Received: 26 September 2019 | Revised: 17 September 2020 | Accepted: 21 September 2020

DOI: 10.1111/spol.12657

ORIGINAL ARTICLE

WILEY

Job search, transition to employment and discouragement among older unemployed welfare recipients in Germany

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Abstract

This paper quantifies the importance of active job search for the probability of re-employment, estimates the share of older job seekers that become discouraged and explore factors that may lead to discouragement. We use the sample of older unemployed welfare benefit recipients in Germany covered by the Panel Study "Labour Market and Social Security" (PASS). We find that employment transition rates are low for older job seekers: only around 11% found a job within a year. Participation in job search is an important but not a decisive factor for the transition to employment, other variables such education levels and health status are as important for the probability to transit to employment. Furthermore, more than 29.4% of individuals that did not find employment gave up the job search. We argue that a large share of these group of unemployed could be classified as discouraged. The job centre caseworkers' strategies specifically aimed at helping older job seekers to develop a new perspective in the labour market are likely to increase their probability of continuing to search for work.

1 | INTRODUCTION

Older workers are prepared to have a longer working life. Employment at older ages has been rising since 1990th in many industrialised countries, including Germany (Börsch-Supan & Ferrari, 2018). One of the contributing factors is

dramatic gains in longevity and health (Milligan & Wise, 2015; Börsch-Supan & Jürges, 2012) and the resulting higher work capacity of individuals (Cutler, Meara, & Richards-Shubik, 2013; Jürges, Thiel, & Börsch-Supan, 2016). Another factor is government policies aimed at restricting early retirement and extending statutory retirement age. These policies stimulate economic incentives of older workers to continue employment (Berkel & Börsch-Supan, 2004; Brussig, Knuth, & Mümken, 2016). As a reflection of these trends, recent cohorts of older workers expect to work longer than previous cohorts (Coppola & Wilke, 2014; Hess, 2018). Importantly, these developments are likely to significantly alleviate economic and fiscal effects of population ageing (Maestas & Zissimopoulos, 2010) and, at the same time, contribute to a higher well-being of older workers and possibly improve their health (Rohwedder & Willis, 2010; Behncke, 2012).

However, once older workers are unemployed, their re-employment chances tend to be lower than those of younger job seekers (Chan & Huff Stevens, 2001; Maestas & Li, 2006; Sullivan & Wachter, 2009). The poor re-employment prospects of older job seekers result from multiple factors. Firstly, older job seekers may face a lack of attractive job opportunities because they are subjected to discrimination (e.g., ageism) in the labour market. Secondly, older job seekers are likely to have lower employability compared to younger workers because of their potentially outdated and inferior human capital, poor health and relatively high reservation wages due to seniority. (Dietz & Walwei, 2011; Sonnet, Olsen, & Manfredi, 2014; Van Dalen, Henkens, & Schippers, 2010).

Lower chances of re-employment for older jobseekers result in longer periods of unemployment, increased economic insecurity and early exit from the labour force. The combined effects of institutional arrangements and barriers to employment dramatically increase the spells of unemployment among older job seekers. In many industrialised countries, including Germany, older job seekers are overrepresented among the long-term unemployed (Hoffmann & Lemieux, 2016). More importantly, as a result of long-term unemployment, older job seekers are more prone to poverty, because longer unemployment durations are often associated with lower subsequent earnings (Abraham, Haltiwanger, Sandusky, & Spletzer, 2019). The older jobseekers are also more likely to receive means-tested unemployment welfare benefits.

Faced with a low probability of re-employment, many older job seekers exit the labour market permanently or become unwilling to continue their job search and remain in "the grey zone" between unemployment and non-participation (Hoffmann & Lemieux, 2016).

Motivated by the presented background information, in this paper we focus on the determinants of transition to employment and discouragement among older German welfare recipients. For the purpose of the paper, discouraged individuals are identified as those who ceased to search actively for work in period $t + 1$ after unsuccessful efforts to find a job in period t. To the best of our knowledge, there is no micro-economic evidence on the job-market transition of unemployed welfare recipients to discouragement in Germany, and internationally. Our study aims to fill this gap in the literature by providing a novel empirical evidence on the share of discouraged unemployed and the characteristics of this group. To address the research question, we employ survey data from the panel study "Labour Market and Social Security" (PASS). The use of some novel empirical methods allows us to credibly address the endogeneity issues between the participation in job search and the likelihood of employment.

2 | LITERATURE REVIEW

Job search can be viewed as information gathering. During active job search, an individual collects information on a range of job offers and decides on whether to participate in job search (Mortensen, 1970, 1977). The decision to take up employment or continue job search, in turn, depends on wage rate an individual is able to receive and the opportunity costs of searching activities (i.e., costs of information acquisition). If an individual believes that, her skills are in demand in the labour market, she will accept the job offers equal or above her reservation wage. On the other hand, if the costs of job search are prohibitively high, she will likely to limit the job-search activity. The optimal behaviour of an unemployed individual facing unattractive job opportunities and high information costs is to stop job search (Mccall, 1970).

This study contributes to the job search literature in two ways. First, the paper extends the literature that examines the job search intensity and the effectiveness of different job search channels on the reemployment transition rates of older unemployed (e.g., Baumann, 2016; Bernard, 2012; Homrighausen & Krug, 2016 and Thomsen & Wittich, 2010). The implicit assumption underlying these studies is that the decision to engage in job search by older unemployed does not play a role in reemployment success and only the intensity of job search and the choice of job search strategies have an influence on the employment outcome.

Second, this study contributes to the existing literature by considering transition outcomes of individuals that searched for work, but were unable to find employment, and empirically estimate the share of job seekers that become discouraged, that is, those who give up searching for work after unsuccessful efforts to find a job. Recent studies consistently emphasised that discouragement is a distinct labour market state (e.g., Jones & Riddell, 2006; Maestas & Li, 2006) and thus needs to be taken into account when analysing labour market transitions and formulating a sound social policy to assist the unemployed in their transition to employment. This study contributes to the discussion of the determinants of discouragement by analysing possible factors that lead to discontinuation of job search activity and discusses policy options to reduce discouragement.

Previous studies of the German labour market examined the discouragement effect from the macroeconomic perspective and found support for the hypothesis that a higher national long-term unemployment rate increases incidents of discouragement, and that the effect is more pronounced for older workers (Fuchs & Weber, 2013, 2017). This study extends this literature by considering additional microeconomic factors that may explain the decision to stop job search: caring responsibilities, a high reservation wage, low search intensity, adverse health shocks and positive income shocks. We also discuss policies that may alleviate discouragement among older unemployed.

3 | INSTITUTIONAL CONTEXT

The general goal of the activation policy for unemployed in Germany is to reduce duration of unemployment and, in particular, the incidents of long-term unemployment, hence, overall, helping people to get back into work. Two elements of activation policy designed to achieve this goal. On the one hand, activation policy aims at enabling and supporting jobseekers, as well as demanding individual effort. This principle of enabling and demanding was reinforced with the comprehensive labour market reforms in the mid-2000s. Since January 2005, two types of income support have been available to unemployed people in Germany: Unemployment Benefit I and Unemployment Benefit II (Welfare Benefit). Unemployment Benefit I is based on previous earnings and work experience. People who are not entitled to Unemployment Benefit I with household's income below the official poverty threshold may apply for Unemployment Benefit II, which is also known as basic income support for job seekers (Eichhorst, Grienberger-Zingerle, & Konle-Seidl, 2010).

While both benefit schemes contain demanding and enabling elements, their meaning is different with respect to the rights and obligations of unemployed individuals. Under the Unemployment Benefit I scheme, the recipients are individuals without work that apply meaningful efforts to end their unemployment and are available for the placement services of the Federal Employment Agency. Persons are considered to be without work if they do not work at all or if they work less than 15 hr per week. To be available, the unemployed person must be capable of working and be prepared to work, that is, ready to take up employment in an occupation which provides reasonable level of earnings (in relation to the previous wage and the benefits level), is subject to compulsory insurance and have a weekly working time of at least 15 hr.

In contrast, recipients of welfare benefits face much stringent activation requirements. Firstly, the definition of availability to take up employment is much stricter. Persons that are capable to work at least 3 hr a day under usual employment conditions are subject to activation policy. Secondly, any job (irrespective of previous occupation, wage and the current level of benefits) is deemed suitable for the welfare recipients. Under these conditions, the welfare recipients have to provide reasonable grounds for rejecting a job offer. Third, recipients of welfare benefits are

required to sign an integration agreement, an agreement between the job centre and welfare recipients, contracting obligations with respect to the job search activities, participation in labour market programmes, as well as services provided by the job centre. A failure to meet requirements of integration contract by the welfare recipients may result in financial sanctions. The job search activity is monitored and verified by caseworkers at the local job centres, who support the welfare recipients in their search for work by means of counselling and referrals to the labour market programmes.

Nevertheless, not all of the welfare benefit recipients are subject to the activation requirement described earlier. Firstly, an important feature of Unemployment Benefit II is in the fact that not that not all members of poor households that receive welfare benefits are deemed capable of working and hence registered as unemployed. Some members of the household may be either too young or too old to take up employment. Secondly, welfare benefit recipients that are capable of working could either be already employed, or participate in active labour market programmes, or could be taking part in education. Temporary health issues of an individual and the need of participation in informal care for relatives or children are also considered as reasons to be exempted from the activation requirements. Furthermore, prior to 2008, people over the age of 58 could opt out of job search by agreeing to transit to retirement at the earliest possible time (Nivorozhkin, Romeu Gordo, & Schneider, 2013). Figure 1 (left-hand side) illustrates evolution of the share of welfare recipients registered as unemployed relative to the total number of welfare recipients capable of working during 2007–2019 for the groups of welfare recipients that are younger and older than 55. The right-hand side of Figure 1 illustrates the most common labour market states of the welfare recipients that were not registered as unemployed. On average, during 2007–2019 approximately four out of 10 welfare recipients that were capable of working were registered as unemployed. While initially this share was lower for the group of welfare recipients older than 55, it gradually increased and reached levels observed for the younger group. Starting from 2015, we observe a downward trend in the share of the welfare recipients that are registered as unemployed. Somewhat unsurprisingly, among most common reasons for being exempt from the activation requirement are employment, participation in active labour market programmes and education. Relatively few welfare recipients (8%) are exempt from the activation because they are in early retirement, but according to the existing regulation, this does not prevent them from participating in active labour market policies and receiving job search assistance. Concerning the regulation of retirement, from the late 1990s onwards, Germany implemented a series of reforms with a view to encourage labour force participation of older workers and discouraging early retirement. The retirement age was raised from 65 to 67 and public subsidies for the partial retirement schemes were terminated (Dietz &

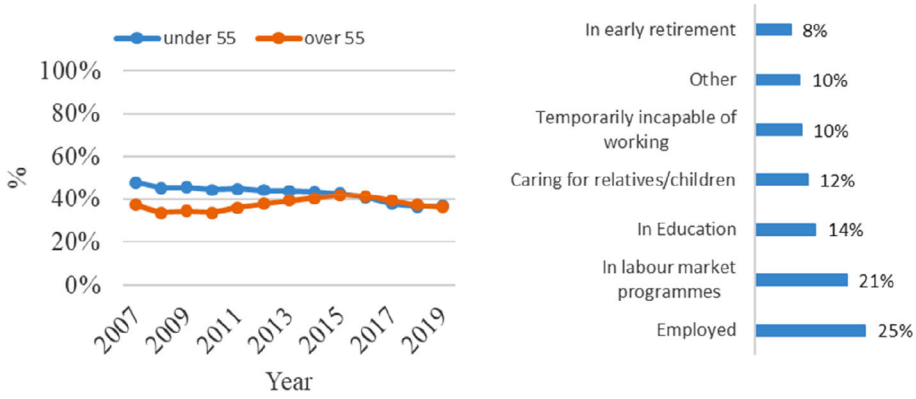

FIGURE 1 Labour market states of working age welfare benefit recipients in 2007–2019. Note: Values in the right-hand panel are population averages for the period 2007–2019. Source: Department for Statistics of the Federal Employment Agency (2020), Strukturen der Grundsicherung SGB II (Monats und Jahreszahlen ab 2005) [Colour figure can be viewed at wileyonlinelibrary.com]

Walwei, 2011; Steiner, 2017). Although the option of early retirement for welfare recipients is available at the age of 63, it is connected to a loss of retirement income of 0.3% for every month of early retirement, hence, making this option rather unattractive to the most welfare recipients.

4 | DATA AND ESTIMATION SAMPLE

The presented analysis is based on a stock sample of unemployed welfare recipients in Germany covered by the panel study "Labour Market and Social Security" (PASS). The PASS is a longitudinal survey conducted annually since 2006 covering about 10,000 households (Trappmann, Beste, Bethmann, & Müller, 2013). The survey is specifically designed for the purpose of the labour market and the welfare issues research in Germany. A notable feature of the survey is that it collects detailed individual-level information on labour market history, periods of unemployment and welfare benefits, reservation wages, obligations to search for a job, active participation in job search in the last 4 weeks preceding the interview, job search channels, as well as information on subjective experiences related to interactions with the job centre caseworkers.

We begin by constructing a panel dataset in which we observe respondents in at least two consecutive survey waves. We include in the sample individuals aged 44 to 63 that were receiving welfare benefits; were capable of working; were registered as unemployed; and were obliged to search for a job in year *t*. We then observe whether these individuals made the transition to employment by the following survey year *t + 1*. The question on the job search obligation was not asked in waves one and seven, so our sample covers the years 2007/2008, 2008/2009, 2011, 2012, 2014, and 2015. After excluding individuals with missing values for the variables of interest, the analysis is restricted to a sample of 2,651 individuals. In the next sections, using the sample described above, we start by estimating a model that predicts transition to employment at time *t + 1* and evaluates the effect of participation in job search on the probability of (re)employment. We continue analysis by concentrating on the subsample of people that were searching for a job at time *t* and stopped at *t + 1* without finding employment. As a result, we derive a share of job searchers that transited to discouragement.

5 | EMPIRICAL SPECIFICATION AND ESTIMATION STRATEGY

We begin the empirical analysis by examining possible factors that influence transition from unemployment at time *t* to employment by *t + 1*. We follow previous literature that analysed determinants of transition to employment and specify a reduced form of econometric model in the spirit of Maestas and Li (2006).

For individual *i*, transition to employment by time *t + 1* ($E_{i,t+1}$) depends on active participation in job search in the 4 weeks preceding the interview (S_{it}) and individual characteristics (X_{it}) at time *t*. ε_{it} is a stochastic error term.

$$E_{i,t+1} = \alpha^e + \beta_1^e S_{it} + \beta_3^e X_{it} + \varepsilon_{it}^e, \quad (1)$$

We approach estimation of Equation (1) in two ways. First, we estimate effect of participation in active job search as an endogenous choice variable and illustrate how individual characteristics affect the probability of transition to employment. The appropriate estimation methods in our setting are the random effects and the fixed effects panel data models (Wooldridge, 2002). The estimation of parameters in the random effects model are based on between-person variation over time. Fixed effects models, on the other hand, are based on within-person variation and thus accounts for time-constant unobserved heterogeneity, but disregards between-person variation. Additionally, the estimation of time-invariant covariates is impossible in the fixed effects model. Since we are interested in the variation in the effect of participation in active job search that takes place between individuals as well as in the

role of further control variables with little or no variation over time, we employ random effects logit models to estimate (1).

Second, a study of the effect of participation in job search (S_{it}) on the employment outcome ($E_{i,t+1}$) is complicated by the endogenous selection of unemployed to participate actively in job search. According to job search theory (Mortensen, 1970, 1977), individuals jointly choose amount of job search along with the reservation wage for accepting job offers, which in turn is assumed maximise the present value expected lifetime income. Thus, the decision to actively participate in job search is likely to be an endogenous covariate in Equation (1). To address the endogeneity issue, we would need to find an instrumental variable that is strongly correlated with job search, but not employment. Since the decision to search for work and the transition to employment are strongly interconnected, it is challenging to find an appropriate instrumental variable. To overcome the problem of finding an observable instrumental variable, we opted out to follow a novel approach of Lewbel (2012, 2018) to construct an instrumental variable. Using the instrumental generalised methods of moments estimator, this approach enables identification of structural parameters in regression models with endogenous variables by exploiting the heteroscedasticity of the error term. The identification is based on the assumption that the considered exogenous variables are correlated with error variances but not with error covariances. The instruments are constructed as products between the residuals from the first-stage regression and the demeaned exogenous regressors. We examine the validity of the constructed instruments by calculating the Hansen J statistic, which allows us to verify that orthogonality conditions are met and Pagan-Hall statistics that test for conditional homoscedasticity of the instruments (Baum & Lewbel, 2019).

6 | RESULTS

In the following section, we present the results of descriptive analysis of two groups, searchers and non-searchers, and estimate the regression models of transition to employment.

6.1 | Descriptive analysis

According to our results, on average around 11% of the older unemployment welfare benefit recipients are able to find work within 1 year. The probability of finding a job differs considerably depending on whether or not the individuals actively searched for work. While, our sample considers all unemployed that had obligation to search for a job, around 30% of the respondents in the survey reported that they had not actively searched for work in the 4 weeks preceding the interview. While 12.6% of the group searching actively for work transitioned to employment within a year, only 6.5% of the group that reported not to search for a job in the last 4 weeks presiding the interview experienced the transition to employment (see Table 1).

The group of people actively searching for work differ in many dimensions from the group not undertaking active job search activity (see Table 1). The group of non-active job seekers contained more people from eastern Germany. Non-active job seekers were also overrepresented in the relatively older age group (aged 59–63) and underrepresented in the relatively young group (aged 44–48). People not searching actively for work were more likely to have a migration background, though the difference was not statistically significant. Compared to their active counterparts, people not actively searching for work were less likely to live with a partner (not statistically significant) and to have children in the household. Non-active job seekers generally had lower levels of education and lower OECD household equivalent income. With regard to health, non-active job seekers were more likely to have poor or very poor health, to have a disability status and to experience mental problems. Finally, non-active job seekers were less likely to have been previously employed in a white-collar occupation.

TABLE 1 Sample characteristics

	Not searching		Searching		
	Mean	SD	Mean	SD	Difference
In contributory employment	0.065	(0.25)	0.126	(0.33)	−0.06*
Living in East Germany	0.368	(0.48)	0.318	(0.47)	0.05*
Men	0.567	(0.50)	0.561	(0.50)	0.01
Age in years					
44–48	0.259	(0.44)	0.313	(0.46)	−0.05*
49–53	0.288	(0.45)	0.299	(0.46)	−0.01
54–58	0.304	(0.46)	0.289	(0.45)	0.01
59–63	0.149	(0.36)	0.1	(0.30)	0.05*
Migration background	0.196	(0.40)	0.18	(0.38)	0.02
Living together with a partner	0.321	(0.47)	0.344	(0.48)	−0.02
Children in household	0.257	(0.44)	0.291	(0.45)	−0.03+
Educational level (CASMIN)					
Low or missing	0.518	(0.50)	0.442	(0.50)	0.08*
Medium	0.368	(0.48)	0.436	(0.50)	−0.07*
High	0.115	(0.32)	0.123	(0.33)	−0.01
OECD household equivalent income					
<570	0.29	(0.45)	0.263	(0.44)	0.03
571–700	0.321	(0.47)	0.291	(0.45)	0.03
701–800	0.215	(0.41)	0.254	(0.44)	−0.04*
801>	0.174	(0.38)	0.192	(0.39)	−0.02
Subjective health					
Very poor or poor	0.3	(0.46)	0.178	(0.38)	0.12*
Satisfactory	0.404	(0.49)	0.438	(0.50)	−0.03
Good or very good	0.296	(0.46)	0.383	(0.49)	−0.09*
Disability	0.253	(0.44)	0.197	(0.40)	0.06*
Mental problems	0.277	(0.45)	0.213	(0.41)	0.06*
Time since end of last job covered by social security (in years)					
<1	0.054	(0.23)	0.129	(0.33)	−0.07*
1–3	0.135	(0.34)	0.201	(0.40)	−0.07*
3–5	0.141	(0.35)	0.137	(0.34)	0.00
5–9	0.184	(0.39)	0.176	(0.38)	0.01
10>	0.356	(0.48)	0.276	(0.45)	0.08*
Never employed	0.098	(0.30)	0.065	(0.25)	0.03*
Missing	0.054	(0.23)	0.129	(0.33)	−0.07*
Last occupation					
White-collar	0.326	(0.47)	0.398	(0.49)	−0.07*
Blue-collar	0.481	(0.50)	0.449	(0.50)	0.03
Civil servant, self-employed, family worker	0.076	(0.26)	0.075	(0.26)	0.00
Never employed	0.098	(0.30)	0.065	(0.25)	0.03*

(Continues)

TABLE 1 (Continued)

	Not searching		Searching		
	Mean	SD	Mean	SD	Difference
Missing	0.019	(0.14)	0.012	(0.11)	0.01
Number of observations	794		1857		

Note: Author's calculation based on the PASS data (PASS 0616_v2). *$p < .05$; +$p < .01$.

6.2 | Estimation of the effect of participation in active job search

In this section we examine the impact of the individual characteristics discussed earlier on the probability of an individual transition to employment by time *t + 1*. We estimate first parsimonious model, then progressively add more control variables, and compare results of the pooled logit regression to the random effects panel data model and model with constructed instrumental variables. Robust standard errors are computed to correct for heteroscedasticity.

The marginal effects resulting of the estimated models are presented in Table 2. The likelihood-ratio test that formally compares the pooled logit estimator with the panel estimator indicates for all except of the last specification that the variance of the random effects is significantly different from zero. This suggests that in the full specification, there is not much omitted variable bias, even when we do not model the unobserved heterogeneity. For the IV-GMM estimates, the Hansen J statistics fails to reject the overidentifying moments in all reported specifications at 5% significance level. Moreover, using Pagan-Hall, we cannot rejects the null hypothesis that the employed instruments are conditionally homoscedastic.

We find that active participation in job search in the 4 weeks preceding the interview increases the probability of transition to employment. For the logit and random effect logit model the effect of participation in job search on the probability of reemployment at *t + 1* tends to decrease as we progressively add explanatory variables in our model specification. The GMM-IV estimates differ from the logit and random effects logit model. The estimates are somewhat smaller in absolute size, ranging from 2 to 3.5%, and tend to lack statistical significance at conventional levels. Nevertheless, these estimates are consistent with the conclusion that active job-search is associated with modest increase in probability of transition to employment at *t + 1*.

The size of the effect of participation in job search on the probability of transition to employment, as such, is not very large compared to the effects of other variables. In fact, this result is consistent with the overall low probability of transition to employment found in the previous section. We find that the effects of age, education, income, time since last employment covered by social security[1] and occupation are similar or higher, in absolute terms, to the effect of participation in job search activity. This finding suggests that for transition to employment covered by the social security, the socio-demographic characteristics and the labour market history are, at least in quantitative terms, as important as participation in active job search.

6.3 | Discouraged workers

What happened to the older workers that actively searched for a job, but did not make the transition to employment? To answer this question, we focus on people that were searching for work at time *t*. As a result, we are left with 1,857 observations available for the analysis. Of this group, 12.6% transitioned to employment, 58% continued to seek work and 29.4% had stopped searching for a job by *t + 1* (Table 3). It is tempting to label the group of older workers that did not transition to employment and stopped searching as discouraged workers. Such a definition would, however, be naïve because it overlooks important factors that may influence the decision to search for a job. There are several factors that may explain why older unemployed workers discontinued their search for work. About

TABLE 2 Marginal effects and coefficients of IV-GMM model of job attainment

	Logit			Random effects logit model			IV-GMM model[a]		
	1	2	3	4	5	6	7	8	9
Searching	0.0554***	0.0497**	0.0345*	0.0551***	0.0489**	0.0346*	0.0276	0.0356	0.0202
	(0.0151)	(0.0152)	(0.0148)	(0.0153)	(0.0154)	(0.0147)	(0.0898)	(0.0652)	(0.0635)
Living in East Germany	−0.00442	−0.00588	0.00695	−0.00533	−0.00765	0.00652	−0.00654	−0.00697	0.00698
	(0.0134)	(0.0134)	(0.0131)	(0.0149)	(0.0149)	(0.0134)	(0.0147)	(0.0136)	(0.0132)
Men	−0.00348	−0.00633	−0.00908	−0.00723	−0.0107	−0.00939	−0.00963	−0.0131	−0.0120
	(0.0125)	(0.0125)	(0.0129)	(0.0138)	(0.0139)	(0.0130)	(0.0122)	(0.0123)	(0.0128)
Age in years (ref. 44–48)									
48–53	−0.00605	−0.00622	−0.00646	−0.00756	−0.00788	−0.00663	−0.00936	−0.00957	−0.0123
	(0.0174)	(0.0172)	(0.0169)	(0.0186)	(0.0185)	(0.0170)	(0.0173)	(0.0168)	(0.0165)
54–58	−0.0675***	−0.0665***	−0.0641***	−0.0729***	−0.0722***	−0.0646***	−0.0614***	−0.0599***	−0.0579***
	(0.0161)	(0.0161)	(0.0158)	(0.0175)	(0.0176)	(0.0159)	(0.0164)	(0.0157)	(0.0153)
59–63	−0.0797***	−0.0821***	−0.0822***	−0.0869***	−0.0896***	−0.0827***	−0.0843***	−0.0855***	−0.0819***
	(0.0204)	(0.0200)	(0.0197)	(0.0221)	(0.0219)	(0.0200)	(0.0234)	(0.0214)	(0.0211)
Migration background	−0.0199	−0.0200	−0.0221	−0.0211	−0.0222	−0.0222	−0.0165	−0.0154	−0.0168
	(0.0174)	(0.0175)	(0.0169)	(0.0188)	(0.0189)	(0.0168)	(0.0170)	(0.0161)	(0.0158)
Living together with a partner	0.0170	0.0156	0.0181	0.0178	0.0163	0.0181	0.0186	0.0152	0.0155
	(0.0130)	(0.0129)	(0.0128)	(0.0144)	(0.0143)	(0.0129)	(0.0133)	(0.0132)	(0.0129)
Children in household	0.0154	0.0142	0.0135	0.0184	0.0167	0.0140	0.0144	0.0122	0.0115
	(0.0144)	(0.0144)	(0.0140)	(0.0157)	(0.0156)	(0.0143)	(0.0158)	(0.0155)	(0.0153)
Educational level (CASMIN; ref. low)									
Medium	0.0632***	0.0604***	0.0456***	0.0694***	0.0659***	0.0459***	0.0618***	0.0584***	0.0442***
	(0.0125)	(0.0125)	(0.0126)	(0.0142)	(0.0142)	(0.0129)	(0.0140)	(0.0127)	(0.0121)
High	0.0611**	0.0553**	0.0326	0.0660**	0.0607**	0.0327	0.0487*	0.0438*	0.0237
	(0.0215)	(0.0213)	(0.0196)	(0.0230)	(0.0230)	(0.0193)	(0.0206)	(0.0196)	(0.0194)

(Continues)

TABLE 2 (Continued)

	Logit			Random effects logit model			IV-GMM model[a]		
	1	2	3	4	5	6	7	8	9
OECD household equivalent income (ref. < 570)									
571–700	0.0110	0.0102	0.00432	0.00669	0.00505	0.00380	0.00389	0.00485	0.00204
	(0.0150)	(0.0149)	(0.0150)	(0.0163)	(0.0163)	(0.0157)	(0.0137)	(0.0136)	(0.0136)
701–800	0.0178	0.0176	0.00937	0.0156	0.0152	0.00914	0.0170	0.0162	0.00829
	(0.0160)	(0.0161)	(0.0161)	(0.0177)	(0.0178)	(0.0164)	(0.0161)	(0.0158)	(0.0157)
801>	0.0712***	0.0723***	0.0571**	0.0699***	0.0711***	0.0573**	0.0682***	0.0675***	0.0545**
	(0.0195)	(0.0196)	(0.0194)	(0.0212)	(0.0214)	(0.0197)	(0.0195)	(0.0194)	(0.0193)
Subjective health (ref. very poor or poor)									
Satisfactory		0.0255	0.0192		0.0290	0.0195		0.0275	0.0189
		(0.0157)	(0.0163)		(0.0165)	(0.0165)		(0.0170)	(0.0158)
Good or very good		0.0399*	0.0251		0.0410*	0.0253		0.0446*	0.0284
		(0.0164)	(0.0170)		(0.0173)	(0.0170)		(0.0187)	(0.0175)
Disabled		−0.00201	−0.00258		−0.00497	−0.00279		−0.00344	0.0000808
		(0.0160)	(0.0160)		(0.0171)	(0.0161)		(0.0134)	(0.0133)
Mental problems		−0.0254	−0.0311*		−0.0277	−0.0312*		−0.0195	−0.0272*
		(0.0154)	(0.0152)		(0.0162)	(0.0153)		(0.0133)	(0.0133)
Time since last contributing job ended (in years; ref. <1)									
1–3			−0.0824**			−0.0819**			−0.105***
			(0.0276)			(0.0272)			(0.0300)
3–5			−0.105***			−0.104***			−0.129***
			(0.0286)			(0.0296)			(0.0313)
5–9			−0.129***			−0.128***			−0.153***
			(0.0264)			(0.0270)			(0.0300)
10>			−0.164***			−0.164***			−0.185***
			(0.0247)			(0.0248)			(0.0295)

TABLE 2 (Continued)

	Logit			Random effects logit model			IV-GMM model[a]		
	1	2	3	4	5	6	7	8	9
Never employed			−0.123***			−0.122***			−0.151***
			(0.0314)			(0.0318)			(0.0382)
Missing			−0.193***			−0.193***			−0.186***
			(0.0353)			(0.0360)			(0.0356)
Last occupation (ref. white collar)									
Blue-collar			−0.0370**			−0.0375**			−0.0404**
			(0.0139)			(0.0142)			(0.0141)
Civil, self-employed, family worker			0.000869			0.0000947			−0.00102
			(0.0231)			(0.0228)			(0.0252)
Missing			−0.0121			−0.0122			−0.0639*
			(0.0493)			(0.0520)			(0.0324)
Hansen J statistic (*p*-value)							.19	.32	.73
Pagan-hall statistics (*p*-value)							.88	.83	.87
LR-test				0.0330	0.3335	0.0328			
				(0.1065)	(0.1108)	(0.1291)			
N	2,651	2,651	2,651	2,651	2,651	2,651	2,651	2,651	2,651

Note: Author's calculation based on the PASS data (PASS 0616_v2). *$p < .05$; +$p < .01$.

[a]For the IV-GMM specification, we use the following covariates to construct instruments: gender, east Germany, age, migration background, household composition and health status dummies.

TABLE 3 Labour market transitions between time *t* and *t + 1*

	%	*N*
Job seekers at *t*	100	1,857
Found a job at *t + 1*	12.6	234
Continue search at *t + 1*	58	1,077
Do not search at *t + 1*:	29.4	546
No obligation to search or inactive	38.1	208
Have obligation to search	61.9	338

Note: Author's calculation based on the PASS data (PASS 0616_v2).

TABLE 4 Evidence of potentially discouraged workers

	% of all job seekers at *t*	*N*
High reservation wage at *t*	3.55	66
Negative health shock at *t + 1*	3.28	61
Positive income shock at *t + 1*	0.54	10
Care obligations at *t + 1*	0.75	14
Low search intensity at *t*	0.48	9
None of the above - "discouraged unemployed"	10.99	204

Note: Author's calculation based on the PASS data (PASS 0616_v2). The total number of observations available for the analysis is 338 (i.e., people that do not search at time *t* + 1, but have obligations to search). The number of observations add up to more than total because some persons may be present in more than one sub-category.

38% of the older unemployed individuals among those who stopped searching, had either became under no obligation to search for employment or simply moved to inactivity.[2]

Why did the rest of the unemployment benefit recipients stop searching for work? Table 4 examines possible reasons for the members of the group of unemployed that was still obliged to search for a job, but failing to do so. We concentrate on five factors that may shed some light on the decision not to actively search for work while being under obligation to do so. Some reasons for an individual to stop searching for work could be a negative health shock, the necessity to provide care for another member of the household or a positive income shock between *t* and *t + 1*. Other potential factors are an unrealistically high reservation wage of an unemployed individual or a low search intensity exercised by an individual. For the purpose of analysis, we define a negative health shock as a transition from a very good or a good health state to a poor or a very poor health state, or to a disability or a poor mental health state. We regard the reservation wage as being too high if the predicted reservation wage at time *t* is 25% higher than the reported reservation wage.[3] A positive income shock is defined as a change in the net disposable household income in excess of the 90th percentile of inter-wave changes in the full sample. Finally, we define search intensity as weak if the respondent reported searching for a job at time *t* but did not report using any of the six job search channels listed in the survey.

3.5% of all the unemployed job seekers at time *t* experienced a negative health shock (Table 4). A further 3.3% set their reservation wages too high. Other factors played a very small role in explaining the decision to stop job search activity. Finally, 11% of individuals experienced none of the above-mentioned conditions. This group of older unemployment benefit recipients was searching at time *t*, was still obliged to search for a job at *t + 1*, could not find a job, and stopped searching without experiencing any of the events listed in Table 4. We label this group as "discouraged workers." We turn next to the description of the group of the discouraged workers.

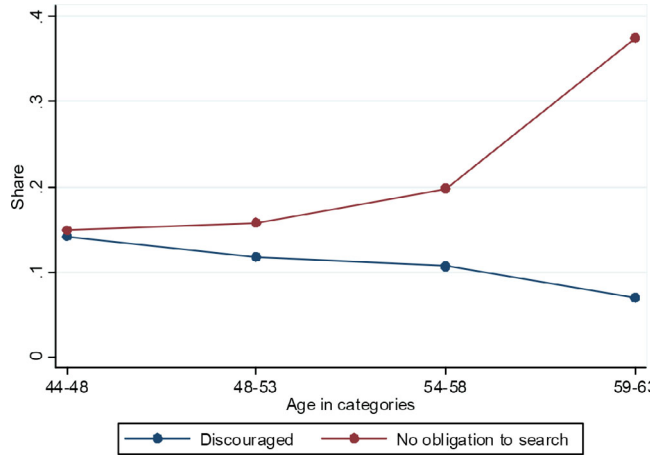

FIGURE 2 Share of discouraged unemployed and unemployed without job search obligations at *t + 1* (by age groups). Note: Author's calculation based on the PASS data (PASS 0616_v2) [Colour figure can be viewed at wileyonlinelibrary.com]

How does the incidence of discouragement changes with age? Discouragement is more prevalent among the relatively young workers, but the relatively older workers are more likely to be exempt from the obligations to search for work. Figure 2 presents the shares of discouraged workers and workers that were exempt from the job search obligation by age groups. The share of discouraged workers declines with age from a high of 12.4%, for the group of workers aged 44–48, to a low of 8%, for the group aged 59–63. At the same time, the share of workers with no job search obligation increases from a low of 15.7% to a high of 34.3% for the same age groups. It appears that relatively older workers are much more likely to leave the labour market (due to poor health and limited prospects at the labour market) than to become discouraged, and caseworkers at local job centres support this decision by exempting these people from the obligation to search for a job.

We compare discouraged unemployed persons to their counterparts who managed the transition to employment (Table 5).[4] While there are no statistically significant differences between the two groups in terms of residence, gender and household composition, other factors differ systematically between the two groups. Relative to the respondents that found work, discouraged unemployed workers were overrepresented in the 54–58 age group (26 and 18% respectively) and were more likely to have migration background (22 vs. 15%). The group of discouraged unemployed tend to have lower levels of education and income. We find no large and statistically significant differences in the disability status between two groups, but higher incidents of mental health problems (25 vs. 17%) and overall poor health assessment in the groups of discouraged unemployed. Finally, relatively to the group that found employment discouraged unemployed were more likely to be previously employed in blue-collar and less likely in white-collar occupations.

Discouraged unemployed and those that found employment are different in not only socio-demographic characteristics and work history but in the preparedness to compromise on working conditions when searching for a job. In the PASS survey, the respondents were asked to reflect on disadvantages that occasionally have to be accepted to get a job. The results are presented in Table 6. It follows that discouraged workers were less willing to compromise on many important working conditions when searching for a job at time *t*. Relatively to unemployed that found a job, discouraged unemployed were 17% points less likely to accept inconvenient working times. At the same time, discouraged workers were 6% points more likely to accept jobs that were below their skill-level.

Discouraged unemployed and those that found a job differ in terms of adopted job-search strategies and the number of invitations to job interviews they receive. We compare the job search strategies at time *t* of discouraged unemployed workers with those of people that found employment (Table 7). Unemployed persons that become discouraged tend to rely more on offline sources of information about job vacancies. In contrast, people that found employment searched for jobs using job centres and online sources more often. They were also more likely to make use of private job placement services. Several studies indicate that active job search online, and the use of private

TABLE 5 Unemployed that transited to discouragement versus unemployed that found a job

	Discouraged	Employed	Difference
Living in East Germany	0.31	0.32	0.02
Men	0.52	0.54	0.01
Age in years			
44–48	0.35	0.4	0.05
49–53	0.31	0.35	0.04
54–58	0.26	0.18	−0.08*
59–63	0.07	0.06	−0.01
Migration background	0.22	0.15	−0.07+
Living together with a partner	0.38	0.35	−0.03
Children in household	0.35	0.35	0.01
Educational level (CASMIN)			
Low or missing	0.44	0.29	−0.15*
Medium	0.43	0.56	0.13*
High	0.13	0.15	0.02
OECD household equivalent income			
<570	0.26	0.21	−0.05
571–700	0.33	0.28	−0.05
701–800	0.27	0.24	−0.03
801>	0.14	0.27	0.13*
Subjective health			
Very poor or poor	0.24	0.14	−0.09*
Satisfactory	0.41	0.39	−0.02
Good or very good	0.35	0.47	0.11*
Disability	0.2	0.18	−0.02
Mental problems	0.25	0.17	−0.08*
Time since last contributing job ended (in years)			
<1	0.11	0.29	0.18*
1–3	0.17	0.23	0.05
3–5	0.13	0.14	0.01
5–9	0.23	0.13	−0.09*
10>	0.26	0.14	−0.12*
Never employed	0.08	0.07	−0.01
Missing	0.02	0	−0.02*
Last occupation			
White-collar	0.38	0.47	0.09+
Blue-collar	0.46	0.35	−0.11*
Civil, self-employed, family worker	0.07	0.1	0.03
Never employed	0.08	0.07	−0.01
Missing	0.02	0.02	0
Number of observations	204	234	

Note: Author's calculation based on the PASS data (PASS 0616_v2). *$p < .05$; +$p < .01$.

TABLE 6 Disadvantages that occasionally have to be accepted to get a job

	Discouraged	Employed	Difference
Commuting time of 1 hr or more	0.57	0.64	0.07
A low income	0.51	0.53	0.02
Unfavourable working hours	0.53	0.7	0.17*
A job that is below your skill level	0.83	0.77	–0.06+
Burdens at the workplace such as dirt, noise …	0.5	0.54	0.04
Number of observations	204	234	

Note: Author's calculation based on the PASS data (PASS 0616_v2). *$p < .05$; +$p < .01$.

TABLE 7 Job search strategies

	Discouraged	Employed	Difference
Looked through job advertisements in the newspaper	0.9	0.82	–0.08*
Looked through the employment agencies' online job market	0.55	0.64	0.09+
Searched other internet sources	0.53	0.7	0.17*
Asked family and friends	0.66	0.67	0.01
Got information from the placement officer at the employment agency	0.53	0.56	0.03
Got information from a private job placement service	0.15	0.24	0.09*
How many job interviews during the past 4 weeks	0.42	0.91	0.50*

Note: Author's calculation based on the PASS data (PASS 0616_v2). *$p < .05$; +$p < .01$.

job placement services are associated with greater chances of re-employment for older workers in Germany and internationally (e.g., Kuhn & Mansour, 2014). This may explain, at least partly, why discouraged workers are less frequently invited to attend job interviews.

In conclusion, we would like to acknowledge that the group of discouraged unemployed workers differs in many respects from the group that found employment. First, discouraged workers face barriers to finding employment due to socio-economic factors, such as lower education levels, poorer health and their previous work histories. Second, the analysis reveals that the group of discouraged unemployed workers is less willing to compromise with regard to employment conditions when searching for a job. These factors combined may at least partly explain why workers become discouraged.

What policies may prevent discouragement? While timely investment in health, human capital and skills may be effective way to avoid discouragement among older workers, these strategies are costly and often employed too late, when the older individual is already unemployed. An alternative approach, to avoid discouragement, is to strengthen the link between caseworkers and unemployed (e.g., Grandia, La Grouw, & Kruyen, 2020).

Since 2014, respondents of the PASS survey answered questions about their subjective experiences with the caseworkers at the job centres. In Figure 3, we present results of a stylized regression to examine the impact of interactions with caseworkers on the probability of older workers continuing their job search activity. For the analysis, we select individuals that did not transit to employment and continued to search for work and individuals who, according to our definition, became discouraged. Due to a smaller sample size (316 observations), most of the results are not statistically different from zero. The results using various model specifications suggest that the strategy of patronising older job seekers, placing demands and not giving opportunities to state the expectations tend to decrease their probability of continuing to search for work, but the results tend to be statistically insignificant. It also appears that helping older workers to develop a new employment perspective increases the likelihood of them

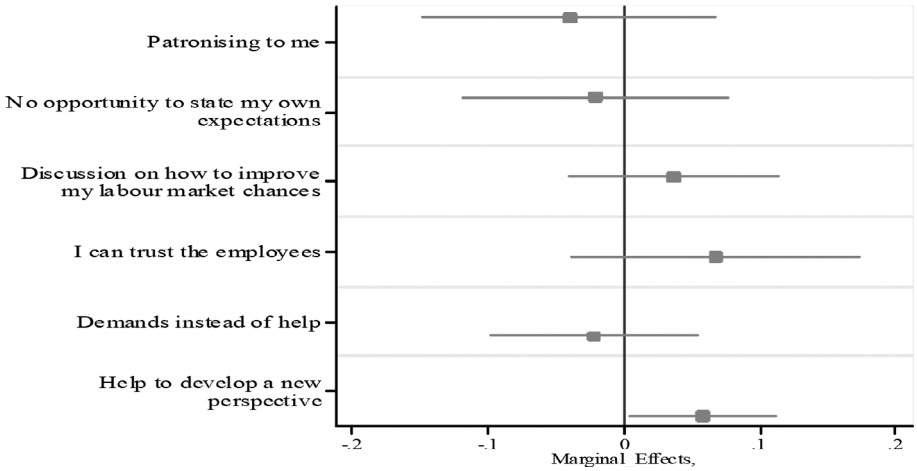

FIGURE 3 The effects of responses on caseworker experience on the probability to continue job search. Note: Number of observations 316. No additional control variables. Author's calculation based on the PASS data (PASS 0616_v2)

continuing job search (the coefficient is significant at 5% level). These findings are supported by the previous literature (e.g., Rife & Belcher, 1993; Lytle, Clancy, Foley, & Cotter, 2015: Senghaas, Freier, & Kupka, 2019). Perhaps a new perspective is what is needed for discouraged workers to keep searching for jobs?

7 | CONCLUSION AND POLICY IMPLICATIONS

The presented analysis establishes the impact of active job search activity on the probability of older unemployment benefit recipients making the transition to regular employment and estimates the share of older people that become discouraged after unsuccessful efforts to find employment in Germany. Using nationally representative panel data (PASS), we find that a large number of older unemployed persons were actively looking for a job. Yet only few (12.6%) of them were able to find work within a year. What factors underlie a successful transition to employment, the decision to continue to search for a job and the decision to stop job search? These questions are policy-relevant in view of rapid population ageing in Germany and internationally and the increasing fiscal burden on the social security system.

One of the most striking results emerging from the estimation of our reduced form of econometric specifications regarding the probability of obtaining a job is that, holding constant a rich set of factors measuring demographics and socioeconomic status, health and employment history, active participation in job search increases the probability of finding employment only marginally. Other factors such as age, education and health status are at least as important as active participation in job search. We conclude that active job search is not a silver bullet for finding employment and that a sound public policy is needed to address employment barriers faced by the older job seekers. Such a policy should be sufficiently flexible to address the health-related employment barriers of older job seekers, for example through vocational rehabilitation measures (e.g., Nivorozhkin, 2019) as well as through the general labour market programmes. Needless to say, addressing behavioural barriers of older job seekers through tailored counselling may provide a cost-effective approach to support labour market (re)integration.

We further look at the reasons for so many older workers withdraw from job search. Taking into account alternative explanations, such as institutional factors, weak search intensity, having a high reservation wage, experiencing negative health shocks, positive income shocks or having caring responsibilities, we estimate

that around 11% of job seekers become discouraged (i.e., give up job search activity because they are unable to find a job).

While the exact reasons for the discouragement are harder to identify, we find that compared to workers that transitioned to employment, discouraged workers were more likely to be male, to have poor health and to have been out of work longer. Discouraged older workers were also likely to be less willing to make compromises regarding employment conditions and used different job search channels compared to their counterparts that found a job. These results highlight the need to develop appropriate employment services to help this population group.

According to our results, identifying best practices for counselling older such as assisting older job seekers in developing a new perspective in life may provide a cost-effective way to reduce discouragement. Finally, our results are also important for the development of appropriate policy in response to ongoing recession triggered by the COVID-19 crisis that disproportionately affected older workers. Recessions cause reductions in employment and earnings, increased early retirement and incidence of discouragement. An important limitation of the analysis is that we viewed decision to search for a job a discrete event. In fact, we cannot exclude the possibility that individuals that report not to be searching for work during the last 4 weeks preceding the interview may start to search later. This data shortcoming is a challenge that should be addressed in future research. Therefore, the results of the analysis should be viewed as a first step on this process by uncovering some important but preliminary micro economic evidence on the topic.

ACKNOWLEDGMENTS

We would like to thank Andreas Hirseland, Gerhard Krug and Markus Promberger for providing useful comments.

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ENDNOTES

[1] Previous literature documented that incidences of helplessness and discouragement are increasing with the duration of joblessness for various population groups and especially in times of high unemployment (e.g., Goldsmith, Veum, & Darity, 1996; Krueger & Mueller, 2011).

[2] The number of people that transitioned to inactivity is very small. Hence, we chose not to present this category separately.

[3] We predict the individual reservation wage by running the OLS regression using the same covariate specification as in the job search equation.

[4] We have also compared discouraged unemployed to people that continued to search for a job at $t + 1$ and people for which job-search obligation was removed by caseworkers or they experiences some of the events described in Table 4. Results are available on request.

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How to cite this article: Nivorozhkin A, Nivorozhkin E. Job search, transition to employment and discouragement among older unemployed welfare recipients in Germany. *Soc Policy Adm*. 2020;1–19. https://doi.org/10.1111/spol.12657