Two-Sided Interview Schedules and Employment Outcomes: Evidence from the Choices of Recruiters and Job Applicants

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Abstract

This paper examines the choices of both recruiters and job applicants, and the employment outcomes that result from their interviews using a detailed résumé dataset of 535 applicants in a professional master's program in the U.S. during the years 2008-2012. For both applicants and recruiters, I observe the entire choice set from which interviews are scheduled. I examine the characteristics with which each side prefers to match. I find that in more than 30 percent of all eventual job matches, the jobs were obtained by applicants who were not chosen by recruiters, but rather by applicants who obtained their interview slot via bidding (signaling). This unique process allows one to disentangle the relative importance of applicants' credentials as observed by recruiters and applicants' signaling of their interest in a particular position.

I. Introduction

The process through which employers and job applicants match for interviews, and ultimately fill vacancies, is still largely a black box. In the macroeconomics literature, the Mortensen-Pissarides search-equilibrium framework (e.g., Mortensen and Pissarides 1999) uses the matching function as one of the key ingredients, but is mostly silent about how this black box operates (see Petrongolo and Pissarides (2001) for a review of the matching function). In micro-level studies, the commonly-used data sets only have information on actual match outcomes and possibly some information on search efforts or job finding methods, but there is usually no direct information on the choice set for both employees and employers.

To better understand this matching process, I use a newly constructed dataset that includes information on: the entire set of resumes submitted for each opening by students in a professional master's program in the U.S. during nine semesters between 2008 and 2012; the entire set of applicants available and those that were selected by recruiters for on-campus interviews; the actual (possibly multiple) job offers that each applicant received; and the eventual employment outcomes including location, wages, and signing bonus.

More than 90 percent of all applicants find their job through the program's career services, though the information also includes the outcomes of those who found jobs through other means. The sample includes more than 500 applicants and their eventual job outcomes and consists of more than 4000 scheduled interviews and their eventual outcomes.

The unique sequential nature in which interviews are assigned, allows for a more tractable estimation of both the demand and supply sides. In the setting I examine, recruiters first choose

the applicants they wish to interview among a set of resumes. Then, those applicants not selected are allowed to bid on the remaining interview slots using an allotment of points they receive in the beginning of the recruiting season. Those with the highest bids receive the remaining interview slots. I use this unique two-sided matching mechanism to examine the value of job applicants' signaling.

I find that in more than 30 percent of all eventual job matches, the jobs were obtained by applicants who were not chosen by recruiters, but rather by applicants who obtained their interview slot via bidding. I find that both applicants' credentials as observed by recruiters and applicants' signaling of their interest in a particular position are important in determining matches. As such, this paper is an empirical contribution to the growing literature on two-sided matching (e.g. Coles et al. 2010, Roth 2003, etc.).

However, it is important to note that unlike the case of many matching and allocation mechanisms, in this setting applicants do more than signal. They can obtain an interview slot even if the employer has not expressed interest in interviewing them.

The other contribution of this paper is in the area of labor demand (e.g. Hamermesh 1986). The detailed coding of each applicant's resume coupled with the fact that I observe the complete set of available resumes that each recruiter faces allows me to examine the factors that determine who recruiters choose to interview. Controlling for employer fixed effects, I find that in addition to the usual human capital measures such as work experience and GPA, recruiters have a preference for those with leadership experience and memberships in professional associations.

The results in this paper suggest that information contained in resumes is important for obtaining interviews. However, conditional on obtaining an interview, many of those variables have no predictive power when it comes to job offers, and even less so in the case of wages.

In addition, the detailed data allows me to examine the preferences of applicants among employers. I find that among jobs of similar type and responsibility, candidates choices are correlated with firm characteristics such as industry and firm financials.

The next section introduces the data and the process by which applicants and employers meet for interviews. Section III presents the empirical specifications and discusses some of the identification assumptions. Section IV describes the results. Section V concludes. The tables can be found at the end of the paper.

II. Data and Setting

This paper examines the job applications and employment outcomes of students and graduates of a specialized professional master's program in the U.S. The program takes about two years to complete. Students typically are encouraged to have an internship during their first summer in the program. The program's career service mechanism is identical for those looking for internships or full-time jobs. For each student, the data include information on applications and employment outcomes for both internships and full-time jobs. Panel A of Table 1 provides summary statistics for the applicants. 68 percent of the students are female and 24 percent are international. The program's graduates have a median starting salary of $74,000, above the US median for those holding a professional degree.

The program's career services (CS) plays a central role in facilitating matching between employers and students in the program. More than 90 percent of all applicants find their job through the program's CS. As such, the focus of the empirical part will be on the CS's unique mechanism and the choices of the employers and applicants participating through the CS. However, the data also contain information on employment outcomes that were not directly obtained through CS.

The characteristics of the employers recruiting at this program are summarized in Panel B of Table 1. 85% of the firms are in the S&P 500 index. For those publicly traded, the average market value is 48 million dollars. The firms represent a diverse set of industries. Some of the smaller firms may only hire through this program and may only have an opening or two per year. Other firms hire at several schools and may have a half a dozen or more openings to fill throughout several locations.

The dataset contains three types of information. First, detailed information on each student was compiled by merging records from their application to the graduate program, detailed coding of their resume, and results of their salary survey. Their program application data contains information such as age, race, and test scores (e.g., GRE or GMAT). The resumes were coded for more traditional human capital measures such as undergraduate major, GPA, and detailed job experience (type of job and length). All additional resume information was coded such as awards and honors, participation in extra curriculum activities and clubs, and volunteering. Finally, data on employment outcomes include salary, bonus, moving allowance, and location as well as

salary, bonus, etc. for other job offers that were not accepted by the student if the student had multiple job offers.

The second type of information is firm financials compiled from S&P's Compustat database for those publicly traded firms.[1] It includes information on industry, size, CEO compensation, etc. Additional information was collected on brand reputation[2] as well as the firm's salary offers for previous cohorts.

Finally, the third type of information contains detailed matched records of: 1) The <u>entire</u> set of applications received by each employer; 2) The <u>entire</u> set of applicants from the program the employer decided to interview; 3) The bidding behavior of applicants for recruiting slots; 4) The actual interview schedule of each employer; 5) The eventual job outcomes (matches) that resulted from the interviews (including offers that were declined).

The setting and mechanism through which employers and applicants meet in this specific market have several advantages. Given the importance of the institutional detail and timing of the interview matching process for the empirical identification and estimation, the stages of the process are described in more detail in figure 1.

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[1] The COMPUSTAT database is available at https://wrds.wharton.upenn.edu/

[2] America's Most Admired List, 2007. Fortune Magazine, March 19, 2007.

Date	Action taken by applicant	Action taken by firm
t - 24 days		Post opening for applicants (20 slots)
t - 23 days	Submit their resume to firm	
t - 19 days		Start looking at resumes
t - 14 days		Announce 10 applicants (and standbys)
t - 13 days	Sign up for interview if chosen	
t - 12 days		Alternatives fill any last minute drop
t - 10 days	Bid[*] on *remaining* 10 slots	
t - 5 days	Free for all if a slot remains open	
Day t	Meet for interview	Meet for interview

FIGURE 1. TYPICAL APPLICATION AND INTERVIEW SCHEDULE TIMELINE ASSUMING 20 SLOTS.

Notes: This scenario assumes twenty interview slots, half selected by employer and half by applicant bids, which is a typical scenario in this program.
* Students may bid 0 to 1000 points from an allotment of 1000 points for the entire job-search season.

The unique setting and timeline described in Figure 1 have several notable features. First, the meeting of applicants and employers is centralized, standardized, and identical for all employers and applicants. All applicants are informed of an opening on the same day. All applications are examined with a timeframe of a few days and are concluded before any interviews take place. In addition, the sequential nature of the setting is very helpful for the empirical investigation by avoiding the need to account for the simultaneity often found in labor markets, as further explained in Section III. For example, employers do not make their choices before all applicants have submitted their application. Similarly, applicants do not bid for interview slots before they are informed of whether or not they were selected for employer-chosen slots by the employer.

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It is important to note several additional details. Employers who select among resumes have no additional information besides that contained in the submitted resumes and short application. I observe the same information in my data set. Applicants cannot interview if they miss any of the deadlines in the process described in Figure 1. In particular, those who did not submit a resume for consideration in the first stage, cannot later on bid on any remaining interview slots with that particular employer.

Finally, the bid mechanism is resolved automatically by the computer. If there are n interview slots, the highest n bids win that slot. Ties are resolved at random, and any non-winning bids are returned to the bidder's allocation. Employers do not know the bid amount. The recruiting schedule given to the recruiters who arrive on campus does not designate those chosen by the employers, and those who obtained a slot via bid differently. However, as the initial choices were made by the employer, they could keep their own record as to how each interviewee obtained an interview slot.

The outcomes of the interview-matching mechanism are summarized in Table 2. The on-campus sample in this paper covers 62 employers, 535 applicants, 344 job postings and 21,042 possible employer applicant combinations resulted in 4,117 job interviews. On average, applicants had 4.6 interviews (with a maximum of several dozen in one case).

III. Empirical Framework

The sequential nature of the interview-matching process allows for a more straightforward estimation of both labor supply and labor demand. I estimate two types of empirical

specifications. The first is a utility-based choice framework for an employer's (applicant's) demand for meeting an applicant (employer) for an interview. Similarly, conditional on an interview, a utility-based choice framework can be estimated for the likelihood of making an offer and for the likelihood of accepting an offer. The second type of specifications examined looks at the job match outcome, particularly Mincer-type wage regressions.

I first consider the choice of an applicant of whether or not to apply to an employer. The binary decision of individual i to apply (submit a resume) to job j, $y_{i,j} = 1$, is a function of the latent utility $U_{i,j}$ from an application for an interview: $\Pr(y_{i,j} = 1 | i, j) = \Pr(U_{i,j} > 0 | i, j)$. The choice can be estimated as:

(1) $$apply_{i,j} = f(b_0 + X_i' b_1 + Z_j' b_2 + (X_i \cdot Z_j)' b_3 + \varepsilon_{i,j})$$

where X_i are firm characteristics, Z_j are firm or job characteristics, the two may interact ($b_3 \neq 0$), and the unobservable may include firm or individual fixed effects.

One appealing characteristic of this particular choice problem is that there is little cost or price effect for this demand equation. In particular, applicants can apply for as many jobs as they would like. If at some point in the process they would have too many interviews or job offers, they can always elect to not sign up for an interview or withdraw from the schedule later on.

Applicants who are not chosen by an employer for an interview face a similar decision again of whether or not to bid, and how many points to bid for an interview slot. However, unlike the original choice, here the applicants must take into account two strategic considerations. First,

they must take into account that other students are also potentially bidding for a slot. Second, they now face a budget constraint, as they have a fixed allotment of bid points for the entire recruiting season. As such the decision of bidding for an interview at time t can be written as:

$$(2) \quad bid_{i,j,t} = f(b_0 + X_i'b_1 + Z_j'b_2 + (X_i \cdot Z_j)'b_3 + b_4 E[bid_{-i,j,t}] + b_5 E[bid_{i,t+1}] + \varepsilon_{i,j})$$

where $E[]$ is the expectation operator, $-i$ denotes the behavior of other applicants, and $bid_{i,t+1}$ summarizes the future bid behavior (for subsequent job openings of other employers) of applicant i.

Employers face a similar choice problem when deciding who to interview. However, unlike applicants deciding on whether or not to apply, the employers have a limited number of interview slots. Because each applicant has the same "price"- they account for one interview slot, if a job-specific fixed effect is included, an equation like equation (1) can be estimated for the employer's choice. In addition, there are two strategic considerations employers may take into account. First, they may consider their competitors and decide not to interview applicants who they deem to be out of their reach. Second, given that some of the slots will later be bid on by applicants, they may decide not to use their own choice on someone they expect would get on their interview schedule via bid. I ignore these two strategic considerations based on my conversations with employers and the CS staff.[3]

The employer's decision of whether or not to interview an applicant can be written as:

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[3] One applicant had over 50 interviews in a span of a few weeks. Employers, however, might not make a job offer to students who are doing very well in number of interviews or have an offer from another firm if they think they cannot compete.

(3)
$$invite_{i,j,t} = f(X_i'c_1 + Z_j'c_2 + (X_i \cdot Z_j)'c_3 + J_j + \varepsilon_{i,j})$$

where, as above, X_i are individual characteristics and Z_j are firm characteristics. The fixed effect J_j represents the job-specific threshold above which all applicants are invited.

Finally, a job offer is characterized by a combination of monetary (salary and bonus) and non-pecuniary utility (location amenities, reputation, etc.). In the case of an offer that was accepted, the reported outcome is also potentially a result of negotiations. In this paper I focus on reduced-form à la Mincer wage regressions for individual i and firm j:

(4)
$$\log(wage_{i,j,t}) = b_0 + X_i'b_1 + Z_j'b_2 + (X_i \cdot Z_j)'b_3 + \varepsilon_{i,j}$$

The functional form used throughout this paper will be the linear-probability model. As such, equations (1)-(4) will be estimated using OLS. However, for the case of binary outcomes, such as equation (1), similar results are obtained when using the logit functional form.

IV. Results

As mentioned above, the sequential nature of the process allows for focusing on each stage separately, though in some of the stages, subsequent stages need to be accounted for. Section IV.A focuses on the choices of recruiters, traditionally designated as labor demand. Section IV.B examines the choices of applicants (supply side). Section IV.C examines a breakdown of the interviews and their outcomes. Section IV.D examines some wage regressions.

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A. *Employers' preferences (demand)*

I first examine the applicant characteristics that employers find most desirable by estimating a linear probability model corresponding to equation (3). The results are reported in Table 3. All specifications control for the year and semester (and as such, the macroeconomic conditions) and whether or not the job is a full-time or an internship position.

The first column examines basic student demographics (sex and race) GPA at the program and controls for whether or not the applicant was enrolled in a joint degree. Several findings that remain throughout the table are, blacks are more likely to be invited for an interview, 6.5 percentage points in column 1. The effect of gender is not statistically significant. And those in one of the joint degree programs are roughly 15 percentage points more likely to be invited (only 1 or 2 students are enrolled in the joint program every year). Those in the top GPA quartile are 7.3 percentage points more likely to be invited. There is no adverse effect for being in the bottom decile. The effect for the middle GPA quartiles throughout the specifications is found to be statistically insignificant.

Column 2 of Table 3 adds undergraduate education. Those with a science (business) major are 7.5 (9.4) percentage points more likely to be invited. Other majors, publications, grants, honor societies, and whether laude, are not found to have a statistically significant effect at conventional levels. Each additional award increases the likelihood of an interview by 1 percentage point. The specification in column 2 and throughout the rest of the table also control for whether the applicant is a U.S. citizen. The effect is large and statistically significant at the 1 percent level, even when controlling for whether or not a job requires U.S. citizenship or is open

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to international students. Column 3 adds employer fixed effects and all of the applicant characteristics effects remain qualitatively the same.

Column 4 adds previous work experience and experience squared. The measures are not found to be statistically significant. This is true for many of the specifications examined. Columns 5 and 6 examine additional characteristics coded from the resumes such as fraternity membership, number of clubs, whether or not participated in varsity or club sports, number of leadership roles, volunteering activities, etc. Sorority or fraternity membership and volunteering are both found to have a negative effect though not statistically significant in most specifications. Varsity membership has little effect. Both membership in professional societies and number of leadership positions listed on resume have a positive and statistically significant effect. For example, in column 6 each additional leadership position increases the likelihood of an interview by 1 percentage point.

Finally, column 7 includes standardized GRE verbal and quantitative percentiles (and those scores squared). Each additional quantitative percentile roughly increases the likelihood of an interview by 0.2 of a percentage point. Though the effect is not extremely large, it is nonetheless economically meaningful. Recall that the test scores are confidential data that recruiters would not have access to. Also, the specification controls for GPA and undergraduate major. The fact that unobservable (by the employer) GRE scores matter, suggests that the resume contains additional signals that were not fully controlled for in this specification. For example, the specification does not control for undergraduate school quality which may be correlated with scholastic ability.

Table 4 repeats a similar set of specifications for a related labor demand outcome: who do recruiters make offers to? Many of the variables that strongly predicted a job interview, are no longer found to be statistically significant. For example, blacks are no more or less likely to receive an offer. Similarly, GPA in the program no longer has an effect. One of the only remaining statistically significant effects is a positive one for volunteering. The effect of U.S. citizenship remains large, though no longer statistically significant, either because of the correlation with language ability, or the fact that work visas in this particular field are not trivial to come by for some of the employers. GRE quantitative scores (column 7) are found to have an effect.

Taken together, the results of Tables 3 and 4 are largely consistent with: information contained in resumes determines interview likelihood; However, conditional on an interview (and possible second-round invitation to job location), schooling and previous job experience and activities have little power in predicting the likelihood of an offer.

B. Applicants' preferences (supply)

As discussed in Section III, applicants face the application decision potentially twice. First, they must decide whether or not to apply. Second, if not chosen by the employer, they have the option to use some of their bid points. The first decision involves what is arguably a very low cost- submitting an application which is done online and only involves filling out a few short fields and uploading one's resume which is already prepared and available online in the beginning of the recruiting season. The CS office also encourages students to apply to jobs. Yet,

there is a relatively large variation in the number of applications for each job. As the results show, firm/job characteristics are correlated with applicants' decisions of where to apply. Moreover, this is especially surprising given that the career paths and job characteristics are very homogenous for the graduates of this specific professional program.

Students' choices of where to apply, corresponding to equation (1), are reported in Table 5. The dependent variable takes on the value of 1 if the student applies, and 0 otherwise. Only those choices to which a student qualifies are considered. For example, an international student is not considered a non-applicant to a job requiring U.S. citizenship. All specification control for whether the job is an internship or full-time, and semester and year fixed effects. Column 1 controls for industry at the 2-digit GICS level, and some firm financials such as number of employees, 5-year stock return, firm market value, etc.

Even though the job description and duties are very similar across industries, applicants exhibit a strong preference for certain industries. In all cases the omitted category is Materials. A firm in the Consumer Discretionary or Consumer Stapes industry is 15 percentage points more likely to receive an application, and the effect is statistically significant at the 1 percent level. The most thought after section is IT which is more than 25 percentage points more likely to receive an application. In terms of firm financials, firms with more employees are less likely to receive an application. Firms with higher CEO compensation and higher 5-year stock returns are more likely to receive an application.

Column 2 of Table 5 adds a measure of the firm's brand score. Somewhat surprising, higher brand scores are associated with lower application rates. However, note that only a subsection of

firms have the particular brand score used. Column 3 adds applicant controls. U.S. citizens are more likely to apply, perhaps because they are more flexible in locational choices.[4] All else equal, women are 6.7 percentage points more likely to apply for an opening. The effect of CEO compensation is no longer found to be statistically significant.

Last, column 4 adds applicant X recruiting season fixed effects which capture any individual characteristics that do not vary across employers. The large effects of the industry controls remain virtually unchanged.

Table 6 repeats the specifications of Table 5, but the dependent variable is now whether or not an applicant bid on an interview slot. As such, it conditions on those who initially applied for an interview, but were not chosen by the employer. Here the results are quite different, with some of the signs switching. Given the added strategic complexities discussed in Section III, and the fact that this is selected sample (those not chosen by employer), the results have a limited interpretation.

Table 7 examines the bidding behavior of applicants corresponding to equation (2). First, regarding applicant characteristics (column 3), females bid slightly higher, but the effect is no longer statistically significant. Unlike the applications which have little cost, bid points are a binding constraint and women do not receive more points. Second, U.S. citizens actually bid less on average. The reason is because they are eligible for more openings, their initial allotment per opening is lower.

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[4] The specification also controls for the job's visa status requirements.

The last column of Table 7 includes some controls for both the remaining stock of points, others' stock of points, and number of remaining schedules on which an applicant might need to potentially bid on. The results are consistent with applicants bidding more the more points they have left, and less, the more interviews they were chosen for by employers (which do not cost bid points). Also, the interaction term between remaining bid points and remaining eligible positions suggests points are deemed less valuable the fewer postings remain. The fact that there is a positive correlation between number of postings left and bids is consistent with applicants having an uncertainty in the beginning of the recruiting season of how many and which employers will have openings as those are not all announced at the same time.

C. Employment outcomes

In results not reported, controlling for applicant resume characteristics, those who were chosen for an interview by an employer, are more likely to receive a job offer. However, roughly a third of all eventual matches consist of an applicant who obtained their interview via bid. I Examine a specification similar to that in Table 4 (see Section IV.A), including all the same applicant controls, among those who obtained their interview via bid. The dependent variable is whether or not a job offer is extended. The result for this sub-sample of interviewees (those who bid on interview slot) is that every additional 100 bid points increase the likelihood of a job offer by 1 percentage point. The result is statistically significant at the 1 percent level.

Recall that employers do not know how many bid points each applicant used in order to obtain the interview. As such, the result is consistent with the applicant's bid for an interview

representing enthusiasm for the job and/or private information about their fit for the job which the employer was not able to learn from looking at their resume.

Given that each applicant receives an allotment of 1,000 points, an extrapolation of the finding is that each applicant was given an extra 10 percentage point chance of a job offer with an employer that did not even consider that applicant to be one of their top-10 choices.

D. Wage regressions

In this section I focus on the wage determinants of those who obtained an offer through the centralized CS system. The results, in which ln(wage) is the dependent variable, are reported in Table 8. The first 3 columns only look at jobs found through the CS interview process and includes employer fixed effects as well as controls for the semester and year of graduation. Some notable findings are that women have lower wages that translate to roughly 8% lower wages. Hispanics enjoy higher wages than whites, though there is no effect for other minority groups. Unlike the case of likelihood of interview or likelihood of an offer, citizenship, GREs, and the how the interview was obtained (via bid or invited by employer) does not have a statistically significant effect on wages. The last two columns include all jobs, regardless of whether or not they were found through CS. In column 4, obtaining job through the centralized CS interview process has a positive, statistically significant at the 1-percent level, and very large effect. Salaries from CS jobs are more than 30% higher. However, the effect all but disappears once employer fixed effects are included.

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V. Conclusion and Future Research

This paper reports the findings from a centralized application and interview process that is used in a professional master's program. A unique feature of the program allows applicants to secure interviews via bids. The findings regarding the preferences of recruiters and job applicants are not likely to depend on the mechanism's details. As such, they might be representative of the preferences in similar entry-level professional labor markets.

The underlying mechanism or system may be harder to implement on an economy-wide scale, though could be implemented in markets where there is a centralized labor market, including, for example, the market for newly-minted PhD economists.

The findings suggest that privately-held information by candidates about their fit or interest in a job could be important. If such applicants were given a chance at an interview, a firm may actually make them an offer. Such was the case in one-third of the matches in this sample. Hence, any policy or initiative that grants applicants that would not otherwise be invited by employers, such as subsidies or tax breaks for employers, may increase overall employment rates or match quality.

In current work, I am characterizing and measuring the (potential) welfare gain of the mechanism described in this paper. For example, how many more (or less) jobs would result if employers were allowed to select all 20 interview slots, as opposed to only half of them? Similarly, what is the monetary value of each bid point?

The unique structure of the process and the wealth of applicant and employer data allow for further examination of both questions regarding labor demand and two-sided matching.

REFERENCES

Barron, John M., John Bishop, and William Dunkelberg. "Employer Search: The Interviewing and Hiring of New Employees." *The Review of Economics and Statistics*, Vol. 67, No. 1, 1985.

Coles, Peter, John Cawley, Phillip B. Levine, Muriel Niederle, Alvin E. Roth, and John J. Siegfried. "The Job Market for New Economists: A Market Design Perspective." *Journal of Economic Perspectives*, Vol. 24, No. 4, 2010.

Hamermesh, Daniel. "The Demand for Labor in the Long Run." Chapter 8 in Handbook of Labor Economics. Vol. 1., pages 429-471. Amsterdam, Netherlands: North-Holland, 1986.

Mortensen, Dale T. and Christopher A. Pissarides. "New developments in models of search in the labor market." Handbook of Labor Economics Vol. 3B, pages 2567-2627. Elsevier Science, Amsterdam, 1999.

Petrongolo, Barbara and Christopher A. Pissarides. "Looking into the black box: A survey of the matching function," *Journal of Economic Literature*, Vol. 39, No. 2, 2001.

Roth, Alvin E. "The origins, history, and design of the resident match." *Journal of the American Medical Association,* vol. 289, No. 7, 2003.

Table 1: Summary Statistics for Applicants (Panel A) and Employers (Panel B)

Panel A- Applicants (*n=535*)

Variable	Mean	Std Dev	Min	Median	Max
female	0.68	0.47			
black	0.08	0.27			
asian	0.21	0.41			
hispanic	0.02	0.15			
U.S. citizen	0.76	0.43			
age	24.66	3.42	21.00	24.00	50.00
years of work experience	4.27	3.78	0.00	3.58	32.71
GPA in program	3.61	0.32	3.00	3.69	4.00
Undergrad Major					
social science (excluding psychology)	0.20	0.40			
business	0.31	0.46			
sciences	0.05	0.22			
psychology	0.29	0.45			

Panel B-Employers with on-campus recruiting (*n=62*)

Variable	Mean	Std Dev	Min	Median	Max
number of employees (1000's)	99.91	103.74	2.39	66.46	398.46
market value (millions $)	48,624.24	75,004.33	170.06	17,791.71	406,067.20
5-year stock return (dividends reinvested)	1.67	13.40	-39.76	2.38	25.93
S&P 500	0.85	0.36			
industry is Energy	0.09	0.29			
industry is Industrials	0.26	0.44			
industry is Consumer Discretionary	0.08	0.27			
industry is Consumer Staples	0.15	0.36			
industry is Health Care	0.09	0.29			
industry is Financials	0.02	0.12			
industry is IT	0.12	0.33			

Table 2: Summary Statistics for Interview Schedules (Applicants X Employers)

Each observation is an employer's interview schedule (on-campus job opening); *n=344*

Variable	Mean	Min	Max
Opening is for full-time job	0.35		
Interviews per schedule	13.08	4.00	35.00
Resumes received per schedule	40.18	6.00	98.00
Number of eligible students per schedule	38.51	6.00	98.00
Ratio of applications to eligible students per schedule	0.61	0.19	1.00

Table 3: Recruiters' Interview Invitations

All applicants that submitted resumes; Dependent variable- Invited for interview; Linear probability model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
is female	0.007	-0.003	-0.002	-0.003	-0.004	-0.004	0.005
	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.017)
black	0.066**	0.071**	0.073**	0.068**	0.061**	0.060**	0.101***
	(0.031)	(0.029)	(0.030)	(0.030)	(0.030)	(0.028)	(0.030)
Asian	-0.045**	-0.035	-0.032	-0.035	-0.035	-0.036	-0.031
	(0.022)	(0.023)	(0.023)	(0.024)	(0.024)	(0.024)	(0.025)
Hispanic	0.061	0.107*	0.104*	0.102*	0.108*	0.109*	0.138**
	(0.058)	(0.058)	(0.059)	(0.059)	(0.057)	(0.056)	(0.058)
GPA in bottom decile	-0.006	-0.029	-0.030	-0.024	-0.028	-0.022	-0.015
	(0.034)	(0.034)	(0.035)	(0.036)	(0.035)	(0.034)	(0.033)
GPA in 3rd quartile	0.013	0.010	0.009	0.015	0.019	0.017	0.006
	(0.018)	(0.019)	(0.019)	(0.019)	(0.020)	(0.020)	(0.020)
GPA in top quartile	0.073***	0.060***	0.059***	0.063***	0.060***	0.057***	0.036
	(0.022)	(0.022)	(0.022)	(0.022)	(0.021)	(0.022)	(0.022)
US citizen	0.090***	0.112***	0.098***	0.103***	0.094***	0.089***	0.087***
	(0.020)	(0.022)	(0.022)	(0.023)	(0.023)	(0.023)	(0.026)
undergrad psych major		-0.009	-0.007	-0.014	-0.006	-0.004	-0.003
		(0.024)	(0.024)	(0.024)	(0.025)	(0.025)	(0.024)
undergrad social science major		0.003	0.005	0.000	0.006	0.007	0.007
		(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.024)
undergrad science major		0.076**	0.073*	0.069*	0.072*	0.071*	0.068*
		(0.036)	(0.037)	(0.037)	(0.038)	(0.037)	(0.036)
undergrad business major		0.092***	0.095***	0.088***	0.083***	0.085***	0.094***
		(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.026)
any laude award		0.037	0.035	0.038	0.036	0.042*	0.040
		(0.026)	(0.026)	(0.026)	(0.026)	(0.025)	(0.026)
deans list		-0.005	-0.005	-0.008	-0.009		
		(0.022)	(0.022)	(0.022)	(0.023)		
honor society		0.013	0.013	0.013	0.006	0.010	0.011
		(0.012)	(0.012)	(0.012)	(0.013)	(0.012)	(0.013)
no. of awards and honors		0.011**	0.011***	0.011**	0.009**	0.010**	0.011**
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
grants		0.057	0.065	0.074	0.044		
		(0.055)	(0.058)	(0.061)	(0.081)		
publications		-0.002	-0.002	0.008	0.001		
		(0.020)	(0.020)	(0.019)	(0.018)		
years of work experience				0.002	0.002	0.003	0.004
				(0.006)	(0.006)	(0.005)	(0.005)
experience squared				-0.000	-0.000	-0.000	-0.000
				(0.000)	(0.000)	(0.000)	(0.000)
sorority or fraternity					-0.017		
					(0.022)		

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
no. of clubs, professional, and social societies					0.017*	0.018**	0.019**
					(0.009)	(0.009)	(0.009)
no. of volunteer activities					-0.010	-0.007	-0.007
					(0.008)	(0.007)	(0.007)
no. of leadership positions					0.012*	0.010*	0.009
					(0.007)	(0.005)	(0.005)
GRE verbal percentile							0.002
							(0.001)
GRE quant. percentile							0.003**
							(0.001)
GRE verbal percentile squared							-0.000
							(0.000)
GRE quant. percentile squared							-0.000**
							(0.000)
Year X Semester Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Employer Fixed Effects			Yes	Yes	Yes	Yes	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
R-squared	0.04	0.05	0.09	0.09	0.09	0.09	0.09
Sample size	11,778	11,132	11,132	11,132	11,132	11,132	11,046

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Standard errors, in parentheses, are clustered at the applicant level. All specifications control for whether position is full-time or internship, whether joint degree, additional race (white used as base), and undergraduate majors. Columns 4-7 include additional controls for sports, clubs, etc.

Table 4: Job Offers Made by Recruiters

All applicants that interviewed through career services; Dependent variable- Job offer; Linear probability model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
is female	0.012	0.010	0.007	0.007	0.006	0.009	-0.003
	(0.013)	(0.012)	(0.012)	(0.012)	(0.013)	(0.019)	(0.016)
black	-0.008	-0.005	-0.004	-0.008	-0.004	-0.003	0.047
	(0.024)	(0.025)	(0.025)	(0.025)	(0.025)	(0.052)	(0.032)
Asian	-0.038**	-0.031	-0.039**	-0.038*	-0.033*	-0.048*	-0.048**
	(0.018)	(0.019)	(0.019)	(0.019)	(0.020)	(0.026)	(0.023)
Hispanic	-0.001	-0.019	-0.018	-0.019	-0.012	0.016	-0.006
	(0.038)	(0.042)	(0.041)	(0.041)	(0.043)	(0.050)	(0.048)
GPA in bottom decile	0.006	0.004	0.013	0.020	0.029	0.031	0.013
	(0.026)	(0.027)	(0.026)	(0.026)	(0.027)	(0.035)	(0.024)
GPA in 3rd quartile	0.020	0.015	0.015	0.018	0.017	0.034	0.007
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.024)	(0.018)
GPA in top quartile	0.034**	0.020	0.024	0.027	0.029*	0.044	-0.010
	(0.016)	(0.016)	(0.017)	(0.017)	(0.017)	(0.029)	(0.022)
US citizen	0.002	0.020	0.037	0.033	0.027	0.050	0.031
	(0.019)	(0.022)	(0.023)	(0.023)	(0.023)	(0.031)	(0.032)
undergrad psych major		0.001	0.007	0.006	0.009	0.011	-0.001
		(0.024)	(0.023)	(0.023)	(0.022)	(0.033)	(0.025)
undergrad social science major		0.022	0.027	0.025	0.029	0.035	0.038
		(0.024)	(0.024)	(0.024)	(0.023)	(0.033)	(0.026)
undergrad science major		0.034	0.044	0.037	0.031	0.027	0.078
		(0.044)	(0.045)	(0.046)	(0.048)	(0.049)	(0.055)
undergrad business major		-0.003	0.005	0.004	0.007	0.032	0.025
		(0.025)	(0.024)	(0.024)	(0.023)	(0.033)	(0.026)
years of work experience				0.009*	0.008*	0.011	0.010*
				(0.005)	(0.004)	(0.007)	(0.005)
experience squared				-0.001**	-0.001**	-0.001**	-0.001**
				(0.000)	(0.000)	(0.000)	(0.000)
GRE quant. percentile							0.005***
							(0.001)
GRE quant. percentile squared							-0.000***
							(0.000)
Year X Semester Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Employer Fixed Effects			Yes	Yes	Yes	Yes	Yes
R-squared	0.02	0.03	0.08	0.09	0.09	0.10	0.10
Sample size	3,963	3,852	3,852	3,852	3,852	2,214	2,647

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Standard errors, in parentheses, are clustered at the applicant level. All specifications control for whether position is full-time or internship, whether joint degree, additional race (white used as base), and undergraduate majors. Columns 4-6 include additional controls for awards, distinction, sports, clubs, etc. Column 7 also controls for GRE verbal score.

Table 5: Students' Job Applications

All applicants that are eligible to interview; Dependent variable- Sent application; Linear probability model

	(1)	(2)	(3)	(4)
Employees (# Thousands)	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Total CEO Compensation	0.000***	0.000***	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
5 Yr Return to Shareholders (Div Reinv)	0.001***	0.001***	0.002***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Market Value (Fiscal Year-End)	0.000	0.000***	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
industry is Energy	0.038	0.059*	0.048	0.043
	(0.034)	(0.034)	(0.034)	(0.034)
industry is Industrials	0.065**	0.086***	0.049	0.053*
	(0.031)	(0.032)	(0.032)	(0.032)
industry is Consumer Discret.	0.156***	0.164***	0.143***	0.141***
	(0.033)	(0.033)	(0.033)	(0.033)
industry is Consumer Staples	0.150***	0.178***	0.142***	0.146***
	(0.032)	(0.032)	(0.032)	(0.032)
industry is Health Care	0.031	0.035	0.040	0.042
	(0.036)	(0.037)	(0.036)	(0.036)
industry is Financials	0.048	0.042	0.035	0.021
	(0.046)	(0.046)	(0.049)	(0.050)
industry is IT	0.256***	0.277***	0.265***	0.261***
	(0.032)	(0.032)	(0.033)	(0.033)
Fortune Brand Score (higher is better)		-0.029***		
		(0.003)		
Applicant is female			0.067***	
			(0.020)	
Applicant is US citizen			0.440***	
			(0.020)	
Year X Semester Fixed Effects	Yes	Yes	Yes	Yes
Applicant X Semester Fixed Effects				Yes
R-squared	0.06	0.06	0.21	0.45
Sample size	18,562	18,562	18,511	18,562

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Standard errors, in parentheses, are clustered at the applicant level. All specifications control for whether position is full-time or internship. Columns 3-4 include controls for visa requirement. Omitted industry is materials.

Table 6: Applicants' Binary Bidding Behavior

All applicants that were not selected by employer; Dependent variable- Bid (binary); Linear probability model

	(1)	(2)	(3)	(4)
Employees (# Thousands)	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Total CEO Compensation	0.000	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
5 Yr Return to Shareholders (Div Reinv)	-0.002***	-0.002***	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)
Market Value (Fiscal Year-End)	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
industry is Energy	0.253***	0.274***	0.256***	0.267***
	(0.059)	(0.059)	(0.059)	(0.061)
industry is Industrials	0.053	0.072	0.049	0.063
	(0.055)	(0.055)	(0.055)	(0.058)
industry is Consumer Discret.	-0.001	0.008	-0.007	0.020
	(0.058)	(0.057)	(0.058)	(0.061)
industry is Consumer Staples	0.029	0.055	0.028	0.049
	(0.056)	(0.056)	(0.056)	(0.058)
industry is Health Care	0.004	0.005	-0.002	-0.007
	(0.064)	(0.063)	(0.064)	(0.067)
industry is Financials	-0.286***	-0.291***	-0.291***	-0.277***
	(0.066)	(0.066)	(0.066)	(0.071)
industry is IT	-0.051	-0.032	-0.045	-0.037
	(0.055)	(0.055)	(0.055)	(0.058)
Fortune Brand Score (higher is better)		-0.026***		
		(0.007)		
Applicant is female			0.009	
			(0.019)	
Applicant is US citizen			-0.030	
			(0.023)	
Year X Semester Fixed Effects	Yes	Yes	Yes	Yes
Applicant X Semester Fixed Effects				Yes
R-squared	0.06	0.06	0.06	0.25
Sample size	7,410	7,410	7,406	7,410

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Standard errors, in parentheses, are clustered at the applicant level. All specifications control for whether position is full-time or internship. Columns 3-4 include controls for visa requirement. Omitted industry is materials.

Table 7: Applicants' Bidding of Points

All applicants that were not selected by employer; Dependent variable- No. of points bid; Linear probability model

	(1)	(2)	(3)	(4)	(5)
Employees (# Thous)	0.116***	0.125***	0.112***	0.104***	0.084**
	(0.033)	(0.031)	(0.034)	(0.034)	(0.033)
Total CEO Compensation	0.000	0.000	0.001*	0.001*	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
5 Yr Return to Shareholders (Div Reinv)	-0.251	-0.291	-0.749**	-0.817***	-0.802***
	(0.297)	(0.296)	(0.305)	(0.306)	(0.298)
Market Value (Fiscal Year-End)	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
industry is Energy	33.543	38.199	27.643	14.108	23.356
	(34.177)	(33.877)	(33.836)	(35.243)	(34.262)
industry is Industrials	-33.994	-29.011	-45.032	-54.951*	-26.660
	(30.819)	(30.864)	(30.299)	(31.393)	(31.029)
industry is Consumer Discret.	-58.251*	-54.399*	-72.648**	-77.307**	-72.530**
	(31.608)	(31.710)	(31.222)	(32.486)	(31.696)
industry is IT	-55.310*	-50.876	-78.919**	-94.210***	-57.486*
	(31.486)	(31.569)	(31.121)	(32.255)	(31.844)
Fortune Brand Score (higher is better)		-4.697*			
		(2.752)			
applicant is female			7.218		7.880
			(5.079)		(5.111)
applicant is US citizen			-79.099***		-66.420***
			(9.744)		(9.649)
bid points left **X** remaining job postings for which student is elig.					-0.009***
					(0.001)
bid points left					0.048***
					(0.018)
remaining job postings for which student is elig.					5.090***
					(1.154)
Jobs selected for so far					-3.438***
					(0.917)
Year X Semester Fixed Effects	Yes	Yes	Yes	Yes	Yes
Applicant X Semester Fixed Effects				Yes	
R-squared	0.05	0.05	0.08	0.30	0.12
Sample size	4,760	4,760	4,756	4,756	4,756

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Standard errors, in parentheses, are clustered at the applicant level. All specifications control for whether position is full-time or internship. Columns 3-5 include controls for visa requirement. Omitted industry is materials. Not all industries reported in table.

Table 8: Wage Regressions

All applicants with salary data (only those with interview data in columns 1-3); Dependent variable-ln(wage); Linear probability model

	(1)	(2)	(3)	(4)	(5)
years of work experience	-0.017**	-0.019*	-0.019*	0.005	-0.015**
	(0.009)	(0.010)	(0.010)	(0.010)	(0.007)
experience squared	0.001**	0.001**	0.001**	-0.000	0.001**
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
is female	-0.036***	-0.038***	-0.038***	-0.013	-0.026**
	(0.013)	(0.014)	(0.014)	(0.025)	(0.012)
black	0.016	0.018	0.021	-0.028	-0.023
	(0.026)	(0.026)	(0.026)	(0.071)	(0.050)
asian	0.003	0.003	0.002	-0.035	0.003
	(0.031)	(0.030)	(0.030)	(0.068)	(0.021)
hispanic	0.064**	0.056*	0.059*	0.022	0.050
	(0.031)	(0.033)	(0.033)	(0.059)	(0.034)
GRE verbal percentile		-0.001	-0.001		
		(0.002)	(0.002)		
GRE quant. percentile		0.002	0.002		
		(0.002)	(0.002)		
GRE verbal percentile squared		0.000	0.000		
		(0.000)	(0.000)		
GRE quant. percentile squared		-0.000	-0.000		
		(0.000)	(0.000)		
Selected for interview by employer			-0.011		
			(0.012)		
Job obtained through Career Services interview				0.169***	0.018
				(0.032)	(0.013)
Year X Semester Fixed Effects	Yes	Yes	Yes	Yes	Yes
Employer Fixed Effects	Yes	Yes	Yes		Yes
R-squared	0.67	0.67	0.67	0.19	0.86
Sample size	383	380	380	703	703

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Standard errors, in parentheses, are heteroskedastic. All specifications control for whether position is full-time or internship, whether joint degree, additional race (white used as base), and undergraduate majors. Columns include additional controls for awards, distinction, sports, clubs, etc.