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DO FEMALE–OWNED EMPLOYMENT AGENCIES MITIGATE DISCRIMINATION AND EXPAND OPPORTUNITY FOR WOMEN?

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ABSTRACT

We create a dataset of 14,000 help–wanted advertisements placed by U.S. employment agencies in 1950 and 1960, when help–wanted advertisements specified gender, and collect information on agency ownership. Female–owned agencies specialized in vacancies for women, expanding access of female job–seekers to agency services. They also advertised more skilled occupations to women than did male–owned agencies, leading to 5% higher wages for women. But they advertised more clerical jobs to men, contributing to 17% lower male wages. However, the gender wage gap within agency was the same for female-and male–owned agencies, suggesting no mitigation of discrimination.

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In the twenty years following the Second World War, many private employment agencies in the United States were owned by women, and the number grew as the overall market for placement services grew. At this time, it was both legal and standard to specify the desired gender of the job applicant. In such an environment, the study of help–wanted advertisements is an appealing way to study discrimination against female jobseekers, and a number of papers has done so with recent data from outside the United States. One important finding is that prohibiting gender requirements in advertisements leads to more gender integration in hiring.[1]

We add a new dimension to this literature by examining help–wanted advertisements posted by U.S. employment agencies in 1950 and 1960 and assessing whether female–owned agencies mitigated discrimination and increased opportunity for female jobseekers. The importance of the process by which women and men are matched to jobs lies both in equity concerns and in the influence on productivity of worker–employer matches. Intermediaries such as private employment agencies have the potential to improve the quality and speed of matches. Through their experience with large numbers of jobseekers, vacancies and employers, they learn about market conditions, jobseekers available for a particular vacancy, vacancies available for a particular jobseeker, and hence potential matches and their associated wages.[2] The rise of online job boards was supposed to have heralded the demise of intermediaries. However, private employment agencies continue to operate, and recruitment services and intermediaries have emerged within online job boards (Davis and de la Parra 2024). Yet there is little research on private intermediaries, with the exception of private subcontractors for public placement services, and none on the gender of intermediary proprietors.[3]

Historical evidence suggests that female owners of employment agencies might mitigate

[1] Card, Colella and Lalive (forthcoming) show this for post–2005 Austria, Kuhn and Shen (2021) for China when an online job board removed gender from advertisements. Kuhn and Shen (2012) find that Chinese employers specify gender based on customer discrimination and social perceptions. See also Del Carpio and Fujiwara (2023), Hellester, Kuhn and Shen (2020) and Kuhn Shen and Zhang (2020). Severson (1939) examined the incidence of discrimination against Jews and Catholics in help–wanted advertisements in the *Chicago Tribune* from 1872-1937, noting that discrimination was much higher among female advertisements.

[2] See Davis and de la Parra (2024) and articles cited there.

[3] Stanton and Thomas (2016) find that intermediaries on a spot contract online platform raise job–finding rates and wages of inexperienced, high–quality workers. Studies of the effect of public employment agencies and unemployment durations are numerous and include Gregg and Wadsworth (1996) for the United Kingdom. Behaghel et al. (2013), Carcagno, Cecil and Ohls (1982) and Georges (2007) examine subcontracting of public services for the unemployed and Kuhn and Skuterud (2004, 2014) investigate online job search, albeit without considering intermediaries. Clark (1981) estimates a cost function with 1976 data for a private employment franchise. We cite an older literature on U.S. private employment agencies in the next section.

discrimination against women. Minorities commonly escape discrimination by setting up their own firm either to employ members of their minority (including themselves) or to serve customers from their minority.[4] However, this phenomenon has been little studied in the context of gender: we are aware only of the contemporary Finnish study by Kritikos et al. (2024), who find that the gender wage gap is 2–3 percentage points (17–25%) lower in female–owned firms, and of the 1850–1880 American study by Gozen et al. (2025), who record that female–owned manufacturing establishments hired more women than male–owned establishments and paid them better.[5] By examining employment agencies, we expand the scope of inquiry to a case where the workers are customers rather than employees. We also examine a more recent and more white–collar setting than that of Gozen et al. (2025) and one with more overt discrimination and a larger gender wage gap than the relatively egalitarian setting of Kritikos et al. (2024). Our study is of contemporary interest for the United States and other countries, given the persistent gender wage gap in which discrimination likely plays a role, and the fact that 23% of U.S. employer firms are owned by women compared to 62% by men.[6] The advantage of a historical study is that gender discrimination is in plain sight, in the form of gendered help–wanted advertisements.

Any mitigation of discrimination by the owner of an employment agency is more nuanced than for a firm owner hiring directly. In the presence of employment agencies, any hiring discrimination the ultimate employer wishes to practice is mediated by the interactions between employer and agency and between agency and jobseeker. Female–owned agencies might mitigate discrimination against female jobseekers simply by providing more placement services to female jobseekers, which should at a minimum reduce search time, or by providing them with better placement services, which could increase their job quality. The gender of an employment agency's owner need not influence matching quality and quantity through the owner's discrimination mitigation alone. Employers' and jobseekers' choice of agency would be influenced by agencies' comparative advantage in identifying suitable jobseekers for referral and could also be affected by employers' and jobseekers' prejudice or preferences concerning the gender of the agency proprietor.

To conduct our study, we have hand coded 25,000 help–wanted advertisements from

[4] For example, Wald (2008) describes the emergence of Jewish law firms in New York City in response to anti–semitism, while Halperin (2012) describes the founding of Jewish hospitals in the United States.

[5] A different literature studies the effect of female managers on female subordinates e.g. Hensvik (2014) for Sweden, Cardoso and Winter–Ebmer (2010) for Portugal and Hunt and von Restorff (2004) for Germany.

[6] 2022 statistics from https://www.census.gov/quickfacts/fact/table/US/PST045224, accessed June 3, 2025.

the *New York Times*, the *Washington Post* and the *Baltimore Sun* in 1950 and 1960, and we concentrate on the 14,000 advertisements posted by 366 employment agencies. We have also collected the ownership type of each agency, and the owners' names for sole proprietorships and partnerships. Female ownership was relatively common: 21% of our advertisements were posted by female–owned agencies representing 31% of agency–year pairs (some agencies change ownership), while 38% of advertisements were posted by male–owned agencies representing 37% of agency–year pairs. The remaining agencies were predominantly corporations. These agencies sought permanent placements for workers, with only a few specializing in temporary jobs. The agencies operated in the national context of rapidly rising real wages, stable unemployment (5.2% in 1950 and 5.5% in 1960) and a stable female labor force participation (33.8% in 1950 and 37.8% in 1960).[7]

We find that female–owned agencies offered women opportunities they would not otherwise have had, but did not practice discrimination mitigation. They provided new opportunities principally by expanding women's access to agencies' placement services in all occupation categories. Female–owned agencies specialized in vacancies for women (61% of their advertisements compared to 32% for male–owned agencies), consistent with Gozen et al. (2025). Had they not existed, all else equal 31% of women who found their job through an agency would have had to search without the help of agency services. If the agencies had instead been owned by men and remained the same size, the fraction of agency advertisements for females would have decreased by (.21)(.61-.32)=6 percentage points. Since 42% of the agency posted jobs were for females, this loss implies that (.06)/(.42)=14% of female jobseekers using agency services would have lost access.

In addition to expanding the quantity of matching services for women, female–owned agencies also advertised jobs with a median or mean wage premium of 5% over those advertised by male–owned agencies. A more lucrative mix of detailed occupations explains about one third of the premium, while smaller contributing factors are higher job requirements and a lower share of trainees. The more lucrative occupations were not ones with a higher share of male workers, however.

Most female–owned agencies also posted advertisements aimed at male jobseekers. The median wage for these advertisements was 17% lower than the median wage for advertisements for male jobseekers posted by male–owned agencies. Most of this differential (87%) can be explained by the higher share of male advertisements posted by female–

[7] Statistics for ages 16 and older. See https://fred.stlouisfed.org/series/LNS11300002 for the labor force participation rate and https://fred.stlouisfed.org/series/UNRATE for the unemployment rate, accessed February 13, 2024.

owned agencies for clerical occupations and the smaller shares for professional, technical and managerial occupations. The mix of detailed occupations and other (non–wage) advertisement characteristics explain the rest of the gap. Female–owned agencies advertised jobs for men with an eight percentage point higher share of female workers. Among clerical job advertisements, there was no female–owned agency wage disadvantage.

Our findings do not align with the predictions of standard discrimination theory. Becker (1957)'s theory of discrimination allows for (negative) prejudice causing the underestimation of certain groups' productivity, but not for (positive) prejudice causing the overestimation of productivity. If other firms underestimate women, employers who accurately assess women will hire women only, but at the discriminatory wage, to maximize profits. This might appear to be discrimination mitigation if only employment is considered, but not if wages are also considered. In our setting, the theory might imply that female–owned agencies would have advertised for women in more skilled occupations than other agencies but at the wage of the less–skilled occupations. While we observe female proprietors advertising more female vacancies and female vacancies in more lucrative occupations, we do not observe them advertising lower wages conditional on occupation.[8]

To test other theories regarding the mechanisms underlying our results, we turn to qualitative data as well as to regressions decomposing wage gaps into within and between agency by ownership type. Our qualitative research suggests that women took advantage of low barriers to entry to avoid discrimination and/or realize their business ownership dream by setting up their own employment agency. Aiding female jobseekers appears to have been an uncommon motivation, and discrimination mitigation for other women therefore probably not the main reason for the specialization in placing women. The specialization seems more likely to have originated in task segregation among employees of employment agencies and personnel departments of large firms. Founders of employment agencies had commonly been such employees, and took their contacts (and skills) with them to form the basis of the new business. Since female employees handled women's jobs and male employees handled men's jobs, female and male founders started with very different sets of contacts with employers. Upon becoming a proprietor, women would have had to work hard themselves, or hire a male employee, to build up contacts for male jobs, while new male proprietors would have to work to expand the female job contacts. This

[8] Black and Strahan (2001) show empirically that competition influences discrimination. The empirical discrimination literature has not always found Black people and women to discriminate less against Black people and women respectively. See Ayres and Siegelman (1995) for car salespeople and Edelman, Luca and Svirsky (2017) for Airbnb hosts. Not all hiring discrimination disfavors women: Neumark, Bank and Van Nort (1996) finds men are disfavored for low–wage jobs.

mechanism for specialization could be viewed as based either on discrimination causing different initial conditions, or on comparative advantage given initial conditions.

We have quantitative evidence consistent with a second possibility, that the female–owner specialization in women was an equilibrium due to female jobseekers being attracted to female–owned agencies because they were taken more seriously, treated with more respect and avoided the "immoral purposes" for which the New York Commissioner of Licenses feared sofas could be "used with some girl applicant" if not banned from employment agencies.[9] In this case, client firms would have known to direct their vacancies for women to female–owned agencies. Our finding that agencies with recognizably female names were most specialized in vacancies for women supports this. This mechanism for specialization could be viewed as comparative advantage in attracting female jobseekers.

Regressions including agency dummies allow us to distinguish among theories that would explain the low gender wage gap for female–owned agency advertisements. These regressions reveal no within–agency gender wage differential by ownership type, unlike the results of Kritikos et al. (2024), and little within–agency gender differential by ownership type in the share of advertised occupations that is clerical. The lack of a within–agency wage effect rules out discrimination mitigation and comparative advantage in assessing female jobseekers as explanations for our wage results. Some of the between wage effect arises from agencies posting advertisements for one gender only: in particular, agencies posting only advertisements for men advertise particularly high male wages and tend to be male owned. However, there is a substantial between effect even for advertisements by agencies advertising for both men and women. It seems that among female–owned agencies, those with a particularly high share of clerical advertisements also had a particularly high share of advertisements for men, a combination which tended to lower male wages at female–owned agencies. We do not have a theoretical explanation for this pattern.

The mostly between–agency higher share of clerical vacancies for female–owned agencies is consistent with the theory that client firms, predominantly owned by men, mistrusted women's ability to search for more skilled workers of either gender in occupations requiring a bundle of skills that were possibly scarcer and harder to measure than clerical skills. This explanation and its interpretation as discrimination are also consistent with the smaller size of female–owned agencies due almost entirely to having fewer male advertisements than male–owned agencies.

[9] New York Court of Appeals Records (1939, p.177).

1 Background on employment agencies and gender

Prior to the Civil Rights Act of 1964, it was not only legal but standard for firms posting help–wanted advertisements 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. Despite the Civil Rights Act, when the *New York Times* desegregated its help–wanted section in 1969 it was among the very first U.S. newspapers to do so. The *Washington Post* desegregated in 1971 and the *Baltimore Sun* in 1973.[10]

In the newspapers we analyze, many help–wanted advertisements were placed by employment agencies. Employment agencies matched jobseekers, typically employed, with employers seeking to fill vacancies. Agencies attracted jobseekers through help–wanted advertisements and other means, and initiated relationships with employers principally by cold calling. As part of their job–matching service, agencies would interview the jobseeker and assess their personality, and might administer a test, check references, or give guidance on interview technique and writing a resume.[11] The jobseeker would pay a fee if placed in a job, and these fees were regulated in New York state but not in Maryland or Washington D.C.; regulated or unregulated fees were a share of the wage or salary, with the share increasing in steps as the salary increased. In many cases, the employer would offer to pay the fee of the successful candidate.[12]

In this section, we provide more detail about agencies, female owners and the role of agencies in discrimination, and provide statistics on the extent of use of agencies. We draw in part on interviews with two female proprietors who first entered the industry as employees just after desegregation. Interviewee A worked at three Manhattan agencies beginning in 1969, one of them in our sample, before leaving around 1972 to become a partner in an existing male–owned employment agency which sought to expand its occupational scope by leveraging her experience and clientele as manager of placement

[10] Pedriana and Abraham (2006).

[11] Interviewees A and B; U.S. Senate Committee on Public Health, Education, Welfare and Safety (1962), p.276; *Kiplinger Magazine* (1961); Thal–Larsen (1968) pp.153–159, pp.167–168 with retrospective data for 1960, pp.269–280.

[12] For fee: U.S. Senate Committee on Public Health, Education, Welfare and Safety (1962), p.249. For employer paying fee: Many help–wanted advertisements specified this; interviewee B's client firms universally paid the fee; Thal–Larsen (1968) notes variation among California agencies.

for secretaries. Interviewee B began working at a Washington D.C. employment agency in 1976 and bought it from a married couple in 1978.

1.1 Establishing an agency

Employment agencies were variously sole proprietorships (which could have more than one owner), partnerships, corporations (including regional or national franchise chains), public entities or non–profit corporations. Entry to the private employment agency business was relatively easy, which may account for the high rate of female ownership. In the jurisdictions of principal interest for this paper, a license was required but was cheap and obtained by filling in forms (the cost in Washington D.C. in 1962 was $100 per year, about $1000 in 2025 dollars) and showing good character (except Washington D.C.), only a small bond was required ($1000 in Washington D.C. in 1962), and capital requirements were low.[13]

A common background for female (and male) owners of employment agencies was in the personnel office of a large private firm or the public sector, or as an employee of another employment agency.[14] Some women inherited the agency upon the death of their husband and others bought the agency at which they had been an employee. Owners had very varied educations: among the 60 mostly female owners in our data whom we have identified in the 1940 or 1950 census, education ranges from high school dropout to college graduate.[15]

Several women in our data owned very successful (eponymous) agencies and achieved a public profile. Esther Eberstadt Brooke (Mrs E. E. Brooke) and Maude Lennox were frequently interviewed by newspapers,[16] and were listed as among the top 24 U.S. employment agencies for executives (*Kiplinger Magazine* 1958). Mae E. Daly's 1954 obituary appeared in the *New York Times*, albeit in part due to her earlier position as assistant secretary of the New York Cotton Exchange, where she was the first woman to hold executive rank. After opening her agency in 1949, she became the treasurer of the Association of Private Office Personnel Agencies. We profile several female owners in the Biography Appendix.

[13] Skeels (1969); U.S. Senate Committee on Public Health, Education, Welfare and Safety (1962), p.39 and pp.250ff.

[14] Of personnel job advertisements in our sample, 27% are for women. As late as 1921, personnel service was considered a growing opportunity for women (Miller and Coghill 1964).

[15] The 1960 full count census has not yet been made available.

[16] E.g. *Daily News* (1955) and *Sunday News* (1955) for Brooke; *Christian Science Monitor* (1940) for Lennox.

Among female owners for whom we know the motivation for founding or buying an agency, only one mentioned helping women. Anne Heywood Reid was pushed to start her own agency after herself encountering difficulties returning to the labor market. She took a particular interest in mature women returning to the labor market, jobseekers considered difficult to place.[17] Earlier discrimination was a factor for interviewee A, who knew that to be happy she would have to "put her own stamp on things"; she had abandoned her college ambition to be a doctor (at that time, a generally self–employed job) due to mockery of her ambition by her professors. Maude Lennox was motivated by the business opportunity of supplying the 1939 World's Fair with workers (after having made contacts by working at it herself). Growing up in Missouri, Mae Daly dreamed of becoming a New York City businesswoman; possibly she made employer connections at the New York Cotton Exchange. Interviewee B bought the agency from her ailing employer because she thought its important mission should be continued, but her description of the mission did not mention gender.[18]

1.2 Attracting jobseekers

One way agencies attracted jobseekers was by advertising vacancies in newspapers. These advertisements specified occupation, wage or wage range and frequently worker skills or attributes, but never the ultimate employer and rarely the industry. The agencies in our sample generally advertised permanent white–collar jobs of all types, but some agencies specialized in certain industries or occupations. For example, agencies specializing in medical placements might place both secretaries and doctors for the industry, while engineering agencies would advertise only for engineers. Some agencies specialized in laborers and operatives, but these did not typically place help–wanted advertisements, instead relying on jobseekers' visiting the agency office.[19]

There was not always a one-to-one correspondence between a help–wanted advertise-

[17] *New York Times* (1955). In 1957, Richard V. Clarke, who was Black, founded an employment agency to place Black jobseekers after failing to obtain a job in personnel, the major of his business degree from City College (*New York Times* 1962). Neither of these agencies has advertisements in our sample.

[18] Although Edith Claude Jarvis technically never owned an employment agency, she effectively set up the Washington–based, five–employee Adams Teachers Agency while the nominal male owner spent seven years in the Coast Guard as a result of the Second World War. Tired of placement, she bought the original educational advisory business from him when he returned, leaving him with the employment agency. There is no suggestion she was motivated by helping women, but the reduction in male labor supply gave her experience she might not have had under normal discriminatory conditions. Chevy Chase Historical Society (1987).

[19] As noted in Rees (1966) for Chicago, consistent with the small number of such advertisements in our data. This appears to have been true for public employment agencies too.

ment and a vacancy since agencies did not always have the exclusive right to a vacancy. Furthermore, agencies that regularly placed significant numbers of jobseekers in particular occupations would advertise these occupations regularly without a specific vacancy in mind, since it was common to receive urgent requests from client firms. In these cases, agencies posted a wage range rather than a specific wage.[20]

Agencies serving white–collar workers did not rely entirely on help–wanted advertisements for filling vacancies, but rather did considerable business from jobseekers' visiting the office. Agencies were particularly likely to use newspapers for attractive jobs or those requiring very specific skills, in the former case hoping to draw jobseekers to the agency without having to pay to advertise all vacancies. Beyond help–wanted advertisements, agencies publicized themselves (especially to jobseekers) with the sign on the building, their listing in the city business directory, newspaper and yellow–pages advertisements, and word of mouth. To further increase foot traffic, agencies clustered near major subway stops and near one another, often in the same building: one set of agencies advertised their building, vaunting its large number of agencies. Many jobseekers were repeat customers.[21]

It is unclear what share of jobseekers would have been aware of the agency owner's gender. Repeat customers would have been aware, as would those learning about the agency by word of mouth, while others might have inferred gender from the agency name. Most agency names were uninformative. Some, such as Better Agency, Best Agency, Verybest Agency or ACME Agency were selected to inspire confidence, while others were based on founder family names (sometimes anglicized). However, a small number of owners and CEOs gave their full name to the agency when it was founded, thus generally revealing their gender, while a smaller number of owners and CEOs used their family name and first initials. In one case, the two female owners combined their family names to yield an ostensibly male–owned agency (Allen O'Brien Personnel Service); in two cases a male owner gave an agency a female name (Betty Gray and Mary Diehl, though the latter agency had been taken over by the widow by 1950); in a third case a male–owned agency bore an ambiguous name (Chris A. Tobison).

[20] For exclusive rights: interviewees A and B. For salary ranges and speculative advertisements: interviewee A.

[21] For newspaper advertising: Skeels (1969) and interviewee B. We see the clustering in the agency addresses in our help–wanted advertisements, and Rees (1966) notes clustering for Chicago. For subway information: interviewee B. Repeat customers: interviewees A and B.

1.3 Agency staffing and establishing connections with client firms

Agencies might employ both clerical staff and "counselors", who performed core job placement tasks. Most New York City agencies had paid employees, though the share was lower in the other locations we study. In Manhattan, 74% of agencies had payroll; for agencies with payroll, 47% of receipts went to payroll for on average six employees.[22] Counselors were paid on commission based on the number of jobseekers placed, so when business was slack, payroll was low.[23]

Larger agencies typically had a male desk run by a man and a female desk run by a woman.[24] Thus, an owner would not necessarily only employ counselors of his or her own gender. For example, George F. Roberts worked for Maude Lennox before launching the employment agency Hoyt and Roberts (*New York Herald Tribune* 1962); Bernard W. Fisher was the director of the men's division of Mrs E.E. Brooke's agency; and Ruth Osborne Ahrens, manager of the Betty Gray agency in Washington D.C. owned by Robert Graebner, described her office as an "all–girl office".[25]

Employment agencies (owners or counselors) actively established relationships with client firms by cold calling. Once relationships were established, client firms would contact the agency with a request for a referral, but the agency would also place regular calls with existing clients to check for vacancies. In a larger employment agency dealing with a larger firm, the contact would be between, for example, the counselor in charge of female employment and the personnel worker in charge of female hiring, typically both women. Most firms were repeat clients. Owners might have existing contacts upon opening their agency, since some former counselors took client firms with them to open their own agency and some new owners had contacts through a prior job in a personnel department. These existing contacts would be gendered due to the assignment of vacancies to employees based on gender. Interviewee A recounts that upon becoming a partner, she was gradually able to convince client firms to entrust her with male jobs as she won their confidence with her placement of women. Eventually, she had business placing highly skilled men. She

[22] 1954 Census of Business (see Appendix Table 1). Average payroll per paid employee was $51, about $600 in 2025 dollars, which seems low: $51 is only the weekly wage of typist or filing clerk in our 1950 job advertisements, taking into account inflation and general wage growth.

[23] Skeels (1969); interviewees A and B; U.S. Senate Committee on Public Health, Education, Welfare and Safety (1962), p.176; Thal–Larsen (1968) p.278.

[24] Thal–Larsen 1968 p.273; interviewee A. Maude Lennox stated that "there isn't enough call for women executives to warrant setting up a woman's department in her service" (*Arizona Republic* 1968) though this leaves unclear whether she had a women's desk for non–executive placement.

[25] U.S. Senate Committee on Public Health, Education, Welfare and Safety (1962), p.260. Interviewee A employed both men and women.

had an incentive to build up the male side of the business because male placements were more profitable, with the higher fee (due to the higher wage) outweighing the sometimes greater difficulty of a search for a more skilled position.[26]

1.4 Discrimination and the role of agencies

The role of private employment agencies in discrimination against jobseekers arose around the time of our study period, albeit in connection with illegal discrimination on the basis of religion or race: discrimination based on gender seems to have been taken for granted by all. An unsuccessful 1939 suit brought by 25 agencies challenged New York State regulation, including the prohibition on specifying religion in a help–wanted advertisement, as excessive. Some plaintiffs defended the right to refer jobseekers to client firms based on religious considerations even if the firm had not made its preference explicit for the particular vacancy involved (New York Court of Appeals Records 1939). These agencies emphasized that their job was to make a good match and not to waste both jobseeker and client firm time. In 1942, the State of New York brought a suit against a group of employment agency owners (including Maude Lennox) refusing to reveal the names of the employers who had illegally requested Christian workers for defense industry work (New York Court of Appeals Records 1942). Nevertheless, in this case the State appeared to view the employers as being ultimately responsible for the law having been broken.

Race discrimination was also a current issue, and employment agencies were not in the vanguard of progress here either. 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.[27] Among our *New York Times* advertisements, none specifies religion, but a few specify nationality (almost always European) and race (usually "colored") is specified frequently and illegally in the section for domestic servants. Race is specified more widely in advertisements in the *Washington Post* and the *Baltimore Sun*.

The testimony in the 1939 suit raises the possibility that at least in some cases it may have been agencies, rather than employers, that made the decisions as to whether to advertise a job as male or female. We have not been able to determine this definitively, but although interviewee A entered the industry just as help–wanted advertisements were

[26] For cold calling: Martinez (1976), referring to practices in 1964, and interviewee A. For former employees leaving with their contacts to start an agency: New York Court of Appeals Records (1939) and interviewee A. For repeat clients: interviewees A and B; U.S. Senate Committee on Public Health, Education, Welfare and Safety (1962) p.187.

[27] *New York Times* (1950).

desegregated, the practices she describes seem consistent with this possibility. Like interviewee B, she reported that employers never saw nor influenced the job advertisements, and indicated that the gender the employer desired was "understood from the occupation" involved. She stated that for an occupation like secretary she knew that it was a waste of time to propose a male candidate, but that in certain cases – more junior positions in less segregated occupations – she would recommend to the firm a candidate of each gender and let the firm choose. Employment agencies may therefore have had some scope for discrimination mitigation in terms of the choice of gender.

Client firms chose wages and other conditions, but the agency would tell firms if wages were out of line with the market as evidenced by wages for their similar vacancies.[28] Employment agencies may therefore also have had some scope for discrimination mitigation in terms of the choice of wage.[29]

1.5 Extent of use of agencies

Among the locations of the agencies we study – New York City and its surrounding counties, Baltimore and Washington D.C – private employment agency activity was greatly concentrated in Manhattan (New York County), especially measured based on receipts. This corresponds to the predominance of Manhattan agencies in our own sample. Agencies were surprisingly small and numerous given the obvious network returns to scale.[30]

The earliest data on the importance of private employment agencies for job seekers (and therefore employers) pertain to 1972, and are from a supplement to the January 1973 Current Population Survey questioning workers who had started a new job in 1972. Among new job holders in 1972, 22.4% of women and 19.9% of men had used a private employment agency as part of their search, and 7.9% of women and 3.8% of men had found their job through a private employment agency. These shares were much higher for white collar workers. For example, 16.6% of female clerical workers including 20.7% of female stenographers, typists and secretaries had found their job through a private employment agency, while 7.1% of male professional and technical workers including 13.6% of male engineers and 10.7% of male managers and administrators had done so.[31]

[28] *New York Times* (1951), interviewee B.

[29] By 1971, when help–wanted advertisements in most newspapers still specified gender, the U.S. Solicitor of Labor criticized private employment agencies as being among the sources of discrimination against women (Berger 1971).

[30] 1954 Census of Business (see Appendix Table 1).

[31] U.S. Department of Labor (1975).

2 Data and sample

For the background section above including information on owners in our sample, we read newspaper accounts archived in newspapers.com, court and congressional documents, and journal articles; searched for owners in decennial censuses and other databases on ancestry.com; and interviewed two female proprietors as noted above. In this section, we describe the sources of the help–wanted advertisements and the agency ownership, and describe the sample of the merged data that we analyze in the paper.

2.1 Help–wanted advertisements

We have hand coded all help–wanted advertisements published in the *Washington Post* on the first Sundays in January and May in 1950 and in December 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 pdfs we have affordable access to can only be machine–read with many errors. 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 chose January and December in order to capture seasonal differences in job postings. Our intent had been to collect *New York Times* data for the first Sundays in January and December as well, but the volume of advertisements in the *New York Times* and the time required for hand-collecting them precluded that.

We note the gender desired or the rare cases where either is acceptible;[32] the wage or wage range and the periodicity of the wage if given; the occupation; the desired experience, education and age, if mentioned; and any information on fringe benefits. We have collected task–related characteristics such as whether the job involves training; involves management or supervision; is an assistant or junior position; or requires typing or stenography or use of a bookkeeping machine or computer. We record 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. In-

[32]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.

dustry is rarely provided in the advertisements and we use no industry information. We also note whether one, two, three or more than three identical positions are advertised. The Data Appendix provides more information on the collection of the job advertisement information.

2.2 Agency ownership

Separately, we have collected information on ownership of the agencies in 1950 and 1960, restricting our attention to agencies with more than one advertisement in our data. The primary source for ownership is the Office of the New York County Clerk, whose paper records contain entries for each registration of a business as a sole proprietorship or partnership in Manhattan, and for changes in owners or partners of these businesses, providing owner or partner names and the agency name and address. Finding agencies in most other jurisdictions was more difficult, as we describe in the Data Appendix.

A female–owned agency is a sole proprietorship or partnership whose ownership is entirely female, and a male–owned agency is defined correspondingly. A mixed–gender agency is a sole proprietorship or partnership with at least one male and at least one female owner (typically one of each with the same family name, apparently typically a married couple). We identify the non–profit corporation from a newspaper search, while the identity of the state and federal employment agencies is apparent from their names.[33]

Some agencies, typically franchises, have offices in more than one city. We elected not to seek the identities of the franchisees, but instead to group these franchises with other corporations, since franchisees might be more constrained in their behavior than sole proprietors.[34] An agency is defined by its name and city.

2.3 Sample

From the full dataset of 25,960 help–wanted advertisements, we form our study sample by retaining those posted by employment agencies, then excluding advertisements from agencies whose ownership is unknown or for whom we have only one advertisement; excluding the very few advertisements with no wage information; and excluding advertisements for operatives and laborers and for domestic workers, due to their small numbers – see the

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

[34] Guidance given to franchisees of an agency in 1969 is described in New York Times (1969); Clark (1981) reports that franchises provided training to franchisees.

Data Appendix for more details. This leaves a sample of 14,216 advertisements posted by 366 agencies, whose occupational distribution is slightly more concentrated in clerical occupations (46%) than the full dataset (see Appendix Table 2). It is not representative of all occupations in the economy due to the absence of blue–collar workers and the small numbers of advertisements for teachers or nurses. Compared to the distribution of white–collar jobs in greater New York City in the 1950 and 1960 population censuses, there are considerably fewer managers/officials (see Appendix Table 3). Consistent with the Census of Business tabulation in Appendix Table 1, the *New York Times* represents the majority of our help–wanted advertisements, accounting for 69% of the full dataset and 93% of our study sample (see Appendix Table 4 for the newspapers and dates of our vacancies). The distribution of detailed occupations in the sample is given in Appendix Table 5 and of other advertisement characteristics in Appendix Table 6.

As described in the Data Appendix, we have adjusted posted wages to reflect full–time weekly wages (most posted wages are weekly). Professional and technical jobs are the best paid, followed by sales and managerial jobs (Appendix Table 2). Jobs in services, jobs whose occupation is not given in the vacancy posting, and especially jobs in clerical occupations are poorly paid. There is a dramatic difference in the distributions of log wages in positions open to women and in positions closed to women. Figure 1 shows that female real 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 50% for women between 1950 and 1960, compared to 34% for men, associated with an increase in the female/male wage ratio from 55% to 61%.

We may compare wages in our sample with those of white–collar workers in greater New York City based on the 1950 and 1960 population censuses and calculated in the same way. In 1950, women's wages in our sample were 9% lower than in the census, while men's wages were 19% higher. Wage growth in the census between 1950 and 1960 was similar for women (21%) and men (23%), considerably lower than in our sample. Thus, the vacancies in our sample were considerably more positively selected by 1960, with 13% higher wages than the census for women and 30% for men. The female–male wage ratios in the census were stable: 71% in 1950 and 70% in 1960.[35]

Of our 366 agencies, 108 were female–owned in at least one year, compared to 146 male–owned in at least one year. There is considerable entry and exit between 1950 and 1960, but little change in ownership type for stayer agencies, with most of these being

[35] The 1950 and 1960 census wages are those for 1949 and 1959. We use the IPUMS census data (Ruggles et al. 2025). We explain our wage measure in the Data Appendix

from sole proprietorship (or partnership) to corporation (see Appendix Table 7).

3 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). After examining descriptive statistics, we investigate mechanisms using the linear 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 a dummy for 1950 and two month dummies, and δ_c represents two city dummies. The coefficient β_1 is the coefficient of principal 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. Z_{jt} is the log of the number of job advertisements an agency posts (by year) in our full sample of advertisements, a proxy for agency size.

The X_{ijt} covariates include dummies capturing all the non–wage features mentioned in the data section, in addition to dummies for whether the job advertisement gives a wage range rather than a single wage; whether more than one worker was sought in the advertisements; the interaction of assistant and management (task, not occupation) dummies; and the interaction of clerical job with the 1950 year dummy, to allow for structural change in the labor market. Standard errors are clustered by employment agency.[36]

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 have transitioned from sole proprietorship or partnership and are closely held, possibly differing little in organization from sole proprietorships or partnerships.[37] If the owners of

[36] The distribution of agency sizes, and hence cluster sizes, has a fat right tail and seems to violate the condition set by Sasaki and Wang (2022) for the normal clustering formula to be valid. However, the authors' solution involves weighting and changes coefficients as well as standard errors, so we opt not to implement their method.

[37] 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

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, but since there are only 21 mixed–gender agencies the results may suffer from small sample bias. For conciseness we report only the coefficients regarding female–owned agencies.

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 multiple observations, results are similar. Regressions on the sample of the *New York Times* in 1960 also yield similar results. 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 purpose of taking over an existing agency, which we define as a change of ownership with no change in agency name and city, 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. It is possible in some cases that the purpose was merely to obtain a coveted agency name. Even were this typical, the problem remains that few agencies are observed to change ownership between 1950 and 1960 and most changes are not directly between female and male ownership (see Appendix Table 7).

Our next question is whether female–owned agencies are able to advance women by helping them secure jobs in more male occupations, which are likely to have more career prospects (though possibly also lower initial wages due to training). We split the sample into advertisements open to women and those for men only, and estimate equation 1 regressions with Y being the share (percent) of women in the occupation.

Finally, we examine wages. We begin by estimating equation 1 with $Y = log\ w_{ijt}$, separately for job posts open to women and those aimed at men. We perform a Gelbach decomposition (Gelbach 2016) for these two sets of wage 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

unusual corporate structure in which the shareholders were clients of the agency, which specialized in domestic servants.

the base regression. We supplement OLS analysis with median regression.

To test whether there are within–agency gender differences by type of ownership, we pool advertisements aimed at men and women and include agency fixed effects ω_j. We also include a dummy for an advertisement aimed at women (F_{ijt}) and its interactions with the agency ownership dummies and year, so that the coefficient ϕ_1 on the interaction of F_{ijt} and FA_j captures any within–agency effect. The equation estimated is

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

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. We estimate this equation with $Y = log\ w_{ijt}$ and Y as the percentage of the very detailed occupation's advertisements that are aimed at women.

We have also examined the probability of an agency's surviving from 1950 to 1960, but as the estimation of all coefficients was very imprecise, we do not report the analysis.

4 Results

4.1 Agency sole–proprietors and partners

One way in which employment agencies expand opportunity for women is by providing the opportunity to own one. Of our 366 agencies, 108 were female–owned in at least one year, compared to 146 male–owned in at least one year. However, female–owned agencies were much smaller than male–owned agencies, due to lower numbers of advertisements for men. Panel A of Table 1 shows female–owned agencies posted a mean of 34 advertisements in a given year of our data, compared to 89 for male–owned agencies and 122 for incorporated agencies. Some of these advertisements contained two or more identical vacancies, and the vacancies statistics show a similar pattern (same panel). Correspondingly, the sum of the wages posted in an agency's advertisements averaged only \$3211 for female–owned agencies (in 1960 dollars, about \$34,600 in 2025 dollars) compared to \$10,866 for male–owned agencies and \$14,118 for incorporated agencies. Because agencies' revenue came from fees proportional to posted wages, these figures give an idea of agency revenue,

though the profit differentials are likely to be smaller since larger agencies would have larger payroll. It is also possible that male and female agencies differed in the proportion of jobs postings that they advertised in newspapers. But from the data we have, it seems that although women surely benefited from the opportunity to open an agency, they may have benefited less than male owners.

We have manually searched for 124 female proprietors in the censuses through 1950 and found 55 of them in the 1940 and 1950 censuses. The educational attainment of these women is very varied, ranging from eighth grade to post–college. Although the 1950 census asks for self–employment income, because it asks only sample line respondents (a random sample) and because some of our proprietors had not yet set up their employment agencies, we only have income for three ($750 for a partner who would have shared the agency income, $2500 and $5000) and the income for a married couple who were joint owners ($4600, reported for the husband only). We have found the income for one of our male proprietors ($3900). For comparison, a full–time full–year executive secretary in our 1950 advertisements earned $3300 and an accountant $5000.

4.2 Agency gender specialization

A crude measure of the degree to which female–owned agencies helped jobseekers and client firms is their share of posted advertisements or advertised wages. This assumes that the operations of other agencies would be unaffected by the non–existence of the female–owned agencies. Female–owned agencies posted 21% of all advertisements and 18% of advertised wages, but were more influential for female jobseekers, posting 31% of female advertisements and wages (Table 1 panel B). As many as 31% of female jobseekers using agency services might therefore have been deprived of them in the absence of female–owned agencies.

In a more conservative counterfactual, female–owned agencies would be the same size but owned by men. Because female–owned agencies specialize in vacancies for women while male–owned agencies specialize in vacancies for men, this would still imply fewer agency services for women. Panel C of Table 1 shows that 61% of female–owned agencies' vacancies were for women, compared to 32% for male–owned agencies (and 36% for corporate agencies). Since overall 42% of advertisements were aimed at women, female–owned agencies were more specialized in their own gender than male–owned agencies. Under this counterfactual, more male jobseekers would have benefited from agency matching services, but (.21)(.615-.323)/.42= 14% of the female jobseekers benefiting from agency

services would have lost them.

We investigate the mechanics of agency specialization by jobseeker gender in linear probability regressions in Table 2. Female–owned agencies are 26.6 percentage points more likely to advertise for a woman (panel A column 1) than male–owned agencies, in a specification with only time and city controls (we shall refer to these as basic controls). Six percentage points of this gap are explained by controlling for characteristics of the job advertisement other than occupation, leaving a gap of 20.6 percentage points in column 2. The gap is reduced a further 6.5 percentage points through the addition of aggregate occupation dummies and the interaction of clerical occupation and year in column 3; by a further 5.6 percentage points through the replacement of aggregate occupation dummies with 76 detailed occupation dummies in column 4; and by 1.3 percentage points through the addition of (log) agency size in column 5. This leaves female–owned agencies a statistically significant 6.9 percentage points more likely than male–owned agencies to designate a similar job advertisement as being open to women.[38] Because one quarter of advertisements contain no information other than the occupation and wage, some of this remaining gap is likely to be picking up some unreported differences in the jobs, however.[39]

In column 6, 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 1.2 percentage points. The enormous contrast with the 26.6 percentage point coefficient in column 1 suggests to us that identification based on ownership transitions is not informative.[40]

The result that female–owned agencies advertised for more women, even within occupation, could mean that they advertised for even more women in mostly female occupations. However, the fact that the detailed occupation dummies explain little more of the coefficient on female–owned agency than aggregate occupation dummies shows that female–owned agencies were advertising for women in better paid and possibly more male aggregate occupations. Furthermore, panels B, C and D show that female–owned agencies advertised for more women not only among clerical occupations, but among other major aggregate occupations: the combination of professional/technical and managers/officials, and sales. We next study advertisement occupations directly.

[38] If we count two or more identical positions in an advertisement as multiple positions, the coefficients corresponding to columns 1 and 5 are very similar: 0.291 and 0.081. : 0.231 and 0.066.

[39] Agencies did not put all the job information into the advertisement according to interviewee A.

[40] It also possible that the founding ownership status could be what matters most.

4.3 Occupations

The occupations to which female–owned agencies match female jobseekers is another measure of opportunities provided by female–owned agencies to female jobseekers. Table 3 shows the occupational distribution of advertisements by agency type (dropping public/non–profit to save space), by gender of the jobseeker sought. Female–owned agencies specialize in clerical occupations, accounting for 61% of their advertisements (panel A column 1), compared to 39% for male–owned agencies and 43% for corporate agencies, and commensurately had disproportionately few advertisements for professional and technical jobs (21%), compared to 35% for male–owned agencies and 29% for corporate agencies.

The occupational distribution is more similar across agencies among advertisements for women than among advertisements for men. The share of female advertisements in clerical positions is clustered in the range 82–85%, with the share lowest for female–owned agencies (panel B). Female–owned agencies advertised the lowest share of professional and technical jobs to men (36%, compared to 47% for male–owned agencies) and the highest share of clerical jobs to men (27% compared to 19% for male–owned agencies), as panel C shows. Female–owned agencies thus advertised better occupations to women and less good occupations to men, compared to male–owned agencies.

Returning to Panel C of Table 1, we see that on average female–owned agencies advertised occupations that were 58% female, compared to only 37% for male–owned agencies and 40% for corporate agencies. The female–owned share is higher principally because the share of female–owned vacancies that is for women is higher: among female vacancies, the shares are very similar at 79% for female–owned agencies and 77% in male–owned vacancies (not tabulated).[41]

We nevertheless examine whether female–owned agencies advertised less female occupations to women compared to male–owned agencies. Columns 1–3 of Table 4 panel A show that controlling for basic covariates (column 1), advertisement characteristics other than occupation and wage (column 2) or even aggregate occupation dummies (column 3), female–owned agencies do not advertise in less female occupations: the coefficients are small and statistically insignificant, and even positive. The same is true for the sample of professional, technical and managerial advertisements in panel C, except that the column 2

[41] The major examples of narrowly defined occupations that have somewhat balanced gender (between 25% and 75% female) are cashier, accounting clerk, bookkeeper, market researcher, clothes salesman, teacher, recreation worker, personnel worker, copywriter, and editor/reporter. Clothes salesman is divided almost equally between men selling men's clothes and women selling women's clothes and is the only occupation changing majority–male status (due to a small change in gender balance) between 1950 and 1960.

coefficient has a negative sign. Conversely, among clerical advertisements, female–owned agencies advertise in statistically significantly more female occupations than male–owned agencies, albeit only by 1.6–2.2 percentage points (panel B).

The analysis for male advertisements in columns 4–6 panel A shows that female–owned agencies advertise occupations that are statistically significantly more female than those advertised by male–owned agencies, both in specifications with only basic covariates (by 8.4 percentage points, column 4) and with extended covariates including aggregate occupation dummies (by 3.2 percentage points, column 6). This is mirrored in panel C for the sample of professional, technical and managerial advertisements. The tendency of female–owned agencies to advertise female–intensive occupations to men is thus not limited to their greater advertising in the aggregate clerical category. The effects for the aggregate clerical occupation in panel B are small and very similar to the corresponding coefficients in the female advertisement sample, but statistically insignificant.

To test whether the effects of interest in Table 4, principally for female advertisements in professional, technical and managerial occupations and for male advertisements generally, are the result of female agency proprietors changing the content of vacancy advertisements in women's favor or of comparative advantage, we explore whether the effects are caused by within rather than between–agency variation. We pool male and female advertisements and focus on the coefficient on the interaction of female–owned agency and female advertisement in Table 5. With basic covariates (and as yet no agency dummies), the gender gap in the share of women in the advertised occupation is 8.2 percentage points lower for female–owned agencies than male–owned agencies (column 1 panel A), as would be expected based on columns 1 and 4 in Table 4 panel A. When the sample is restricted in column 2 to advertisements in agencies advertising to both genders, those that will identify a within–agency effect, the coefficient remains essentially the same. The addition of agency dummies in column 3 explains about one third of the effect, suggesting it is mostly within–agency. The coefficients for the clerical sample in panel B are all small and statistically insignificant, while those for the sample of professional, technical and managerial advertisements in panel C suggest all the effect is within–agency.

4.4 Wages

We next examine wages. Table 6 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 $128, or 6% below the average of $136, and jobs for the latter paying $139. Statistics on the ratio of female to male average wages by ownership type are provided in panel C of Table 6: compared to the average of 56%, female–owned agencies have a female/male ratio of 60%, better than the male ratio of 54% and slightly better than the corporate ratio of 57%.

A richer picture of wages for female and male–owned agencies is conveyed by the distributions in Figure 2, which are shown for 1950 (panels A and C) and 1960 (panels B and D) separately. The two upper panels show that for jobs open to women, wages at female–owned agencies (in gray) are slightly shifted to the right compared to those of male–owned agencies (in black) in both years. At first glance, 1950 and 1960 also look similar in the lower panels for jobs open to men only: the tails of the female and male–owned agency distributions look similar, but the median is distinctly lower for female–owned agencies. However, close examination reveals that in 1950, the female–owned agency distribution has a thicker right tail and a thinner left tail than the male–owned agency distribution, and in fact in this year the mean wage for men is higher at female–owned agencies.[42]

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 7, we estimate wage regressions for women using OLS (columns 1–3) with key coefficients shown in panel A and the corresponding Gelbach decomposition shown in panel D. Column 1 panel A shows that with only basic covariates, female–owned agencies posted wages a statistically significant 5.5% higher than those posted by male–owned agencies. Column 2 panel A shows that half of this premium may be explained by agency size and advertisement characteristics using only aggregate occupation dummies, leaving a marginally significant 2.8% premium, and column 3 shows more may be explained by replacing aggregate occupation dummies with detailed occupations, leaving a statistically insignificant 1.9% premium.[43]

The first row of panel D shows the change in the coefficient of interest between columns 1 and the next two columns (5.5-1.9=3.6 log points for column 3; 2.6 log points for column 3), while the subsequent rows decompose this change into contributions by

[42]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.

[43] If we count two or more identical positions in an advertisement as multiple positions, the coefficients corresponding to panel A columns 1 and 3 are very similar: 0.064 and 0.026. For the New York 1960 sample: 0.059 and 0.020.

(groups of) covariates. The largest contributor is the detailed occupation dummies, which explain more than half the column 3 change (2.0 log points, statistically significant). The contribution of aggregate occupation dummies is less than half as large (0.9 log points in column 2), showing that the female–owned agency premium is due in part to the detailed occupations advertised and not just the mix of aggregate occupations. The contributions of other advertisement characteristic groups are smaller, with the next largest, at 0.5 log point, being the statistically significant contribution of covariates capturing required job tasks.[44] The dummy for whether training is provided on the job also makes a statistically significant contribution of 0.3 log point: training reduces wages and female–owned agency vacancies have less training than those posted by male–owned agencies. Of course, a wage gain from lack of training would not imply a long–run wage gain, but for most women there was no long run.[45]

In panels B and C we repeat the panel A regressions for clerical occupations, and for professional/technical and managers and officials separately. These regressions reveal a female wage premium for female–owned agencies in both categories, but while the small premium among clerical occupations is explained by the covariates, the larger professional/technical/managerial premium is a marginally significant 8.2% conditional on covariates including detailed occupations. We do not present the results of the corresponding Gelbach decompositions because none of the components is statistically significant, but note that female–owned agencies' professional, technical and managerial wages were a marginally significant 1.9 log points higher due to their having less training.

In columns 4 and 5, we present the coefficients from median regressions. The female–owned agency premium (conditional on basic covariates, column 4) is only slightly lower than with OLS, at 4.7%. Regressions do not converge with full controls, but the premium conditional on detailed occupation dummies and agency size is zero (column 5). The difference between OLS and median regression will be more interesting for men–only advertisements.

As noted in conjunction with men–only advertisements in Figure 2, in 1950 the difference between female–owned and male–owned agencies is different at the median (a clear premium for male–owned agencies, as in 1960), and at the mean (a slight premium

[44] Tasks are dummies for the following job requirements: needing math or statistics, being good at figures, needing to manage or supervise, being an assistant or junior, the interaction of managing and being an assistant, typing, stenography, travel and language.

[45] The separate decompositions for the years 1950 and 1960 are similar, except that more of the gender gap is explained in 1950 due mostly to a statistically significant contribution of agency size of one log point compared to zero in 1960 (see Appendix Table 8).

for female–owned agencies, contrary to 1960). To analyse male wages, we therefore first present median regressions, since we can pool the two years. Column 1 of Table 8 shows there is an enormous, statistically significant 19 log point wage (17%) disadvantage in advertisements posted by female–owned agencies, which falls to 7.3% (statistically significant at the 10% level) when all advertisement characteristics except occupation are controlled in column 2. The disadvantage falls to 2.4% (statistically insignificant) when instead aggregate occupation dummies are controlled in column 3 and to -0.1% when they are replaced with detailed occupation dummies in column 4 (regressions do not converge if we control for full covariates). Thus, unlike for female advertisements, for male advertisements the female–owned agency wage differential is principally due to the mix of aggregate occupations – more clerical and less professional/technical – rather than the detailed occupations within them.

The analysis in panel B of Table 8 shows that there is indeed no wage difference between agency types within the clerical occupation category, conditionally or unconditionally. Conversely, there is an 11% professional/technical wage disadvantage associated with female–owned agencies in the first column, only half of which is explained by covariates in later columns, including agency size in column 5.

We examine the effects at the mean for men–only advertisements separately for 1950 and 1960, and present the coefficients (panel A) and the corresponding Gelbach decompositions (panel D) in Table 9. Column 1 shows that the female–owned agency premium of 3.7% in 1950 is not in fact statistically significant, and that the premium grows somewhat conditional on covariates to a statistically insignificant 4.9% (column 2). This change in coefficient of -1.4 log points is also statistically insignificant, as are all its Gelbach components (panel D). Focusing nevertheless on the component point estimates shows that these are the only regressions in which occupations play only a minor role.[46]

For 1960, the female–owned wage disadvantage is 12.1 log points (11.4%) with only basic covariates (Panel A column 3), reduced to only 2.2% with the addition of all covariates with aggregate occupation dummies, and to a not much smaller 1.0% with the aggregate occupation dummies replaced by detailed occupation dummies. The contribution to the change in coefficient is 5.8 log points for aggregate occupation dummies (panel D, column 4) compared to 7.2% for detailed occupation dummies (column 5), each explaining more than half of the change in coefficient. This confirms the importance of the mix of aggregate occupations and specialization in clerical occupations for female–owned

[46] The corresponding results for advertisements aimed at women are presented in Appendix Table 9.

agencies' low male wages.[47]

For completeness, we present the results for the samples of clerical occupations and professional/technical and management occupations in panels B and C, which are consistent with those of the median regressions in the previous table. We do not present the Gelbach decompositions, since all components are statistically insignificant, but note two unreported marginally significant components for the sample of professional, technical and managerial occupations: compared to male–owned agency wages, female–owned agency wages are reduced by 3.9 log points due to a less lucrative detailed occupation mix and by 2.8 log points due to a large share of advertisements for (poorly paid) trainees.

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 6. 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. However, in Panel E, which displays the average of the agency female–male wage ratios, the within female–owned agency ratio is scarcely higher than the within male–owned agency ratio (78% versus 77%), and that both are higher than the ratios for other ownership types.

We proceed to confirm with regressions that the relatively small female–owned gender wage gap is due to between rather than within–agency variation. We pool male and female advertisements and focus on the coefficient on the interaction of female–owned agency and female advertisement, initially using only basic covariates, a female advertisement dummy and the female advertisement interacted with year dummy. To start, we consider median regression, in Table 10: in panel A column 1 the median gender wage gap for female–owned agencies is 24 log points (27%) higher than in male–owned agencies, as would be expected based on Tables 7 and 8. In column 2, we restrict the sample to advertisements from agencies advertising to both genders, which cuts the coefficient by 40% to a marginally statistically significant 14.5 log points; unreported regressions indicate this is due to the dropping of agencies advertising for men only. This 40% of the female–owned agency relative female wage advantage is therefore a between effect due to the high wages

[47] If we count two or more identical positions in an advertisement as multiple positions, the coefficients corresponding to panel A columns 1, 2, 3 and 5 are very similar: 0.024, 0.049, -0.095 and -0.024. , the coefficients corresponding to columns 3 and 5 are -0.072 and 0.002.

advertised by agencies posting job for men only, which specialize in professional/technical jobs and are disproportionately male–owned.[48]

We control for aggregate occupations in panel A in column 3, which shows that of the column 2 14.5 log point relative female advantage for female–owned agencies, almost half is due to female–owned agencies' mix of aggregate occupations, especially their advertising clerical rather than professional jobs to men (the regression does not converge with detailed occupations). Finally, in column 4, instead of occupation dummies, we control for agency dummies, which reduces the coefficient to below zero. Were the regression linear, this would be proof that none of the female–owned relative female wage advantage was within–agency. We confirm that in the equivalent OLS regressions, for pooled years or for 1960 only, the addition of agency dummies also reduces the coefficient to below zero (Appendix Table 9). These results are easier to understand in light of the fact that the within–agency gap gender gap in the clerical share of advertisements is very close for female and male–owned agencies unlike the total gap: 44 percentage points versus 46 percentage points respectively.[49] Within clerical occupations (panel B Table 10) there is no relative female advantage for female–owned agencies in any specification, while for professional, technical and managerial occupations (panel C), there is a large relative advantage that also disappears when agency dummies are added in column 4.

The lack of within–agency effects is inconsistent with female owners' mitigating discrimination and also with their having a comparative advantage in assessing female applicants. The between–agency effect is not due only to agencies advertising for exclusively for men. It also reflects that among female–owned agencies, those with a high share of clerical advertisements also had a high share of advertisements for men, which tended to lower male wages at female–owned agencies. We do not have a theoretical explanation for this.

4.5 Role of agency name

One explanation for female owner specialization in female advertisements other than the discrimination mitigation is that an equilibrium emerges because female jobseekers are attracted to female–owned agencies. This relies on jobseekers and/or client firms knowing the gender of the agency owner. Client firms would likely discover the owner gender

[48] Many of the agencies for which we see advertisements for one gender only are agencies for which we observe very few advertisements, and may not be as specialized as they seem.

[49] The numbers are calculated with the raw data, but unreported regressions with basic covariates confirm that the difference between agency ownership types is mostly between agency.

when initially exploring the establishment of business relations no matter the name of the agency. Jobseekers would be more likely to know the owner's gender if the agency's name indicated it. We have therefore rerun the regressions to see if the results found above for female–owned agencies are even stronger for the minority of female–owned agencies with recognizably female names, which would support the theory that female–owned agencies specialize in women's vacancies because they attract female jobseekers. Consistent with this, we find that female–named agencies specialize even more in vacancies for women than other female–owned agencies (and that male–named agencies specialize even more in vacancies for men than male–owned agencies); see Appendix Table 10. The results are qualitatively similar for the probability of a male occupation for women and for women's wages, albeit the relevant coefficients are statistically insignificant (Appendix Tables 11 and 12). A qualitative difference among female–owned agencies is that those with female names have the same share of male advertisements in clerical occupations as male–owned agencies.

5 Conclusion

Our study of help–wanted advertisements in the United States in 1950 and 1960 provides evidence that female–owned employment agencies expanded opportunities for women. By specializing in services to female jobseekers, they expanded agency services to all occupations. Not least, female proprietors gave themselves the opportunity to work in an occupation generally inaccessible to women. We find that most female proprietors were not motivated by helping women. The specialization in women was rather because new owners brought with them employer contacts from their previous job as an agency or personnel department employee, where they had been limited to vacancies for women. The specialization could also reflect that agencies owned by women treated female jobseekers better and could therefore attract more of them.

Female–owned agencies advertised for women in more skilled jobs in more remunerative detailed occupations than did male–owned agencies, leading to a 5% higher median or mean wage for women. On the other hand, female–owned agencies had a greater propensity than male–owned agencies to match male jobseekers to clerical jobs, contributing to 17% lower median male wages than for male–owned agencies. We examine whether the the variation in the gender wage gap by agency ownership is due to between or within–agency variation, and find that it is entirely between agency. This rules out the theory that female owners mitigated discrimination by persuading, or matching with, employers willing

to offer women better jobs, and also the theory that female owners had a comparative advantage in assessing women. Some of the between variation is due to the high wages advertised to men by agencies advertising for men only, which tended to be male–owned. The rest is due to the tendency of male jobseekers who used female–owned agencies to sort into more clerically oriented agencies, for which we do not have a theoretical explanation.

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Data Appendix

A.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.

A.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 results raw data is required before collapsing the entries to 77 occupations we refer to as "detailed" in the text and the 133 occupations we refer to as "very detailed". 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 group occupations with small samples into categories such as "other clerk" for the "detailed" occupations; for the "very detailed" occupations, which we use to calculate the female share and use as a dependent variable, we further subdivide these, feeling that the benefit of separating segregated types of "other clerk", for example, outweigh the reduction in the sample size. We make the occupations mutually exclusive by choosing the occupation with the highest wage (as measured using occupation categories that are not mutually exclusive).

To calculate equivalent wages using the population censuses, we begin by dividing annual wages in the previous year by the midpoint of the (bracketed) weeks worked. We then regress this weekly wage on dummies for the (bracketed) hours worked per week, and use the coefficients to adjust weekly wages to represent 40 hours of work (which is one of the brackets).

A.3 Ownership

We have collected information on ownership of the agencies in 1950 and 1960, restricting our attention to agencies with more than one advertisement in our data. The primary source for ownership is the Office of the New York County Clerk, whose paper records contain entries for each registration of a business as a sole proprietorship or partnership in Manhattan, and for changes in owners or partners of these businesses, providing owner or partner names and the agency name and address. Via the agency name, the computer system provides the dates of these events and the number of the corresponding paper file, 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. We use a newspaper search to confirm that Chris A. Tobison was a man.

For the New York area outside Manhattan, we obtain ownership information for the two relevant sole proprietorships in Bronx County, N.Y., from the staff at the Bronx County Clerk's Office; for two of the three relevant sole proprietorships in Essex County, N.J., from the staff at Essex County Clerk's Office in Newark; and for a few additional agencies found in the New York State Corporation and Business Entity database online.[50] 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 paid an official at the Office of the Queens County Clerk to search several years of microfiche for two agencies, without result. We have not attempted to obtain the owner names for a dozen agencies from the county clerks of Long Island counties, Westchester County N.Y., other New Jersey counties, and counties in Connecticut (and Virginia).

While the Office of Licensing and Consumer Protection of the District of Columbia says all the relevant information is in an online database, we found in it almost no pre–1961 information on Washington agencies and the records do not appear to exist on paper either. Our main source is therefore congressional records on agencies operating in the District of Columbia in 1962 (U.S. Senate Committee on Public Health, Education, Welfare and Safety 1962): we assume the owners in 1962 also owned their agencies in 1960.

For both Washington D.C. and Maryland–based agencies we have obtained several owner names from articles archived in newspapers.com (in a few cases we may have mistaken a corporation president for a sole proprietor) and in the online corporations database,[51] but obtaining official records from Baltimore City Clerk (or any other Maryland office) requires a request under the Maryland Public Information Act and payment for labor, and we have not done.

While most help–wanted advertisements are placed by agencies whose address is in the

[50] https://apps.dos.ny.gov/publicInquiry/.

[51] egov.maryland.govbusinessexpress.

state (or in the case of the *New York Times*, the county) of the newspaper in question, each newspaper has some help–wanted advertisements from agencies with addresses in neighboring states and much more rarely in non–neighboring states. These appear to advertise jobs in the location of the agency.

A.4 Sample

We originally intended to code advertisements for four dates in 1950 and 1960 for all three newspapers but transcribing was much slower than anticipated. A small number of our advertisements are placed by temporary help agencies.

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. Some advertisements contain two or more identical vacancies; we noted if there were two, three or more than three, and in Table 1 assign five vacancies to the cases where there were more than three.

Biography Appendix

B.1 Maude Lennox

A particularly successful female owner in our data was 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 eponymous 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). Around 1949, she changed expanded from the recruitment of advertising and public relations personnel to executives (*New York Times* 1949). It is unclear whether she advertised these new positions in the newspaper, but all 14 advertisements for women we observe her place are clerical, and all 11 advertisements we observe in 1960 are for women. We observe 24 advertisements in 1950. 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). *Kiplinger Magazine* (1958) included her agency in its 1958 list of the best agencies for executives.

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 Division spoke about job opportunities to Home Economics majors at Cornell (*Ithaca Journal*, 1946). Her staff were high quality if Priscilla Cole, holding a bachelor's degree in psychology,[52], and Bernard W. Fisher, hired from Booz, Allen and Hamilton (*New York Times* 1949) were typical. Lennox married a Philadelphia tax lawyer in 1946 (apparently her second husband), separated from him in 1956 amid a lawsuit concerning a post–dated cheque for $75,000 – $880,000 in 2025 dollars – and died in 1982 (*Philadelphia Inquirer* 1956, ancestry.com; 1940 U.S. Census).

B.2 Princess Wynder

The owner Princess Wynder lived an equally varied but quite different life from Maude Lennox.[53] Wynder, who was Black, was born in 1921 in Cheriton, Virginia and completed two years of education. She married Woodrow Bell at age 17 in November 1939, but by April 1940 had moved to New York City without him; in 1946 Woodrow obtained an uncontested divorce on grounds of abandonment. They had no children at the time, and Wynder did not remarry or have children subsequently. In April 1940 Wynder was a lodger in Harlem working as a housekeeping aid for the Works Progress Administration (the federal agency providing jobs to the unemployed during the Depression), having worked full year the previous year and earned $990 ($21 for 48 weeks, which adjusted for inflation was equivalent to the wage of a New York City messenger in 1950). In 1942, while the chief clerk of a Bronx Selective Service board, she infiltrated the Harlem–based Ethiopia–Pacific Organization on behalf of the FBI and subsequently testified in the sedition trial of four Black men accused of leading a pro–Axis campaign (*Leader-Telegram* 1942). Following the war, she established an employment agency in the Bronx in 1947, for which we observe a single help-wanted advertisement in 1960. She must have suspended its activities when in 1950 she emigrated to Japan for two years: during the U.S. occupation, American civilians worked there to promote democratic and U.S. values (Soer 2023). She died in the Bronx in 1995.

B.3 Mae E. Daly

Mae E. Daly achieved professional success, but her employment agency may not have been her greatest accomplishment, at least in the eyes of others.[54] She was born and grew up in Richmond, MO, where she dreamed of becoming a businesswoman in New York City. She graduated from high school and spent three months in secretarial school. She worked in Kansas City then Chicago, where she took night classes at Northwestern University, before

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

[53] Unless otherwise specified, the source is ancestry.com.

[54] This bibliography is based on *New York Times* (1954).

moving to New York City in about 1929. After four years as the secretary to a banker, she joined the New York Cotton Exchange in 1933. Although her tasks in her first nine years appeared to be purely secretarial, featuring taking dictation and writing minutes in shorthand, in 1942 she was the first woman to be appointed to a position considered of executive rank: Assistant Secretary. This position continued to involve secretarial tasks, but also involved management of the executive offices under the First Assistant Secretary. The announcement of her appointment specified that the appointment was on merit and not due to a dearth of male candidates due to the war. At this time, she was unmarried.

She opened what appears to have been her first agency with Bertha E. Horn in 1949 (Horn and Daly Personnel Service); before this agency was sold in 1951, we observe 24 advertisements (and 18 in 1960). At the time of her death of a heart attack in 1954, she had founded and was running the Mae Daly Employment Agency. After her death, her agency was taken over by Rita Grady, and incorporated in 1960, when we observe 47 advertisements.

B.4 Esther Eberstadt Brooke Baldwin

Esther Eberstadt Brooke Baldwin was well known as a writer and employment agency proprietor.[55] Esther Helen Eberstadt was born in New Jersey in 1894 to a wholesale merchandiser father born in Alsace, at the time in Germany, and a mother born in Venezuela. Her 1918 marriage to steel–mill engineer and veteran William C. Brooke ended in divorce after 1920. She received a bachelor's degree from Notre Dame College in Maryland in 1919 and a music degree from the American Institute of Applied Music in New York in 1921.

Esther opened the Mrs. E.E. Brooke employment agency in 1923 (presumably in New Jersey) and in 1930 was living with her mother in rented accomodation in New Jersey, her father having died. Money did not appear to be a problem, as they visited Bermuda together in 1927. Esther published her first book ("The Girl and Her Job") in 1933, the same year she married Robert Baldwin, founder and president of an insurance company (*New York Times* 1933a). In same year, her apparently dim view of the value of college (at least in the context of the Depression) was considered worth reporting by the *New York Times* (1933b), which also reported that she interviewed 500 jobseekers per week.

Esther registered her employment agency in Manhattan in 1935 and incorporated it in New York in 1936, when she became its president; in the 1940 census she reported herself as an employer receiving only non–wage/salary income and having worked full–year in 1939 and 54 hours in the reference week. In the 1940s, Esther published five more books on careers and job search, and was often quoted in the press (see the main text) and asked to lecture on these topics. *Kiplinger Magazine* (1958) included her agency in its 1958 list of the best agencies for executives and Esther's alma mater Notre Dame College awarded her honorary master's and doctoral degrees. Despite this headhunter focus, or because she did not use advertisements for this matching, we see only 11 of her advertisements

[55] Most information is from U.S. decennial censuses, immigration records and New Jersey and New York marriage records, all retrieved from familysearch.org, and Marquis Who's Who (1974).

in 1950 and 18 in 1960, all for women, and all except three clerical. Esther did not have children.

By the 1950s, she and her husband travelled widely in pursuit of their shared interest in archaeology and Arab and Islamic culture, and endowed a scholarship at Bagdad College, a Jesuit boys' high school.[56] Upon her husband's death in 1955, she took on a role in his insurance company as well assuming a vice–president position at a second insurance company, while also being active in many other spheres both in the United States and abroad. She was a member of the national council of the American Friends of the Middle East (1956–1963) and a fellow of the Archaeological Institute of America, and was decorated by the Shah of Iran. She took a particular interest in refugees, and was on the board of directors of the American Committee to Befriend Arab Refugees (1958); a member of the national council of the U.S. Committee for Refugees (1963–1964); and a member of the White House Conference for World Refugees (1963). By 1973, she had moved to Vermont, though her employment agency was still advertising in the *New York Times* until at least 1976. Curiously, she listed an office address in Vienna (Austria) in 1973. She died in Vermont in 1987.

B.5 Ethel Kelly Durkin

Ethel Kelly Durkin is the only owner profiled in this appendix who opened her agency after leaving the labor force to have children. Ethel Kelly was born in 1901 in New York City of parents born in New York, the eldest of six children.[57] Her father was a metal thatcher in the building trades who experienced some unemployment, but by 1915, when Ethel had moved from the Bronx to Staten Island, he was no longer in the household and no household member was employed. Ethel completed tenth grade and took a job as a bookkeeper in the insurance industry. She married Joseph Durkin when she was 21 and stopped working shortly before the birth of her first child in 1925. She was still not working in 1940, after the birth of a second child in 1934. Joseph, a veteran with eight years of education, had a career with the City of New York, moving up from sheet metal worker to mechanic foreman and earning either $2300 or $3300 in 1940 (the amount is difficult to read). In 1947, Ethel opened the Durkin Employment Agency in the Bronx, where the family now lived. In 1949 (as reported in the 1950 census), she worked full year for 35 hours per week, earning $5000 net from her business and receiving $25 in interest/dividends etc. We see eight of her agency's advertisements in the New York Times in 1950 and none in1960: either her agency had closed by then or she advertised elsewhere. She died in California in 1991.

[56] *New York Times* 1955.

[57] Information other than the agency information is from the New York and Federal censuses and the Social Security Administration.

B.6 Marion P. Faxon

We have regrettably incomplete information on Marion P. Faxon, despite her eponymous agency having the most advertisements of any female–owned agency in our sample (30 in 1950 and 99 in 1960); we have found no press information on her and have not discovered her birth name. She was born in Pennsylvania in 1904, and attended or perhaps graduated from college.[58] She married Arba D. Faxon, a stock broker and college graduate, in 1928; he earned $1700 in 1940. They had no children, but Marion was not working in either 1930 or 1940. In 1950, when she resided in New Jersey, she reported to the census–taker that she was an employment services licensee, and was classed as an employee rather than an owner. She registered her agency in Manhattan in 1951, and it was incorporated in 1967.

Biography references

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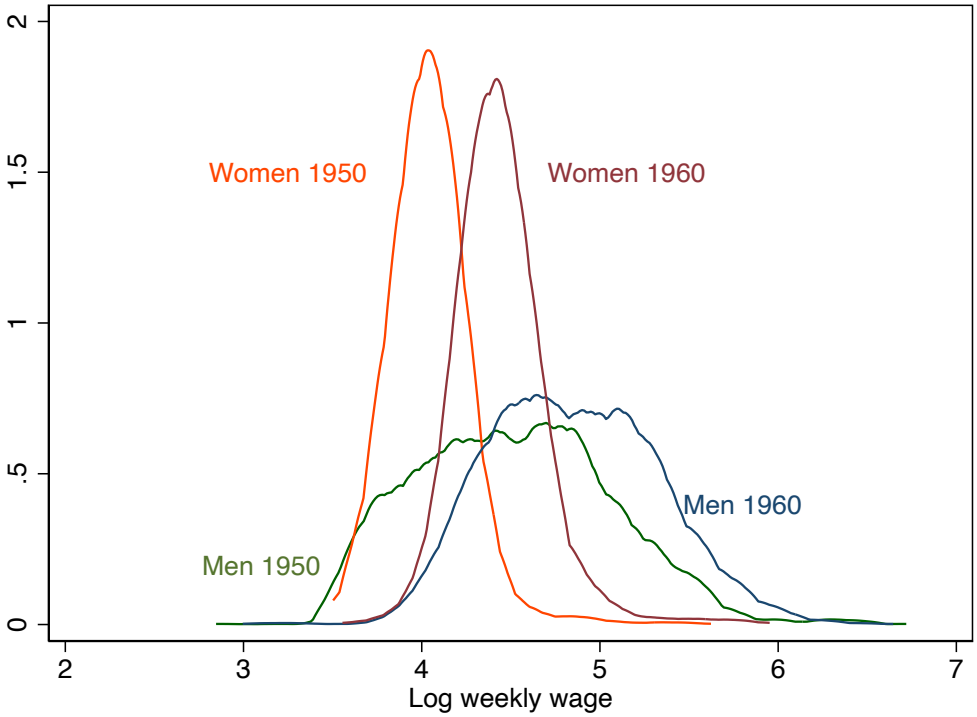
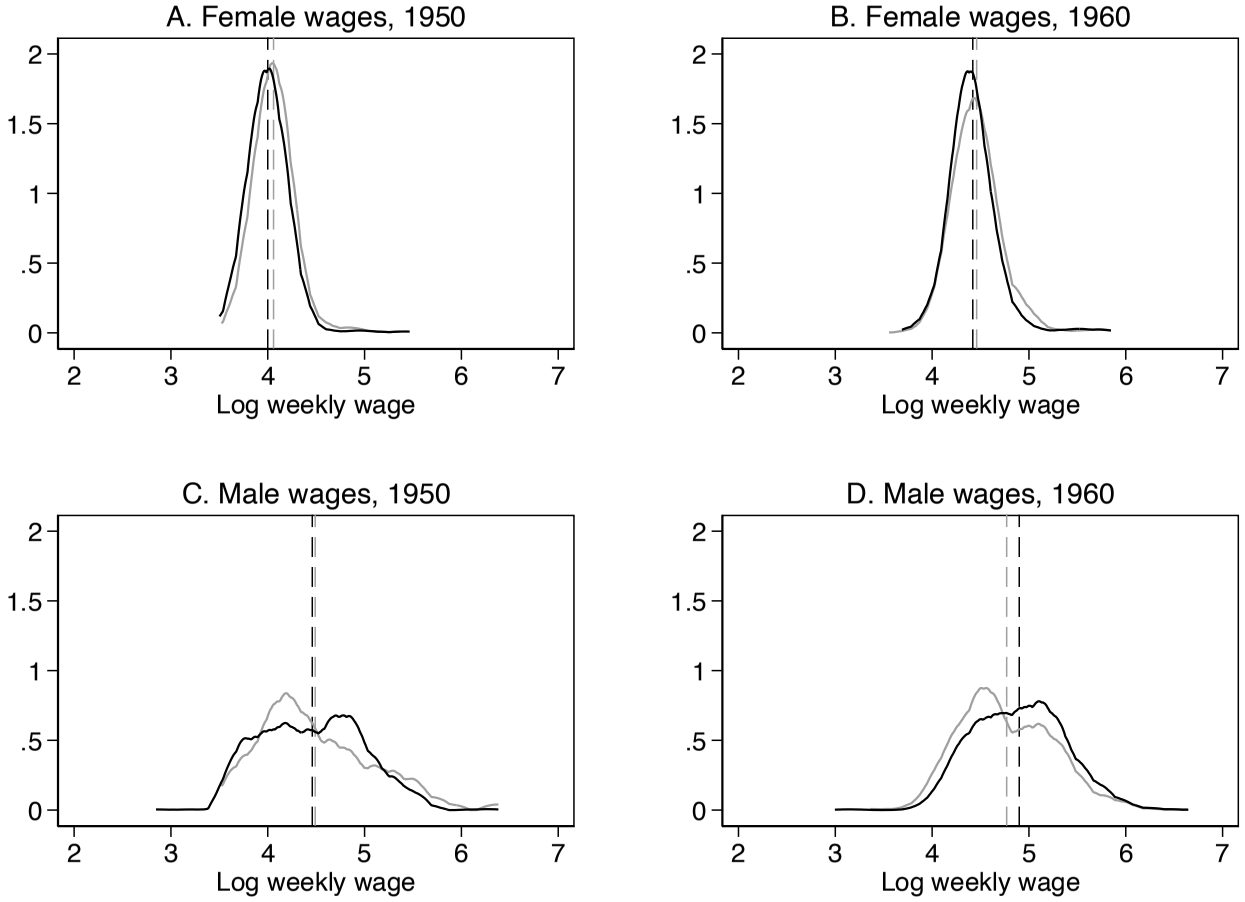
[58] The non–agency information source is the U.S. censuses in ancestry.com.

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. Mean wages in the sample rise 33% for men and 51% for women between 1950 and 1960.

Figure 2: Distributions of log wages for female–owned and male–owned agencies



Notes: Each figure plots in gray the distribution and mean for female–owned agencies, and in black the distribution and mean 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.

Table 1: Descriptive statistics for outcomes by agency ownership

	All agencies (1)	Female owned (2)	Male owned (3)	Corp-orate (4)	Mixed gender (5)	Non-profit (6)
A. Agency size						
Advertisements						
All	87	34	89	122	72	41
	(92)	(20)	(76)	(121)	(52)	(14)
For women	25	19	21	32	35	33
For men	62	15	68	90	38	8
Vacancies						
All	120	53	131	152	118	67
For women	36	32	31	40	57	49
For men	84	20	100	112	61	18
Advertised wages per agency (1960$)	10,063	3211	10,866	14,118	6981	3211
	(12,551)	(2499)	(12,225)	(15,359)	(6024)	(679)
B. Agency shares (%)						
Advertisements	100	21.1	37.8	34.3	5.9	1.0
Advertised wages	100	18.1	40.1	35.9	5.1	0.8
Female advertisements	100	31.2	29.4	30.0	7.6	1.8
Female advertised wages	100	31.0	28.7	31.1	7.4	1.7
C. Ad characteristics (%)						
Female	41.6	61.5	32.3	36.4	53.6	75.2
Female share in advertised occupations	43.7	58.4	36.5	40.0	55.0	65.6
Observations	14,216	2994	5372	4870	839	141
Number of agency-years	465	151	170	116	24	4

Notes: Means with standard deviations in parentheses, unless otherwise indicated. Mixed agencies have both male and female sole proprietors or partners, generally two proprietors sharing a surname. Two of the three non-profit agencies are public agencies, while the third is a corporation. Agency characteristics are measured separately by year (for agencies present in both 1950 and 1960). "Female share in advertised occupations" is the average for pooled years of all posted advertisements (not only those posted by agencies) of the share of the advertisements for the occupation that is advertised to women. Some advertisements contain two or more identical vacancies. There are 366 agencies in the sample and 465 agency-year combinations.

Table 2: Determinants of advertising position open to women

	(1)	(2)	(3)	(4)	(5)	(6)
A. All occupations	0.266***	0.206***	0.138***	0.081***	0.069***	0.012
(14,216 obs)	(0.046)	(0.036)	(0.028)	(0.020)	(0.020)	(0.146)
R-squared	0.10	0.29	0.47	0.60	0.60	0.37
B. Clerical occupations	0.130***	0.098***	--	0.056**	0.041	-0.030
(6630 obs)	(0.040)	(0.036)		(0.025)	(0.025)	(0.122)
R-squared	0.04	0.17	--	0.40	0.40	0.30
C. Professional/technical	0.232***	0.200***	--	0.124***	0.114***	0.245*
and managerial occs	(0.042)	(0.036)		(0.026)	(0.027)	(0.126)
(4857 obs)						
R-squared	0.08	0.23	--	0.40	0.40	0.36
D. Sales (1924 obs)	0.116***	0.109***	--	0.075**	0.075**	0.055
	(0.039)	(0.035)		(0.033)	(0.034)	(0.210)
R-squared	0.03	0.13	--	0.20	0.20	0.38
Ad covariates except occs	--	Yes	Yes	Yes	Yes	--
Aggregate occ dummies	--	--	Yes	--	--	--
Detailed occ dummies	--	--	--	Yes	Yes	--
Agency size (log)	--	--	--	--	Yes	--
Agency dummies	--	--	--	--	--	Yes

Notes: Coefficient on female-owned agency from linear regression for the probability of a position being open to women; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy; detailed occupation controls are 75 dummies and the interaction of the aggregate clerical occupation with the year dummy. Column 6 includes 365 agency dummies. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 3: Aggregate occupation distribution by gender and type of agency (%)

	Female owned (1)	Male owned (2)	Corporate (3)	Mixed gender owners (4)
A. All advertisements				
Clerical	61.0	39.3	43.0	62.0
Craftsmen	1.0	3.1	2.0	0.4
Managers/officials	4.5	4.5	5.3	3.5
Professional/technical	20.9	35.1	28.5	28.3
Sales	9.1	14.4	17.3	4.4
Services	1.4	1.5	2.0	0.5
Not described	2.1	2.0	2.0	1.1
Total	100.0	100.0	100.0	100.0
Observations	2994	5372	4870	839
B. Female advertisements				
Clerical	82.2	83.3	85.1	84.9
Craftsmen	0.3	0.5	0.1	0.2
Managers/officials	1.7	0.7	2.0	0.7
Professional/technical	11.6	10.1	7.1	12.0
Sales	2.5	2.7	3.0	1.1
Services	0.6	1.1	1.2	0.4
Not described	1.1	1.5	1.6	0.7
Total	100.0	100.0	100.0	100.0
Observations	1841	1737	1774	450
C. Male advertisements				
Clerical	27.1	18.2	18.9	35.5
Craftsmen	2.1	4.3	3.0	0.5
Managers/officials	9.1	6.3	7.1	6.7
Professional/technical	35.8	47.1	40.8	47.0
Sales	19.6	20.0	25.4	8.2
Services	2.6	1.7	2.5	0.5
Not described	3.6	2.3	2.2	1.5
Total	100.0	100.0	100.0	100.0
Observations	1153	3635	3096	389

Table 4: Determinants of female share in very detailed occupation of advertised vacancy

	Female advertisements			Male advertisements		
	(1)	(2)	(3)	(4)	(5)	(6)
A. All occupations	0.007	0.006	0.011	0.084***	0.055***	0.032***
	(0.016)	(0.012)	(0.008)	(0.022)	(0.017)	(0.010)
Observations	5908	5908	5908	8308	8308	8308
R-squared	0.02	0.20	0.53	0.04	0.30	0.56
B. Clerical occupations	0.022**	0.016*	--	0.021	0.016	--
	(0.009)	(0.008)		(0.022)	(0.020)	
Observations	4929	4929	--	1701	1701	--
R-squared	0.01	0.13	--	0.05	0.28	--
C. Professional,	0.007	-0.016	--	0.067***	0.038***	--
technical, managerial	(0.041)	(0.038)		(0.010)	(0.015)	
Observations	679	679	--	4182	4182	--
R-squared	0.03	0.23	--	0.05	0.15	--
Other ad covariates	--	Yes	Yes	--	Yes	Yes
Agency size (log ads)	--	Yes	Yes	--	Yes	Yes
Aggregate occ dummies	--	--	Yes	--	--	Yes

Notes: Coefficient on female-owned agency from linear regression for the share of women in the advertised occupation (based on 133 occupations on pooled years of all advertisements, including non-agency advertisements); standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy. *** p<0.01, ** p<0.05, * p<0.1

Table 5: Determinants of female share in very detailed occupation of advertised vacancy, with agency dummies

	(1)	(2)	(3)
A. All occupations:	-0.082***	-0.087***	-0.057**
	(0.027)	(0.026)	(0.026)
Observations	14,216	11,675	11,675
R-squared	0.60	0.57	0.62
B. Clerical	-0.017	-0.019	-0.018
	(0.024)	(0.026)	(0.029)
Observations	6630	5723	5723
R-squared	0.38	0.36	0.42
C. Professional,	-0.061	-0.083*	-0.101**
technical, managerial:	(0.044)	(0.043)	(0.046)
Observations	4861	3777	3777
R-squared	0.38	0.37	0.51
Ads from agencies with both female, male ads only	--	Yes	Yes
Agency dummies			Yes

Notes: Coefficient on female-owned agency x female advertisement from linear regression for the share of women in the advertised occupation (based on 133 occupations on pooled years of all advertisements, including non-agency advertisements); standard errors clustered by agency in parentheses; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and (in columns 1 and 2) non-profit agency; their interactions with a dummy for female advertisement; a dummy for female advertisement and its interaction with the year dummy; two city dummies; a year dummy; and two month dummies. Column 3 includes agency dummies: 365 in panels A and B, 162 in panel C. *** p<0.01, ** p<0.05, * p<0.10

Table 6: 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$)	76	76	75	79	74	72
	(28)	(29)	(29)	(25)	(22)	(34)
Observations	5908	1841	1737	1774	450	106
B. Weekly male wage (1960$)	136	128	139	138	123	140
	(74)	(77)	(75)	(73)	(65)	(93)
Observations	8308	1153	3635	3096	389	35
C. Ratio of mean female and male wages (%)	56.0	59.6	53.7	57.4	60.2	51.5
D. Ratio of mean female and male wages in agencies with both (%)	58.8	63.9	56.5	58.2	62.6	64.8
E. Mean agency female-male wage ratios (%)	73.1	77.5	76.5	67.4	72.4	66.7
Observations (panels D and E)	11,675	2407	4272	4153	760	83

Notes: Means with standard deviations in parentheses, unless otherwise indicated. The number of observations in panel C is the sum of the observations in panels A and B. The number of observations in panels D and E reflects 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 7: Determinants of wages in vacancies open to women

	Ordinary least squares			Median regression	
	(1)	(2)	(3)	(4)	(5)
Regression results					
A. All occupations (5908 obs)	0.055***	0.028*	0.019	0.047**	0.000
	(0.021)	(0.015)	(0.012)	(0.022)	(0.010)
R-squared	0.42	0.59	0.69	0.42	0.63
B. Clerical occs (4929 obs)	0.037**	--	0.006	0.001	0.000
	(0.013)		(0.008)	(0.016)	(0.010)
R-squared	0.51	--	0.74	0.51	0.70
C. Professional, technical,	0.049	--	0.082*	0.001	0.063
managerial occs (676 obs)	(0.065)		(0.042)	(0.052)	(0.041)
R-squared	0.23	--	0.58	0.22	0.41
Ad covariates except occs	--	Yes	Yes	--	--
Aggregate occ dummies	--	Yes	--	--	--
Detailed occupation dummies	--	--	Yes	--	Yes
Agency size (log ads)	--	Yes	Yes	--	Yes
D. Gelbach decomposition of change coefficient on female agency – all occupations					
$\Delta\beta$ compared to base	--	0.026**	0.036**	--	--
		(0.011)	(0.013)		
Ad covariates except tasks,	--	0.006	0.004	--	--
occupations, training		(0.005)	(0.003)		
Training provided	--	0.003**	0.003**	--	--
		(0.002)	(0.001)		
Tasks	--	0.005**	0.005***	--	--
		(0.002)	(0.002)		
Detailed or aggregate	--	0.009	0.020**	--	--
occupations		(0.006)	(0.010)		
Agency size (log ads)	--	0.004	0.004	--	--
		(0.004)	(0.003)		

Notes: Panels A-C coefficients on dummy for female-owned agency in OLS (columns 1-3) or median (columns 4-5) regression; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy; detailed occupation controls in panel A are in principle 75 dummies and the interaction of the aggregate clerical occupation with the year dummy, but 11 detailed occupations are never advertised to women. The first row in panel D gives the difference between the coefficient on female-owned agency in the column's specification compared to the base specification from panel A (all occupations). Subsequent panel D values are the components of this change. Tasks are dummies for the following job requirements: needing math or statistics, being good at figures, needing to manage or supervise, being an assistant or junior, the interaction of managing and being an assistant, typing, stenography, travel and language. *** p<0.01, ** p<0.05, * p<0.1

Table 8: Determinants of wages in vacancies aimed at men – median regression

	(1)	(2)	(3)	(4)	(5)
A. All occupations (8308 obs)	-0.186**	-0.073*	-0.024	-0.008	-0.011
	(0.094)	(0.045)	(0.039)	(0.025)	(0.025)
R-squared	0.07	0.38	0.36	0.44	0.44
B. Clerical occupations (1701 obs)	-0.000	-0.007	--	-0.007	-0.007
	(0.029)	(0.025)		(0.024)	(0.024)
R-squared	0.30	0.54	--	0.44	0.44
C. Professional, technical,	-0.109*	-0.079**	-0.086	-0.068	-0.051
managerial occs (4181 obs)	(0.060)	(0.035)	(0.057)	(0.049)	(0.040)
R-squared	0.06	0.32	0.07	0.24	0.25
Ad covariates except occupations	--	Yes	--	--	--
Aggregate occupation dummies	--	--	Yes	--	--
Detailed occupation dummies	--	--	--	Yes	Yes
Agency size (log ads)	--	--	--	--	Yes

Notes: Coefficients on dummy for female-owned agency from median regression; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy; detailed occupation controls in panel A are in principle 75 dummies and the interaction of the aggregate clerical occupation with the year dummy, but 3 detailed occupations are never advertised to men. *** p<0.01, ** p<0.05, * p<0.1

Table 9: Determinants of wages in vacancies aimed at men - ordinary least squares

	1950 (1)	1950 (2)	1960 (3)	1960 (4)	1960 (5)
Regression results					
A. All occupations	0.037	0.049	-0.121*	-0.022	-0.009
	(0.125)	(0.036)	(0.063)	(0.026)	(0.021)
Observations	1615	1615	6693	6693	6693
R-squared	0.03	0.68	0.01	0.50	0.58
B. Clerical occupations	0.123**	0.058	-0.060*	--	-0.025
	(0.057)	(0.047)	(0.032)		(0.023)
Observations	440	440	1261	--	1261
R-squared	0.03	0.59	0.02	--	0.50
C. Professional,	-0.009	-0.012	-0.132**	--	-0.017
technical, managerial	(0.083)	(0.063)	(0.057)		(0.028)
Observations	767	767	3414	--	3414
R-squared	0.01	0.50	0.02	--	0.47
Ad covariates except occs	--	Yes	--	Yes	Yes
Aggregate occupation dummies	--	--	--	Yes	--
Detailed occupation dummies	--	Yes	--	--	Yes
Agency size (log ads)	--	Yes	--	Yes	Yes
B. Gelbach decomposition of change coefficient on female agency – all occupations					
$\Delta\beta$ compared to base	--	-0.011	--	-0.099**	-0.112**
		(0.107)		(0.046)	(0.051)
Ad covariates except tasks,	--	-0.024	--	-0.008	-0.006
occupations, training		(0.027)		(0.011)	(0.010)
Training	--	-0.002	--	-0.013	-0.012
		(0.008)		(0.010)	(0.010)
Tasks	--	0.007	--	-0.010	-0.011
		(0.014)		(0.009)	(0.009)
Occupations	--	-0.002	--	-0.058**	-0.072**
(aggregate or detailed)		(0.079)		(0.026)	(0.033)
Agency size (log ads)		0.010	--	-0.011	-0.011
		(0.014)		(0.008)	(0.007)

Notes: Coefficients on dummy for female-owned agency from OLS regression; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, one (1950) or two (1960) city dummies, and one (1950) or two (1960) month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage); however, no job advertisements for men in 1950 required mathematical skills. Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy; detailed occupation controls in panel A are in principle 75 mutually exclusive dummies and the interaction of the aggregate clerical occupation with the year dummy, but nine detailed occupations in 1950 and four in 1960 are never advertised to men. *** p<0.01, ** p<0.05, * p<0.1

Table 10: Determinants of wages for men and women, median regression with agency dummies

	(1)	(2)	(3)	(4)
A. All occupations	0.237***	0.145*	0.055	-0.018
	(0.081)	(0.079)	(0.054)	(0.064)
Observations	14,216	11,675	11,675	11,675
R-squared	0.35	0.33	0.49	0.49
B. Clerical occupations	-0.038	-0.033	--	-0.012
	(0.041)	(0.040)		(0.054)
Observations	6630	5293	--	5293
R-squared	0.43	0.43	--	0.49
C. Professional, technical,	0.109	0.130	--	-0.038
managerial occupations	(0.077)	(0.096)		(0.065)
Observations	4857	2841	--	2841
R-squared	0.19	0.21	--	0.40
Ads from agencies with both female, male ads only	--	Yes	Yes	Yes
Aggregate occupation dummies	--	--	Yes	--
Agency dummies	--	--	--	Yes

Notes: Coefficients on female-owned agency x female advertisement from median regression; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and (in columns 1 and 2) non-profit agency; their interactions with a dummy for female advertisement; a dummy for female advertisement and its interaction with the year dummy; two city dummies; a year dummy; and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy. Column 4 includes agency dummies: 365 in panel A, 308 in panel B and 315 in panel C. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 1: Census of Business statistics for private employment agencies in New York City and Washington D.C., 1954

	Establishments		Sole propri-etors	Receipts (000 $)	Payroll			Paid employees	
	No	% with payroll			(000 $)	As % of receipts	Per paid employee ($, week of Nov 15)	Week of Nov 15	Per establishment with paid employees
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. New York City	730	67.1	706	15,615	6,218	44.8	50.3	2,519	5.1
B. NYC counties									
New York	467	73.9	454	12,183	5,228	46.7	51.5	2092	6.1
Queens	38	47.4	39	645	190	38.9	40.8	72	4.0
King's	54	51.9	56	606	165	35.3	35.6	97	3.5
Bronx	14	71.4	10	211	79	38.9	62.1	30	3.0
C. Other counties									
Nassau	39	48.7	37	362	71	29.8	57.3	26	1.4
Westchester	25	52.0	19	222	71	37.4	57.2	25	1.9
Suffolk	4	100.0	2	14	4	28.6	38.3	3	0.7
D. Washington	38	36.8	33	403	126	42.4	61.4	55	3.9

Notes: Statistics refer to private employment agencies, excluding agencies for temporary workers. "Week of Nov 15" refers to the workweek ended nearest Nov 15. "New York City" refers to the New York Standard Metropolitan Area, which includes in addition to New York City counties includes the New York counties of Nassau, Rockland, Suffolk and Westchester and the New Jersey counties of Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset and Union. Statistics on Richmond County NY (Staten Island) are not separately available. Payroll as a % of receipts in column 6 uses receipts for establishments with payroll. "000 $" means thousands of dollars. "Sole proprietors" means active proprietors of unincorporated establishments, includes partnerships; unincorporated establishments may have more than one proprietor.

Source: 1954 Census of Business, Vol VI, Selected Services Area Statistics, U.S. Bureau of the Census; Part 1 U.S. Summary, Alabama to Mississippi; Part 2 Missouri to Wyoming, Alaska and Hawaii

https://upload.wikimedia.org/wikipedia/commons/5/5f/1954_Census_of_Business._Selected_Service_Trades._Area_Statistics_%28IA_1954censusofbusi61unse%29.pdf, accessed February 1, 2024.
https://books.google.ch/books?id=EHAoAAAAMAAJ&printsec=frontcover&hl=fr&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false accessed February 1, 2024

Appendix Table 2: Distribution of aggregate occupations across samples

	All advertisements		Agency advertisements		Final sample ads		
	%	Ads	%	Ads	%	Ads	Wage
Occupation	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Clerical	42.0	10,889	45.3	8350	46.3	6630	74
Craftsmen	4.0	1033	2.3	429	2.1	303	105
Household/domestic	1.3	326	0.5	98	--	--	--
Managers/officials	4.6	1196	4.8	888	4.7	671	139
Operatives/laborers	1.3	346	0.8	152	--	--	-
Professional/technical	27.9	7155	29.1	5353	29.9	4186	154
Sales	13.9	3601	13.4	2471	13.5	1924	144
Services	3.1	818	1.7	323	1.6	224	86
Not described	2.3	596	1.9	357	2.0	278	91
Total	100.0	25,960	100.0	18,421	100.0	14,216	111

Note: The final sample contains advertisements for which a wage is posted by an agency whose ownership is known. The wage in column 7 is the mean weekly wage in 1960$.

Appendix Table 3: Distribution of white-collar occupations, New York City Standard Metropolitan Area, 1950 and 1960

Occupation	%
Clerical	38.4
Managers/officials	21.7
Professional/technical	24.3
Sales	15.6
Total	100.0

Notes: Aggregated data from 1950 and 1960 Census of Population self-reported occupations. U.S. Census Bureau, 1963, Table 74, p. 34-271; U.S. Census Bureau, 1952, Table 35, p. 32-100.

Appendix Table 4: Help-Wanted Advertisements by Newspaper and Date

Newspaper	Year	Month	Day	Share ads (%)	Ads	Agency? (%)	Agency ownership known? (%)	Final sample	
								Share ads (%)	Ads
				(1)	(2)	(3)	(4)	(5)	(6)
Baltimore	1960	January	3	2.5	644	31.2	79.6	1.3	160
		May	1	2.7	690	11.0	32.9	0.2	25
Washington	1950	January	8	1.4	356	65.7	35.9	0.6	84
		May	7	1.3	342	64.9	40.1	0.6	89
	1960	January	3	3.6	937	41.6	42.8	1.2	167
		May	1	4.7	1214	41.2	52.6	1.9	263
		December	4	3.7	953	48.4	45.3	1.5	209
New York	1950	May	7	12.1	6000	82.5	75.1	26.1	3713
	1960	May	1	57.1	14,824	76.8	83.5	66.9	9506
All	--	--	--	100.0	25,960	71.0	77.1	100.0	14,216

Notes: All dates are Sundays. Baltimore data are from the *Baltimore Sun*, Washington data are from the *Washington Post*; New York data are from the *New York Times*. The final sample contains advertisements for which a wage is posted by an agency whose ownership type is known. Ownership was collected only for agencies posting at least 2 advertisements.

Appendix Table 5: Detailed occupations and their share of the sample (%)

Clerical		Managers and Officials		Professional and Technical		Sales	
Shipping clerk	1.2	Other	1.9	Engineer	6.6	Other	4.8
IBM operator	0.6	Credit man	0.7	Accountant	4.7	Advertising	2.2
Agent	0.3	Building manager	0.6	Scientist	2.5	Insurance	2.1
Collector	0.2	Foreman	0.5	Designer	1.3	Food	0.8
Messenger	0.2	Plant manager	0.2	Programmer	1.1	Chemical	0.5
Other clerk*	5.5	Purchasing agent	0.9	Draftsmen	1.0	Stock	0.4
Other clerical*	1.8			Assistant accountant	0.9	Household	0.4
Accounting clerk*	1.1			Financial analyst	0.5	Electric	0.4
Bank teller*	0.4			Estimator	0.5	Construction	0.3
Other secretary**	5.9			Financial exec	0.5	Financial	0.3
Receptionist**	3.8			Tabulating machine op	0.4	Medical	0.3
Typist**	3.7			Lawyer	0.4	Auto	0.2
Office worker**	3.2			Author	0.3	Market research*	0.4
Bookkeeper**	3.0			Doctor	0.2	Clothes*	0.3
Secretary-Steno**	2.4			Pharmacist	0.1	Real estate*	0.2
Stenographer**	2.1			Other*	3.2		
Clerk-typist**	2.1			Personnel*	1.3		
Executive sec'y**	1.8			Artist*	1.2		
Assistant bookkeeper**	1.3			Editor/ Reporter*	0.9		
Switchboard**	1.4			Technician*	0.7		
Legal secretary**	0.9			Copywriter*	0.6		
Filing clerk**	0.8			Teacher*	0.1		
Keypunch**	0.8			Librarian**	0.3		
Advertising sec'y**	0.7			Nurse**	0.2		
Comptometer op**	0.6			Dietician**	0.1		
Cashier**	0.5			Model**	0.1		

Note: 14,216 observations. The aggregate categories of Craftsmen (2.2% of sample, 2% female), Services (1.6%, 34% female) and Not described (2.0%, 27% female) are not subdivided into detailed occupations. * indicates the occupation is more than 20% and less than 80% female; ** indicates the occupation is at least 80% female. The gender share of advertisements in each occupation is calculated on the full sample, including non-agency advertisements, and both years. The occupational female share used in the analysis is based on the very detailed occupational classification, which further subdivides categories such as Other clerk, Other clerical, Other professional, Other sales and Technician into more segregated categories.

Appendix Table 6: Help-wanted advertisement characteristics and their means (%)

Education, age, experience		Payment, advertisement		Tasks	
High school	2.3	Fringe benefits	3.1	Math, statistics	0.8
Some college	1.7	Commission	0.4	Good at figures	1.0
College	7.4	Bonus	0.1	Management	10.5
No experience	3.0	Board	0.7	Assistant, junior	10.5
Some experience	22.5	Lunch	0.6	Both assistant, management	1.3
Much experience	2.0	Opportunity for advancement	2.3	Typing	11.2
Young	4.2	Training provided	10.4	Stenography	7.1
Mature	2.6	More than one job in ad	13.1	Travel	1.3
Min age <20	0.5	Wage range given	21.4	Language	1.1
Min age 20-24	1.1	Wage range	3.9		
Min age >24	1.6	Customer interaction	17.3		
Max age <45	3.6	Female product or service	3.8		
Max age >45	0.0	Personality trait	0.6		
Both min, max age	1.2	Looks or physical trait	2.0		
None mentioned	59.0				

Note: 14,216 observations. All variables except wage range are dummies; wage range is difference in upper and lower bound of log wage. 24.6% of advertisements have none of the above mentioned.

Appendix Table 7: Transitions in ownership type, entry and exit between 1950 and 1960

	1960 ownership status			
1950 ownership status	Female owned	Male owned	Other	Closed
Female owned	30	1	8	26
Male owned	2	24	7	21
Other	2	4	21	13
Not yet opened	52	87	68	-

Notes: Based on 465 agency-years representing 366 agencies. "Other" includes corporations (the vast majority), as well as mix-gender sole proprietorships and partnerships and public or non-profit agencies.

Appendix Table 8: Determinants of wages for men and women, OLS with agency dummies

	(1)	(2)	(3)	(4)
A. Both years	0.142**	0.114*	0.061	-0.027
	(0.057)	(0.062)	(0.046)	(0.050)
Observations	14,216	11,675	11,675	11,675
R-squared	0.36	0.34	0.50	0.50
B. 1960 only	0.177**	0.169**	0.092*	-0.018
	(0.059)	(0.066)	(0.049)	(0.046)
Observations	10,330	8734	8734	8734
R-squared	0.20	0.19	0.38	0.42
Ads from agencies with both female, male ads only	--	Yes	Yes	Yes
Aggregate occ dummies	--	--	Yes	--
Agency dummies	--	--	--	Yes

Notes: Coefficients on female-owned agency x female advertisement from OLS; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and (in columns 1 and 2) non-profit agency; their interactions with a dummy for female advertisement; a dummy for female advertisement and its interaction with the year dummy; two city dummies; a year dummy; and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy. Column 4 includes agency dummies: 365 in panel A, 308 in panel B and 315 in panel C. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 9: Determinants of wages in vacancies aimed at women - ordinary least squares by year

	1950 (1)	1950 (2)	1960 (3)	1960 (4)	1960 (5)
Regression results					
A. All occupations	0.053**	0.009	0.064**	0.039**	0.034**
	(0.022)	(0.129)	(0.027)	(0.019)	(0.016)
Observations	2271	2271	3637	3637	3637
R-squared	0.03	0.50	0.04	0.36	0.52
Ad covariates except occs	--	Yes	--	Yes	Yes
Aggregate occupation dummies	--	--	--	Yes	--
Detailed occupation dummies	--	Yes	--	--	Yes
Agency size (log ads)	--	Yes	--	Yes	Yes
B. Gelbach decomposition of change coefficient on female agency – all occupations					
$\Delta\beta$ compared to base	--	0.044***	--	0.026	0.030
		(0.016)		(0.016)	(0.018)
Ad covariates except tasks, occupations, training	--	0.003	--	0.003	0.002
		(0.004)		(0.008)	(0.002)
Training	--	0.002	--	0.004	0.003
		(0.001)		(0.003)	(0.002)
Tasks	--	0.004	--	0.004	0.005**
		(0.003)		(0.003)	(0.003)
Occupations (aggregate or detailed)	--	0.025**	--	0.016*	0.020
		(0.011)		(0.009)	(0.013)
Agency size (log ads)		0.010*	--	0.002	-0.000
		(0.006)		(0.004)	(0.003)

Notes: Coefficients on dummy for female-owned agency from OLS regression; standard errors clustered by agency in parentheses. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, one (1950) or two (1960) city dummies, and one (1950) or two (1960) month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage); however, commission is not controlled as only one female ad mentioned a commission in 1950 or 1960. Aggregate occupation controls are 6 dummies and the interaction of the aggregate clerical occupation with the year dummy; detailed occupation controls in panel A are in principle 75 mutually exclusive dummies and the interaction of the aggregate clerical occupation with the year dummy, but 27 detailed occupations in 1950 and 12 in 1960 are never advertised to women. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 10: Determinants of advertising position open to women including agency name type

	(1)	(2)
Female-owned agency	0.223***	0.060***
	(0.048)	(0.022)
Female-named agency	0.123***	0.077***
	(0.047)	(0.026)
Male-named agency	-0.136**	-0.054**
	(0.058)	(0.027)
Initials-named agency	0.170***	0.033
	(0.041)	(0.032)
R-squared	0.11	0.60
Ad covariates except occupations	--	Yes
Detailed occupation dummies	--	Yes
Agency size (log)	--	Yes

Notes: 14,216 observations. Coefficients from linear probability for the probability of a position being open to women; standard errors clustered by agency in parentheses. An initials-named agency is one whose name includes an initial or initials followed by a surname. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). Detailed occupation controls are 75 dummies and the interaction of the aggregate clerical occupation with the year dummy. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 11: Determinants of female share in very detailed occupation of advertised vacancy, distinguishing agency name type

	Female advertisements		Male advertisements	
	(1)	(2)	(3)	(4)
Female-owned agency	0.005	0.003	0.087***	0.058***
	(0.017)	(0.014)	(0.024)	(0.018)
Female-named agency	-0.014	-0.004	-0.015	-0.008
	(0.026)	(0.020)	(0.022)	(0.016)
Male-named agency	-0.002	-0.021	-0.007	0.008
	(0.022)	(-0.016)	(0.017)	(0.019)
Initials-named agency	0.102***	0.075**	-0.032	-0.042
	(0.013)	(0.020)	(0.025)	(0.026)
Observations	5908	5908	8308	8308
R-squared	0.03	0.20	0.04	0.30
Other ad covariates	--	Yes	--	Yes
Agency size (log ads)	--	Yes	--	Yes

Notes: Coefficients from linear probability regression for the advertisement being for a majority-male occupation; standard errors clustered by agency in parentheses. An initials-named agency is one whose name includes an initial or initials followed by a surname. An occupation is majority male if more than 50% of all posted advertisements (not only those posted by agencies) in pooled years in the detailed occupation are aimed at men. An occupation is majority-female if at least 50% of all posted advertisements (not only those posted by agencies) in pooled years are open to women, except for the occupations "other clerk" and "other clerical" which are coded as majority male. For professional occupations this adjustment is irrelevant. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. The 36 non-occupation covariates are listed in the data section (they do not include wage). *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix Table 12: Determinants of wages, distinguishing agency name type

	Female advertisements		Male advertisements	
	(1)	(2)	(3)	(4)
Female-owned agency	0.046**	0.004	-0.189**	-0.026
	(0.022)	(0.009)	(0.079)	(0.026)
Female-named agency	0.034	0.000	0.151	0.086**
	(0.025)	(0.012)	(0.094)	(0.043)
Male-named agency	0.068*	0.038	0.143*	0.090**
	(0.036)	(0.017)	(0.085)	(0.039)
Initials-named agency	0.042	-0.019	-0.037	-0.009
	(.037)	(0.020)	(0.100)	(0.048)
Observations	5908	5908	8308	8308
R-squared	0.42	0.63	0.08	0.45
Detailed occupation dummies	--	Yes	--	Yes
Agency size (log ads)	--	Yes	--	Yes

Notes: Coefficients from median regression; standard errors clustered by agency in parentheses. An initials-named agency is one whose name includes an initial or initials followed by a surname. All regressions include dummies for mixed-gender owned, corporate and non-profit agency, two city dummies, a year dummy and two month dummies. Detailed occupation controls in panel A are in principle 75 dummies and the interaction of the aggregate clerical occupation with the year dummy, but 11 detailed occupations are never advertised to women and 3 never advertised to men. *** p<0.01, ** p<0.05, * p<0.1