Do Female–Owned Employment Agencies Expand Opportunity for Women?*

Jennifer Hunt
Rutgers University and NBER

Carolyn Moehling
Rutgers University and NBER

Preliminary Draft

May 5, 2023

Abstract

We create a dataset of 14,000 hand–coded help–wanted advertisements placed by employment agencies in two U.S. newspapers in 1950 and 1960, a time when help–wanted advertisements were divided into male and female sections. Using this dataset, we compare the advertising practices of female–owned agencies with those of male–owned agencies. Female–owned agencies are much more likely to advertise for women (by 27 percentage points), but do so principally by specializing in female–dominated occupations rather than by advertising for more women in male–dominated occupations. However, the occupations they specialize in are better paid than the occupations advertised to women by male–owned agencies, resulting in jobs for women posted by female–owned agencies paying 7% more. Conditional on all job advertisement information, the advantage is 2%. Conversely, female–owned agencies find worse jobs for men than do male–owned agencies. Female–owned agencies thus appear to have an absolute advantage in placing women and an absolute disadvantage in placing men, likely due in part to underlying abilities and experience and in part to discrimination between agencies and jobseekers and between agencies and client firms.

In the twenty–five years following the Second World War, a large number of employment agencies in the United States were owned by women, and the number grew as the overall market for employment agencies grew. The presence of female–owned agencies could have benefitted female jobseekers. In this paper, we investigate whether the types and quality of job placements made by female and male owners differed.

Female owners could have had a comparative or absolute advantage in employment agency work, or could have had a comparative advantage in placing female workers or placing workers in female–dominated occupations. Comparative advantage considerations could overlap with discrimination considerations. At least one female owner was pushed to start her own agency after applying for jobs unsuccessfully and took a particular interest in placing mature women returning to the labor market.[1] Female owners might therefore attract more female jobseekers by taking them more seriously and treating them better at interviews: the fear of jobseeker seduction that led New York City to ban sofas in employment agencies may not have been motivated by merely hypothetical situations (New York Court of Appeals Records 1939). Relatedly, while male owners might underestimate female jobseekers due to prejudice or ignorance, female owners might recognize their true potential and be able to influence client firms or identify firms with similar views. Client firms sought guidance from employment agencies on what wage to pay (New York Times 1951), which would influence other decisions. For example, a firm might face the decision of whether to hire an accountant (better trained and paid, almost certainly male) or a bookkeeper (less well trained and paid), and if a bookkeeper, the decision of whether to hire a woman or a man.

The presence of female–owned employment agencies could therefore have expanded employment opportunities for female jobseekers, at a minimum by increasing the quantity of placement services provided to them, thereby reducing search time, and possibly by increasing female jobseekers' match quality or job quality. These possibilities motivate our study of the job characteristics of advertisements placed by employment agencies at a time when it was both legal and standard to specify the desired gender of the applicant. This allows us to study the job quality of matches and the number of matches (assuming all vacancies are filled), although not match quality or job search duration.

We have hand coded 25,000 help–wanted advertisements from the *New York Times*, the *Washington Post* and the *Baltimore Sun* in 1950 and 1960, and in this paper we concentrate on the 14,000 advertisements posted by 350 employment agencies in the first

---

[1] New York Times (1955). Wald (2008) describes the emergence of Jewish law firms in New York City in response to anti–semitism.

1

two newspapers. We have collected the ownership type of each agency, and the owners' names for sole proprietorships and partnerships. Female ownership is relatively common: 20% of our advertisements were posted by female–owned agencies representing 33% of agencies, while 38% of advertisements were posted by male–owned agencies representing 40% of agencies. The remaining agencies were predominantly corporations. Most of these agencies primarily sought permanent placements for workers, though they also advertised summer jobs and a few agencies specialized in temporary jobs.

We do find that female–owned agencies offer female jobseekers opportunities not available through male–owned agencies. Female–owned agencies are much more likely to advertise for women (by 27 percentage points), though they do so mainly by specializing in female–dominated occupations rather than by advertising for more women in male–dominated occupations. Nevertheless, they are 8 percentage points more likely than male–owned agencies to advertise for a woman conditional on detailed occupation and other job characteristics. Furthermore, they offer women a 7% pay premium compared to male–owned agencies due to a more remunerative mix of occupations and higher within–occupation skill requirements. This premium is small compared to the overall gender wage gap, however. Conditional on occupation and other job advertisement information, the female–owned wage premium is 2.1–2.6% (statistically insignificant in OLS regressions but statistically significant in median regressions).

If the conditional female–owned wage premium is viewed as economically significant, the results are consistent with the female–owned employment agencies making better placements than male–owned agencies, at least for female jobseekers. This could be due to a greater ability of female–owned agencies to assess female jobseekers' skills and personality and/or to hire staff with these aptitudes. An alternative explanation is is that female workers are more productive at the types of firm willing to use female–owned employment agencies. On the other hand, if the conditional female–owned wage premium is viewed as being essentially zero, the results are consistent with female owners persuading (likely male–owned) client firms to hire more women into better paying occupations, while taking advantage of the discriminatory market wage for women in that occupation.

More surprising is our the finding that female–owned agencies advertise jobs of lower quality to men than do male–owned agencies: they are 7 percentage points less likely than male–owned agencies to advertise a job in a male–dominated occupation, which contributes statistically significantly to a mean wage penalty of 5.5% (statistically insignificant) and a median wage penalty of 9.5% (statistically significant) relative to male–owned agencies. Yet conditional on detailed occupation and other job characteristics, there is no

2

difference in male wages by agency ownership. It seems that while female–owned agencies obtain male market wages in the occupations they make available to male jobseekers, they are unwilling (perhaps because of reverse discrimination) or unable (perhaps because of discrimination by client firms) to find vacancies for men in well paid occupations.

The plausibility of this explanation is enhanced by the additional finding that while conditional wages in advertisements open to women are little affected by the share of an agency's advertisements that is for majority–male occupations, male conditional wages suffer in such circumstances (conditional on the occupation and other characteristics of the individual advertisement, as well as the agency's number of advertisements and share of advertisements open to women). Agencies that are either unable or unwilling to persuade many client firms to let them handle male rather than female occupations, or who are unable or unwilling to get business from firms using agencies principally for male occupations, post jobs for men with low conditional wages. Such agencies might obtain postings for male occupations from smaller client firms that pay worse for given occupations, or might handle vacancies that client firms consider among their least important (in ways not necessarily captured in the advertisement) and easiest to fill. Female–owned agencies' infrequent posting of jobs in majority–male occupations makes a statistically significantly negative contribution (3.3%) to their wages for men, resulting in more than 100% of the wage gap between female– and male–owned agencies being explained.

The results described are from regressions using both between and within–agency variation. For wages, within–agency variation can be isolated, arguably leading to better identification of differences by ownership type or allowing different theories to be distinguished. However, the empirical results are nuanced and defy easy categorization. In 1960, the distributions of within–agency gender wage gaps are almost identical for female– and male–owned agencies. In 1950, the distribution for female–owned agencies displays much greater variance than the distribution for male–owned agencies, exhibiting thicker tails. As a result, female–owned agencies appear more equitable than male–owned agencies when the agency relative wage is calculated as a wage ratio, and less equitable when it is calculated as the difference in log wages, which reduces the influence of the right tail and increases the influence of the left tail.

1 Background

Prior to the Civil Rights Act of 1964, it was not only legal but standard for firms posting vacancies to specify the desired gender of the applicant. In newspapers with large

help–wanted sections, there were separate male and female sections. Employers open to applications from either gender could note this in the advertisement and/or post separate advertisements in the male and female sections. However, an advertisement posted in only one section stating that both men and women could apply would be unlikely to be seen by jobseekers of both genders.[2] In our data, we see advertisements saying either gender may apply, sometimes referring the jobseeker to greater detail in an advertisement in the other section, as well as advertisements in both sections each calling for applications from the workers of the gender of the section.

Employment agencies established relationships with client firms by cold calling (Martinez 1976, referring to practices in 1964) or by using prior contacts: some former agency employees took client firms with them to open their own agency (New York Court of Appeals Records 1939). Once relationships were established, firms would often contact an agency with a request for a referral. Agencies informed jobseekers of vacancies both by placing help–wanted advertisements and by welcoming jobseekers to walk into their offices (sometimes agencies placed newspaper advertisements encouraging jobseekers to do this). To maximize foot traffic, many agencies clustered in the same areas of town, and even in the same buildings (as we can see from the addresses in our help wanted advertisements, and as noted for Chicago in Rees 1966). If no current vacancy suited the jobseeker, the agency would keep the jobseeker information for a later opportunity, or refer the jobseeker to another agency (New York Court of Appeals Records 1939). The jobseeker would pay a fee if placed in a job, and these fees tended to be regulated by the state or city and were expressed as a share of the wage or salary. In many cases, the employer would offer to pay the fee of the successful candidate.

Many agencies specialized in certain industries or occupations. For example, agencies specializing in medical placements might place both secretaries and doctors for the industry, while teachers' agencies would advertise only for teachers and school librarians. Some agencies specialized in laborers and operatives, but these did not typically place help–wanted advertisements (as noted in Rees 1966 for Chicago, consistent with the small number of such advertisements in our data).

Some, though not all agencies defended the right to discriminate based on religion, in particular, claiming even the right to specify a religious preference they knew their client firm held when the firm has not specified it explicitly (New York Court of Appeals Records 1939). These firms emphasized that their job was to make a good match and not

---

[2] This is presumably a reason why newspapers fought the implementation of the Civil Rights Act's help–wanted provisions. See Pedriana and Abraham (2006) for other explanations.

4

to waste both jobseeker and client firm time. Among the plaintiffs in a 1942 New York State case concerning religion was Maude Lennox, owner of the eponymous employment agency, who refused to reveal the names of the employers who had illegally requested Christian workers for defense industry work (New York Court of Appeals Records 1942). In 1950, 60 New York City agencies objected to a rule prohibiting a pre–employment inquiry as to the complexion of an applicant or asking for his or her photograph.[3] No views on discriminating by gender are available: such discrimination seems to have been taken for granted by all. Among our *New York Times* advertisements, the only ones explicitly requesting a particular demographic other than male/female are in the section for domestic servants, where race is frequently (and illegally) specified. Race is specified more frequently in advertisements in the *Washington Post* and the *Baltimore Sun*, despite the practice also being illegal.

A common background for female owners of employment agencies was in the personnel office of a large firm or as an employee of another employment agency. Some inherited the agency upon the death of their husband. Considerable information is available regarding Maude Lennox, born in 1904, who immigrated from Denmark as a child and completed high school in St. Louis. Lennox moved to New York City after (she claimed) expanding the Philadelphia Regional Planning Board's personnel department from just herself to three hundred people. She decided to open an employment agency to help exhibitors at the 1939 World's Fair, and became "one of the city's leading personnel experts" thanks to "her ability to judge jobs and people", with an office in the prestigious Rockefeller Center building (Christian Science Monitor 1940). The agency incorporated in 1953, but she was described as "operating" the agency in 1956, when she was presumably president of the corporation (Philadelphia Inquirer 1956). She was interviewed in newspapers regarding the evolution of the labor market (Christian Science Monitor 1940, New York Times 1949, Louisville Courrier–Journal 1954) and how to prepare for a career in personnel (Pittsburgh Sun–Telegraph 1949). A female member of her Home Economics Devision spoke about job opportunies to Home Economics majors at Cornell (Ithaca Journal, 1946). Her staff were high quality if Priscilla Cole, holding a bachelor's degree in psychology, was typical.[4] Not all of her staff were female: George F. Roberts launched the employment agency Hoyt and Roberts after working for Lennox (New York Herald Tribune 1962). Lennox married a Philadelophia tax lawyer in 1946 (apparently her second husband), separated

---

[3] New York Times 1950.

[4] https://www.reflectionsmemorialservices.com/obituaries/Priscilla-Mueller/#!/Obituary, accessed March 22, 2023.

from him in 1956 amid a lawsuit concerning a post–dated cheque for $75,000, and died in 1982 (Philadelphia Inquirer 1956, ancestry.com; 1940 U.S. Census).

2 Theory

A simple theory of discrimination in this context would begin with the assumption that female–owned employment agencies accurately assess the productivity of female workers, while other employment agencies as well as client firms underestimate female productivity due to prejudice. Female–owned agencies might then be able to persuade their client firms their belief is correct, or contract with client firms already sharing the belief, leading to the hiring of more women through female–owned than male–owned employment agencies. However, if these clients are profit–maximizing, they nevertheless pay women the going discriminatory wage unless their hiring (and the role of female–owned employment agencies) grows enough to raise the aggregate female wage. Employment agency profits rely upon matching client firms with productive workers at the market wage, which means that any nudging an agency provides to a profit–maximizing firm would consist of revealing to the employer that women could be as productive as men while earning lower wages. Any attempt by female–owned agencies to maximize advancement of women jointly with profits should lead to their bankruptcy unless the market for employment agency services (or possibly the firm clients' product markets) is not perfectly competitive.[5] However, the empirical discrimination literature has not always found Black people and women to discriminate less against Black people and women respectively.[6]

By contrast, analogously to models of female crowding in female occupations, it is conceivable that the prejudice of non–female agencies could emerge as a quantity constraint rather than lower wages, crowding female jobseekers into job postings by female agencies, lowering the wages female–owned agencies post.[7] However, one might expect firms to then be more eager to use the services of female agencies, resulting in equalized female wages across agencies.

Discrimination theory does not generally consider the possibility of members of a disfavored group discriminating against the favored group. This is in part because there are few economically influential opportunities for this reverse discrimination to occur. It

---

[5] Becker (1957). Black and Strahan (2001) show empirically that competition influences discrimination.

[6] See Ayres and Siegelman (1995) for car salespeople and Edelman, Luca and Svirsky (2017) for Airbnb hosts.

[7] See Bergmann (1971) for the first discussion of crowding.

is perhaps also because it seems unlikely that reverse discrimination would arise from a misjudgement of productivity, which would imply that any perpetrators were consciously engaging in actions that would reduce profit. Nevertheless, in the presence of imperfect competition, firms practicing reverse discrimination could remain in business, or the behavior might be observed temporarily before the firms go out of business. It is therefore conceivable that female–owned employment agencies might be observed not only hiring fewer men than male–owned agencies, but also posting lower wages for them.

There is a second possible sphere for discrimination beyond interactions between jobseekers and agencies, namely interactions between agencies and client firms. Client firms, assumed to be predominantly male–owned, could underestimate the ability of female employment agency owners to match them with suitable jobseekers. This could lead many to avoid using female–owned agencies entirely, keeping female–owned agencies small, but not necessarily affecting the female or male wages. A similar outcome would result if male firm owners simply dislike interacting with female agency owners. Alternatively, underestimating female agency owners could lead client firms to use female–owned agencies only for jobs requiring little screening because they are simple and dead–end,[8] jobs corresponding to female–dominated occupations or dead–end jobs for boys. Client firms could instead underestimate the ability of female–owned agencies to match them with male jobseekers, but have confidence in their ability to match them with female–jobseekers, and use female–owned agencies for jobs they have already decided to aim at women, likely in female–dominated occupations. Both types of underestimation would prevent female agency owners from offering women opportunities not available through male–owned agencies.

Viewed from another angle, client firms' concerns about female–owned agencies could be well founded. Their concerns could be self–fulfilling prophecies: if female–owned agencies' business is restricted by discrimination, and scale and experience are necessary for high–quality matching, female–owned agencies may perform worse for both female and male jobseekers. If client firms' prejudice is focused on jobs for men in male–dominated occupations, female–owned firms will specialize in female employment in female–dominated occupations and match male jobseekers poorly (except in female occupations), but will match female jobseekers better than other agencies. These outcomes could also result from underlying factors. Female–owned agencies might intentionally specialize in female jobseekers and necessarily female–dominated occupations in order to help women; because

---

[8] Particularly if female–owned agencies charge lower fees because demand for their services is lower; however, fees are regulated.

female jobseekers are underserved by other agencies; because their owners' pre–ownership experience was in female–dominated occupations; because such specialization allows female owners to work with female rather than male staff at client firms; or because female owners and their staff have an absolute and comparative advantage in assessing female jobseekers.

Two final considerations have not been mentioned. First, female–owned agencies may match workers and firms more efficiently than other agencies (albeit without being able to grow large enough to take over the market) because they themselves employ better workers because they are unprejudiced. Second, female–owned agencies may obtain better wages and occupations for women because female workers are more productive at the sorts of firms willing to use female employment agencies.

3 Data and descriptive statistics

3.1 Data

We have hand coded all help–wanted advertisements published in the *Washington Post* on the first Sundays in January and May in 1950 and 1960; in the *Baltimore Sun* on the first Sundays in January and May in 1960; and in the *New York Times* on the first Sundays in May in 1950 and 1960. We have not used computerized textual analysis because the machine–readable files are prohibitively expensive. We chose Sunday because in all three newspapers, this was the day of the week with the most help–wanted advertisements. We chose the first week in May as the week with the largest number of help–wanted advertisements in the *New York Times*, containing advertisements for new graduates and summer activity. We intended to code advertisements for four dates for all three newspapers, to capture four points of the hiring season, but transcribing was much slower than anticipated.

We have collected whether the job advertisement is posted by a firm, an agency or a household; the wage posted, if any, and the periodicity of the wage if given; the detailed occupation; the desired experience, education and age, if mentioned; and whether the job comes with fringe benefits, a commission or a bonus or includes meals or room and board. Among other possible job attributes or skills desired, we have collected whether the job involves training; involves management or supervision; is an assistant or junior position; involves mathematics/statistics; requires a worker who is good at figures; requires typing or stenography or use of a bookkeeping machine or computer; involves travel or the use of

8

a foreign language; has opportunity for advancement; or is for a company whose product or service is associated with women or children. We note the gender desired or whether either is acceptable (the latter represents a tiny fraction of advertisements)[9]; whether any of various physical traits is required, whether any of various personality traits is required, and whether interaction with customers is involved. Generally, we include advertisement characteristics as covariates if at least one percent of advertisements mentioned them. Industry is rarely provided in the advertisements and we use no industry information. The Data Appendix provides more information on the collection of the job advertisements information.[10]

Separately, we have collected information on ownership of the agencies in 1950 and 1960. The primary source for this is the Office of the New York County Clerk, whose paper records contain entries for each occasion a business is registered as a sole proprietorship or partnership in Manhattan, or a Manhattan–registered business changes owners or partners. The computer system provides the dates and file numbers of these events as well as the date a business is incorporated. The only information on events from before 1926 is that the business was registered before that date, and we were unable to identify the owners of a few businesses whose owners (or incorporation status) appeared not to have changed since that date. For a small number of agencies missing from the computer system, we have used supplemental information found in newspapers.com by searching for the employment agency name.

A handful of agencies give a Brooklyn address in the job advertisement: the Office of the Brooklyn County Clerk has paper records similar to those of New York County, but without the computer system to find the file number, making looking up these agencies impractical. We have not yet attempted to find the files of another dozen agencies giving addresses in Westchester County, Long Island, New Jersey and Connecticut.

While the Office of the District of Columbia County Court says all the relevant information is in an online database, we found in it almost no pre–1961 information on agencies advertising in the *Washington Post*. Our main source for now is therefore congressional records on agencies operating in the District of Columbia in 1962.[11] We have not yet attempted to collect ownership information for agencies registered in Maryland,

---

[9]While we have identified some advertisements for the same vacancy placed in both male and female sections without saying the vacancy is open to either gender, even with a more systematic attempt at matching, we do not expect to be able to identify confidently advertisements open to women only.

[10] We have also collected whether the advertisement was posted by a temporary help agency. There are few such advertisements, and we have not yet used this information.

[11]https://books.google.co.uk/books/about/Prohibit_Exploitation_by_Private_Employm.html?id= Y6MvAAAAMAAJ&redir_esc=y .

which could be advertising in either the *Baltimore Sun* or the *Washington Post*, nor have we attempted to collect ownership information for agencies registered in Virginia. We therefore do not use our job advertisements from the *Baltimore Sun* in this version of the paper.[12]

3.2 Descriptive statistics

Table 1 shows that the complete dataset of 24,626 (column 1) is dominated by the *New York Times*, which accounts for 85% of the observations (column 2). The table also shows that more than three quarters of *New York Times* advertisements are posted by employment agencies (column 3), while this share is lower in the *Washington Post*. Column 4 shows the share of the agency advertisements currently in our sample. Only a small share of agency advertisements fail to give a wage, and most excluded advertisements are therefore those for which we have not yet identified the owner: overall, 77% of agency advertisements are in our sample; these advertisements are posted by 350 agencies.

The first two columns of Table 2 show the occupational distribution of the full dataset of advertised positions. The largest categories are clerical positions (42.5%), professional and technical positions (28.5%) and sales positions (13.9%). It is clear that firms do not use help–wanted advertisements as a major hiring tool for blue–collar workers, as the shares for craftsmen and operatives/laborers are both below 4%. We focus on advertisements posted by help–wanted agencies because non–agencies rarely post a wage and often do not state the employer name. Columns 3 and 4 of Table 2 indicate that the agency sub-sample has a very similar aggregate occupational distribution. We also limit the sample to advertisements containing wages, and we drop the very small number of agency advertisements for operatives and laborers (144) and for domestic workers (96). We include advertisements for sales jobs despite the fact that the wages are not comparable with those in other occupations since most sales workers earn commissions, and that while many advertisements post pre–commission wages, others appear to give post–commission wages that may be more aspirational than realistic. Finally, we drop advertisements posted by agencies whose ownership we do not know. This leaves a sample of 13,986 advertisements posted by 350 agencies, whose occupational distribution (columns 5 and 6) is somewhat more concentrated in clerical occupations (46.9%) than the full sample.

As described in the Data Appendix, we have adjusted posted wages to reflect full–time weekly wages (most posted wages are weekly), and the average wage by aggregate

---

[12]Collection for the *Washington Post* is only partially completed.

occupation is shown in Table 2, Column 7. Professional and technical jobs are the best paid, followed by sales and craftsmen jobs. Jobs in services, jobs whose occupation is not given in the job posting, and especially jobs in clerical occupations are poorly paid.

Before examining distinctions by agency type, it is useful to appreciate the dramatic difference in the distributions of log wages in positions open to women and in positions closed to women. Figure 1 shows that female wages are not only much lower than male wages in both 1950 and 1960, but also display much lower variance. Mean real wages in the sample rose 33% for men and 51% for women between 1950 and 1960, consistent with rapid wage growth in the United States as a whole.

The first row of Table 3 shows that 20% of advertisements are posted by female–owned agencies. These advertisements are posted by 104 agencies that are female–owned in both 1950 and 1960 and 13 agencies that are female–owned in one of the two years (not shown). 37% of advertisements are posted by 127 agencies that are always male–owned and 14 agencies that are male–owned in one of the two years. The bulk of the remainder of the advertisements are posted by corporate agencies (36%), while a few are posted by agencies with at least one female and one male owner, and a few by two public agencies and one non–profit agency.[13]

The remaining rows of Table 3 show the means of our outcome variables, by agency ownership. The second and third rows show that female–owned agencies specialize to some degree in positions for women (63% of their positions) and in occupations employing many women (100-39=61% of positions are in majority–female occupations), while male–owned agencies do the opposite (33% of positions posted are for women and 100-63=37% are for jobs in majority–female occupations). The fourth row shows that female–owned agencies advertise jobs paying $96 on average, below mean weekly wages of $110, while male–owned agency advertisements pay $116 on average. Corporate agencies have similar outcomes to male–owned agencies, but are somewhat larger (see last row); female–owned agencies are much smaller, posting only 52 advertisements on average compared to 131 for male–owned agencies.

Table 4 shows the occupational distribution of advertisements by agency type (dropping public/non–profit to save space), by gender of the jobseeker sought. For all three agency types, at least 81% of female advertisements but at most 27% of male advertisements are for clerical positions. The distributions differ more by agency type for male advertisements than female advertisements, with female–owned agencies advertising the

---

[13]The U.S. Employment Agency, the New York State Employment Agency, and the National Employment Exchange, a corporation.

lowest share of professional and managerial jobs to men (37%, compared to 47% for male–owned agencies) and the highest share of clerical jobs to men (27% compared to 19% for male–owned agencies).

Table 5 panel A shows that corporate agencies advertise the highest wages to women on average: $79, 4% above the average of $76. Female–owned agencies advertise jobs paying the average, while male–owned agencies advertise jobs paying $75 on average. For male wages, panel B shows more of a gap between female–owned and male–owned agencies, with jobs for the former paying $129, or 5% below the average of $135, and jobs for the latter paying $136. Figures 2 and 3 compare wage distributions by agency ownership, with the distribution for female–owned agencies plotted in gray in each panel. It is not obvious from Figure 2 panel A that the average wage for female–owned agencies is higher than for male–owned agencies, since the middle of the distribution is shifted to the right for male–owned agencies. However, the female–owned agency distribution has a thicker tail. The differences suggest that quantile regression could be informative, but unfortunately the quantile regressions we have run do not converge. Figure 2 panel A shows that the wages of advertisements posted for men by male–owned agencies are clearly shifted to the right, except for the right tail, compared to those posted by female–owned agencies.

The ratios of average wages are shown in panel C: compared to the average of 56%, female–owned agencies have a female/male ratio of 58%, better than the male ratio of 55%, but the same as the corporate ratio. Caution should be exercised in interpreting the numbers in this table, as average wages rose 30% in the United States from 1950 to 1960, and the share of advertisements aimed at men as well as the share of advertisements posted by male–owned agencies both rose considerably.

4   Methods

We first analyze whether female–owned agencies (FA_j) are more likely to place advertisements open to women than male–owned agencies (the omitted ownership in the regressions). We estimate the linear probability model

$$Y_{ijt} = \beta_0 + \beta_1 FA_j + \beta_2 CA_j + \beta_3 XA_j + \beta_4 NA_j + \beta_5 X_{ijt} + \beta_6 Z_{jt} + \gamma_t + \delta_c + \epsilon_{ijt}, \quad (1)$$

where $Y = F_{ijt}$ is a dummy for an advertisement open to women, i indexes job advertisements, j indexes employment agencies, γ_t represents two year dummies and one month dummy, and δ_c represents a city dummy. The coefficient β_1 is the coefficient of principal

12

interest, and CA_j is a dummy for a corporate agency, XA_j a dummy for an agency with mixed–gender ownership, and NA_j a dummy for a non–profit or public agency (of which none is included in another ownership category). The Z_{jt} covariates are calculated for each agency and each year, and in this regression include only the log of the number of job advertisements an agency posts (by year) in our full sample of advertisements, a proxy for agency size. Standard errors are always clustered by employment agency.

In this regression and subsequent regressions, we are uncertain how to interpret β_2, the coefficient on the corporate agency dummy (CA): some agencies are founded as corporations and have many shareholders and regional or national franchises, while others transition from sole proprietorship or partnership and are closely held (sometimes with only 100 shares), possibly differing little in organization from sole proprietorships or partnerships.[14] In a future version we shall distinguish corporations by number of shares. If the owners of agencies belonging to at least one man and at least one woman ($XA_j = 1$)all participate in running the agency, we might expect them to behave in a manner intermediate between female–owned and male–owned agencies. There are few advertisements posted by non–profit and public agencies, so we do not always report the associated coefficients.

We have not used weighting in any of our regressions, although some advertisements are for one worker and some for many: in unreported regressions where advertisements for more than one worker are counted as two observations, results are similar. For most of the sample, we observe the founding date of the agency, but its coefficient is always statistically insignificant when included in regressions, so we do not shrink the sample to include it.

We explore identifying effects in equation (1) from changes in ownership status, by controlling for agency dummies ω_j. In most circumstances, this would be a more convincing way of identifying the effect of ownership type, but in our case it is unclear. Presumably the meaning of remaining the same agency, which we define as retaining the same name despite an ownership change, is that the new owners take over the files and contacts of the previous owners and seek to maintain the same connections with jobseekers and firms. A reorientation of an agency is likely to happen only slowly. Furthermore, few agencies change ownership between 1950 and 1960 and most changes are not directly between

---

[14] For instance, Jessie Brinkley testified in a New York court in 1939 that neither the 150 "lady" stockholders of her corporation nor the nine–woman board had any interest in managing the company while she was the president (New York Court of Appeals Records 1939, p.748.) This was, however, an unusual corporate structure in which the shareholders were clients of the agency, which specialized in domestic servants.

female and male ownership. Fourteen sole proprietorships or partnerships incorporate and six corporations become sole proprietorships or partnerships. But only one agency transitions from female to male ownership and only two from male to female ownership, so the effect of transition between male and female ownership is in large part identified from the indirect effects of moves into and out of corporate status. No agency transitions into or out of non–profit/public ownership.

Using the same equation, we estimate wage regressions ($Y = log\ w_{ijt}$) separately for job posts open to women and those aimed at men, to assess whether female–owned agencies post better wages for women than do male–owned agencies, and the reverse for job posts aimed at men. We perform a Gelbach decomposition (Gelbach 2016) for these two sets of regressions: this method estimates a base specification and a specification augmented with more covariates, and calculates the contribution of the additional covariates to changes in the coefficients from the base regression.

In order to examine directly the female–male wage gap by agency ownership, we pool advertisements aimed at men and women, and include a dummy for an advertisement aimed at women (F_{ijt}) and its interactions with the agency ownership dummies. The equation estimated is

$$\begin{aligned} Y_{ijt} =& \phi_0 + \phi_1 FA_j F_{ijt} + \phi_2 CA_j F_{ijt} + \phi_3 XA_j F_{ijt} + \phi_4 NA_j F_{ijt} + \phi_5 F_{ijt} \\ & + \phi_6 FA_j + \phi_7 CA_j + \phi_8 XA_j + \phi_9 X_{ijt} + \phi_{10} Z_{jt} \\ & + \omega_j + \phi_{11} F_{ijt} 1950 + \gamma_t + \delta_c + \nu_{ijt}, \end{aligned} \tag{2}$$

where $Y = log\ w_{ijt}$ and the coefficient of interest is ϕ_1. In the specifications where we include agency fixed effects ω_j, ϕ_1 captures the within–agency gender wage gap. In these specifications, the coefficient on NA_j is no longer identified because the public/non–profit agencies do not change status between 1950 and 1960. The city dummy is still identified as some agencies operate in more than one city. These within regressions can help distinguish among different theories that could explain the results from the earlier regressions.

Based on the same equation, we examine also whether there is less of a gender gap in the posting of jobs in majority–male occupations among female–owned than male–owned agencies ($Y = P(Majority\ male\ occupation)$).

5   Results

5.1   Employment

The results of linear probability regressions in Table 6 show that female–owned agencies are 26.5 percentage points more likely to advertise for a woman (column 1) than male–owned agencies, in a specification with only time and city controls and the interaction of a female advertisement with 1950 (we shall refer to these as basic controls). 5.2 percentage points of this gap are explained by controlling for characteristics of the job advertisement other than occupation, leaving a gap of 21.3 percentage points in column 2 . The gap is reduced a further 4.7 percentage points through the addition of (log) agency size in column 3, and by 8.8 percentage points through the addition of 75 detailed occupation dummies in column 4. This leaves female–owned agencies a statistically significant 7.8 percentage points more likely than male–owned agencies to designate a similar job advertisement as being open to women. Because many job advertisements (59%) contain little information other than the occupation and wage, this remaining gap might be picking up unreported differences in the jobs, however.

In column 5, we identify effects from changes in ownership status, by adding agency dummies to the simple specification of column 1. The point estimate on the female–owned agency dummy is a small and statistically insignificant 1.6 percentage points. The enormous contrast with the 26.5 percentage point coefficient in column 1 suggests to us that identification based on transitions is not useful. It also suggests that the founding ownership status could be what matters most: we will investigate this in a future version, though since we do not have information on pre–1926 ownership, this will necessitate shrinking the sample.

The result that female–owned firms advertise for more women, even within occupation, could mean that they advertise for even more women in mostly female occupations. Table 7 sheds light on whether they instead give female workers qualitatively different opportunities by enabling their applications in majority–male occupations. To facilitate the comparison, we pool advertisements aimed at either gender and focus on the coefficient on the interaction of female–owned agency and female advertisement. The first row in columns 1 and 2 shows that indeed, whether with only basic controls or conditional on advertisement characteristics and agency size, the gender gap in making a job in a majority–male occupation open to women is 9 log points more favorable in female–owned

than male–owned agencies.[15] Although the magnitude of the effect is considerable, it is nevertheless small compared to the coefficient on the female advertisement dummy, which indicates that an advertisement open to women is 57–69 percentage points less likely to be in a majority–male occupation than a majority–female occupation.

The coefficient on the main effect for female–owned agency indicates in both columns that female–owned agencies are a statistically significant 6–7% less likely to advertise majority–male occupations to men than are male–owned agencies. The bottom panel contains calculations based on the regression coefficients, and shows that in the both columns, considering only advertisements for jobs open to women, female–owned agencies are a statistically insignificant 2.8% more likely to advertise a majority–male occupation than are male–owned agencies. Thus, the smaller gender gap for female–owned agencies is driven by a lower probability of finding male–majority jobs for men.

When agency dummies are added in column 3, the coefficient reflects whether within a given agency, the probability of advertising a male occupation is more equal by gender in female–owned than male–owned agencies. Only one third of the advantage of female–owned agencies remains, indicating that the greater opportunities offered to women seen in the first two columns (first row) are predominantly coming from between variation.

5.2   Wages

We pursue the investigation of the quality of jobs posted by female–owned and male–owned agencies by studying wages in detail. First, in Table 8, we estimate wage regressions for women (columns 1–3) and men (columns 4–6) separately, with key coefficients shown in panel A and Gelbach decompositions shown in panel B. Column 1 panel A shows that with only basic covariates, female–owned agencies posted wages 5.7% higher than those posted by male–owned agencies. The R–squared is 0.43, most of which is accounted for by the year dummy: the variance caused by the large wage increase between years is large compared to the small within–year variance of female wages.

Column 2 panel A shows that two thirds of this premium may be explained by the advertisement characteristics, including occupation, and agency size, leaving a 2.2% premium significant at the 10% level. The first row of panel B shows the change in the coefficient of interest between columns 1 and 2 (5.7-2.2=3.6 log points), while the subsequent rows decompose this change into contributions by (groups of) covariates. The

---

[15] The interaction of female advertisement and year 1950 always has a small and statistically insignificant coefficient, so we do not include it among the basic controls.

largest contributor is the occupation dummies, which explain about half the change (1.9 log points, statistically significant). The contributions of other factors are smaller, with the next largest, at 0.5 log point, being the statistically significant contribution of co-variates capturing desired education, experience and age. We have grouped the job tasks (such as using math or languages or performing stenography, typing or management) into three groups, and the collection that raise the wages of both men and women explain a statistically significant 0.3 log point of the female–owned agency premium. The smaller contributions of tasks that lower wages of both men and women, and tasks that raise the wages of women but lower the wages of men are positive but statistically insignificant. Thus, more than three quarters of the female–owned agency wage premium is due to female–owned agencies' posting jobs in higher–paying occupations with higher–paid tasks and better–paying education, age and experience requirements.[16] The size of the agency plays a minor (though positively signed) and statistically insignificant role.

The corresponding columns for male wages (4 and 5) have rather different results. The standard errors on the ownership dummies are large in column 4, and thus the considerably negative point estimate on the female–owned dummy of -5.5% is statistically insignificant. The large standard error may be related to the presence of some very low wages for male–owned agencies in 1950 and the fat right tail for female–owned agencies in 1950 (see Figure 2 panel C).[17] An unreported quantile regression shows that the median female–owned agency wage is a statistically significant 9.5% lower than the median male–owned agency wage.

The addition of the advertisement covariates and agency size to the specification of column 4 lowers the relevant standard errors considerably in column 5, and raises the coefficient on the female–owned dummy to a still statistically insignificant 1.4%. The first row of panel B shows that even this large 6.9 log point change in the point estimate is statistically insignificant, as are all the components of this change. The largest point estimate is associated with occupations (-4.4 log points); in unreported analysis we find that if we replace occupation dummies with the share of the occupation that is male, the contribution is the same, but statistically significant. Agency size also has a relatively large contribution (-1.2 log points), unlike for women, significant at the 10% level. Thus,

---

[16]We do not write "higher" education, age and experience requirements because, for example, advertisements with a maximum age of under 45 have 7% higher wages.

[17]We have manually examined the low male wages and the advertisements in which they appear and can find no errors. Several are for painters at $20 (1950 $), which cannot be an hourly wage though it is very low for a full–time male weekly wage. A few are for boys, including one for a bellhop who might be expected to earn tips.

the role of agency ownership for male wages is not precisely estimated, but female–owned agencies' posting fewer jobs in male–intensive occupations and their small size work to reduce the wages they post relative to male–owned agencies.

In columns 3 and 6 we consider whether the portfolio of an agency's advertisements could affect the wage in an advertisement even conditional on the advertisement's own characteristics. We control for the share of an agency's advertisements that is open to women, and the share of an agency's advertisements that is in a majority–male occupation (these have a correlation of -0.9). The addition of these agency–level covariates does not lead to new insights for women. It scarcely changes the coefficient on the female–owned dummy in the sample of advertisements open to women (column 3 panel A) and has little effect on the contributions of the other covariate groups (panel B) other than to increase the (statistically insignificant) contribution of agency size, and the contributions of the two covariates themselves cancel out.

For men, however, the results are more interesting. The addition of the covariates in column 6 raises the coefficient on the female–owned dummy to 3.3%, statistically significant at the 10% level (panel A), and while the contributions of the other covariates are little changed in panel B (other than a reduction in the contribution of agency size), the contributions of the new covariates do not cancel out. The smaller total number of male occupations in jobs posted by female–owned firms reduces male wages by a statistically significant 6.0%. Since the thought experiment of separately varying the maleness of the occupations and the share of advertisements open to women is not a realistic one, it is more appropriate to think of the net effect of how gendered an agency's portfolio is as being the sum of the two effects, or reducing male wages by 3%. We present the contributions separately only to indicate that while unreported regressions show that either covariate individually reduces male wages, when controlled together the share of majority–male occupations dominates. Thus, female–owned agencies' focus on women and their occupations hinders their ability to obtain jobs for men that pay well by the job's occupation's standards.

We could examine the gender wage gap between the female–owned and male–owned agencies by comparing columns of Table 8, but to show the numbers directly along with their statistical significance we pool women and men and examine the coefficient on the interaction of female–owned agency and female advertisements in Table 9. Column 1 shows that with basic covariates, the gender wage gap is a statistically significant 11.5 log points smaller for female–owned than male–owned agencies, and that that for male–owned agencies the gender wage gap is an enormous 44 log points. The addition of advertisement

characteristics and agency size as covariates in columns 2 and 3 shows that they explain almost all of the 11.5 log point gap between female–owned and male–owned agencies, with occupation dummies having a particularly large effect. Unreported regressions show that controlling for the agency's share of female and majority–male occupation advertisements has little effect, which is unsurprising since the very different coefficients in samples of female versus male advertisements which we are constraining to be the same. Allowing for the two covariates' interaction with the female advertisement dummy changes the coefficient of interest to a 2.2 log point female disadvantage at female–owned agencies, consistent with the coefficients in the previous table, but not statistically significant.

5.3   Within–agency gender wage gaps

In Table 9, we have not probed to see whether the gender wage gaps by ownership are the same within–agency as they are overall. We now turn to within–agency gender wage gaps, returning initially to Table 5. In panel D, we calculate ratio of average female to average male wages, as in panel C but for a sample restricted to advertisements posted by agencies posting both jobs aimed at women and jobs aimed at men, an adjustment we make in order to better compare with the average (calculated at the advertisement level) within-agency wage ratios. These ratios are slightly higher than in panel C, but female–owned agencies retain a clearly higher ratio. Panel E displays the average of the agency female–male wage ratios, showing that the within female–owned agency ratio is little higher than the within male–owned agency ratio (78% versus 77%), and that both are higher than the ratios for other ownership types.

This table conceals considerable differences between 1950 and 1960. The distributions of within–agency wage ratios are plotted separately for 1950 and 1960 in panels A and B. The 1960 distributions are virtually identical for female–owned (in gray) and male–owned agencies. However, in 1950, female–owned agencies have a much greater variance of ratios, with a thicker right tail as well as some very small values not present for male–owned agencies.[18] The lower panels C and D show that when the gender wage gap is calculated as the log wage differential rather than the wage ratio, the thick right tail of female–owned agencies is downweighted, while the influence of advertisements within very unequal female–owned agencies is accentuated. Thus, in 1950 female–owned agencies appear more equal than male–owned agencies as measured by the gender wage ratio, but

---

[18]As one example, the female–owned New York Medical Exchange advertises for many female secretaries in addition to female nurses, technicians and scientists, while its male postings consist of two doctors and an engineer, yielding a female/male wage ratio of 0.29.

less equal as measured by the log gender wage gap.

We report the results of regression analysis, based on pooled 1950 and 1960 log wages, in Table 10. In the first two columns, we restrict the sample to agencies advertising both jobs open to women and jobs for men only and repeat the specifications of the Table 9's columns 1 and 4 and showing the results are similar. In the remaining columns, we control for agency dummies to examine within–agency differences. Column 3 shows that adding agency dummies to the basic covariates flips the sign of the key coefficient from 9.1 log points in column 1 to a statistically insignificant -3.3 log points. Adding further covariates in columns 4 and 5 makes the coefficient slightly more negative and statistically significant, indicating a larger within–agency female disadvantage for female–owned agencies of approximately 6 log points (compared to male–owned agencies). This indicates that the female wage premium among female–owned agencies of Table 9 column 1 is coming from between and not within specification.

6   Conclusion

Our study of help–wanted advertisements in the United States in the 1950s suggest that female–owned employment agencies help women find better jobs than do male–owned employment agencies. Female–owned agencies are much more likely to advertise for women (by 27 percentage points), but do principally by specializing in female–dominated occupations rather than by advertising for women in male–dominated occupations. However, the occupations they specialize in are better paid than the occupations advertised to women by male–owned agencies, resulting in jobs for women posted by female–owned agencies paying 7% more. Conditional on all job advertisement information, the advantage is a statistically insignificant 2%. These results suggest that female–owned employment agencies do help women find better jobs. Conversely, female–owned agencies find worse jobs for men than do male–owned agencies.

The results may be explained by some combination of discrimination against female jobseekers by male–owned employment agencies; discrimination against male jobseekers by female–owned employment agencies; higher productivity of female workers at firms inclined to use female–owned agencies; and comparative and absolute advantage of female–owned agencies in female–dominated occupations, possibly due in part to discrimination by firms against female–owned agencies.

References

Ayres, Ian and Peter Siegelman. 1995. "Race and Gender Discrimination in Bargaining for a New Car". *American Economic Review*, 85(3): 304–321.

Becker, Gary S. 1957. *The Economics of Discrimination*. Chicago: University of Chicago Press.

Bergmann, Barbara R. 1971. "The Effect on White Incomes of Discrimination in Employment". *Journal of Political Economy*, 79(2): 294–313.

Black, Sandra E. and Philip Strahan. 2001. "The Division of Spoils: Rent Sharing and Discrimination in a Regulated Industry". *American Economic Review*, 91(4): 814–831.

Blau, Francine D. 1977. *Equal Pay in the Office*, Lexington: Mass, Lexington Books.

Blau, Francine D. and Lawrence M. Kahn. 2003. "Understanding International Differences in the Gender Pay Gap". *Journal of Labor Economics*, 21(1): 106–144.

"Career in Personnel Field". *Pittsburgh Sun–Telegraph* November 3, 1949.

Edelman, Benjamin, Miachael Luca and Dan Svirsky. 2017. "Racial Discrimination in the Share Economy: Evidence from a Field Experiment". *American Economic Journal: Applied Economics*, 9(2): 1–22.

"Employment Outlook Bright, Says Maude Lennox, Personnel Consultant". *Christian Science Monitor*, November 6, 1940.

Gelbach, Jonah. "When Do Covariates Matter? And Which Ones, and How Much?" 2016. *Journal of Labor Economics*, 34(2): 509-543.

Goldin, Claudia and Lawrence F. Katz. 2008. "Transitions: Career and Family Life Cycles of the Educational Elite". *American Economic Review: Papers & Proceedings*, 98 (2): 363–369.

"Job Agencies Seek More Executives". *New York Times* October 9, 1949.

"Job Agencies Sue on Anti–Bias Rules". *New York Times* June 2, 1950.

"Jobs Women Can't Have". *Arizona Republic*, September 1, 1968.

Martinez, Tomás. 1976. *The Human Marketplace: An Examination of Private Employment Agenices*. London: Routledge.

New York Court of Appeals Records. 1939. "Acorn Employment Service, Inc., et al. against Paul Moss, as Commissioner of Licenses of the City of New York."

New York Court of Appeals Records. 1942. "Donald G. Wilman and Maude Lennox against Frieda S. Miller, Industrial Commissioner of the State of New York".

"Older Woman Seeking Job Often Fails to Make Full use of What's Available". *New York Times* 15 October 1955.

Pedriana, Nicholas and Amanda Abraham. 2006. "Now You See Them, Now You Don't: The Legal Field and Desegregation of Sex–Segregated Help–Wanted Ads 1965–1975". *Law and Social Inquiry*, 31(4): 905–938.

Rees, Albert. 1966. "Information Networks in Labor Markets". *American Economic Review*, 56(1/2): 559–566.

"Secretaries Worth Weight in Coffee Now". *Louisville Courrier–Journal* February 18, 1954.

"The Toughest Selling Job". *New York Herald Tribune* October 14, 1962.

Wald, Eli. 2008. "The Rise and Fall of the WASP and Jewish Law Firms". *Stanford Law Review*, 60(6): 1803–1866.

"Ways to Find an Executive Job. How executives themselves do it, how companies look for top men, how various agencies can help". 1958. *The Kiplinger Magazine*, 12 (12): 34–36.

"Women Reported Staying on Jobs". *New York Times* 4 February 1951.

"$75,000 Ghost Cheque Haunts Zink No More; Couple Settle Dispute". *Philadelphia Inquirer* May 17, 1956.

7 Data Appendix

7.1 Wages

Wages are converted to weekly wages assuming 40 hours per week, 4.33 weeks per month and 50 weeks per year (most part–time jobs specify hourly wages, while for some that do not we coded the part–time status in the advertisement). Most wages are given without any frequency. It is generally clear if the wage is hourly or annual, but there is overlap between weekly and monthly wages for advertisements in which the frequency is given. Reasonable cutoffs are made based on examination of separate distributions for New York and Washington/Baltimore for 1950 and 1960 by major occupation. We manually inspected weekly wages in the tails of the distribution, including checking the original advertisements, and corrected the frequency if appropriate, or, more rarely, the raw wage itself. If the advertisement provides and upper and a lower bound for the wage, the log of the average of the two is used.

7.2 Occupations

The occupation of an advertisement was coded by first choosing one of eight aggregate occupations (or the ninth option: not described), and then either one of the 239 specified detailed occupations, writing in another occupation, or indicating that the detailed occupation was not described. The detailed categories were mostly based on the standard occupational categories of the time, but also included some categories seen often in the data e.g. secretaries could be executive, legal, medical, advertising or other.

Considerable cleaning of the raw data is required. Often an advertisement names two or more detailed occupations for the same job. We define two common pairs of occupations as separate occupations: clerk–typist and secretary–stenographer. Some other combinations were coded as the principal or first–mentioned occupation (e.g. mechanic–machinist as machinist), with the second occupation sometimes reflected in another field e.g. bookkeeper–stenographer coded as a bookkeeper whose required skills include stenography. In other cases, more than one detailed occupation was recorded. We make the occupations mutually exclusive by choosing the occupation with the highest wage (as measured using occupation categories that are not mutually exclusive).

7.3 Sample

The sample used is advertisements posted by (named) employment agencies which have a valid wage. Some advertisements do not specify an occupation, and a few are too unclear to be coded, but these advertisements are not dropped: rather, a dummy for unknown occupation is used when occupation is controlled for. There are no missings for other advertisement characteristics either. This is to some degree necessitated by the fact that a research assistant who coded a large share of the advertisements left blank the education, experience and age fields if they were not mentioned, rather than coding that they were not mentioned. Blank fields for characteristics are therefore coded as not having been

mentioned rather than as missing. Advertisements with no agency or company name were coded as being (non–agency) firms with no name given.

Figure 1: Kernel density distributions of wages in advertisements by gender and year
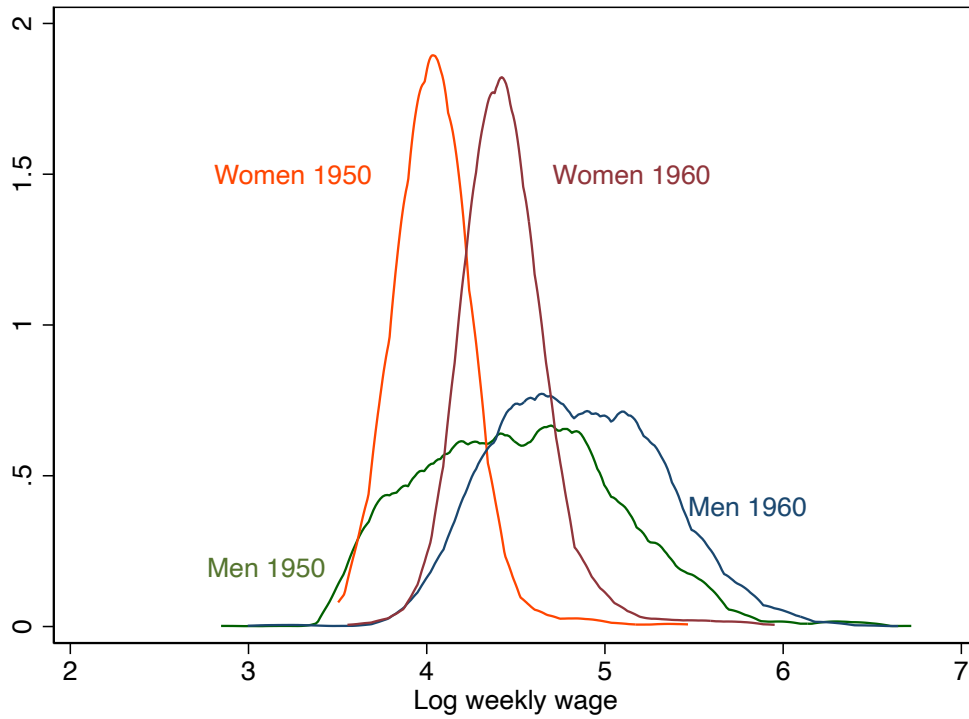
Notes: Wages are in 1960 dollars, and for the purposes of the figure only, log wages of 7 or more are omitted. "Female" advertisements are those open to applications from women, while "male" advertisements are those aimed at men only. The bandwidth is 0.1, the kernel is Epanechnikov.

Figure 2: Distributions of log wages for female–owned and male–owned agencies
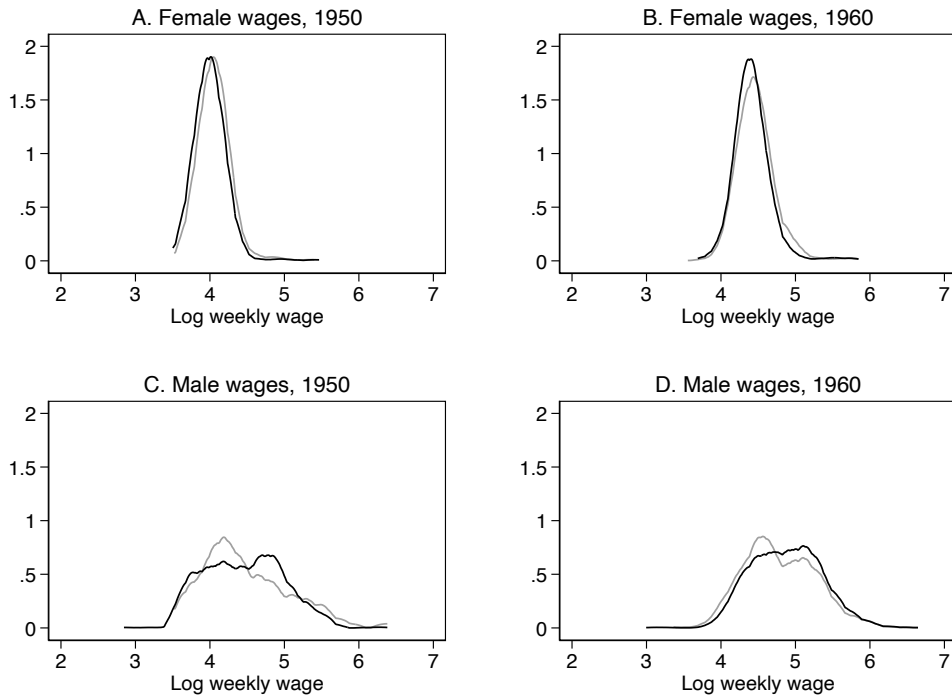
Notes: Each figure plots in gray the distribution for female–owned agencies, and in black the distribution for male–owned agencies. Wages are in 1960 dollars. "Female" wages are posted in advertisements open to applications from women, while "male" wages are from advertisements aimed at men only. The bandwidth is 0.1, the kernel is Epanechnikov.

Figure 3: Distributions of within–agency gender wage gap by agency ownership
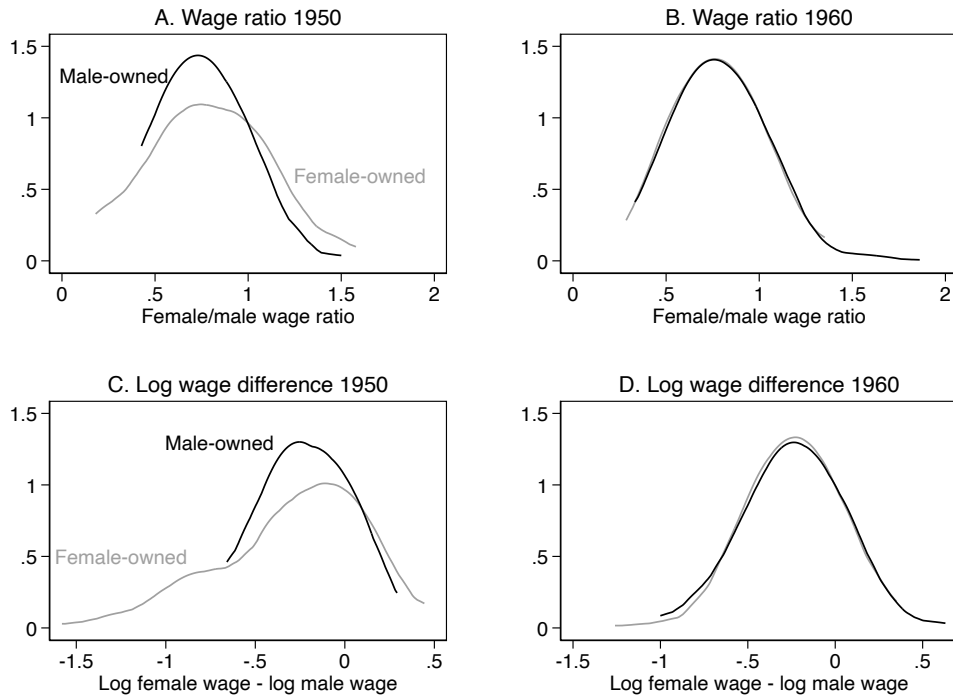
Notes: Gender wage gaps are calculated within agency in each year. The distributions are of advertisements and their associated wages. Distributions for female–owned agencies are in gray, for male–owned agencies in black. The bandwidth is 0.2, the kernel is Epanechnikov.

Table 1: Help-Wanted Advertisements by City and Date

City	Year	Month	Day	Advertisements (1)	Share (%) (2)	Agency? (%) (3)	In ownership sample if agency? (%) (4)
Washington	1950	January	8	356	1.5	65.7	33.8
		May	7	342	1.4	64.9	41.9
	1960	January	3	937	3.8	41.6	42.3
		May	1	1214	4.9	41.2	51.8
		December	4	953	3.9	48.4	48.4
New York	1950	May	7	6000	24.4	82.5	75.9
	1960	May	1	14,824	60.2	76.8	82.6
All	--	--	--	24,626	100.0	73.7	77.1

Notes: All dates are Sundays. Washington data are from the Washington Post; New York data are from the New York Times. The ownership sample contains advertisements for which a wage is posted by an agency whose ownership may be classified; this is the sample used for the paper's analysis. Ownership status was collected only for agencies posting at least 2 advertisements; collection is incomplete for Washington D.C.

Table 2: Distribution of aggregate occupations across samples

	All advertisements		Agency advertisements		Ownership sample ads		
	%	Obs	%	Obs	%	Obs	Wage
Occupation	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Clerical	42.5	10,476	45.2	8204	46.9	6554	74
Craftsmen	3.5	870	2.4	429	2.1	301	105
Household/domestic	0.9	232	0.5	98	--	--	--
Managers/officials	4.6	1142	4.7	860	4.6	641	138
Operatives/laborers	1.3	307	0.8	152	--	--	-
Professional/technical	28.5	7031	29.5	5349	29.6	4135	153
Sales	13.9	3414	13.3	2414	13.4	1878	143
Services	2.7	660	1.8	323	1.6	221	87
Not described	2.0	494	1.7	317	1.8	256	87
Total	100.0	24,626	100.0	18,146	100.0	13,986	13,986

Note: The ownership sample contains advertisements for which a wage is posted by an agency whose ownership may be classified; this is the sample used for the paper's analysis. The wage in column 7 is the mean weekly wage in 1960 $.

Table 3: Descriptive statistics for outcomes by agency type

Agency ownership:	All	Female	Male	Corporate	Mixed gender	Non-profit
	(1)	(2)	(3)	(4)	(5)	(6)
Share of sample (%)	100	20.3	37.4	36.0	5.3	0.9
Female advertisement (%)	42.1	62.6	32.8	37.1	54.1	75.2
Majority-male occupation (%)	55.4	39.5	62.7	59.4	43.6	37.6
Weekly wage (1960 $)	110	96	116	115	103	89
	(67)	(59)	(69)	(67)	(70)	(62)
Number of advertisements	128	52	131	179	77	52
	(126)	(34)	(117)	(149)	(66)	(12)
Observations	13,986	2931	5224	4950	740	141

Notes: Means with standard deviations in parentheses, unless otherwise indicated. The agency groups vary by the type of ownership. Non-corporate, for-profit agencies are sole proprietorships (sometimes with two proprietors) or partnerships. Two of the three non-profit agencies are public, while the third is a corporation. Where agencies have both male and female proprietors, there are generally two proprietors sharing a surname.

Table 4: Aggregate occupation distribution by gender and type of agency (%)

Agency ownership	Female worker sought				Male worker sought			
	Female	Male	Corp-orate	Mixed gender	Female	Male	Corp-orate	Mixed gender
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Clerical	81.7	82.4	85.1	83.3	27.1	18.8	19.9	26.2
Craftsmen	0.3	0.5	0.1	0.3	2.2	4.4	3.0	0.6
Managers/officials	1.5	0.8	1.9	1.0	8.4	6.1	7.4	5.3
Professional/technical	12.0	10.9	7.5	13.0	37.3	46.6	41.1	50.0
Sales	2.7	2.7	2.8	1.3	20.1	19.6	24.5	15.3
Services	0.6	1.2	1.1	0.5	2.7	2.1	2.0	0.6
Not described	1.1	1.5	1.6	0.7	2.2	2.3	2.1	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Observations	1836	1714	1939	400	1086	3510	3111	340

Notes: The agency groups vary by the type of ownership. Non-corporate, for-profit agencies are sole proprietorships (sometimes with two proprietors) or partnerships. Two of the three non-profit agencies are public, while the third is a corporation. Where agencies have both male and female proprietors, there are generally two proprietors sharing a surname.

Table 5: Comparison of female and male wages by agency type

Agency ownership:	All	Female	Male	Corporate	Mixed gender	Non-profit
	(1)	(2)	(3)	(4)	(5)	(6)
A. Weekly female wage (1960$)	76	76	75	79	73	72
	(28)	(30)	(29)	(25)	(23)	(34)
Observations	5895	1836	1714	1839	400	106
B. Weekly male wage (1960$)	135	129	136	136	139	140
	(76)	(78)	(74)	(75)	(87)	(93)
Observations	8091	1095	3510	3111	340	35
C. Ratio of mean female and male wages (%)	56.4	58.4	54.9	58.4	52.8	51.5
D. Ratio of mean female and male wages in agencies with both (%)	58.6	62.3	57.0	59.1	55.0	64.8
E. Mean agency female-male wage ratios (%)	73.4	78.0	77.1	67.6	71.2	66.7
Observations	11,601	2390	4199	4268	661	83

Notes: Means with standard deviations in parentheses, unless otherwise indicated. Observations in the sample for mean of agency female-male wage ratios has missing values for agencies which advertised for only one gender in a given year. The agency groups vary by the type of ownership. Non-corporate, for-profit agencies are sole proprietorships (sometimes with two proprietors) or partnerships. Where agencies have both male and female proprietors, there are generally two proprietors sharing a surname.

Table 6: Determinants of advertising position open to women

	(1)	(2)	(3)	(4)	(5)
Female-owned agency	0.265***	0.213***	0.166***	0.078***	0.016
	(0.046)	(0.037)	(0.035)	(0.021)	(0.105)
Corporate agency	0.053	0.033	0.048	0.012	0.032
	(0.049)	(0.038)	(0.037)	(0.018)	(0.045)
Mixed gender agency	0.174**	0.135**	0.113*	0.050	0.218**
	(0.079)	(0.065)	(0.063)	(0.040)	(0.076)
Advertisement covariates	--	Yes	Yes	Yes	--
Agency size	--	--	Yes	Yes	--
Detailed occupation dummies	--	--	--	Yes	--
Agency dummies	--	--	--	--	Yes
R-squared	0.09	0.29	0.30	0.59	0.40

Notes: 13,986 observations. Linear probability for the probability of a position being open to women; standard errors clustered by agency in parentheses. All regressions include a dummy for non-profit agency, a city dummy, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section. Detailed occupation controls are 75 mutually exclusive dummies.

Table 7: Determinants of advertising a position in a majority-male occupation

	(1)	(2)	(3)
Female-owned agency, female advertisement	0.095** (0.036)	0.088*** (0.029)	0.034 (0.029)
Corporate agency, female advertisement	-0.013 (0.028)	0.005 (0.026)	-0.066** (0.024)
Mixed gender agency, female advertisement	0.046 (0.060)	0.036 (0.049)	-0.035 (0.062)
Female advertisement	-0.686*** (0.024)	-0.567*** (0.021)	-0.468*** (0.019)
Female-owned agency	-0.067** (0.034)	-0.059** (0.024)	-0.032 (0.041)
Corporate agency	-0.002 (0.024)	-0.016 (0.019)	0.019 (0.024)
Mixed gender agency	-0.043 (0.059)	-0.037 (0.047)	0.008 (0.058)
Advertisement covariates	--	Yes	Yes
Agency size (log ads)	--	Yes	--
Agency dummies	--	--	Yes
R-squared	0.48	0.56	0.61
Female agency-male agency probability difference for female ads	0.028 (0.027)	0.028 (0.023)	0.001 (0.041)
Corporate agency-male agency probability difference for female ads	-0.015 (0.026)	-0.010 (0.025)	-0.047* (0.027)
Female agency-corporate agency probability difference for female ads	0.043* (0.026)	0.038 (0.024)	0.049 (0.033)

Notes: 13,986 observations. Linear probability for the advertisement being for a majority-male occupation; standard errors clustered by agency in parentheses. A majority-male occupation has more than 50% male workers, with the share calculated separately for 1950 and 1960, using 76 occupations defined to be mutually exclusive. All regressions include one city dummy, a year dummy, two month dummies, the interaction of the year 1950 and the female advertisements dummies, and a dummy for a public/non-profit agency (except in column 3). The 36 non-occupation covariates are listed in the data section. There are 75 dummies for detailed occupation.

Table 8: Determinants of female and male wages with Gelbach decomposition

	Female advertisements			Male advertisements		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Regression results						
Female-owned agency	0.057**	0.022*	0.021*	-0.055	0.014	0.033*
	(0.021)	(0.012)	(0.011)	(0.064)	(0.021)	(0.019)
Corporate agency	0.027	0.009	0.007	0.000	-0.008	0.002
	(0.019)	(0.011)	(0.010)	(0.053)	(0.018)	(0.017)
Mixed gender agency	0.043	0.032*	0.035*	-0.011	0.024	0.046
	(0.030)	(0.021)	(0.018)	(0.106)	(0.049)	(0.042)
R-squared	0.43	0.69	0.70	0.07	0.61	0.62
Observations	5895	5895	5895	8091	8091	8091
Ad covariates, agency size	--	Yes	Yes	--	Yes	Yes
Other agency covariates	--	--	Yes	--	--	Yes
B. Gelbach decomposition of change coefficient on female agency						
$\Delta\beta$ compared to base	--	0.036**	0.037**	--	-0.069	-0.087
		(0.013)	(0.015)		(0.052)	(0.058)
Education, experience, age	--	0.005**	0.004**	--	-0.003	-0.002
		(0.002)	(0.002)		(0.006)	(0.005)
Ad characteristics other than tasks, occupation	--	0.004	0.004*	--	-0.007	-0.007
		(0.003)	(0.003)		(0.012)	(0.012)
Tasks raising wage	--	0.003**	0.003**	--	0.002	0.002
		(0.001)	(0.001)		(0.007)	(0.007)
Tasks lowering wage	--	0.001	0.001	--	-0.005	-0.004
		(0.001)	(0.001)		(0.003)	(0.003)
Tasks raising female, lowering male wage	--	0.002	0.002	--	-0.001*	-0.001*
		(0.001)	(0.001)		(0.001)	(0.001)
Detailed occupations	--	0.019**	0.018*	--	-0.044	-0.038
		(0.011)	(0.009)		(0.037)	(0.033)
Agency size (log)	--	0.002	0.005	--	-0.012*	-0.008
		(0.003)	(0.004)		(0.007)	(0.006)
Female share of agency's ads	--	--	0.010	--	--	0.029**
			(0.006)			(0.012)
Male occupation share of agency's ads	--	--	-0.011**	--	--	-0.060**
			(0.005)			(0.020)

Notes: Ordinary least squares in panel A. All regressions include a dummy for non-profit agency, a city dummy, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section. Detailed occupation controls are in principle 75 mutually exclusive dummies, but a few are advertised only to women and a few only to men. Standard errors clustered by agency in parentheses; and by occupation in square brackets. The female advertisement base regression is in column 1, the male in column 4. The first row in panel B gives the difference between the coefficient on female-owned agency in the column's specification compared to the base specification. Subsequent panel B values are the components of this change.

Table 9: Determinants of pooled log weekly wages

	(1)	(2)	(3)	(4)
Female-owned agency, female advertisement	0.115[**] (0.058)	0.071 (0.043)	0.005 (0.023)	-0.022 (0.019)
Corporate agency, female advertisement	0.028 (0.048)	0.025 (0.036)	0.001 (0.019)	-0.012 (0.019)
Mixed gender agency, female advertisement	0.061 (0.114)	0.031 (0.085)	0.011 (0.056)	-0.026 (0.044)
Female advertisement	-0.439[***] (0.043)	-0.323[***] (0.030)	-0.135[***] (0.016)	0.191[*] (0.057)
Non-occupation ad covariates	--	Yes	Yes	Yes
Agency size	--	Yes	Yes	Yes
Detailed occupation dummies	--	--	Yes	Yes
Female share, male occupation share of agency's ads, and interactions with female ad	--	--	--	Yes
R-squared	0.36	0.53	0.70	0.66

Notes: 13,986 observations. Ordinary least squares; standard errors clustered by agency in parentheses. All regressions include main-effect dummies for agency type including public/non-profit agency, a city dummy, a year dummy and two month dummies, a dummy for the interaction of public/non-profit agency with female advertisement, and a dummy for the interaction of year and female advertisement. The 36 non-occupation covariates are listed in the data section. Detailed occupation controls are 75 mutually exclusive dummies.

Table 10: Determinants of pooled log weekly wages: restricted sample, agency dummies

	(1)	(2)	(3)	(4)	(5)
Female-owned agency, female advertisement	0.091 (0.061)	-0.023 (0.022)	-0.033 (0.050)	-0.054** (0.025)	-0.059** (0.023)
Corporate agency, female advertisement	-0.021 (0.055)	-0.020 (0.020)	-0.141** (0.044)	-0.063** (0.023)	-0.057** (0.021)
Mixed gender agency, female advertisement	0.006 (0.113)	-0.032 (0.045)	-0.071 (0.096)	-0.019 (0.041)	-0.023 (0.036)
Female advertisement	-0.396*** (0.050)	-0.183** (0.063)	-0.223*** (0.037)	-0.085*** (0.018)	0.060 (0.049)
Non-occupation ad covariates	--	Yes	--	Yes	Yes
Agency size	--	Yes	--	--	--
Detailed occupation dummies	--	Yes	--	Yes	Yes
Female share, male occupation share of agency's ads	--	Yes	--	--	--
Female share, male occupation share of agency's ads x female ad	--	Yes	--	--	Yes
Agency dummies	--	--	Yes	Yes	Yes
Only ads from agencies with both male and female ads	Yes	Yes	--	--	--
R-squared	0.34	0.70	0.53	0.74	0.74
Observations		11,601		13,986	

Notes: Ordinary least squares; standard errors clustered by agency in parentheses. All regressions include main-effect dummies for agency type (in columns 1 and 2 including public/non-profit agency), a city dummy, a year dummy and two month dummies, a dummy for a the interaction of public/non-profit agency with female advertisement. Columns 3-5 include 349 agency dummies. The 36 non-occupation covariates are listed in the data section. Detailed occupation controls are 75 mutually exclusive dummies.