Methods of Job Search and their Impact on the Ultimate Success

Paweł Kaczorowski[1,*], Paweł Kubiak[2]

[1]Ph.D., assistant professor, Department of Functioning of the Economy, University of Lodz
(Lodz, Poland)

[2]Ph.D., assistant professor, Department of Macroeconomics, University of Lodz
(Lodz, Poland)

[*]*Corresponding author's email: pekacz [AT] uni.lodz.pl*

ABSTRACT— *Job search models in the labour market treat the job search process as an investment in acquiring information about the possibilities of obtaining employment. Activities undertaken necessitate incurring certain costs and expenditures in order to find the best conditions of employment. In the paper, we attempt to identify the factors affecting the probability of finding work by the unemployed. The study is based on individual data derived from the LFS. We create a panel in which each individual is observed at four moments. Such an approach allows to determine the effect of selected factors on job search and how their impact changes as the search period lengthens. The results show that such characteristics of the respondents as gender, age, marital status, education, professional experience approximated by the length of service and previous occupation, the place of residence and the steps taken to find employment significantly differentiate the probability of finding a job by the unemployed and that the strength of their impact changes with the lengthening of the search period.*

Keywords— labour market, unemployment, job search, job search methods

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1. INTRODUCTION

Search models treat the job search process as an investment in acquiring information about the possibilities of obtaining employment. Activities undertaken necessitate incurring certain costs and expenditures in order to find the best conditions of employment. Individual job search results depend on the choice of job search method; the efforts made in the search; the choice of the first employer and the criteria for acceptance of the offer (Blau, Robins 1990).

In the paper, we focus mainly on examining the impact of the choice of job search methods on the probability of finding a job. The set of activities studied is based on the list of methods taken into account in the quarterly Labour Force Survey (LFS). The specificity of the study is the fact that we analyse the impact of selected research method on the tested probability at the given moment and examine how the impact changes over time as the search period lengthens.

The structure of the paper is as follows. Section two presents briefly the results of earlier studies. Section three describes the statistical data used in the study. Section four contains the results of estimation of a sequential logit model. Section five contains the summary and the main conclusions.

2. LITERATURE REVIEW

The use of survey results to identify factors affecting the job search process is quite common in the literature. Holzer H. (1988) as well as Weber A. and Mahringer H. (2006) use individual data to analyse the effectiveness of different methods of job search. The example of these two studies illustrates the important role that available data sets play in the scope of analysis. Holzer investigates the process of looking for a job among young, unemployed men. The study distinguishes 5 methods of job search. The observed effect of the actions undertaken is whether the unemployed received an offer of employment and whether the offer was accepted. In addition, it examines the time spent on searching for a job with the use of the given method. Weber A. and Mahringer H. (2006) conducted a study on a specially prepared sample covering all types of job seekers, i.e. the unemployed, employed people looking for another job and those seeking their first job. In their study, they also identified 5 main methods of job search. Finding employment is the

observed effect of the conducted search, wages received in the new place of work and the duration of the employment are also examined.

Many studies attempt to determine the significance of the role of public employment services in the process of job search. Bachman R. and Baumgarten D. (2012) conducted a study using individual data covering the EU Member States as well as Iceland, Norway and Switzerland. The study confirms the impact of the particular characteristics of individuals and their households on the intensity of job search. The job search conducted through public employment services is the most common alternative compared to other methods of job search. It also confirms the influence of such institutions as the minimum wage and the benefit system on differences in methods of job search existing between countries. Heath A. (1999) indicates the impact of access to specific labour market institutions, such as unemployment benefits, on the choice of job search methods. Weber A. and Mahringer H. (2006) show that public employment services as a formal middleman in a job search are complementary to the network of contacts. Their employment services in a sense replace such a network.

The topic of job search is also present in the Polish literature. Cichocki S., Saczuk K., Strzelecki P., Wyszyński R. and Tyrowicz J. (2013, 2012) conduct studies based on the results of their own surveys and the LFS research. On their basis, they show that with the deterioration of the situation in the labour market, unemployed people often use more demanding methods of job search. The average time of job search in Poland is much longer than the average time in the EU countries and the role of public employment services is of little importance. Gałecka-Burdziak and Kubiak (2012) conducted a study based on individual LFS data. They indicate that certain combinations of the available methods are used in the process of job search. The study shows that people receiving benefits more often than other unemployed undertook activities characterised on average by lower search effectiveness. Striving to maintain the status of an unemployed person, necessary to receive benefits, can be observed in this behaviour.

3. STATISTICAL DATA

The data used in the empirical analysis are derived from the Labour Force Survey (LFS) conducted in the years 2004 – 2010. The sample for the analysis was prepared including people classified as unemployed (according to the LFS definition) at the time of the first study, looking for a job because of its loss, resignation, or wish to return to work. Each of these individuals is observed in four consecutive studies. The structure of the sample allows the observation of the process of job search for up to 6 quarters.

The sample includes individual data characterising the individuals and describing the actions taken during their job search. We adopted the following set of socio-demographic characteristics as potentially important in the job search: gender, education level, age, marital status and region of residence. The professional experience of the respondents was described by three variables. The first of the variables is a continuous variable determining the length of service of the respondents in their last place of work. The length of service is taken into account only when the period between the termination of the respondent's employment and the first study is no longer than three years. Otherwise, the variable is set to 0. The second variable determines the overall length of service of the respondent. When the length of service in the last place of work is defined positively, the total length of service is reduced by this amount. The third variable specifies the previous occupation, grouped according to the level of qualification. We assign the value 0 to this variable when the time of unemployment is longer than three years. Variables describing the actions taken by the respondents during their job search comprise a separate group. In the study, we distinguish 11 methods of job searching.

4. THE EMPIRICAL ANALYSIS

In the econometric analysis, we use a sequential data model. The idea of sequential model is based on the hidden mechanism of decision-making to cease activity at the level reached. We examine the transitions between J categories. We define J – 1 variables $y_i^{(j)}$, taking on the values: $y_i^{(j)} = 1$ when i-th respondent having attained category j remains in it and $y_i^{(j)} = 0$ while i-th respondent moves to the next category.

We are interested in the probability P calculated by the following formula:

$$P(y_i^{(j)} = 1) = P(y_i = j \mid y_i \geq j).$$

The probability is modelled:

$$P(y_i = j \mid y_i \geq j) = F(\alpha_j + x_i'\beta_j)$$

where α_j and β_j are to the unknown parameters of the model, and *F* is the cumulative distribution function of the probability distribution. The model was estimated with the use of the initial procedure available in the STATA package (Buis, 2007). In our application, we examine the probability of continuation of job search by the respondents. Their job search is described by the variable taking on 4 categories. Category 1 comprises the people who take up employment in the first quarter of the observation. Categories 2 and 3 encompass the people who take up employment in fifth and sixth quarter of the observation respectively. Category 4 comprises the people who have not completed the job search until the cessation of observation. The attainment of each subsequent category means the extension of the job search time by a further period, which is considered to be a negative phenomenon. We are looking for the factors that reduce the probability of transition to the next category.

Table 1: J*ob search, sequential logit model*

VARIABLES	*cat. 2, 3, 4 v cat. 1*	*cat. 3, 4 v cat. 2*	*cat. 4 v cat. 3*
	odds ratio	*odds ratio*	*odds ratio*
Methods of job search used in the first period [a]			
method 1	1.274***		
method 2	1.014		
method 3	1.210**		
method 4	0.796***		
method 5	1.188*		
method 6	0.850		
method 7	1.101		
method 8	0.767***		
method 9	0.885		
method 10	0.671***		
method 11	1.713*		
Methods of job search used in the second period [a]			
method 1		0.689***	
method 2		1.102	
method 3		0.946	
method 4		0.751***	
method 5		0.959	
method 6		0.659***	
method 7		0.996	
method 8		0.784**	
method 9		0.871	
method 10		0.848**	
method 11		1.239	
Methods of job search used in the third period [a]			
method 1			0.678***
method 2			0.586***
method 3			1.078
method 4			0.853
method 5			0.837
method 6			0.478***
method 7			0.907
method 8			0.684**
method 9			0.975
method 10			1.189
method 11			1.265
Type of previous occupation by major occupational groups (base category: has not had a job for more than 3 years) [b]			
9 group	0.358***	0.599***	0.513***
6, 7 and 8 group	0.327***	0.479***	0.428***
4 and 5 group	0.509***	0.547***	0.656**
3 group	0.472***	0.599***	0.393***
1 and 2 group	0.468***	0.542***	0.806
Length of service (continuous variables):			
in the last workplace (years)	0.984*	0.983**	0.999
total (years)	0.963***	0.966***	0.988
Education (base category: higher education)			
post-secondary education and secondary vocational education	1.422**	1.306**	1.699**
secondary education	1.657***	1.336*	1.310

basic vocational education	1.408**	1.508***	1.399
lower secondary education and primary education	1.759***	1.666***	1.875***
Gender (base category: male)			
female	1.141	1.293***	1.510***
Marital status (base category: single)			
married	0.799**	0.693***	0.695***
divorced, widowed	0.980	0.956	0.834
Age (continuous variable)			
age (years)	1.046***	1.052***	1.033***
The year of the first study (base category: 2004)			
2005	0.869	0.668***	0.779*
2006	0.639***	0.490***	0.503***
2007	0.500***	0.401***	0.811
2008	0.479***	0.582***	0.659**
2009	0.540***	0.494***	0.615***
Region/voivodeship (base category: Dolnośląskie Voivodeship)			
Kujawsko-pomorskie	1.050	0.895	1.214
Lubelskie	0.833	0.956	0.978
Lubuskie	0.850	0.858	0.844
Łódzkie	0.845	1.000	1.364
Małopolskie	1.451*	1.075	0.793
Mazowieckie	1.226	0.959	1.226
Ppolskie	1.055	0.710**	1.145
Podkarpackie	1.269	1.155	1.165
Podlaskie	1.322	1.049	1.125
Pomorskie	1.149	0.961	1.141
Śląskie	1.049	1.178	1.090
Świętokrzyskie	1.080	1.249	0.999
Warmińsko-mazurskie	1.435*	1.290	1.072
Wielkopolskie	1.237	1.018	1.027
Zachodniopomorskie	1.185	0.947	1.116
Number of observations	9,846	9,846	9,846

Explanations: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.; a) job search methods: 1) search conducted through the District Labour Office or by waiting for a message from it, 2) search carried out through a private employment agency, 3) posting and responding to job ads, 4) search conducted directly in the prospective workplace, 5) search carried out through relatives and friends, 6) taking steps to start one's own business, 7) looking through job ads, 8) participation in tests and job interviews, 9) others, 10) waiting for the results of the application, 11) waiting for the results of the recruitment; b) major occupational groups: 1 and 2 group – Representatives of public authorities, senior officials and managers; Specialists; 3 group - Technicians and mid-level personnel; 4 and 5 group – Clerical staff, service sector employees and sales people; 6, 7 and 8 group - Farmers, gardeners, foresters and fishermen; Industry workers and craftsmen; Operators and assemblers of machinery and equipment; 9 group - Personnel performing simple tasks.

Source: The authors' own calculations based on the LFS 2005–2010.

The result of estimation of the models is presented in Tab. 1. The studied probability of job search continuation lasting more than 1 period is significantly influenced by such individual personal characteristics as age, education and marital status. The risk of continuation of job search grows by 4.6% with each subsequent completed year of life. This risk decreases along with the education level. Married people have the best chances of employment. The estimation results have not confirmed the impact of gender on the risk of protracted job search. Professional experience plays an important role in influencing the chances of finding employment. People whose previous occupations are included in group 6, 7 and 8 have the highest chances of finding a job in the first quarter of job search. Professional experience in the jobs included in group 4 and 5 increased the chances of finding a job in this period to a much lesser extent. Each subsequent year spent in the previous workplace increased the chances of finding a new job in the first quarter of search by 1.5%, and each subsequent year of total length of service increased the chances by 3.7%. The results of assessment concerning effectiveness of each method vary greatly. Methods such as: job search through the District Labour Office or by waiting for a message from it (method 1), posting and responding to job ads (3), search carried out through relatives and friends (5), waiting for the results of recruitment (11) proved to be not only ineffective, but actually reduced the chances of finding a job in the first quarter of search. Effective job search methods include: search conducted directly in the prospective workplace (4), participation in tests and job interviews (8) and waiting for the results of the application (10).

The results of estimation of the parameters standing at the variable determining the year of the first study indicate that the chances of finding a job in the first quarter in the years 2004 – 2005 were the same. In subsequent years, the chances significantly increased. Voivodeship-related variables proved to be mostly statistically insignificant.

The examined probability of obtaining employment by people continuing their job search till the fifth quarter is also significantly affected by age, education, gender and marital status. The risk of continuation of job search increases by 5.2% with each subsequent completed year of life. The chances of the completion of job search grow along with the level of education. People with lower secondary education, primary and basic education have a 66% higher risk of not finding a job than people with higher education. People with post-secondary or vocational education have a 30.6% higher risk. Married people are characterised by 30.7% higher chances of finding a job than single persons. Gender is a significant factor influencing the probability of the completion of job search in the case of protracted search. Women are characterised by a 29.3% higher risk of job search failure. Professional experience also plays an important role in influencing chances of finding work. People who in the past performed jobs included in group 6, 7 and 8 have more than 2 times higher chances of finding a job. The experience gained in the occupations included in other groups increases the chances compared to the base category to a lesser degree. Among the job seekers searching for a job till the fifth quarter, the impact of length of service in both approaches is the same as when dealing with the completion of job search in the first quarter.

The assessment of the impact of using various job search methods enables this time to identify the methods that significantly increase chances of finding employment. These include: job search through the District Labour Office or by waiting for a message from it (1) – a 31% increase of chances, search conducted directly in the prospective workplace (4) – a 25% increase of chances, taking steps to start one's own business (6) – a 34% increase of chances, participation in tests and job interviews (8) – a 21.5% increase of chances, waiting for the results of the application (10) – a 15% increase of chances.

The last observation encompasses people experiencing a prolonged job search lasting at least 5 consecutive quarters. The studied probability of finding employment is significantly influenced by age, education, gender and marital status. The chances of finding a job decrease by 3.3% with each subsequent year of life completed by the respondents. The chances also fall with the decreasing level of education. In this case, we observe the phenomenon of risk equalisation of not finding a job among people with higher education, secondary education and basic vocational education. Married people are characterised by 40.5% chances of finding employment than single people. Women have as much as 51% lower chances of achieving the objective of their job search than men. Professional experience of people with the longest periods of job search plays a smaller role in influencing the chances of finding employment. The study has not confirmed the effect of length of service in both approaches on the chances of finding a job. The experience acquired in the previous job continues to positively affect the chances of finding work.

The following methods of job search favourably affect the chances of finding employment: search conducted through the District Labour Office or by waiting for a message from it (1) – an increase of 32%, search carried out through a private employment agency (2) – an increase of 41%, taking steps to start one's own business (6) – an increase of 52% and participation in tests and job interviews (8) – an increase of 32%.

5. SUMMARY

The strength of the impact of such individual characteristics as age, marital status and education does not change significantly with the lengthening of the job search period. In the case of education, the chances of finding a job by less educated persons decrease over time compared with those that have higher education. Gender is not a significant determinant of employment opportunities in the first months of job search, however, it increasingly differentiates the probability over time.

Professional experience is an important factor affecting the chances of finding a job in the first months of searching. With the lengthening of the process, these variables no longer play such a strong role.

The results obtained for the variables describing methods of job search indicate significant differences in their impact. The estimations do not confirm any influence on the chances of finding a job of such search methods as: looking through jobs ads (7), participation in tests and job interviews (8), posting and responding to job ads (3), search carried out through relatives and friends (5), or waiting for the results of recruitment (11). In the case of the last three methods, it can be said that persons applying them in the first periods of job seeking have a lower degree of probability of finding employment than those not using the methods. In the remaining periods, the parameters for these variables proved to be statistically insignificant.

The assessment of the impact of public employment services is very interesting. The results confirm that this form of job search is interchangeable with the search conducted through the job seeker's own network of contacts. The study also confirms that public employment services are effective among people seeking employment for a long period of time. The

negative impact of this form of job search in the first period can be the result of a desire on the part of the unemployed to take advantage of the whole unemployment benefit period.

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