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ABSTRACT

A study examined the way in which stockpiling job applications affects a firm's search for a new employee when an opening arises and the extent to which employers make use of applications they have stockpiled. Data on these questions were obtained from a survey of 2,264 employers that was sponsored by the National Institute of Education and the National Center for Research in Vocational Education in 1982. As hypothesized, stockpiling had a positive impact on extensive search as measured by the number of applicants interviewed. However, intensive search as measured by the number of hours spent per applicant significantly declined with stockpiling. Firms using the stockpiling strategy received 33 percent more phone calls and 35 percent more visits, and they accepted 44 percent more applications. When filling a job vacancy, larger firms called prior applicants at a much higher rate (58 percent for firms with more than 250 employees versus 27 percent for firms with fewer than 10 employees). Stockpiling was most common for service jobs and least common for professional and managerial jobs. Thus, likelihood of job vacancy and lack of specialized job requirements were associated with use of the stockpiling strategy. Unionized firms were significantly more likely to interview prior applicants. (MN)

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STOCKPILING JOB APPLICANTS

by

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Introduction

"We have no openings now but we will consider you when an opening occurs." Every week, this p[illegible]e results in job applications being filled out and left at firms t[illegible] have no current openings in the job seeker's skill area. How does the stockpiling of job applicants influence a firm's search for a new employee when an opening arises? Do these firms give serious consideration to old applications? Why do some firms stockpile job applicants -- i.e., accept applications when they have no current openings? These are the issues to be addressed in this paper.

The paper is organized as follows. The relationship between stockpiling and a firm's extensive and intensive search to fill a vacancy is developed in section 1. Evidence on the effects of stockpiling on a firm's extensive and intensive search is presented in section 2. A discussion and tests of a theory of stockpiling are presented in section 3.

Theoretical Framework

The recruitment, screening, and evaluation process that precedes hiring is an information gathering process. Recent studies of firms' search activities have focused on two dimensions of an employer's search to fill a vacancy.[1] First, there is a extensive search, as measured by the expected number of applications evaluated. Second, there is intensive search, as measured by the average time spent gathering information from applicants for the vacant position.[2]

Missing from the above view of a firm's search activity is the option open to firms of stockpiling applications in anticipation of a vacancy. Many firms increase the extent of their search by following a stockpiling strategy -- that is, accepting applications even when there are no openings and calling in qualified applicants for interviews when an opening occurs. Two questions arise. First, how does a stockpiling strategy affect a firm's measured extensive and intensive search to fill a vacancy? And, second, what determines whether or not an employer pursues a stockpiling strategy? We start

by considering the first question.

A firm incurs both direct and indirect costs in filling a vacancy once one occurs. The direct costs are the resources expended to recruit, screen, and interview applicants. Indirect costs arise from the losses for the period of time when the position remains unfilled. As discussed below, a stockpiling strategy can reduce both the direct and indirect costs of considering another applicant once a vacancy arises.

Stockpiling reduces the indirect hiring costs of seeing another applicant once a vacancy occurs by creating a pool of candidates a firm can quickly evaluate. This pool of stockpiled applicants supplements applicants who contact the firm after it discovers (or decides) that there is an opening. A stockpiling strategy can also increase the flow of new applicants once an opening occurs. This follows since a stockpiling strategy strengthens incentives for job seekers to apply at the firm. If there are no openings at the time an individual applies, with stockpiling there still remains the possibility of being considered for a future opening.[3]

Firms that stockpile applications even when there are no open positions must handle an increased flow of phone calls and personal visits at all times. Consequently, the total direct costs of hiring are probably greater with stockpiling. However, stockpiling firms have lower direct costs of considering an additional applicant once a vacancy occurs. When an opening arises, the stockpiling firm has already done some preliminary screening and identified promising candidates. In addition, advertising the vacancy is less likely to be necessary. Thus, the impact of a stockpiling strategy on direct hiring costs has different effects at different times. By spreading the screening process out over time, stockpiling increases search investments at times when the firm has no vacancies but decreases direct hiring costs when an opening is being filled.

Since stockpiling applicants reduces the direct and indirect costs of considering another applicant for a position once a vacancy occurs, stockpiling firms are expected to engage in greater extensive search as measured by the number of applicants evaluated prior to filling a vacancy. However, a stockpiling firm is expected to report

lower intensive search as measured by the average time spent gathering information from each applicant during the time the vacancy existed.

Effects of Stockpiling

An employer survey sponsored by the National Institute of Education and the National Center for Research in Vocational Education that was conducted between February and June 1982 provides the basis for analyzing the effects and determinants of stockpiling.[4] Each employer surveyed was asked about the screening and interviewing activity associated with the last employee hired prior to August 1981. The 2,264 employers who provided answers to a series of questions concerning the last person hired make up the sample of employers whose hiring activity is examined. These employers answered questions on the number of individuals who applied for the position, the number interviewed, the number of interviews with stockpiled applicants, the hours spent recruiting, screening, and interviewing applicants for the position, and the number of offers made.

Models have been estimated predicting measures of extensive and intensive search.[5] By adding a dummy variable indicating firms that called in a prior applicant for an interview when filling a position, we can examine the effects of a stockpiling strategy on extensive and intensive search.[6] The results are presented in Table 1. As hypothesized, stockpiling has a positive impact on extensive search as measured by the number of applications reviewed. This reflects both a greater number of applicants seen per interview and a greater number of interviews per employment offer. On the other hand, intensive search as measured by the average number of hours spent per applicant significantly declines with stockpiling.

TABLE 1

IMPACT OF STOCKPILING ON EXTENSIVE AND INTENSIVE SEARCH*

Applicants per Offer (log)	Applicants per Inter. (log)	Interviews per Offer (log)	Hours per Applicant (log)	Number of Offers (log)	Direct Hiring Costs (log)
.34 (6.72)	.18 (5.71)	.16 (3.70)	-.21 (4.26)	-.008 (.80)	.12 (2.20)

*Control variables are size, multi-establishment employer, rate of phone calls and visits, union, amount of OJT, size of labor market, generality of training, part-time job, temporary job, cost of machinery, multiple openings, and advance notice of openings. T statistics are in parentheses below the coefficients.

The hypothesis that stockpiling increases the number of job seekers contacting the firm can be tested by entering a dummy for stockpiling into models predicting the number of job seekers calling, visiting, or applying at the firm during the two week period preceding the survey. The results of this test are presented in Table 2.[7] Firms that used a stockpiling strategy in a particular hiring event about a year previously (i.e., had called in a stockpiled applicant for an interview) received 33 percent more phone calls, 35 percent more visits and accepted 44 percent more applications.

TABLE 2

IMPACT OF STOCKPILING ON THE NUMBER OF JOB SEEKER CONTACTS*

Phone Calls (log)	Visits (log)	Applications (log)
.286 (4.6)	.302 (5.8)	.367 (7.3)

*Other variables in the model included nine variables describing the number of current and future vacancies, seven dummies for various types of recruitment efforts, a dummy if the firm had a personnel office, firm size, employment growth rate, sales growth rate, new hire rate, proportion part-time, proportion work force less than 25 years old, union, occupational breakdown, industry, wage rate, form of compensation, job security, importance of seniority, retention rate of new hire, cost of machinery, training, and characteristics of the local labor market. T-statistics are in parentheses below the coefficients.

Determinants of Stockpiling

A firm's decision to adopt a stockpiling strategy depends in part on the anticipated gain to such a strategy in generating potential new employees at the time a vacancy occurs. For a particular firm, let c

denote the rate at which job seekers contact the firm. With stockpiling, when a vacancy arises the firm can consider cD_s stockpiled applicants, where D_s is the average lifetime of a stockpiled job application. Let V_s denote the average value of an additional (stockpiled) applicant to the employer with a vacancy. Then, letting P_v denote the probability a vacancy, the expected gain to stockpiling is given by

(1) $G_s = P_v V_s c D_s$.

Below we examine differences in the incidence of stockpiling, and suggest how these differences might reflect differences in the anticipated gain to a stockpiling strategy.

Empirical evidence on the incidence of stockpiling is presented in Table 3. Thirty-five percent of the firms in the sample called in a prior applicant for an interview when they were filling a position. Only 27 percent of the firms with fewer than 10 employers called in prior applicants but 58 percent of the firms with more than 250 employees did so. This is not surprising since equation (1) suggests that larger firms, with a higher probability of a vacancy in any given period, have a greater anticipated gain to stockpiling.

Stockpiling is most common for service jobs and least common for professional and managerial jobs. Like size, the high incidence of stockpiling for service jobs likely reflects a higher probability of a vacancy for such occupations. This higher probability of a vacancy for such occupations is due in part to high turnover and in part to the fact that such occupations typically account for a large share of the employment. On the other hand, professional and managerial workers are highly specialized and hired only infrequently, so the gain to stockpiling for these positions is less. Column 2 of Table 3 suggests that once the firm has adopted a stockpiling strategy, the proportion of interviews who come from the stockpile does not to vary significantly with occupation or the size of the establishment.

TABLE 3

EMPLOYER USE OF PRIOR APPLICANTS

	Proportion of Employers Who Call in Prior Applicants	For Employers Who Call in Prior Applicants, Proportion of Interviews With Prior Applicants	Number of Employers
Number of Employees			
1-9	.27	.70	913
10-25	.34	.68	578
26-250	.43	.65	661
251+	.58	.62	112
All	.35	.66	2264
Occupation			
Professional or Technical	.30	.60	183
Managerial	.29	.59	85
Clerical	.33	.61	539
Sales	.34	.65	308
Service	.42	.69	427
Blue Collar	.36	.69	722
All	.35	.66	2264

Hypotheses concerning the determinants of stockpiling are tested by estimating a logit model of the probability at least one prior applicant is called in for an interview when filling a vacancy. The results are presented in Table 4.[8]

TABLE 4

THE DETERMINANTS OF STOCKPILING

	Parameters	(Asymptotic) T-statistics	Derivatives Evaluated at Means)
ln(Employer Size)	.22	(6.23)	.05
Firm Has Other Establishments	.153	(1.39)	.034
ln(Starting Wage)	-.484	(3.94)	-.109
ln(Training)xProportion General	.048	(1.27)	.011
ln(Training)xProportion Specific	.078	(1.73)	.018
ln(Quit Rate)	.076	(2.28)	.017
Union	.404	(2.22)	.091
Temporary/Seasonal Position	.085	(.64)	.019
Part-time Position	.073	(.53)	.017
Multiple Openings	.546	(4.07)	.123
Constant	-.737	(2.77)	

As expected, the coefficients on firm size and the quit rate are significantly positive, supporting the hypothesis that the likelihood of a vacancy, P_v, directly affects the probability of adopting a stockpiling strategy. The likelihood of a vacancy is also typically greater in low wage jobs. This occurs because a) low wage jobs have higher turnover, b) low wage jobs typically have many occupants doing similar work, and c) a firm's low wage jobs are typically the port of entry for the great bulk of a firm's new employees. This line of argument is supported by the significant increase in the likelihood of the use of stockpiling applicants at positions with lower wages.

The value of an additional stockpiled worker is expected to be higher when more than one opening must be filled at approximately the same time. Thus, stockpiling is hypothesized to be more prevalent when multiple openings are common. As expected, the presence of more that one opening to be filled at the same time increases the likelihood that at least one stockpiled applicant is interviewed.

When specific training investments are considerable. the importance of identifying an individual who matches well with the

position is heightened. This suggests a greater value to an additional stockpiled applicant, V_s, at positions involving greater training, and in particular greater specific training. This hypothesis receives some support. Specific training has a small but significant positive effect on the probability at least one prior applicant is interviewed.

Unionization can be expected to increase the gain to stockpiling applicants for at least two reasons. First, unionization makes it harder to correct hiring mistakes, so the gain to screening additional applicants (and stockpiling) is greater. Second, many labor contracts specify, or informal pressure dictates, that union members receive hiring priority, even when they have not previously worked at the firm. Thus many unionized employers probably feel obligated to give the union members in the application stockpile an interview. The evidence is consistent with the above view, in that unionized firms are significantly more likely to interview prior applicants.

FOOTNOTES

[1] See Barron, Bishop, and Dunkelberg (forthcoming) and Barron and Bishop (forthcoming).

[2] The terms extensive and intensive search follow Rees (1966).

[3] Offsetting this attractiveness of stockpiling to job seekers is the fact that job seekers to firms that stockpile face competition for current vacancies from past applicants who have been stockpiled.

[4] The survey represents the second wave of a two-wave longitudinal survey of employers from selected geographic areas across the country. The first wave, not utilized in this study, was funded by the U. S Department of Labor to collect data on area labor market effects of its Employment Opportunity Pilot Project (EOPP). A total of 447 employers responded that they had hired a new employee but did not have complete information on the hiring process, and so were excluded from the sample. Note that the sample is representative of the hiring activity of a group of employers, not hiring activity associated with the employment of a group of job seekers during a specified time frame. The sample most likely underrepresents larger employers if the employment of a group of job seekers over a specified period of time were to be considered. A copy of the complete questionaire as well as other related information is available on request from the authors.

[5] See Barron and Bishop (forthcoming) for details concerning these estimations.

[6] Note that our measure of stockpiling understates the actual number of firms that stockpile applicants since stockpiling is indicated only when at least one stockpiled applicants was interviewed for the position.

[7] The regression results are reported in full in Bishop and Barron (1983).

[8] See Barron and Bishop (forthcoming) for a more detailed description of the variables involved in this estimation.

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