraaa Thajil	Salima Radi	Adnan Jalal	Maher Obaid			
Bushra Hammad	Raghad Mahdi	Ahmad Ali	Mahmoud Farhan			
Dalal Idan	Rana Naima	Ahmed Hadi	Marwan Fayad			
Donia Yassin	Rasha Majid	Akram Hamid	Sajjad Mahdi			
Fatima Rahim	Rima Lafet	Ali Mohammed	Saif Jassim			
Fayrouz Hamza	Sabeeha Hussain	Amer Dawood	Muhammed Sultan			
Hala Dawood	Sabreen Awad	Ayman Khudaur	Muhannad Gabr			
Hanan Aziz	Saha Obaid	Emad Hamad	Murad Suleiman			
Hayat Jaber	Sahar Mansour	Faisal Rassin	Mustafa Hussein			
Heba Faris	Aziza Salman	Falah Sadiq	Omar Aboud			
Hind Mousa	Samia Qadir	Firas Saleh	Raad Ahmed			
Hoda Rahim	Samira Habib	Haidar Aziz	Saad Omran			
Janan Faraj	Sana Hamad	Aqeel Jawad	Qasim Shamoun			
Karima Attieh	Sarab Rassin	Hamad Faleh	Salam Hassan			
Khadija Eawda	Sarah Jassim	Hamed Lafet	Salih Mohamed			
Khaleda Mohamed	Shaimaa Rasho	Hamid Saeed	Saman Faris			
Khawla Muhammad	Shilan Farhan	Hassan Awad	Taha Nasser			
Laila Saleh	Souad Jamil	Hazem Salim	Waleed Issa			
Maha Abdaly	Suhad Faleh	Hossam Majid	Wissam Mustafa			
Manal Alwan	Wafika Saeed	Hussein Hamza	Yasser Ismail			
Mariam Khudair	Zahra Khader	Ibrahim Haji	Yousef Jaafar			
Marwa Latif	Zainab Taher	Ismail Rashid	Zaid Khudida			
Naba Jawad		Jalal Radi				

Table A-1: Name list

Notes. Sample distribution from the EDF's SME winners.

Variable	Women	Men	Diff.									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Age	34.19	37.19	3.00	33.5	32	-1.50	34.87	33.58	-1.29	33.75	37.58	3.83
	(2.56)	(3.03)	(3.97)	(3.41)	(3.37)	(2.35)	(2.28)	(2.03)	(3.05)	(3.17)	(2.41)	(3.98)
Experience	1.37	1.44	0.07	1.5	1.7	0.2	1.54	1.5	-0.04	1.83	1.3	-0.53
	(0.31)	(0.30)	(0.44)	(0.34)	(0.31)	(0.46)	(0.24)	(0.25)	(0.34)	(0.34)	(0.38)	(0.51)
Education	2.44	2.37	-0.07	2.33	2.08	-0.25	2.29	2.58	0.29	2.41	2.83	0.42
	(0.26)	(0.20)	(0.33)	(0.26)	(0.19)	(0.32)	(0.15)	(0.17)	(0.23)	(0.23)	(0.27)	(0.18)
Migration	1.75	1.87	0.12	2	2.17	0.17	1.86	1.87	0.01	2.08	1.58	-0.5
status	(0.23)	(0.24)	(0.33)	(0.27)	(0.30)	(0.40)	(0.19)	(0.18)	(0.27)	(0.29)	(0.19)	(0.43)
Far from	0.37	0.5	0.13	0.57	0.58	0.01	0.51	0.5	-0.01	0.58	0.42	-0.16
business	(0.12)	(0.13)	(0.18)	(0.15)	(0.14)	(0.21)	(0.10)	(0.10)	(0.14)	(0.15)	(0.15)	(0.21)

Table A-2: Difference in means for hypothetical resumes by sector

Notes. 1,200 hypothetical resumes. 600 women and 600 men. Standard errors in brackets.

	W	lomen	Men		
Variables	Mean (1)	Std. Dev. (2)	Mean (3)	Std. Dev. (4)	
Vears of experience	2.06	0.90	$\frac{1}{2.24}$	0.92	
Vears of education	1.31	1.16	0.86	1.13	
Have children vounger than 12 years old $(=1 \text{ Ves})$	0.44	0.50	0.00	0.50	
Employed for one year or more $(=1 \text{ Yes})$	0.11	0.35	0.38	0.49	
Employed with daily wages (=1 Yes)	0.19	0.39	0.29	0.45	
Own business (=1 Yes)	0.00	0.00	0.10	0.10	
Unemployed (=1 Yes)	0.44	0.50	0.10	0.20 0.50	
Satisfaction with your life (=1 strongly	5.81	2.34	6.48	2.57	
dissatisfied: =10 strongly satisfied)	0.01		0.10		
Risk-aversion (=1 not willing to take risks:	4.69	1.97	4.76	2.32	
=10 willing to take risks)		,			
Skills in the labor market					
=1 is definitely not good; $=5$ extremely good					
Express ideas precisely	3.60	1.03	3.90	1.23	
Decide quickly, but considering all the variables	1.69	2.06	1.00	1.75	
Learn new concepts and ideas	1.44	1.88	1.19	1.97	
Focus on specific task	1.69	1.90	2.57	1.77	
Persevere in obtaining long-term goals	0.94	1.83	1.52	2.20	
Finding a job					
Never tried to find a job $(=1 \text{ Yes})$	0.00	0.00	0.10	0.29	
Not at all difficult $(=1 \text{ Yes})$	0.06	0.24	0.10	0.29	
Somewhat difficult $(=1 \text{ Yes})$	0.31	0.47	0.38	0.49	
Very difficult $(=1 \text{ Yes})$	0.56	0.50	0.38	0.49	
Filled application to find a job $(=1 \text{ Yes})$	0.69	0.47	0.57	0.50	
Interviews to get before finding a job	5.05	5.56	2.69	1.97	
Days to find a job	142.90	280.12	45.63	106.64	

Table A-3: Characteristics of job seekers by gender

Notes. 500 job seekers. Years of education have five categories: no experience, less than one year, one to two years, and three or more years. Years of education have four categories: no education, primary school, high school, and post-high school.