

Delfgaauw, Josse

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The Effect of Job Satisfaction on Job Search: Not just whether, but also where

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Tinbergen Institute Discussion Paper

The Effect of Job Satisfaction on Job Search:

Not just whether, but also where

Josse Delfgaauw

Faculty of Economics, Erasmus University Rotterdam, and Tinbergen Institute.

The Effect of Job Satisfaction on Job Search: Not Just Whether, But Also Where*

Josse Delfgaauw

Tinbergen Institute, Erasmus University Rotterdam[†]

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Abstract

Using survey data of public sector employees in the Netherlands, this paper shows that workers' satisfaction with various job domains not only affects whether but also where workers search for another job. An intuitive pattern emerges. Workers try to leave their current employer when their job search is instigated by dissatisfaction with an organisation-specific job domain, like management. Conversely, more job-specific problems, like a lack of autonomy, lead workers to opt for another position within their current organisation. Dissatisfaction with job domains which may have an industry-specific component, such as job duties, drives workers out of their industry. These findings suggest that on-the-job experience provides workers with information about the quality of their own job as well as of other jobs in their organisation and industry.

Keywords: Job search, Job satisfaction, Public sector employees.

JEL-codes: J28, J45, J63, M54.

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[†]Address: Tinbergen Institute, Erasmus University, P.O.Box 1738, 3000 DR, Rotterdam, The Netherlands. E-mail: delfgaauw@few.eur.nl.

1 Introduction

Workers change jobs when a new job opportunity yields higher expected utility than the current job, net of mobility costs. Similarly, workers start searching for another job when they feel that some aspects of their current job can be improved upon. At an aggregate level, labour mobility is needed to accommodate differences in growth between firms, industries, or nations. At the firm level, however, the recruitment and selection process can make turnover a costly affair. Moreover, firms expecting workers to quit as well as workers searching for another employer are less likely to invest in firm-specific skills, thereby reducing productivity. Knowledge about workers' reasons to (intend to) leave the firm can help to improve retention and, hence, reduce the cost arising from inefficient turnover. Similarly, knowledge about workers' reasons to (intend to) leave their current industry can shape policy measures to reduce personnel shortages in vital sectors of the economy.¹

Labour mobility and workers' assessment of their job have been related in the literature. The seminal paper by Freeman (1978) showed that the probability that a worker voluntarily leaves his job decreases with job satisfaction, even after controlling for several worker and job characteristics. The robustness of this negative relation between job satisfaction and turnover has been established in e.g. Akerlof et al. (1988) and Clark et al. (1998). Clark (2001) and Kristensen and Westergaard-Nielsen (2004) show that not only overall job satisfaction, but also satisfaction with several job domains correlates with the probability that a worker quits. Another series of papers concludes that the negative effect of job satisfaction on labour mobility runs through workers' turnover intentions or job search behaviour.² Sousa-Poza and Henneberger (2004) find a strongly negative relation between job satisfaction and intentions to quit in a cross-national analysis covering 25 countries, as do Shields and Price (2002) in a sample of British nurses. Using Finnish data, Böckerman and Ilmakunnas (2004) report strong relations between job satisfaction and both intentions to quit and job search. The link between turnover intentions or job search and actual turnover has been established by e.g. Hartog et al. (1988), Hartog and Van Ophem (1996), and Keith and McWilliams (1999).

In this paper, we show that workers' assessment of their job not only affects

¹From a more cynical perspective, this knowledge may also be helpful in times of downsizing.

²This work follows a vast literature in psychology. A meta-analysis of this literature establishes that job satisfaction and turnover intentions are strongly related, and that turnover intentions is the best predictor of actual turnover (Tett and Meier, 1993).

whether they search for a new position, but that it also influences *where* they try to take up this new position. More precisely, we show that workers' reasons for searching for another job affect whether they seek to change jobs within their organisation, seek to move to another organisation within their industry, or seek to leave their industry altogether. In other words, workers' satisfaction with specific job aspects relates to both the intensity and the direction of their job search efforts.

We exploit data from a survey conducted in 2003 among public sector employees in the Netherlands. Respondents had to indicate their satisfaction with various job domains and their job search intensity. The job seekers were subsequently asked where they searched for another job and had to indicate the importance of 19 different job aspects in their decision to search for another job.³ Correcting for selection into the subsample of job seekers using Heckman's (1979) two-step sample selection model, we pose two questions. First, what is the relation between workers' reasons for searching for another job and their decision to search within or outside their current organisation? Second, given that a worker searches outside his organisation, what is the relation between his reasons for searching and the decision to search within or outside the industry?

An intuitive pattern emerges. Employees dissatisfied with a job domain which varies little across jobs within an organisation, such as commuting time or management, try to leave their organisation. On the contrary, when problems are job- rather than organisation-specific, as in case of a lack of autonomy, employees are more likely to try to improve their situation by changing positions within their current organisation. Dissatisfaction with job aspects that have an industry-specific component, like work pressure and job duties, may even drive employees out of their current industry.

To sharpen intuition, consider a junior nurse on the lookout for a new job. If her job search is driven by a lack of autonomy, she may try to find a senior position in her current hospital. Conversely, she would prefer a job in another hospital if her dissatisfaction is caused by commuting time, since a change in position within her current hospital does not remove the dissatisfaction. Lastly, when she realises that her dissatisfaction stems from a dislike for caring for patients, she may decide to leave the industry altogether.

We argue that one explanation for the existence of a relation between work-

³The 19 job domains are listed in Table 3. This list covers many potential reasons for searching, but is not exhaustive. For instance, it has been shown that workers are more likely to search for another job in case of a mismatch between their educational attainment and their job, both with respect to the field of education (Wolbers, 2003) as well as to the level of education (Allen and Van der Velden, 2001).

ers' reasons for searching and the direction of their search efforts is that on-the-job experience provides workers with information about the quality of their own job as well as about the quality of other jobs in their organisation and industry. Our findings suggest that workers use this information to decide both whether and where to look for alternative employment.

The first-step regression of the selection model (i.e. the selection equation) relates domain job satisfaction to workers' decision to search for another job. This part of the analysis is closely related to Clark (2001) and Kristensen and Westergaard-Nielsen (2004). They study the relation between domain job satisfaction and workers' decision to quit, which allows for a ranking of the impact of job domains on labour mobility. Despite the difference between searching for a job and quitting, our findings square well with the findings of these studies. This further confirms the strong connection between job satisfaction, job search, and turnover. The main contribution of this paper, however, lies in the finding that job domains do not only differ in their impact on the intensity of job search, but also differ in their influence on the direction of search efforts.

The remainder of this paper is organised as follows. The next section describes the survey and the data. Section 3 gives a description of the estimation method used in the analysis. Section 4 reports and discusses the relation between domain job satisfaction and workers' decisions on whether and where to search for another job. Section 5 concludes.

2 Data

In 2003, the Dutch Ministry of the Interior and Kingdom Relations undertook a large-scale survey among employees who worked continuously for one public sector organisation in 2002. Aggregate data were collected from the salary administration of the participating employers. A sample of 78,800 workers received a questionnaire, 28,312 workers returned it. Weights have been applied to reflect the aggregate information on gender, age, tenure, province, and wage.

The main purpose of the survey was to get insight into the job satisfaction of public personnel. Hence, the survey included questions on job satisfaction and on job search. We exclude 2,849 workers who reported a change in position within their employers' organisation in 2002 from the analysis, as these workers may have based their answers to the questions on search behaviour on the situation before rather than after their internal job change. Note that this implies that all respondents in the analysis held one position continuously throughout 2002. Furthermore, we remove 3,555 respondents for failure to comment upon

their job search behaviour or job satisfaction, and another 1,897 respondents for non-response to questions on personal or job characteristics except for earnings and size of the organisation.⁴ This leaves us with a sample size of 20,011 respondents.

To assess workers' job satisfaction, respondents had to indicate, on a 5-point scale ranging from *'very dissatisfied'* to *'very satisfied'*, their satisfaction with 15 different job domains as well as with their job in general. The part of the survey on job search started with the question *'Have you searched for another job or position in 2002?'*, with possible answers *'No, not at all'*, *'Yes, I have been looking around'*, and *'Yes, I have intensively searched for another job/position'*. Table 1 reports summary statistics for job satisfaction and job search intensity, as well as for the available worker and job characteristics.⁵ Most respondents are satisfied with their job, as 55 percent claim to be somewhat satisfied with their job, and another 19 percent are very satisfied. Only 13 percent of the respondents express dissatisfaction. About 30 percent of the respondents indicate to have searched for another job or position. Of these, one out of six has searched intensively. Figure 1 shows the relation between job satisfaction and job search. Clearly, the distribution of job satisfaction scores is much more skewed towards satisfaction for workers who do not search for another job than for workers who do search for another job. Hence, the probability that a worker tries to find another job decreases with his job satisfaction.

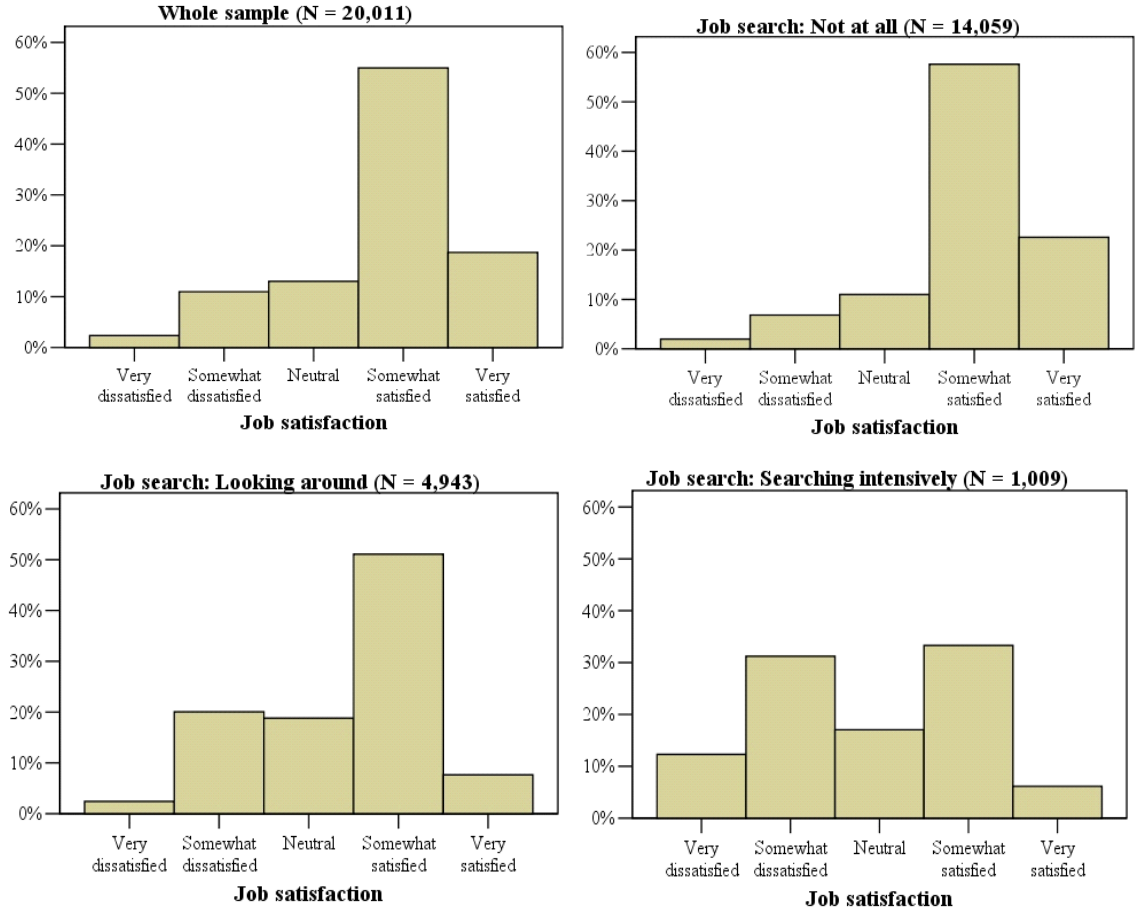
The relation between job search and job satisfaction also emerges from mean satisfaction scores. Table 2 relates the mean satisfaction scores for all job domains and for the job overall to job search intensity.⁶ The mean satisfaction score for the job overall is 3.77 on a 5-point scale. This is remarkably similar to mean satisfaction scores of 4.54 on a 6-point scale for French public sector workers and 5.42 on a 7-point scale for British public sector workers, as reported by Clark and Senik (2006). The Dutch public sector workers appear especially

⁴Excluding the 1,724 respondents who did not provide answers on either earnings or the size of their organisation has no effect on the results.

⁵'Married / cohabitating' and 'children' are dummy variables representing whether or not the worker has a partner and children, respectively. The education dummies depend on the highest attained level of schooling. 'Low education' consists of respondents with primary school and lower vocational education, and 'medium education' comprises respondents who completed high school or medium vocational education. Tenure is computed as the number of months from the starting date of the employment spell at the current employer up to December 2002. For the 203 respondents who gave only the starting year but not the starting month of this employment spell, we have set the starting month at July. The information on respondents' age, monthly wage, and organisational size has been collected using the categories listed in Table 1.

⁶This is the only instance in this paper where we, for expositional reasons, treat the satisfaction scores as cardinal.

Figure 1: Job satisfaction and job search



Data source: BZK, personeelsonderzoek 2003.

positive about their contract duration, commuting time, and job duties, but fairly negative about their financial prospects and work pressure. Job search intensity is negatively related to satisfaction with all job domains as well as to satisfaction with the job overall. The difference in mean satisfaction scores between workers who do not search at all and workers who search intensively is largest for the job overall, followed by atmosphere, (future) job duties, management, and autonomy.

Workers who indicated that they had searched for another job were subsequently asked why they started searching for another job. More precisely, job seekers had to indicate the importance of 19 different job aspects in their decision to start searching, on a 5-point scale ranging from ‘*very important*’

to ‘*not important at all*’.⁷ Moreover, the job seekers had to rank the three most important reasons to start searching. We use this information to construct ‘reason-to-search’ variables in the following way, as proposed by Mathios (1989). A reason-to-search variable is assigned the value 0 if the respondent did not consider this reason to search as important (3-5 on the 5-point scale), the value 1 if the respondent considered the reason to search important (1-2 on the 5-point scale), but did not indicate it as one of the three most important reasons to search, the value 2 if this reason to search was the third most important reason, the value 3 if this reason was the second most important reason, and the value 4 if it was the most important reason to search for a new job.⁸

Furthermore, job seekers were asked where they searched for another job: within their current organisation, within their current industry, and/or in other industries.⁹ Table 3 lists the means of the reason-to-search variables for all job seekers together, as well as separated by the direction of their search efforts.¹⁰ The main reasons for searching appear to be pay, job duties, and management. Furthermore, Table 3 hints at the main message of this paper. The differences in the importance of the reason-to-search variables between the second, third, and fourth column point to a relation between workers’ reasons for searching and the direction of their search efforts. For instance, workers who search within their organisation attach relatively much importance to autonomy and future job duties, and relatively little importance to work pressure and commuting time. Likewise, work pressure is more important in the decision to search for those who search for a new job outside their industry than for those who search

⁷The four job domains added to the 15 job domains listed in Table 2 are ‘threat of restructuring’, ‘threat of losing job’, ‘contractual hours’, and ‘combination of work and private life’, see Table 3.

⁸As acknowledged by Mathios (1989), it is obvious that this specification imposes arbitrary weights on the answers regarding the importance of job domains. The robustness of our results is checked by using three different specifications. The first two specifications use only the most important reason for searching and the three most important reasons for searching (equally weighted), respectively. These specifications yield qualitatively similar results, but perform worse than the 0-1-2-3-4 specification in terms of explanatory power. Furthermore, we used a specification which imposes no structure of weights, by inserting a dummy variable for each level of importance of all job domains. Again, qualitatively similar results emerge.

⁹The survey distinguished between the following 14 public sector industries: the central government, three forms of local government (municipality, province, and water-government), the police, defense, the judicial system, academic hospitals, and six forms of education and research (primary, secondary, vocational, and higher vocational education, universities, and research institutes).

¹⁰As 1,060 out of the 5,952 job seekers in the sample did not answer all questions on their reasons for searching, and 98 job seekers did not indicate where they searched for another job, Table 3 is based on 4,794 observations. Note also that respondents were allowed to indicate more than one direction of their search efforts. Hence, respondents may appear in more than one column of Table 3.

within their industry. Sections 4.2 and 4.3 analyse these differences in greater detail.

3 Estimation method

The analysis of this paper focusses on two questions. First, what is the relation between workers' reasons for searching for another job and their decision to search within or outside their current organisation? We use binary probit analysis to estimate the effect of workers' reasons for searching on the probability that workers search outside their organisation, controlling for the available worker and job characteristics. These estimations are, obviously, based on the workers who actually searched for another job, which is a subsample of our sample of public servants. Figure 1 indicates that selection into this subsample is unlikely to be random, since dissatisfied workers are more likely to have searched for another job than satisfied workers. Ignoring this sample selection may yield inconsistent parameter estimates.

We correct for this selection effect using Heckman's (1979) two-step sample selection model, which has been modified by Van de Ven and Van Praag (1981) to account for a probit in the second step. This method involves the following steps. We first estimate the selection equation, which is a binary probit regression of the probability that a worker searched for another job (i.e. the probability that the worker is present in the sample of job seekers). Let x_i be the set of explanatory variables in this regression, which includes the available worker and job characteristics and workers' domain job satisfaction, and let $\hat{\beta}$ be the estimated parameter vector. We then calculate the inverse Mills ratio $\lambda_i = \phi(x_i\hat{\beta})/\Phi(x_i\hat{\beta})$, where $\phi(\cdot)$ is the standard normal density function with cumulative distribution $\Phi(\cdot)$, and use it as an additional regressor in the probit regression of the probability of searching outside the current organisation. This second regression further includes the available worker and job characteristics and workers' reasons for searching as explanatory variables.

The second question we address is: What is the relation between workers' reasons for searching and their decision to search within or outside their current industry, given that they search outside their organisation? Again, we use binary probit analysis to estimate this relation. Another selection issue arises, as this estimation is based on the workers who only search outside their current organisation. For this subsample, the selection equation is exactly the probit regression of the probability of searching outside the organisation. Hence, we can again apply the two-step sample selection model to correct for this selection

effect, using the probit regression of the probability of searching outside the organisation in the first step. We thus obtain consistent parameter estimates by using the inverse Mills ratio calculated from the results of this probit regression as an additional regressor in the probit of the probability of searching outside the industry.

In both regressions on the direction of search efforts, we stack workers who search only within against workers who only search outside their organisation or industry. This creates a clear distinction between searching within and searching outside, but has the disadvantage that we have to drop all respondents who searched both within and outside their organisation or industry. In the appendix, we present the results of two corresponding multinomial logits which take into account the possibility of searching both within and outside the organisation or industry. Even though these estimations do not correct for sample selection, they are indicative of how the motives of workers who search both within and outside compare to the motives of workers who search in one direction only.

4 Results

This section reports and discusses the results of the three probit regressions described in the previous section. Most attention is paid to the two regressions of the direction of workers' search efforts, but before doing so we take a brief look at the results of the probit of the probability of job search. This is essentially an analysis of the determinants of job search. Besides being interesting in their own right, the findings of this first regression allow us to assess how our data compare to the data used in the literature.

4.1 Job satisfaction and job search

Table 4 gives the results of the probit regression of workers' decision to search for another job. The dependent variable is zero when the respondent did not search for another job in 2002, and one otherwise.¹¹ In the first column, the estimation controls for the available worker and job characteristics. We find that job search increases with educational attainment and decreases with age. The effect of experience and working hours is hump-shaped, the latter effect peaking at 31 hours. Females and employees in small organisations exert less search effort, singles exert more search effort, and minorities are not more likely to search for

¹¹ An earlier specification of this regression used the ordered structure of the information on workers' search intensity. Findings were similar to those reported in Table 4.

another job. Similar findings are reported by Pissarides and Wadsworth (1994) and Manning (2003), using data from the UK and the US.

Our findings differ from Pissarides and Wadsworth (1994) and Manning (2003) only in that job search does not decrease with job tenure and with earnings. In our data, tenure has a hump-shaped effect on the probability that a worker is searching for another job, peaking at about 13 years. Two features of our data may account for this discrepancy. First, we have information about organisational tenure rather than job tenure, as workers were asked when they started working for their current employer. Second, to qualify for the survey, respondents should have worked continuously for one employer during the whole of 2002. Hence, there are no workers with less than 12 months of tenure in the sample. Our finding that a worker's wage has little effect on job search intensity may be due to the crudeness of the wage data. The expected negative effect of earnings on job search is probably picked up by the more detailed data on tenure and experience.

The second column of Table 4 adds a binary variable representing dissatisfaction with the job in general. This variable takes the value 1 when the respondent reported to be either somewhat dissatisfied or very dissatisfied with the job in general (1-2 on the 5-point scale). Clearly, dissatisfied workers search more intensively than satisfied workers, corresponding to findings by Shields and Price (2002), Sousa-Poza and Henneberger (2004), and Böckerman and Ilmakunnas (2004). A change in this dummy variable from satisfied to dissatisfied decreases the probability that a worker does not search at all by more than 30 percentage points.

In the third column, the dummy for overall job dissatisfaction is replaced by similar dummies for domain job dissatisfaction. For most job aspects, dissatisfaction raises search intensity significantly. The main instigators of job search appear to be dissatisfaction with (future) job duties, followed by dissatisfaction with the atmosphere at work, commuting time, and autonomy. The main exception is dissatisfaction with facilities at work, which has a negative effect on search intensity. In a similar way, Clark (2001) and Kristensen and Westergaard-Nielsen (2004) have related satisfaction with 7 job domains to workers' decision to quit their job, using British and Danish data, respectively. For British workers, job security correlates most with the probability that a worker quits, followed by pay, the use of initiative, the work itself, and hours of work. For Danish workers, satisfaction with type of work and with earnings have most predictive power, but satisfaction with job security appears to have little impact. Given the absence of a job domain reflecting job security in our data,

our findings are well in line with these studies, apart from a smaller effect of financial rewards. The smaller effect of rewards may be due to the relatively compressed wage structure in the Dutch public sector, but may also arise from the difference between searching for a job and quitting.¹²

Overall, our findings on the determinants of job search appear well in line with previous research. This enhances our confidence that the more novel findings in the remainder of this paper are also applicable to the populations studied in earlier work.

4.2 Direction of search efforts: within or outside the current organisation

A link between workers' reasons for searching for another job and the decision to search either within or outside their current company is likely to originate from the information workers possess about other positions in the company. Sufficiently dissatisfied workers will use this information to infer whether their dissatisfaction would be reduced after moving to another position for which they are qualified. As conditions on some job domains vary more strongly across jobs within an organisation than on other job domains, some reasons for searching are more likely to result in a search for a new employer than others. Hence, we expect that workers dissatisfied with a disamenity present in every job in their current organisation will search for a job outside rather than within the organisation. Other job aspects, however, may vary sufficiently across jobs to make an internal job change a viable option. For instance, a police officer who moves from a junior to a senior position within his department gets more responsibility, but may not improve his relation with the department chief.

This relates to one of the leading models of labour mobility, which treats jobs as experience goods (Johnson, 1978, Jovanovic, 1979). Initially, a worker is imperfectly informed about his valuation of his job, but over time the worker learns about the quality of the match. The worker will try to find another job when the match turns out to be poor. Yet, workers' on-the-job experience also provides them with information on other jobs in their organisation. This information helps them to decide whether internal job search would be useful.

Organisation-specific problems should thus drive workers out of their organisation, whereas more job-specific problems may be solved by internal job

¹²The ranking of the strength of the effects of domain job satisfaction on job search is largely preserved when the effects are estimated by including the satisfaction variables one by one in the estimation, as in Clark (2001) and Kristensen and Westergaard-Nielsen (2004), rather than simultaneously.

search. Unfortunately, not all job domains are easily classified as either job-specific or organisation-specific. Some employees may obtain a higher wage or nicer job duties by taking up another position within their current organisation, whereas other employees may be stuck in a given job category and, hence, need to leave the organisation in order to improve upon these job domains. For several job domains, however, the classification is clear. Although counterexamples are available, problems with commuting time and management are mostly organisation-specific. Contract duration is also an organisation-specific problem, as it only hinders workers whose fixed-term contracts are not renewed and, hence, have little chance of obtaining another position within their organisation. Conversely, a lack of autonomy is primarily a job-specific problem.

Table 5 gives the results of the probit regression of workers' decision to search within or outside their organisation, where we correct for sample selection by including the inverse Mills ratio calculated from the probit regression of job search on domain job satisfaction (Table 4, last column).¹³ The dependent variable is zero if the respondent directed his search efforts solely towards his current organisation (909 respondents), and 1 if the respondent searched only outside the organisation (2,989 respondents). The 896 respondents who searched both within and outside their organisation are left out of the analysis.¹⁴

In the first column of Table 5, the estimation includes only worker and job characteristics. Age has the expected negative effect, indicating that older workers are more inclined to stay in their organisation, although the effects are not statistically significant. Better educated employees are more likely to search for a job at other firms, which reflects that the knowledge and skills of better educated employees have wider applicability. For instance, job seekers with a university diploma are 16 percentage points more likely to search for a new employer than job seekers who did not finish high school. Obviously, employees of small organisations are more likely to search outside their organisation than employees of large organisations. Earnings appear not to influence the direction of search efforts. Possibly, two opposing forces balance each other out here. On the one hand, workers with a high salary due to large investments in firm-specific skills are not likely to search outside their organisation. On the other hand, a high salary may be indicative of abundance of more general skills, which

¹³Including instead the inverse Mills ratio calculated from the probit regression of job search on overall job satisfaction (Table 4, second column) does not affect the results.

¹⁴Removing these 896 respondents from the analysis in the previous subsection on the determinants of job search has no effect on any of the results.

improves opportunities outside the organisation.¹⁵

The reason-to-search variables are included in the second column of Table 5. Jointly, the reason-to-search variables are highly significant, and several are individually significant as well. As hypothesised, we find that workers who search for a new job because of their contract duration or commuting time are less likely to search within their own organisation. Problems with management work in the same direction, yet only the effect of personnel management is statistically significant. When work pressure is a reason to search for a new job, workers are also more likely to search outside their organisation. This can be explained by differences in organisational culture between firms, as well as by an industry-wide shortage of personnel with certain qualifications.

Wage gains experienced at job changes can be significant, especially for young workers. Topel and Ward (1992) show that for young men in the US, about one-third of total wage growth occurs through job change, and a typical job change yields a 10 percent wage gain. Moreover, voluntary mobility brings about higher wage increases than involuntary mobility (Keith and McWilliams, 1997). Hence, it is not surprising that in our sample, most workers who want higher earnings try to find a new employer. Notice, however, that the literature on the wage effects of mobility compares workers who stay with workers who quit. The latter workers thus found and accepted another job, whereas our job seekers have not found a better position. Hence, some of our public sector workers may simply have few opportunities, both within and outside their organisation. Dissatisfaction with facilities at work also has a positive effect on the probability of searching outside the organisation. This is not surprising either, as it is hard to imagine that facilities differ widely across jobs within an organisation.

The magnitude of these effects is substantial. The column with marginal effects gives the effect of a one-point increase in the reason-to-search variables on the probability that a worker searches outside the current organisation. Given the 0-1-2-3-4 specification of the reason-to-search variables, the difference in this probability between workers for whom a reason to search is most important in the decision to start searching and workers for whom the reason to search is not important is about four times the marginal effect.¹⁶ Evaluated at the sample

¹⁵Notice that the effect of the inverse Mills ratio is statistically significant, which implies that there is indeed an effect through the selection equation. Hence, the correction for sample selection is necessary.

¹⁶The nonlinear nature of the probit model and the relatively high fraction of job seekers who search outside their current organisation imply that this difference is actually somewhat smaller (larger) than four times the marginal effect for reason-to-search variables which have a positive (negative) effect on the probability to search outside the organisation.

means of the other variables, workers for whom rewards or personnel management is the most important reason to start searching are 11 and 10 percentage points more likely to search outside their organisation, respectively, than workers who do not consider these reasons to search important. For commuting time, this difference is 17 percentage points.

A large fraction of intra-firm job mobility involves a promotion. For instance, Lluís (2005) reports that more than 20 percent of intra-firm job change in Germany concerns an increase in rank. Hence, we would expect that also a significant portion of internal job search has to do with promotions. The desire to be promoted is not listed as a reason for job search, but out of those listed, the job domains most likely to be affected by a promotion are rewards, financial prospects, (future) job duties, and especially autonomy / responsibility. We indeed find that when workers seek more autonomy, better financial prospects, or nicer future job duties, they are more likely to look for another job within their current organisation. The effect of job duties is not significant, which may reflect that some workers who dislike their current job duties are not qualified to do other work in their organisation. The positive effect of dissatisfaction with rewards on the probability of job search outside the organisation probably indicates that for many workers, positions higher up in the hierarchy are blocked or simply out of reach, at least in the nearby future.

Especially the effect of autonomy is strong. Workers for whom autonomy is the most important reason to search for another job are 19 percentage points more likely to search within the organisation than workers who do not consider autonomy important. For financial prospects and future job duties, this difference is 7 and 8 percentage points, respectively.¹⁷

Other reasons for searching within the organisation are contractual hours, opportunities for training, and the threat of restructuring. Böheim and Taylor (2004) show indeed that within-employer mobility facilitates the adjustment of work hours in the direction desired by employees. Yet, between-employer mobility improves this adjustment even more, see also Altonji and Paxson (1992). The result on training can be explained by observing that many firms cater an employee's training opportunities to the skills needed for his job, implying that training opportunities differ across jobs within the organisation. For instance, Oosterbeek (1996) shows that workers in low-level jobs have less opportunities

¹⁷These effects can add up to large differences between workers. For instance, a worker who ranks autonomy as the most important reason to search for another job, followed by future job duties and financial prospects, is more than 50 percentage points more likely to search within the organisation than a worker for whom commuting time is the most important reason to search, rewards second most important, and personnel management third most important.

for training than workers in higher-level jobs. As workers usually have better information about the training opportunities at other positions inside their organisation than about the opportunities for training in other firms, workers who want more training are likely to apply for another position within their organisation.

That an upcoming restructuring does not chase away employees, but rather induces them to search for a new position within their organisation may seem counter-intuitive. Yet, a restructuring not only destroys positions, but may also open up positions and create new jobs. The results of the multinomial logit analysis, displayed in Table A1, provide further insight. Workers who are threatened by restructuring as well as workers who fear losing their jobs for other reasons are most likely to search both within and outside their organisation, which seems to be a wise strategy. Probably, workers who search in one direction only have simply less to fear from the restructuring than workers who search in both directions. Table A1 shows that for most other job domains, the category of workers who search in both direction falls in between the two categories of workers who search in one direction only. Acknowledging that caution is warranted because these estimates are not corrected for sample selection, we interpret this as further support for the pattern found in the main analysis. Thus, the greater the importance of e.g. personnel management in a workers' decision to search for another job, the more likely it is that the worker searches outside the organisation, and the less likely it is that the worker searches within the organisation.

The broad pattern of these findings is in line with the argument that workers with organisation-specific reasons for searching are more likely to try to leave the organisation than workers with job-specific reasons for searching. To recap, problems with commuting time, management, contract duration, work pressure, facilities, and rewards lead workers to seek for a new employer. An upcoming restructuring, inconvenient hours, and insufficient training opportunities lead workers to opt for other jobs within their organisation. Workers who strive for better financial prospects, nicer job duties in the future, and more autonomy also search more often within their current organisation, which may reflect their desire to be promoted.

4.3 Direction of search efforts: within or outside the current industry

Besides learning about jobs within the organisation, a worker also learns about some features of jobs within the industry. This information is useful in as-

sessing whether or not other jobs within the industry can ease any discomfort arising from the current position. Since jobs within an industry often have some features in common, workers' reasons for searching for another job can affect their decision to search within or outside their industry. For instance, a scholar who hates teaching and doing research has little to gain from moving to another university. Hence, we expect that when dissatisfaction is caused by a job domain which has an industry-specific component, workers search for a job in another industry.

For many job domains, the strength of the influence of industry is hard to assess, and probably differs across industries. Yet, two job domains that are likely to be partially dependent on industry are job duties and work pressure. Furthermore, given that wage bargaining takes place at industry-level in most public sector industries in the Netherlands, we would expect that workers who search for better rewards or financial prospects also seek employment outside their current industry.

Table 6 gives the results of the probit regression of workers' decision to search within or outside their industry. We correct for selection into the subsample of job seekers who search outside their organisation. For the estimation that excludes (includes) the reason-to-search variables, the inverse Mills ratio is calculated from the probit regression of the probability of searching outside the organisation (Table 5) that excludes (includes) the reason-to-search variables. The dependent variable takes the value zero if the respondent searched for another job within the current industry (1,335 respondents), and the value 1 if the respondent searched in other industries (1,106 respondents). The remaining 548 respondents who searched both within and outside their current industry are left out of the analysis.

Earnings and size of the organisation have most explanatory power. Earnings decrease with the probability that workers seek jobs in other industries. Better-paid employees probably have relatively more to lose from a switch in industry, due to industry-specific skills.¹⁸ Size of the organisation increases with the probability that employees search in other industries. Hence, together with the relation between internal job search and size described in the previous subsection, the pattern is as follows: job seekers in large organisations are more likely to search within their current organisation, but given that they intend to leave the organisation, they are more likely to intend to leave the industry altogether. This may be explained by observing that employees in large organi-

¹⁸Neal (1995) shows that displaced workers suffer smaller wage losses when they find re-employment in their predisplacement industry than if they move to another industry.

sations have more opportunities to solve problems at work unrelated to industry by an internal job change than employees in small organisations. Hence, given that an internal job change is not sufficient, employees in large organisations may more often need to change industry in order to alleviate their dissatisfaction.

The reason-to-search variables are included in the second column of Table 6. Jointly, the reason-to-search variables are statistically significant, although their explanatory power is considerably smaller than in Table 5. Most reason-to-search variables appear to have a negligible effect on workers' decision to stay in or leave their industry. Still, we find that when work pressure or job duties trigger job search, employees try to leave the industry. As argued above, these job aspects are likely to have an industry-specific component. That workers who face tough working conditions also want to change industry suggests that some workers have few opportunities to vary their type of work by changing jobs within their industry. Problems with commuting time leads workers to search for another job within their industry. This suggests that workers who want to reduce their commuting time are relatively positive about other aspects of their current job and, hence, try to find a job similar to their current job but located closer to their place of residence.

Dissatisfaction with financial prospects is positively related to the probability that a worker seeks to leave the industry, but, in contrast to our expectations, the effect of rewards is negative. Possibly, industry-specific skills have a role in this negative effect of dissatisfaction with rewards on the probability of leaving the industry, with workers realising that their skills may not be valued as highly in other industries.¹⁹

Again, the magnitudes of these effects are large. Workers for whom job duties is the most important reason to search are 13 percentage points more likely to search outside their industry than workers who do not consider job duties important, evaluated at the sample means of the other variables. For work pressure, physical working conditions, and financial prospects these figures are 6, 10, and 13 percentage points, respectively. Workers for whom commuting

¹⁹The results of the multinomial logit which takes account of workers who search both inside and outside their industry reveal that especially young people are likely to search in both directions. Table A2 further indicates that workers who search for less work pressure and better financial prospects and conditions are primarily less likely to search only within their industry, whereas workers who want to reduce their commuting time are less likely to search only outside their industry. There are no reasons for searching which make it more likely that workers search both within and outside the industry rather than either within or outside. Again, these results should be treated with caution, as they are not corrected for sample selection. Still, it suggests that the exclusion of workers who search in both directions from the analysis does not have a large effect on the conclusions.

time is most important are 25 percentage points less likely to search outside their industry than workers who do not consider commuting time important; for rewards this figure is 12 percentage points.

In Table 7, we qualitatively summarise our main findings. A remarkable feature of the results is that the effects of rewards and financial prospects have opposite signs in both regressions. Workers who want higher earnings try to leave their organisation, but not their industry, whereas workers who seek better prospects search either within their organisation or outside their industry. Apparently, job seekers hope to improve their current salary by finding a similar job (that is, a job within the same industry) at an organisation which has a higher valuation for their skills. Conversely, workers seeking better prospects try to get on a steeper wage path within their organisation. If there is no such opportunity within the organisation, workers apparently also have few opportunities at other employers within the industry and, hence, need to leave the industry to improve upon their situation. The latter effect is consistent with the well-known finding that the wage distribution is more compressed in the public sector than in the private sector (Borjas, 2003).

5 Concluding remarks

The economics literature on job satisfaction has shown that workers' satisfaction with their job influences their behaviour on the labour market, most notably their choice to stay in or leave their job. Besides confirming this finding in a large sample of employees in the Dutch public sector, this paper shows that workers' satisfaction with specific job domains affects the direction of their job search efforts. The emerging pattern is intuitive: dissatisfaction with job domains that are largely constant across jobs within an organisation leads workers to seek employment outside their current organisation. On the other hand, when job search is instigated by job domains that are job-specific, workers are more inclined to seek another position within their current organisation. Furthermore, given that workers decide not to search within their current organisation, they are more likely to intend to leave their industry altogether when their job search is fueled by discontent with job domains that are likely to be influenced by the industry.

These findings suggest that workers use information obtained through their on-the-job experience to update their expectations on both their own and other jobs. This information thus aides them in deciding whether and where to look for alternative employment. In this respect, our findings relate to Neal (1999).

He distinguishes between job mobility and career mobility, the latter empirically defined as a change in both industry and occupation. Discussing evidence that workers first choose a suitable career and subsequently a suitable job, Neal argues that *“many workers are apparently using on-the-job experience as a means of gaining information about possible careers”* (p. 239).

The results indicate that in general, firms that face high cost of turnover should focus their attention to workers’ earnings and work pressure and to personnel management. At the industry level, poor financial prospects and working conditions and unpleasant job duties feeds workers’ desire to leave the industry. Hence, when personnel shortages loom, improving these job domains should be given priority, especially for high-turnover occupations like nursing (Andrews and Dziegielewski, 2005) and teaching (Ingersoll, 2001). A similar conclusion is reached by the Audit Commission (2002) after surveying British workers who left the public sector. Bureaucracy and workload appear major reasons to leave the public sector, and many workers indicated that better pay, less workload, or more support from their manager might have persuaded them to stay.

A potential drawback of our data is that it consists of employees who did not change jobs in 2002. This implies that there may be a sorting effect, insofar as those who did change jobs in 2002 differed in their motives for job search from those who searched but did not change jobs. In a closely related paper, Delfgaauw (2005) analyses the relation between job movers’ reasons for quitting their job and their decision to stay in or leave the industry, using similar survey data of job-to-job movers who either started or ended an employment spell at a public sector organisation in the Netherlands in 2001. Hence, for industry change, we can compare the intentions of the job seekers in the present sample to the motives of the job movers in Delfgaauw (2005). Although there are some differences (most notably, workers who quit for rewards were more likely to have left their industry), the findings are reasonably similar. Hence, the lack of actual job movers in the present sample does not appear to drive the main results.

One critique on relating job satisfaction to job search is that job search may be nothing more than an alternative measure of job satisfaction (cf. Clark, 2001). A more tangible measure of job search behaviour is whether or not an employee has actually applied for another job or position. In our sample, almost 59 percent of the job seekers said to have applied for another job in 2002. There is a clear distinction by search intensity, as 52 percent of the respondents who were ‘looking around’ had applied for another job, against 89 percent of

the respondents who ‘searched intensively’. Replacing search intensity by the application decision as our measure of job search has no qualitative effect on our findings. Hence, we feel confident that domain job satisfaction not only affects workers’ decision where to search for another job, but also bears on actual quit behaviour.

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Table 1: Descriptive statistics

Variables	Mean	SD
Female	0.449	
Minority	0.034	
Age:		
15 - 19	0.004	
20 - 24	0.042	
25 - 29	0.085	
30 - 34	0.116	
35 - 39	0.133	
40 - 44	0.175	
45 - 49	0.174	
50 - 54	0.165	
55 - 59	0.089	
60 - 69	0.018	
Married / cohabitating	0.806	
Children (dummy)	0.538	
Low education	0.139	
Medium education	0.245	
Higher vocational education	0.438	
University	0.179	
Tenure (in months)	151.085	121.717
Experience (in years)	20.163	10.536
Contractual hours	32.751	8.244
Temporary contract	0.083	
Monthly wage (euro):		
Less than 1250	0.096	
1251 - 1500	0.074	
1501 - 1750	0.085	
1751 - 2000	0.103	
2001 - 2500	0.183	
2501 - 3000	0.140	
3001 - 3500	0.118	
3501 - 4000	0.067	
4001 - 4500	0.040	
4501 - 5000	0.023	
More than 5000	0.031	
No response	0.040	
Size (number of employees):		
0 - 10	0.006	
11 - 20	0.024	
21 - 50	0.064	
51 - 100	0.075	
101 - 500	0.281	
501 - 1000	0.100	
1001 - 5000	0.225	
More than 5000	0.181	
No response	0.044	
Job satisfaction:		
Very dissatisfied	0.023	
Somewhat dissatisfied	0.110	
Neutral	0.130	
Somewhat satisfied	0.550	
Very satisfied	0.187	
Job search:		
Not at all	0.703	
Looking around	0.247	
Searching intensively	0.050	
Observations	20,011	

Data source: BZK, Personeelsonderzoek 2003.

Table 2: Mean satisfaction scores

Satisfaction with	All	Job search intensity		
		Not at all	Looking around	Searching intensively
Job overall	3.77	3.95	3.46	2.99
Contract duration	4.20	4.25	4.15	3.91
Rewards	3.31	3.41	3.12	3.10
Financial prospects	2.61	2.71	2.40	2.34
Work pressure	2.82	2.87	2.71	2.74
Facilities at work	3.18	3.21	3.14	3.08
Physical working conditions	3.10	3.18	2.96	2.89
Job duties	4.02	4.19	3.71	3.45
Future job duties	3.48	3.68	3.11	2.89
Education / training opportunities	3.41	3.54	3.18	2.92
Atmosphere at work	3.94	4.13	3.62	3.30
Commuting time	4.08	4.18	3.88	3.78
Personnel management	2.98	3.15	2.67	2.44
Management of the organisation	2.88	3.04	2.58	2.43
Style of leadership	3.02	3.21	2.66	2.40
Autonomy / responsibility	3.97	4.12	3.69	3.41
Observations	20,011	14,059	4,943	1,009

Data source: BZK, Personeelsonderzoek 2003.

Tests of equality of the means across rows all reject the hypothesis of equality at the 0.01 level.

Table 3: Means of the reason-to-search variables

Reasons to search	All	Direction of search efforts		
		In current organisation	In current industry	Outside current industry
Threat of restructuring	0.30	0.40	0.26	0.30
Threat of losing job	0.18	0.22	0.18	0.20
Contract duration	0.25	0.26	0.26	0.29
Rewards	0.79	0.66	0.83	0.82
Financial prospects	1.00	1.11	0.96	1.00
Work pressure	0.84	0.67	0.86	1.00
Facilities at work	0.31	0.26	0.33	0.36
Physical working conditions	0.36	0.35	0.35	0.41
Job duties	1.01	1.11	0.93	1.02
Future job duties	1.22	1.45	1.19	1.15
Education / training opportunities	0.47	0.60	0.43	0.43
Atmosphere at work	0.88	0.84	0.91	0.89
Contractual hours	0.25	0.25	0.25	0.26
Combination of work and private life	0.57	0.51	0.55	0.58
Commuting time	0.56	0.34	0.67	0.55
Personnel management	0.89	0.77	0.91	0.99
Management of the organisation	1.01	0.93	1.03	1.10
Style of leadership	1.08	1.02	1.13	1.13
Autonomy / responsibility	0.94	1.20	0.86	0.78
Observations	4,794	1,806	2,505	2,234

Data source: BZK, Personeelsonderzoek 2003

Table 4: The determinants of job search (probit)

Variable	Coefficient		Coefficient		Coefficient	
Female	-0.175	(0.024)***	-0.153	(0.025)***	-0.147	(0.026)***
Minority	0.001	(0.052)	-0.059	(0.054)	-0.088	(0.057)
Age:						
25 - 29	-0.044	(0.057)	-0.047	(0.058)	-0.091	(0.061)
30 - 34	-0.031	(0.061)	-0.053	(0.063)	-0.149	(0.066)**
35 - 39	-0.166	(0.069)**	-0.185	(0.070)***	-0.301	(0.074)***
40 - 44	-0.156	(0.074)**	-0.170	(0.076)**	-0.262	(0.080)***
45 - 49	-0.194	(0.079)**	-0.217	(0.081)***	-0.319	(0.085)***
50 - 54	-0.362	(0.083)***	-0.385	(0.084)***	-0.481	(0.089)***
55 - 59	-0.815	(0.093)***	-0.836	(0.094)***	-0.938	(0.099)***
60 - 69	-1.192	(0.148)***	-1.182	(0.151)***	-1.222	(0.161)***
Married / cohabitating	-0.055	(0.027)**	-0.030	(0.027)	-0.018	(0.028)
Children (dummy)	0.045	(0.023)**	0.055	(0.024)**	0.049	(0.025)**
Medium education	0.128	(0.034)***	0.145	(0.035)***	0.162	(0.036)***
Higher vocational education	0.270	(0.037)***	0.261	(0.038)***	0.248	(0.040)***
University	0.304	(0.045)***	0.280	(0.046)***	0.225	(0.048)***
Tenure (in months/10)	0.027	(0.003)***	0.027	(0.003)***	0.024	(0.004)***
Tenure ² /1000	-0.009	(0.001)***	-0.009	(0.001)***	-0.008	(0.001)***
Experience (in years)	0.022	(0.006)***	0.022	(0.006)***	0.027	(0.007)***
Experience ² /10	-0.048	(0.014)***	-0.053	(0.014)***	-0.068	(0.015)***
Contractual hours	0.019	(0.007)***	0.018	(0.007)***	0.016	(0.007)***
Contractual hours ² /10	-0.031	(0.012)***	-0.029	(0.012)**	-0.028	(0.013)**
Temporary contract	0.048	(0.039)	0.003	(0.039)	0.005	(0.044)
Monthly wage (euro):						
1251 - 1500	0.026	(0.051)	0.048	(0.052)	0.061	(0.055)
1501 - 1750	0.007	(0.051)	0.045	(0.053)	0.079	(0.055)
1751 - 2000	0.073	(0.051)	0.080	(0.052)	0.108	(0.055)**
2001 - 2500	0.107	(0.048)**	0.132	(0.050)***	0.177	(0.052)***
2501 - 3000	0.102	(0.053)*	0.135	(0.054)**	0.201	(0.057)***
3001 - 3500	0.043	(0.056)	0.091	(0.057)	0.177	(0.060)***
3501 - 4000	0.040	(0.063)	0.096	(0.064)	0.224	(0.068)***
4001 - 4500	0.012	(0.072)	0.054	(0.074)	0.196	(0.078)**
4501 - 5000	0.101	(0.084)	0.176	(0.085)**	0.379	(0.089)***
More than 5000	-0.029	(0.081)	0.043	(0.082)	0.244	(0.087)***
No response	0.079	(0.064)	0.124	(0.065)*	0.138	(0.068)**
Size (number of employees):						
0 - 10	-0.305	(0.139)**	-0.335	(0.142)**	-0.260	(0.149)*
11 - 20	-0.111	(0.075)	-0.101	(0.076)	-0.024	(0.079)
21 - 50	-0.043	(0.052)	-0.070	(0.054)	-0.035	(0.056)
51 - 100	-0.038	(0.047)	-0.057	(0.048)	-0.002	(0.050)
101 - 500	-0.003	(0.036)	-0.020	(0.037)	0.027	(0.038)
501 - 1000	0.065	(0.042)	0.057	(0.043)	0.073	(0.045)
1001 - 5000	0.085	(0.033)***	0.066	(0.033)**	0.077	(0.035)**
No response	-0.040	(0.055)	-0.048	(0.056)	-0.031	(0.058)
Dissatisfaction with:						
Job overall			0.853	(0.028)***		
Contract duration					0.087	(0.049)*
Rewards					0.081	(0.026)***
Financial prospects					0.195	(0.024)***
Work pressure					-0.025	(0.023)
Facilities at work					-0.136	(0.025)***
Physical working conditions					0.030	(0.024)
Job duties					0.356	(0.042)***
Future job duties					0.698	(0.032)***
Education / training					0.089	(0.028)***
Atmosphere at work					0.485	(0.034)***
Commuting time					0.343	(0.032)***
Personnel management					0.080	(0.028)***
Management of the organisation					0.176	(0.028)***
Style of leadership					0.171	(0.026)***
Autonomy / responsibility					0.285	(0.039)***
Constant	-0.935	(0.119)***	-1.030	(0.122)***	-1.391	(0.128)***
Industry dummies	YES		YES		YES	
Observations	20,011		20,011		20,011	
Loglikelihood	-11,481.176		-10,980.934		-9,996.171	
McFadden's R ²	0.057		0.098		0.179	

Data source: BZK, Personeelsonderzoek 2003.

Robust standard errors in parentheses.

* significant at the 0.10 level. ** significant at the 0.05 level. *** significant at the 0.01 level.

Table 5: The determinants of the decision to search within or outside the organisation (probit)

Dependent variable: 0 = searching within organisation, 1 = searching outside organisation

Variables	Coefficient		Marginal effect	Coefficient		Marginal effect
Female	0.034	(0,061)	0.009	-0.048	(0,064)	-0.012
Minority	-0.087	(0,122)	-0.025	-0.063	(0,129)	-0.016
Age:						
25 - 29	-0.032	(0,136)	-0.009	0.015	(0,146)	0.004
30 - 34	-0.161	(0,143)	-0.046	-0.147	(0,151)	-0.039
35 - 39	-0.092	(0,166)	-0.026	-0.039	(0,176)	-0.010
40 - 44	-0.249	(0,178)	-0.073	-0.190	(0,190)	-0.051
45 - 49	-0.324	(0,193)*	-0.097	-0.278	(0,204)	-0.076
50 - 54	-0.280	(0,204)	-0.084	-0.317	(0,217)	-0.089
55 - 69	-0.088	(0,248)	-0.025	-0.211	(0,258)	-0.058
Married / cohabitating	0.000	(0,067)	0.000	-0.007	(0,071)	-0.002
Children (dummy)	0.074	(0,058)	0.021	0.066	(0,062)	0.017
Medium education	0.270	(0,084)***	0.070	0.278	(0,088)***	0.066
Higher vocational education	0.428	(0,092)***	0.115	0.490	(0,097)***	0.121
University	0.682	(0,111)***	0.156	0.828	(0,118)***	0.165
Tenure (in months/10)	-0.011	(0,009)	-0.003	-0.010	(0,010)	-0.003
Tenure ² /1000	0.001	(0,003)	0.000	0.000	(0,003)	-0.001
Experience (in years)	-0.003	(0,016)	-0.001	-0.007	(0,017)	-0.002
Experience ² /10	0.031	(0,036)	0.009	0.046	(0,038)	0.012
Contractual hours	-0.019	(0,016)	-0.005	-0.011	(0,018)	-0.003
Contractual hours ² /10	0.035	(0,026)	0.010	0.021	(0,028)	0.005
Temporary contract	0.164	(0,105)	0.043	0.147	(0,116)	0.035
Monthly wage (euro):						
1251 - 1500	-0.088	(0,138)	-0.025	-0.048	(0,147)	-0.013
1501 - 1750	-0.072	(0,136)	-0.020	-0.123	(0,142)	-0.033
1751 - 2000	-0.128	(0,131)	-0.037	-0.180	(0,137)	-0.049
2001 - 2500	0.029	(0,126)	0.008	0.030	(0,132)	0.007
2501 - 3000	-0.055	(0,136)	-0.015	-0.163	(0,143)	-0.044
3001 - 3500	0.121	(0,144)	0.032	0.090	(0,150)	0.022
3501 - 4000	0.289	(0,165)*	0.071	0.300	(0,174)*	0.067
4001 - 4500	0.267	(0,189)	0.066	0.236	(0,203)	0.054
4501 - 5000	0.167	(0,215)	0.043	0.191	(0,221)	0.044
More than 5000	0.441	(0,198)**	0.100	0.374	(0,214)*	0.079
No response	0.001	(0,165)	0.000	-0.057	(0,173)	-0.015
Size (number of employees):						
0 - 20	0.902	(0,202)***	0.160	0.778	(0,217)***	0.132
21 - 50	0.999	(0,156)***	0.175	0.881	(0,165)***	0.146
51 - 100	1.093	(0,137)***	0.189	1.163	(0,144)***	0.173
101 - 500	0.557	(0,087)***	0.137	0.578	(0,092)***	0.130
501 - 1000	0.361	(0,101)***	0.087	0.354	(0,107)***	0.078
1001 - 5000	0.042	(0,077)	0.012	0.044	(0,081)	0.011
No response	0.239	(0,148)	0.059	0.171	(0,155)	0.040
Reason to search:						
Threat of restructuring				-0.081	(0,028)***	-0.021
Threat of losing job				0.006	(0,043)	0.002
Contract duration				0.078	(0,038)**	0.020
Rewards				0.131	(0,024)***	0.033
Financial prospects				-0.066	(0,022)***	-0.017
Work pressure				0.068	(0,023)***	0.017
Facilities at work				0.072	(0,044)	0.018
Physical working conditions				-0.040	(0,035)	-0.010
Job duties				-0.019	(0,021)	-0.005
Future job duties				-0.077	(0,022)***	-0.019
Education / training				-0.080	(0,030)***	-0.020
Atmosphere at work				-0.014	(0,023)	-0.003
Contractual hours				-0.076	(0,039)*	-0.019
Work vs private life				0.012	(0,029)	0.003
Commuting time				0.237	(0,031)***	0.060
Personnel management				0.113	(0,028)***	0.029
Management of the organisation				0.041	(0,026)	0.010
Style of leadership				0.030	(0,024)	0.008
Autonomy / responsibility				-0.163	(0,021)***	-0.041
Inverse Mills ratio ^a	-0.585	(0,067)***		-0.423	(0,076)***	
Constant	0.653	(0,323)**		0.476	(0,360)	
Industry dummies	YES			YES		
Observations	3,898			3,898		
Loglikelihood	-1,778.467			-1,605.916		
McFadden's R ²	0.160			0.241		

Data source: BZK, Personeelsonderzoek 2003.

Robust standard errors in parentheses.

^a Calculated from the results of the regression in Table 4, third column.

* significant at the 0.10 level. ** significant at the 0.05 level. *** significant at the 0.01 level.

Table 6: The determinants of the decision to search within or outside the industry (probit)

Dependent variable: 0 = searching within industry, 1 = searching outside industry

Variables	Coefficient		Marginal effect	Coefficient		Marginal effect
Female	0.102	(0,069)	0.040	0.136	(0,071)*	0.054
Minority	0.272	(0,143)*	0.108	0.261	(0,143)*	0.104
Age:						
25 - 29	-0.456	(0,145)***	-0.171	-0.556	(0,155)***	-0.205
30 - 34	0.153	(0,149)	0.061	0.073	(0,161)	0.029
35 - 39	-0.017	(0,173)	-0.007	-0.108	(0,182)	-0.042
40 - 44	0.134	(0,191)	0.053	0.012	(0,199)	0.005
45 - 49	0.063	(0,210)	0.025	-0.048	(0,220)	-0.019
50 - 54	0.164	(0,225)	0.065	0.103	(0,236)	0.041
55 - 69	-0.157	(0,271)	-0.061	-0.232	(0,284)	-0.090
Married / cohabitating	-0.144	(0,075)*	-0.057	-0.097	(0,075)	-0.039
Children (dummy)	-0.127	(0,067)*	-0.050	-0.105	(0,068)	-0.041
Medium education	0.078	(0,128)	0.031	0.061	(0,144)	0.024
Higher vocational education	-0.180	(0,142)	-0.071	-0.244	(0,177)*	-0.096
University	-0.163	(0,171)	-0.064	-0.255	(0,143)	-0.099
Tenure (in months/10)	-0.004	(0,010)	-0.002	-0.005	(0,010)	-0.002
Tenure ² /1000	0.002	(0,003)	0.001	0.002	(0,003)	0.001
Experience (in years)	0.001	(0,018)	0.000	0.001	(0,018)	0.001
Experience ² /10	0.028	(0,400)	0.011	0.023	(0,041)	0.009
Contractual hours	0.023	(0,019)	0.009	0.019	(0,019)	0.007
Contractual hours ² /10	-0.048	(0,033)	-0.019	-0.041	(0,032)	-0.016
Temporary contract	-0.202	(0,112)*	-0.078	-0.144	(0,122)	-0.056
Monthly wage (euro):						
1251 - 1500	-0.114	(0,150)	-0.045	-0.125	(0,151)	-0.049
1501 - 1750	-0.209	(0,147)	-0.081	-0.137	(0,149)	-0.054
1751 - 2000	-0.328	(0,142)**	-0.126	-0.232	(0,143)	-0.090
2001 - 2500	-0.278	(0,133)**	-0.108	-0.226	(0,135)*	-0.088
2501 - 3000	-0.532	(0,145)***	-0.199	-0.390	(0,149)***	-0.149
3001 - 3500	-0.680	(0,155)***	-0.247	-0.600	(0,159)***	-0.221
3501 - 4000	-0.893	(0,172)***	-0.305	-0.815	(0,177)***	-0.284
4001 - 4500	-0.943	(0,199)***	-0.313	-0.835	(0,204)***	-0.285
4501 - 5000	-1.030	(0,237)***	-0.330	-0.941	(0,241)***	-0.309
More than 5000	-0.889	(0,236)***	-0.297	-0.797	(0,235)***	-0.273
No response	-0.618	(0,182)***	-0.223	-0.500	(0,183)***	-0.185
Size (number of employees):						
0 - 20	-0.810	(0,225)***	-0.277	-0.740	(0,220)***	-0.258
21 - 50	-0.941	(0,193)***	-0.316	-0.807	(0,188)***	-0.280
51 - 100	-0.552	(0,178)***	-0.205	-0.586	(0,176)***	-0.216
101 - 500	-0.477	(0,136)***	-0.184	-0.474	(0,135)***	-0.183
501 - 1000	-0.398	(0,139)***	-0.151	-0.312	(0,139)**	-0.120
1001 - 5000	-0.173	(0,106)	-0.068	-0.147	(0,106)	-0.058
No response	-0.358	(0,193)*	-0.136	-0.325	(0,196)*	-0.124
Reason to search:						
Threat of restructuring				0.038	(0,035)	0.015
Threat of losing job				-0.048	(0,045)	-0.019
Contract duration				-0.029	(0,041)	-0.011
Rewards				-0.080	(0,029)***	-0.031
Financial prospects				0.071	(0,027)***	0.028
Work pressure				0.040	(0,025)*	0.016
Facilities at work				0.027	(0,046)	0.011
Physical working conditions				0.063	(0,038)*	0.025
Job duties				0.083	(0,023)***	0.033
Future job duties				-0.002	(0,025)	-0.001
Education / training				0.036	(0,040)	0.014
Atmosphere at work				-0.010	(0,024)	-0.004
Contractual hours				-0.011	(0,045)	-0.004
Work vs private life				0.013	(0,030)	0.005
Commuting time				-0.170	(0,037)***	-0.067
Personnel management				-0.041	(0,031)	-0.016
Management of the organisation				-0.026	(0,028)	-0.010
Style of leadership				-0.042	(0,026)	-0.017
Autonomy / responsibility				-0.009	(0,032)	-0.004
Inverse Mills ratio ^a	-1.080	(0,291)***		-1.238	(0,295)***	
Constant	1.250	(0,414)***		1.438	(0,445)***	
Industry dummies	YES			YES		
Observations	2,441			2,441		
Loglikelihood	-1,542.279			-1,483.230		
McFadden's R ²	0.083			0.118		

Data source: BZK, Personeelsonderzoek 2003.

Robust standard errors in parentheses.

^a For the first (second) column, calculated from the results of the regression in the first (second) column of Table 5.

* significant at the 0.10 level. ** significant at the 0.05 level. *** significant at the 0.01 level.

Table 7: Qualitative summary of findings

Variables	<u>Effect on probability of searching</u>	
	outside the organisation	outside the industry
Female	0	+
Minority	0	+
Age	-	0
Married / cohabitating	0	0
Children (dummy)	0	-
Education	+	0
Tenure	0	0
Experience	0	0
Contractual hours	0	0
Temporary contract	0	0
Monthly wage	0	-
Size (number of employees)	-	+
Reason to search:		
Threat of restructuring	-	0
Threat of losing job	0	0
Contract duration	+	0
Rewards	+	-
Financial prospects	-	+
Work pressure	+	+
Facilities at work	+	0
Physical working conditions	0	+
Job duties	0	+
Future job duties	-	0
Education / training	-	0
Atmosphere at work	0	0
Contractual hours	-	0
Work vs private life	0	0
Commuting time	+	-
Personnel management	+	0
Management of the organisation	0	0
Style of leadership	0	0
Autonomy / responsibility	-	0

Table A1: Job search within or outside the organisation, or in both directions (multinomial logit)

Variables	Direction of search efforts (reference: both directions)			
	Within organisation		Outside organisation	
	Coefficient	(SE)	Coefficient	(SE)
Female	-0.119	(0.125)	-0.255	(0.102)**
Minority	0.322	(0.275)	0.198	(0.235)
Age:				
25 - 29	-0.464	(0.298)	-0.573	(0.250)**
30 - 34	-0.283	(0.320)	-0.516	(0.266)*
35 - 39	-0.516	(0.358)	-0.660	(0.294)**
40 - 44	-0.333	(0.385)	-0.719	(0.317)**
45 - 49	-0.264	(0.410)	-0.843	(0.338)**
50 - 54	-0.219	(0.437)	-0.900	(0.359)**
55 - 69	-0.174	(0.513)	-1.020	(0.423)**
Married / cohabitating	0.022	(0.136)	-0.065	(0.112)
Children (dummy)	-0.003	(0.121)	0.057	(0.100)
Medium education	-0.128	(0.160)	0.422	(0.153)***
Higher vocational education	-0.352	(0.182)*	0.598	(0.165)***
University	-0.573	(0.230)**	0.986	(0.195)***
Tenure (in months/10)	0.021	(0.019)	0.013	(0.016)
Tenure ² /1000	-0.004	(0.005)	-0.008	(0.004)*
Experience (in years)	-0.007	(0.034)	-0.010	(0.028)
Experience ² /10	0.046	(0.078)	0.103	(0.065)
Contractual hours	0.005	(0.039)	-0.025	(0.030)
Contractual hours ² /10	-0.003	(0.065)	0.039	(0.050)
Temporary contract	-0.399	(0.210)*	-0.193	(0.169)
Monthly wage (euro):				
1251 - 1500	-0.119	(0.278)	-0.188	(0.234)
1501 - 1750	0.164	(0.281)	-0.026	(0.238)
1751 - 2000	-0.137	(0.263)	-0.316	(0.221)
2001 - 2500	-0.119	(0.258)	0.046	(0.215)
2501 - 3000	-0.119	(0.276)	-0.253	(0.230)
3001 - 3500	-0.211	(0.298)	0.038	(0.246)
3501 - 4000	-0.546	(0.339)	-0.011	(0.272)
4001 - 4500	-0.536	(0.390)	-0.112	(0.309)
4501 - 5000	-0.723	(0.426)*	-0.407	(0.336)
More than 5000	-0.407	(0.433)	0.391	(0.343)
No response	-0.224	(0.347)	-0.264	(0.287)
Size (number of employees):				
0 - 20	0.363	(0.606)	1.661	(0.511)***
21 - 50	-0.374	(0.376)	1.236	(0.287)***
51 - 100	-0.483	(0.326)	1.489	(0.242)***
101 - 500	-0.367	(0.173)**	0.598	(0.147)***
501 - 1000	-0.079	(0.204)	0.555	(0.173)***
1001 - 5000	-0.251	(0.146)*	-0.095	(0.128)
No response	-0.130	(0.291)	0.196	(0.245)
Reason to search:				
Threat of restructuring	-0.033	(0.049)	-0.138	(0.043)***
Threat of losing job	-0.131	(0.076)*	-0.141	(0.060)**
Contract duration	-0.133	(0.070)*	-0.030	(0.054)
Rewards	-0.067	(0.049)	0.157	(0.040)***
Financial prospects	-0.020	(0.043)	-0.129	(0.037)***
Work pressure	-0.079	(0.047)*	0.030	(0.037)
Facilities at work	-0.045	(0.091)	0.090	(0.071)
Physical working conditions	-0.054	(0.068)	-0.116	(0.057)**
Job duties	0.018	(0.040)	-0.004	(0.034)
Future job duties	-0.039	(0.041)	-0.160	(0.035)***
Education / training	0.029	(0.055)	-0.120	(0.051)**
Atmosphere at work	-0.018	(0.045)	-0.012	(0.036)
Contractual hours	0.104	(0.081)	-0.059	(0.069)
Work vs private life	0.006	(0.058)	0.016	(0.049)
Commuting time	-0.114	(0.067)*	0.306	(0.051)***
Personnel management	-0.135	(0.054)**	0.105	(0.043)**
Management of the organisation	-0.083	(0.049)*	-0.004	(0.039)
Style of leadership	-0.113	(0.046)**	-0.017	(0.037)
Autonomy / responsibility	0.122	(0.040)***	-0.150	(0.035)***
Constant	1.297	(0.697)*	1.470	(0.560)***
Industry dummies	YES		YES	
Observations	4,794			
Loglikelihood	-3,768.699			
McFadden's R ²	0.149			

Data source: BZK, Personeelsonderzoek 2003.

* significant at the 0.10 level. ** significant at the 0.05 level. *** significant at the 0.01 level.

Table A2: Job search within or outside the industry, or in both directions (multinomial logit)

Variables	Direction of search efforts (reference: both directions)			
	Within industry		Outside industry	
	Coefficient	(SE)	Coefficient	(SE)
Female	-0.021	(0.133)	0.110	(0.139)
Minority	0.322	(0.324)	0.696	(0.322)**
Age:				
25 - 29	-1.235	(0.423)***	-2.173	(0.434)***
30 - 34	-1.391	(0.438)***	-1.371	(0.443)***
35 - 39	-1.309	(0.474)***	-1.602	(0.484)***
40 - 44	-1.458	(0.499)***	-1.620	(0.509)***
45 - 49	-1.622	(0.523)***	-1.911	(0.536)***
50 - 54	-1.331	(0.546)**	-1.463	(0.560)***
55 - 69	-1.679	(0.598)***	-2.510	(0.627)***
Married / cohabitating	0.122	(0.143)	-0.088	(0.148)
Children (dummy)	0.373	(0.130)***	0.260	(0.135)*
Medium education	0.234	(0.265)	0.645	(0.265)**
Higher vocational education	0.231	(0.262)	0.316	(0.265)
University	-0.116	(0.289)	0.247	(0.292)
Tenure (in months/10)	0.014	(0.021)	0.003	(0.022)
Tenure ² /1000	0.001	(0.006)	0.003	(0.006)
Experience (in years)	-0.054	(0.039)	-0.058	(0.040)
Experience ² /10	0.178	(0.092)*	0.250	(0.094)***
Contractual hours	-0.091	(0.047)*	-0.056	(0.048)
Contractual hours ² /10	0.179	(0.080)**	0.102	(0.083)
Temporary contract	-0.063	(0.243)	-0.255	(0.249)
Monthly wage (euro):				
1251 - 1500	-0.578	(0.365)	-0.891	(0.363)**
1501 - 1750	-0.705	(0.361)*	-1.082	(0.361)***
1751 - 2000	-0.597	(0.356)*	-1.178	(0.357)***
2001 - 2500	-0.736	(0.340)**	-1.137	(0.339)***
2501 - 3000	-0.646	(0.361)*	-1.421	(0.364)***
3001 - 3500	-0.811	(0.369)**	-1.843	(0.373)***
3501 - 4000	-0.635	(0.398)	-1.779	(0.406)***
4001 - 4500	-0.336	(0.447)	-1.683	(0.463)***
4501 - 5000	-0.212	(0.516)	-1.730	(0.553)***
More than 5000	-1.476	(0.457)***	-2.652	(0.475)***
No response	-0.514	(0.417)	-1.438	(0.430)***
Size (number of employees):				
0 - 20	0.369	(0.379)	-0.315	(0.415)
21 - 50	0.188	(0.289)	-0.554	(0.313)*
51 - 100	0.472	(0.271)*	0.279	(0.277)
101 - 500	0.214	(0.219)	-0.088	(0.223)
501 - 1000	0.192	(0.251)	-0.073	(0.258)
1001 - 5000	-0.025	(0.207)	-0.170	(0.211)
No response	0.042	(0.359)	-0.306	(0.370)
Reason to search:				
Threat of restructuring	0.037	(0.072)	0.059	(0.074)
Threat of losing job	-0.029	(0.095)	-0.107	(0.098)
Contract duration	-0.111	(0.073)	-0.121	(0.077)
Rewards	0.034	(0.051)	0.005	(0.053)
Financial prospects	-0.103	(0.052)**	-0.013	(0.054)
Work pressure	-0.148	(0.045)***	-0.014	(0.046)
Facilities at work	-0.148	(0.084)*	-0.051	(0.084)
Physical working conditions	-0.130	(0.076)*	-0.014	(0.076)
Job duties	-0.082	(0.048)*	0.065	(0.049)
Future job duties	-0.004	(0.048)	-0.048	(0.051)
Education / training	-0.032	(0.075)	-0.017	(0.081)
Atmosphere at work	0.000	(0.046)	-0.006	(0.049)
Contractual hours	-0.060	(0.087)	-0.134	(0.091)
Work vs private life	0.084	(0.063)	0.123	(0.065)*
Commuting time	-0.034	(0.053)	-0.170	(0.057)***
Personnel management	-0.095	(0.053)*	-0.066	(0.055)
Management of the organisation	-0.005	(0.051)	-0.001	(0.053)
Style of leadership	-0.078	(0.048)	-0.104	(0.051)**
Autonomy / responsibility	0.063	(0.050)	-0.078	(0.055)
Constant	3.635	(0.883)***	4.314	(0.896)***
Industry dummies	YES		YES	
Observations	2,989			
Loglikelihood	-2,777.706			
McFadden's R ²	0.106			

Data source: BZK, Personeelsonderzoek 2003.

* significant at the 0.10 level. ** significant at the 0.05 level. *** significant at the 0.01 level.

Tinbergen Institute

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Tinbergen Institute Amsterdam

Roetersstraat 31

1018 WB Amsterdam

The Netherlands

Tel.: +31(0)20 551 3500

Fax: +31(0)20 551 3555

Tinbergen Institute Rotterdam

Burg. Oudlaan 50

3062 PA Rotterdam

The Netherlands

Tel.: +31(0)10 408 8900

Fax: +31(0)10 408 9031

Please send questions and/or remarks of non-scientific nature to driessen@tinbergen.nl.

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