

Consideration sets in job search

Preliminary: Please Do Not Cite

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May 2023

The first step in finding a job is to filter the vast number of vacancies. I investigate people’s choices when forming consideration sets in the job search process. This paper analyses how distance, geography, job attributes, and personal characteristics interact to shape job consideration. The study leverages linked vacancy click and administrative data to investigate job consideration behavior, providing insights into how workers engage with posted jobs.

While the concept of consideration sets has been extensively explored within the field of industrial organization, there has been relatively less focus on them in labor economics. A considerable body of research within industrial organization literature has predominantly focused on the construction and impact of consideration sets for product and service choices (Goeree, 2008; Eliaz and Spiegler, 2011; Gaynor et al., 2016; Honka et al., 2019; Abaluck and Adams-Prassl, 2021; Ursu et al., 2022). The implications derived from these studies highlight the potential pitfalls of assuming full consideration in economic models, as it could yield biased estimates of market elasticities and markups.

In contrast, labor market research has largely employed ad-hoc consideration sets in the analysis of job choices. The consideration sets have been constructed using various criteria such as network analysis (Banfi et al., 2019), clustering techniques (Banfi and Villena-Roldán, 2019), or defining bounds based on industry, occupation, and location (Herz and Van Rens, 2020; Şahin et al., 2014). Barbanchon et al. (2020) use the stated boundaries of the job consideration set concerning reservation wage and commute time to investigate trade-offs in job search.

In a bid to potentially widen the job consideration set of job seekers, several interventions have been implemented. The studies have reached ambiguous conclusions. Belot et al. (2018, 2022) find that increasing occupational scope helped the long-term unemployed to obtain more job interviews, find a stable job and reach a cumulative earnings threshold. However, Dhia et al. (2022) found that an online platform designed to provide job search tips and recommendations had modest effects on search methods but no effect on short- or medium-term employment outcomes. Klaauw and Vethaak (2022)’s study suggests that formal policies restricting job search opportunities may negatively affect labor market outcomes.

This study is grounded on a novel set of data sources that enables a link between job consideration and search outcomes. Primarily, I use jobseekers' clicks on vacancies, specifically those from registered unemployed individuals utilizing Jobroom.ch, the job portal of the Swiss Employment Services. I supplement the dataset with comprehensive administrative data that provides detailed worker characteristics and search outcomes, including demographics, information about the last employer and occupation, and data about the new employer and occupation. I analyze approximately 1.5 million clicks made by 46 thousand registered jobseekers on Jobroom.ch.

I focus on the scope of jobseekers' consideration in job search, which I quantify through their interaction with online job postings. Specifically, I measure their consideration scope by the vacancies they clicked on, delineating it along three dimensions: 1) the average log distance between a jobseeker's home municipality and the job's municipality¹, 2) the average log distance between the occupation of the jobseeker's last job and the vacancy occupation², and 3) the average log of the posted hours worked per week.

It is beyond the scope of this study to analyze the number of jobs considered by each jobseeker; this quantity is considered exogenous. This assumption is predicated on the understanding that jobseekers typically engage with multiple search channels simultaneously, with the mode being nine (Liechti et al., 2020): The number of clicks observed for each jobseeker on the platform might not accurately reflect the total breadth of their job search. Hence, instead of merely focusing on the number of jobs considered, I delve into a more nuanced investigation: Given the number of clicks I observe by a jobseeker on the platform, how do they distribute these clicks over occupations, locations, and vacancy postings?

At the heart of the empirical approach is a multinomial logit model estimating how jobseekers allocate their attention over job postings. This model estimates the utility each worker derives from different jobs, incorporating factors such as the inherent characteristics of the job, distance, and other job-specific and worker-specific attributes.

The model efficiently manages the choice set's complexity by creating 'nests' for different markets, defined as a combination of the commuting zone, full-time or part-time status, and occupation. Job consideration is treated as a two-step process. First, workers decide which markets they consider (the top nest model). A market is defined by its region (defined as a commuting zone), its full-time/part-time status, and its occupation. Second, jobseekers choose jobs within these selected markets (the bottom nest model). The top nest choice is allowed to vary over measures of the "closeness" of a job to a job seeker, the geographical and occupational distance, and an indicator of whether the posted hours worked match a jobseeker's stated

¹For jobs within the jobseeker's home municipality, the average distance between two random points within the municipality is taken, following Manning and Petrongolo (2017)

²I measure the distance between occupations using dummies derived from the ISCO classification and also through a measure of occupational similarity based on overlap in job requirements stated in vacancy postings (Klaeui et al., 2023)

Bottom nests		Top nest	
	Predicted prob. (%)		Predicted prob. (%)
At mean job FE	3.5	At mean distances	0.54
At p90 job FE	17.66	At p10 distances and match in hours worked, rest mean	42.22
Ratio	5.04	Ratio	78.18
		At p10 geo. distance, rest mean	8.32
		Ratio	15.41
		At p10 occ. distance, rest mean	2.13
		Ratio	3.95
		Match in hours worked, rest mean	0.71
		Ratio	1.31

Table 1: Predicted probabilities from the top and bottom nest. $P(i \text{ considers job } j) = P(i \text{ considers bottom nest } m) * P(i \text{ considers } j - m)$

workload preferences³. The bottom nest models the choice within a market: For every job, I estimate a job fixed effect representing the job-specific component of the utility of working at a job. This job fixed effects captures heterogeneity between jobs within a market such as beliefs about the wage⁴, amenities or the company posting the vacancy.

The geographical distance emerges as a key factor influencing the set of jobs considered. Workers significantly limit their consideration set to geographically closer jobs, thus indicating a dominant exclusion criterion used by jobseekers.

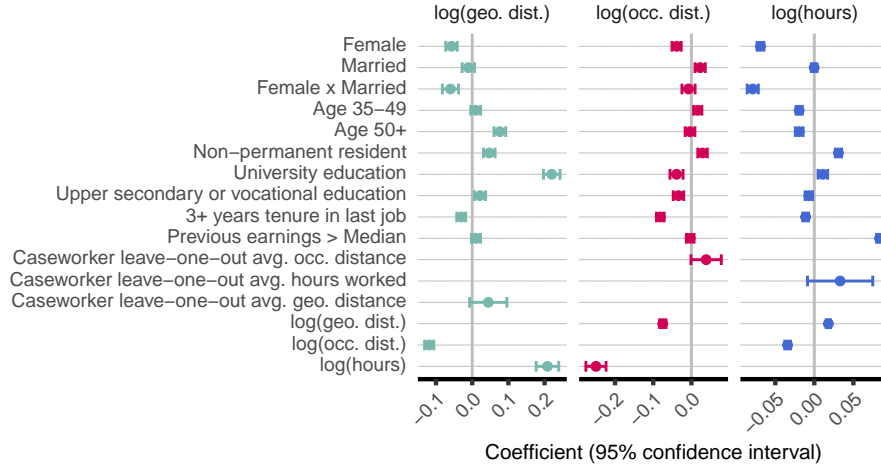
The findings are presented in Table 1 presents the predicted probabilities from the top and bottom nest. This analysis provides insights into the extent to which different factors influence the job consideration process and highlights the dominant rule of geographic distance.

The study also explores the role of individual characteristics in determining job consideration patterns. Results reveal that consideration scopes vary substantially among workers with the same location and occupation, highlighting the role of personal preferences and characteristics in the job consideration process. This finding is illustrated in Figure 1, which shows OLS estimates of the correlation between indicators of the consideration scope and jobseeker characteristics, conditional on jobseekers' occupation and location. As in the nested logit model, the consideration scope is measured using the average log distance between a jobseeker's home municipality and the job's municipality, the average log distance between the occupation of the last job of the jobseeker and the vacancy occupation, and the average log of the posted hours worked per week.

Moreover, the study examines the association between the breadth of job consideration and the wage after re-employment. I compute a proxy for the re-employment wage by taking the

³In the first meeting with the caseworker, when registering for unemployment benefits, the jobseeker indicates their preferred workload as a fraction of the standard full time workload of 40-42 hours per week

⁴In Switzerland, it is very uncommon to include the wage in a job posting, a vast majority of postings does not include wage information. However, the fixed effect captures wage expectations formed based on the company, job title, and text of the posting.



N = 46361. Fixed Effects:Regional employment agency: 115, Jobseeker's occupation: 175

Figure 1: OLS estimates of correlations conditional on jobseekers' occupation and location. Averages over jobseeker's clicks regressed on jobseeker characteristics.

median wage in the (granularly defined) occupation of the new position from the Swiss Earnings Structure Survey. Controlling for observables such as location and occupation, broader consideration positively correlates with wage growth, suggesting that workers who consider a wider array of jobs are likely to achieve higher wages. These findings are summarized in Table 2, which shows OLS estimates of conditional correlations between the wage difference between the last occupation of a jobseeker and the occupation of the newly found job and the measurements of the individual consideration scope.

	(1)	(2)	(3)
Dependent Var.:	Wage level diff.	Wage level diff.	Wage level diff.
log(geo. dist.)	-0.0135*** (0.0020)	0.0225*** (0.0017)	0.0186*** (0.0016)
log(occ. dist.)	-0.0234*** (0.0024)	0.0119*** (0.0020)	0.0136*** (0.0019)
log(hours)	-0.0427*** (0.0056)	0.0680*** (0.0045)	0.0476*** (0.0046)
Female			-0.0108*** (0.0026)
Non-permanent resident			-0.0170*** (0.0021)
University education			0.0882*** (0.0049)
Upper secondary or vocational education			0.0238*** (0.0029)
3+ years tenure in last job			0.0109*** (0.0023)
Other characteristics	No	No	Yes
Fixed-Effects:	-----	-----	-----
Regional emp. agency + Occ. + Region x broad occ.	No	Yes	Yes
S.E.: Clustered	by: Regional empl..	by: Regional empl..	by: Regional empl..
Observations	46,361	46,361	46,361
R2	0.00808	0.38884	0.40515
Within R2	-	0.01257	0.03893

Table 2: OLS estimates of conditional correlations.: difference between the log of the median wage level of the new and old occupation

My research contributes to the understanding of online labor market dynamics and offers valuable insights for theoretical models of labor market search and matching. Furthermore,

the results highlight the potential of using data from online labor market matching processes to study key research questions in labor economics, such as wage dynamics and the impact of geographical and occupational factors on job consideration and wage growth. The study underscores the importance of studying online job consideration patterns to inform policy and intervention efforts aimed at promoting efficient job matching and improving labor market outcomes.

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