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## **ABSTRACT**

### **Does Low Job Satisfaction Lead to Job Mobility?**

This paper seeks to analyse the role of job satisfaction and actual job change behaviour. The analysis is based on the European Community Household Panel (ECHP) data for Danish families 1994-2000. The results show that inclusion of job satisfaction, which is a subjective measure, does improve the ability to predict actual quit behaviour: Low overall job satisfaction significantly increases the probability of quit. Various job satisfaction domains are ranked according to their ability to predict quits. Satisfaction with Type of Work is found to be the most important job characteristic while satisfaction with Job Security is found to be insignificant. These results hold across age, gender and education sub-groups and are opposed to results for UK, where job security is found to be the most important job domain. This discrepancy between UK and Denmark might be due to differences in unemployment insurance benefits and indicates that there are “invisible” benefits inherited in the welfare state insurance system because employees in Denmark don’t worry about job security.

JEL Classification: J28, J30, J60, M50

Keywords: job satisfaction, quits, personnel economics

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## 1. Introduction

Given the demographic evolution in Denmark and many other OECD countries firms are likely to experience an increased competition in attracting qualified personnel in the coming years. Furthermore, firms often invest in training and education for their employees and the rate of return to such investments crucially depends on retaining the trained employee after the training period. It is therefore important for firms to gain a good understanding of what determines quits in order to enable the firms to retain their employees longer.

A large literature in economics has considered determinants of labour market mobility. However, very few studies have analysed the importance of job satisfaction for quits. Freeman, in his seminal paper from 1978, is the first to analyse the connection between quit and job satisfaction. His analysis is based on panel data from two different US sources. More recent studies which use British or German panel data and link realised quits to previous levels of job satisfaction include Clark (2001); Clark et al. (1998); and Lévy-Garboua et al. (2001). Ward and Sloane (2000) apply British cross section data together with work histories of the respondents. The general finding is that workers reporting dissatisfaction with their jobs are statistically more likely to quit than those with higher levels of job satisfaction.

Shields and Price (2002) and Appelbaum et al. (2003) look at *intentions* to quit and how these relate to job satisfaction. Shields and Price carry out a case study of nurses in Britain while Appelbaum et al. analyse low-wage, low-skilled workers in US hospitals. Both studies find that intentions to quit strongly correlate with job dissatisfaction.

This paper is the first to analyse the effect of job satisfaction on quits in Denmark. Numerous studies have shown that employees in Denmark have the highest job satisfaction in Europe (Kristensen and Westergård-Nielsen (2003) and the references therein). This is somewhat opposed by the fact that average tenure in Denmark is one of the lowest in the developed world (Bingley and Westergaard-Nielsen, 2003) and makes it less clear whether job satisfaction necessarily predicts quits in Denmark. The paper

also incorporates an alternative measure of job satisfaction, namely whether or not the employee is searching for a new job. Since this type of information often is a part of private companies internal “climate surveys” among their employees it is of general interest to companies to explore whether this measure provides an equally good (or perhaps even better) prediction of quit behaviour.

Lastly, we explore an approach first suggested by Clark (2001), and seek to establish a ranking of what matters in a job. This is done by replacing the overall job satisfaction score by a series of domain job satisfaction variables. The ranking is based on the ability to predict quits and hence it links what people say with what people do, cf. section 2 for a discussion of subjective measures such as job satisfaction.

The paper is organised as follows. Endogeneity problems are inherited in this type of analysis, and we discuss this issue in the next section. Section 3 and 4 describe the data source and includes some initial descriptive analysis of the data. In section 5 we briefly present the econometric method applied while results are presented in section 6. Conclusion and policy recommendations are given in section 7.

## **2. Identification and endogeneity**

What is measured by job satisfaction? Job satisfaction is a *subjective* measure, and many economists’ reactions to subjective data, is that such data might be untrustworthy because they measure “what people say rather than what people do” (Freeman, 1978), and hence don’t reveal actual behaviour.

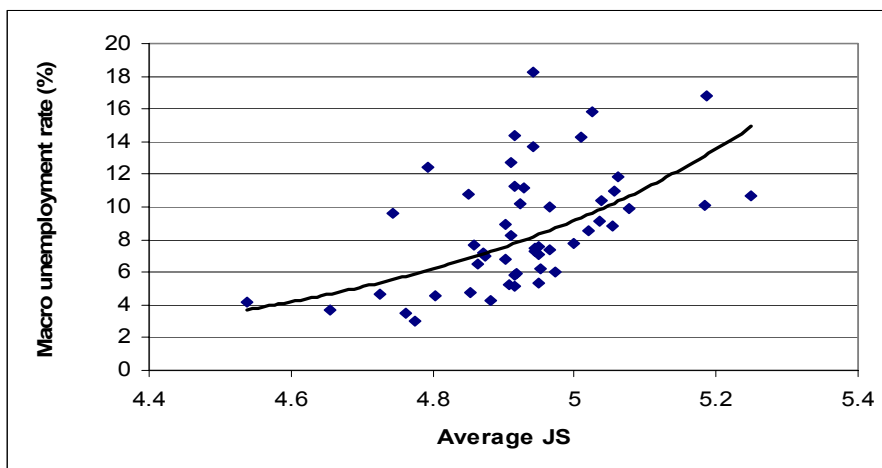
If job satisfaction only depends on personal sentiments and standard observed variables, such as age and education, then no new information would be contained in job satisfaction and it would only appear as an endogenous variable with no meaningful impact. But this is not likely to be the case. Supposedly, job satisfaction measures a multitude of factors some of which intrinsically are subjective and psychological. Other factors measured will be objective but unobserved. Examples are organisation of work, physical work conditions and the like, which give the job satisfaction variable

systematic exogenous variation. Hence, job satisfaction shall be seen as a proxy for unobserved objective factors, such as the employee’s evaluation of “the quality of the match”, and this makes job satisfaction a relevant variable for predicting quits.

If relevant aspects of the work place are left out of the estimation of quit behaviour, and if these aspects are correlated with the observable factors included in the estimation, then the parameters of the observed factors will be biased. Consistency will be gained by including a proxy for the unobservable factors – and job satisfaction could be such a proxy<sup>1</sup>.

On the other hand, it is also conceivable that job satisfaction will depend on possible alternatives, for instance we would expect individuals with good outside job opportunities to be less satisfied than individuals with no outside job opportunities, *ceteris paribus*.

**Figure 1 Unemployment and average job satisfaction**



Source, unemployment: Statistics Denmark, Statistical ten-year review, 2002.

In Figure 1 we have plotted the aggregate unemployment rate for various age groups and gender across years and calculated the average job satisfaction for each of these sub-groups. Figure 1 shows that the average job satisfaction increases with the

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<sup>1</sup> If the assumption about strict independence between the regressors and unobserved individual random effects holds then the parameter estimates will not be biased. A fixed effect panel logit model would also ensure unbiased parameter estimates of observed variables. However, efficiency (predictive power) is likely to be higher if a good proxy for the unobserved components is included and adds to the analysis because the job satisfaction variable can be given a clear economic interpretation.

unemployment rate. This indicates that job satisfaction is endogenous. Hence, introducing job satisfaction directly in a model for quit behaviour will induce biased estimates because quit behaviour is negatively correlated with unemployment (Frederiksen and Westergaard-Nielsen, 2003).

Earnings is also likely to be an endogenous variable in a model with quit as dependent variable, and direct inclusion of income will in that case also induce bias - not just in one but in all parameters in the model.

In this paper we follow a pragmatic procedure where we don't explicitly model the possible endogeneity. Instead, we analyse how sensitive the main conclusions are to the specification of the model. This is also the approach taken by other authors in the field and direct comparison with results from other studies is therefore feasible. Given the inherent lack of useful instruments an alternative approach would be to estimate a series of equations jointly.

### 3. Data

We use the data set “Welfare of Danish Families”, which is the Danish equivalent to the European Community Household Panel (ECHP) data set. For Denmark, data have been collected from 1994 to 2000 and include personal interviews of about 5,600 individuals in 1994<sup>2</sup>. These constitute a random sample of the population aged 16 years or more. Hence, pensioners, students, unemployed and others out of the labour force are also included in the sample. Despite attempts to supplement the sample with new individuals from 1995 and onwards the sample suffers increasingly from sample attrition. The sample size in 2000 includes only about 3,200 individuals.

The data set is very rich and includes detailed information about the individuals socioeconomic background and family background, employment and unemployment history, education and training as well as detailed information on the individuals own perception of satisfaction with main activity, i.e. job satisfaction if employed. Furthermore, all respondents, including current full-time employees, were asked whether they search for a new job or not.

Separations are identified as individuals who report a start date for their current job which falls in-between the last interview and the current interview. For 1994 separations are identified as new jobs which started within the last year. Quits are identified as separations reported as voluntary and which are not promotions within the same firm. Clearly, there is a risk that a respondent may report a separation to be voluntary even though he/she actually was laid off – hence we should expect some bias due to this potential reporting error.

With this definition of quit it is clear that the causality runs from job satisfaction, or changes in job satisfaction, to the decision of whether to quit or not.

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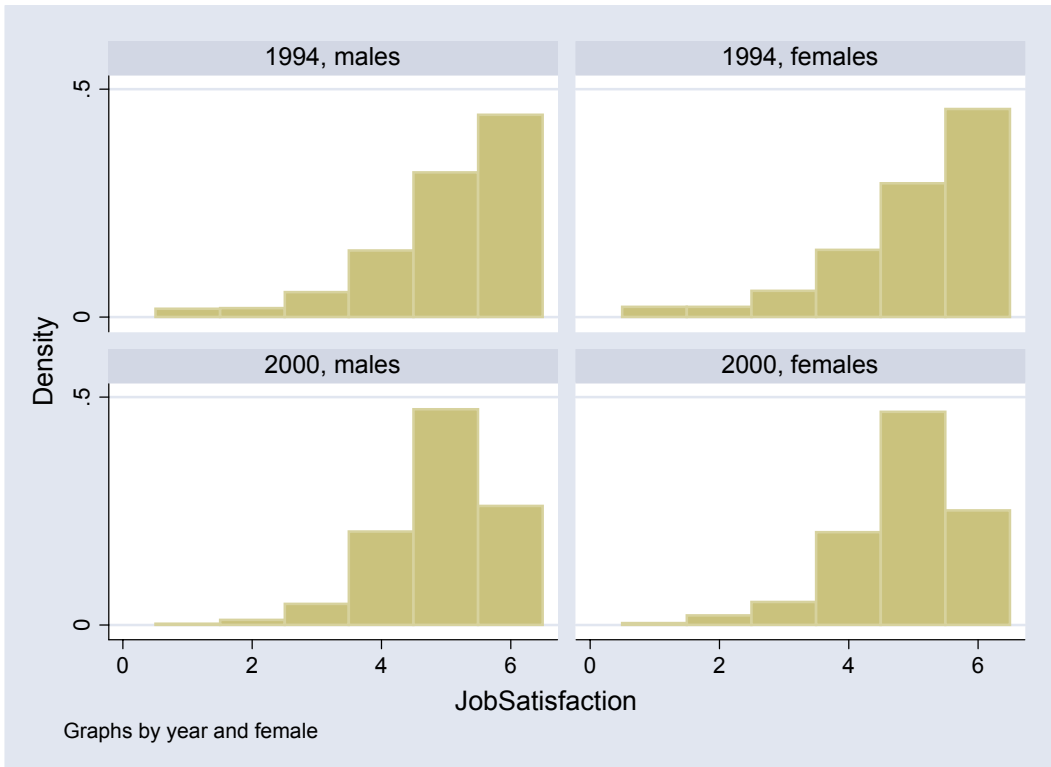
<sup>2</sup> After cleaning the data.



#### 4. Descriptive analysis

Job satisfaction is generally found to be high in Denmark. Eurobarometer (1997) finds Danes to be the most satisfied workers among all the 16 European nations included in their survey. The ECHP data confirm that job satisfaction indeed is very high.

**Figure 2 Overall Job Satisfaction among employees, by year and gender**



Note: The questions on overall job satisfaction reads: “How satisfied are you with your work or other main activity?” 1 “Not satisfied at all”.....6 “Fully satisfied”.

Figure 2 show that on a scale from 1 to 6 where 6 is “fully satisfied” very few employees rank their job satisfaction below 4. Furthermore, there does not appear to be any major gender difference in job satisfaction while there seems to be a decline in the level of satisfaction from 1994 to 2000. On the other hand less than 2 percent of the respondents in 2000 rank their job satisfaction below 3 while in 1994 about 4 percent rank their job satisfaction below 3.

Looking at how many search for a new job, how many actually quit, and the extent to which these two interact we observe that about 67 percent of those who quit did not

answer that they searched for a new job in the period before they actually quit, cf. Table 1.

**Table 1 Actual quits and search**

search	Quit		total
	no	yes	
no	13,693 89.6%	432 67.2%	14,125 88.7%
yes	1,585 10.4%	211 32.8%	1,796 11.3%
total	15,278 100.0%	643 100.0%	15,921 100.0%

It is somewhat surprising that such a large share of those who quit did not reply that they searched. This indicates that information on whether the employee search for a new job or not is a poor predictor of quit behaviour. Since job satisfaction is expected to be highly correlated with search this could also indicate that job satisfaction conveys little information about quit behaviour. In order to see whether this is the case or not we first seek to characterise individuals who quit and/or individuals who indicate they search for another job compared to individuals who don't search or quit, cf. Table 2.

Standard deviations (not shown) are large due to the low number of observations in columns 3-5 so not too much emphasis should be put on the mean values in Table 2. However, three main observations can be made: One, there seems to be a strong linkage between search and job satisfaction as well as search and changes in job satisfaction. Changes in job satisfaction are very small for respondents who do not search (columns 1-3) while average job satisfaction has decreased quite a lot for those who search, in particular for respondents who later quit (column 5). It is therefore of interest to see whether job satisfaction and search convey the same information with respect to quits, i.e. whether they are equally good as predictors of quit behaviour.

**Table 2 Mean values of selected variables, by search and quit behaviour**

	1	2	3	4	5
Variable	All	no search, no quit	no search, quit	search, no quit	search, quit
<i>Subjective satisfaction</i>					
overall job satisfaction	5.0	5.0	4.9	4.3	4.1
earnings satisfaction	4.4	4.4	4.3	3.9	3.9
security satisfaction	4.8	4.9	4.8	4.1	4.5
typework satisfaction	4.9	5.0	4.8	4.3	4.1
work hours satisfaction	4.9	4.9	4.6	4.6	4.7
work time satisfaction	5.0	5.1	4.8	4.7	4.5
work environment satisfaction	4.8	4.9	4.8	4.3	4.3
distance to work satisfaction	5.0	5.0	4.8	4.7	4.6
<i>Changes in satisfaction</i>					
overall job satisfaction	-0.05	-0.01	-0.14	-0.40	-0.56
earnings satisfaction	-0.01	0.01	-0.03	-0.14	-0.48
security satisfaction	0.03	0.07	-0.03	-0.31	-0.20
typework satisfaction	-0.04	0.01	-0.04	-0.38	-0.44
work hours satisfaction	-0.02	0.00	-0.23	-0.11	0.03
work time satisfaction	-0.03	-0.01	-0.13	-0.15	-0.14
work environment satisfaction	-0.04	-0.01	0.03	-0.30	-0.40
distance to work satisfaction	-0.02	-0.02	0.10	-0.12	0.06
<i>Other characteristics</i>					
public sector	0.41	0.42	0.33	0.39	0.36
wage	12,650	12,748	12,582	11,954	11,665
tenure	7.9	8.4	3.1	4.9	3.8
health (ranked 1-5)	1.6	1.6	1.5	1.6	1.4
hours per week	37.4	37.4	38.0	36.9	37.7
age	40.6	41.4	33.2	36.2	33.2
# obs	15,921	13,693	432	1,585	211

Two, respondents who quit (columns 3 and 5) seem to have some characteristics common: on average they are young, healthy, have a low level of tenure and are more prone to work in the private sector. At the same time they seem to differ with respect to job satisfaction and changes therein, and this raises the question as to whether job satisfaction or changes in job satisfaction are good predictors of quits in Denmark. Three, among the domain characteristics, *Type of Work* seems to be the variable that mirror overall job satisfaction the most. *Earnings Satisfaction* is generally at a lower level than all the other satisfaction domains.

As mentioned above, the standard errors are quite large and the descriptive statistics are therefore not significant. We therefore proceed to multivariate analysis.

## 5. Econometric analysis

In this section we briefly describe the model, which is used to estimate determinants for whether an individual choose to quit or not.

The data set applied includes employees only, i.e. self-employed are not included. Data are right censored since we don't necessarily observe the end of the employment spell during the 7 years of observations. Furthermore, we allow individuals to have more than one spell of employment. This rests on the assumption that the individual random effects included in the model capture the higher propensity to quit, which these individuals seem to have.

At each point in time a person is faced with a binary choice of whether to quit or not. Applying a logit model to estimate this binary choice the probability of quit can be written as

$$P(\text{quit}=1 | X_{it}, c_i) = \Lambda(X_{it}\beta + c_i), t = 1, \dots, T$$

Where  $i$  is an index across individuals;  $c_i$  is an unobserved individual specific random effect;  $X_{it}$  is a vector including observable variables for person  $i$  in period  $t$ ; and  $\beta$  is a vector of parameters.  $\Lambda$  signifies the logit model, i.e.

$$\Lambda(X_{it}\beta + c_i) \equiv \frac{\exp(X_{it}\beta + c_i)}{1 + \exp(X_{it}\beta + c_i)}$$

Assuming the individual random effects follow a normal distribution, i.e.

$c_i \sim N(0, \sigma_c^2)$ , allow the unobserved effects to be integrated out. The likelihood contribution of an individual  $i$  that stays in the same job for  $T$  periods can be written as<sup>3</sup>

$$\Pr(\text{quit}_{iT} | X_{i1}, \dots, X_{iT}) = \int_{-\infty}^{\infty} \frac{e^{-c_i^2 / 2\sigma_c^2}}{\sqrt{2\pi\sigma_c}} \left\{ \prod_{t=1}^{T-1} \Pr(\text{quit}_{it} = 0) \times \Pr(\text{quit}_{iT}) \right\} dc_i$$

where

$$\Pr(\text{quit}_{it} = 0) = \frac{1}{1 + \exp(X_{it}\beta + c_i)}$$

and

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<sup>3</sup> See Wooldridge, 2002, ch. 15 for details.

$$\Pr(\text{quit}_{T_i}) = \frac{\exp(X_{it}\beta + c_i)}{1 + \exp(X_{it}\beta + c_i)} \text{ if the individual quits in period } T$$

$$\Pr(\text{quit}_{T_i}) = \frac{1}{1 + \exp(X_{it}\beta + c_i)} \text{ if the observation is right censored}$$

The functional form of the likelihood of the random effects logit model implies that the random effects are assumed to be independent of the observed explanatory variables (i.e. the likelihood is assumed to be separable).

## 6. Estimation results

Parameter estimates from random effects logit models are given in Table 3, overleaf.

The variable of main interest is job satisfaction, which is seen to be very significantly negative, i.e. the higher job satisfaction the lower the probability of quit. Various different specifications of this variable have been tested, including the simple job satisfaction score (assuming cardinality), dummies for various satisfaction levels and transformation of the variable into a z-score.<sup>4</sup> Here we use the z-score since it conveys the information in just one parameter— similar results are obtained from other specifications.

The other parameter estimates reveal that age and tenure, as expected, are very strong predictors of quit behavior. The youngest age group has a much higher probability of quit than the reference group of 30-49 year olds while the older age group has a significantly lower probability of quit. The longer the tenure the lower the probability of quit. Firms with 100 employees or more are likely to have an internal labour market within the firm and this is probably the reason why the probability of quit is lower for large firms. People who own their home as opposed to being tenants are expected to be less mobile and this results in a significantly lower probability for owners to quit their job.

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<sup>4</sup> The z-score transformation amounts to a rescaling to a unit normal distribution (or some other symmetric probability distribution). This is done by subtracting the mean job satisfaction from any given response and dividing by the standard deviation. This procedure yields a continuous variable (Freeman, 1978).

**Table 3 Quit and overall job satisfaction, probability model**

	All			Men			Women		
	Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value	
Quit	-0.625	***	0.000						
Job satisfaction	-0.505	***	0.000	-0.514	***	0.000	-0.525	***	
Age below 30	0.504	***	0.000	0.499	***	0.000	0.566	***	
Age above 49	-1.051	***	0.000	-1.031	***	0.000	-0.992	***	
Cohabitant/married	0.118		0.304	0.112		0.453	0.150	0.423	
Female	-0.211	**	0.041						
Number of Children	-0.053		0.446	-0.177	*	0.071	0.086	0.386	
Children under 12 (dummy)	-0.237		0.112	-0.458	**	0.025	0.025	0.908	
Ln(wage)	0.159		0.438	0.220		0.375	0.037	0.922	
Ln(hours per week)	0.013		0.962	0.048		0.903	0.086	0.844	
Primary/lower secondary education	-0.122		0.359	-0.015		0.928	-0.411	0.104	
More than secondary education	0.165		0.154	0.058		0.724	0.252	0.133	
Public sector (dummy)	-0.061		0.580	-0.225		0.173	0.113	0.477	
Manager/Professional	0.120		0.366	0.173		0.339	0.101	0.615	
Blue collar	0.096		0.402	0.043		0.786	0.149	0.398	
Firm size below 20 employees	-0.024		0.831	-0.122		0.412	0.156	0.385	
Firm size 100 employees or more	-0.225	*	0.053	-0.128		0.384	-0.357	*	
Tenure 0-1 year	1.108	***	0.000	1.288	***	0.000	0.822	***	
Tenure 1-4 years	0.491	***	0.000	0.649	***	0.000	0.259	0.160	
Tenure 11-15 years	-0.830	***	0.000	-0.870	***	0.006	-0.783	**	
Tenure 16 years or more	-1.007	***	0.000	-1.276	***	0.002	-0.883	***	
Owner of residence	-0.194	*	0.057	-0.259	**	0.048	-0.121	0.463	
Permanent contract	-0.091		0.528	-0.248		0.171	0.117	0.631	
Year dummies	No			Yes			Yes		
Constant	Yes			Yes			Yes		
Number of individuals	3754			1934			1818		
Number of observation	12478			6476			6002		
Log likelihood	-2236.02			-1140.65			-892.22		

Note: \* significance at the 10% level; \*\* significance at the 5% level; \*\*\* significance at the 1% level.

Finally, females are seen to be significantly less prone to quit. These other results are in accordance with results in Frederiksen and Westergaard-Nielsen (2003).

Contrary to results from studies on British and German data we find no significant effect from wages on the probability of quit. This is most likely because the Danish net wage distribution is very equally distributed. This does not necessarily mean that wages don't affect quit behavior in Denmark. The relevant parameter might be the relative wage compared to the wage level in the same firm rather than the level of the wage as such. Bingley and Westergaard-Nielsen (2004) show that the relative wage difference between the current wage and a potential wage is important for the mobility decision. Unfortunately, the data at hand do not allow for a good estimation of the relevant comparison wage.

The number of children and the dummy variable for small children (under 12 years old) are insignificant for the overall regression including all individuals. Looking at the gender specific estimates reveals that the probability of quit is significantly lower for men from a household with children than with no children. The same stabilizing effect from children is not seen among women. Another gender difference is that the firm size effect only adheres to women while it is insignificant for men. Apart from these two differences the estimates for men and women are generally very similar.

Following Clark (2001) the overall job satisfaction variable was substituted with various satisfaction variables for various job domains. By comparing the log-likelihood value we are able to rank which satisfaction parameter yields the highest likelihood and hence reveals most about the quit probability. In this manner we obtain a ranking of what matters in a job.

Overall job satisfaction should encompass all aspects of a job and one should therefore expect this variable to be a better predictor of quits than the various domain satisfaction variables. This is also the case when all individuals are included in the estimation as well as when the model is estimated across sub-groups of individuals - with a few exceptions (Appendix, Table 7).

Overall, the most important job domain is found to be satisfaction with Type of Work. This is also the most important job domain for all sub-groups (gender, age and education) except the lowest educated, cf. Table 4. Satisfaction with Earnings is generally found to be the second most important job domain despite the insignificant wage parameter. Since wages and hours of work are among the job domains and at the same time included as explanatory variables we re-run the models without wage and hours worked (Appendix, Table 6). This only has a very minor impact on the satisfaction parameter estimates and the log-likelihood values but it does mean that the earnings domain for the regression including all individuals becomes marginally smaller than the domain Working Time. For the lowest skilled the Work Environment is ranked highest (even above overall job satisfaction).<sup>5</sup>

**Table 4 Ranking of job satisfaction domains, by gender, age and education**

	Most important	Second most important	UK, most important
All	Type of work	Earnings	Security
Men	Type of work	Working time	Security
Women	Type of work	Earnings	Initiative
Age below 30	Type of work	Working hours	Initiative
Age 30 and above	Type of work	Earnings	Pay Work itself Job security
More than secondary education	Type of work	Working hours	na
Upper secondary education	Type of work	Earnings	na
Lower secondary education or primary	Environment	Earnings	na

Note: “Most important” after overall job satisfaction with the exception of *More than secondary education* and *Lower secondary education or primary* where “most important” is more important than overall job satisfaction. For UK, people aged 30 are included in the youngest age category, i.e. age 30 and below. *Security* and *Distance* are generally found to be insignificant (for *Distance* with the exception of *Upper secondary education*).

The ranking of the most important job domain based on UK data (Clark, 2001) is presented in the right-most column of Table 4. In UK, security satisfaction is generally

<sup>5</sup> These results generally confirm results found by the Danish Ministry of Finance (2000).



found to be the most important satisfaction domain. Why is security an issue in the UK and not in Denmark, where security satisfaction is insignificant for all sub-groups? This difference might be due to a lower level of unemployment insurance benefits in UK compared to DK. If this is the case it means that there is an “invisible” benefit inherited in the welfare state insurance system because employees in Denmark don’t worry about job security.

Next we turn to comparison of search, job satisfaction and changes in job satisfaction as predictors for quit. A priori it is not clear which variable should be the best predictor.

The results presented in Table 5 reveal that Search yields the highest log-likelihood value and likelihood ratio tests reveals that it is a significantly better predictor of quit behavior than job satisfaction. Changes in job satisfaction perform poorest. One implication of this is that a question about search should be included in companies “climate surveys” since it is closely linked to actual behavior.

**Table 5 Comparison of alternative measures of satisfaction**

	Job Satisfaction	Change in Job Satisfaction	Search
Parameter	-0.547	-0.261	1.022
P-Value	0.000	0.000	0.000
Log-likelihood	-1580.7	-1592.9	-1565.9

Note: Number of observations: 9,666; Number of individuals: 3,251.

## 7. Discussion and Conclusions

This paper is the first to study the link between job mobility and job satisfaction on Danish data. The main results found are threefold:

One, the results have confirmed that subjective data on job satisfaction are highly useful and convey a lot of information about unobserved job characteristics which matter in relation to the decision of whether to quit or not. Hence, inclusion of job satisfaction as a proxy for the unobserved factors significantly improves the prediction of quit behavior. This is of importance for the HRM policy of a firm that wants to retain workers.

Two, ranking of more explicit job domains reveals that Type of Work is the most important job feature in Denmark and that Earnings are only second in importance. This does not preclude that earnings play an important role when an outside job offer is considered. This is opposed to the UK where Security is found to be the most important job satisfaction domain – while it is insignificant in Denmark, which indicates that the relatively high unemployment benefit in Denmark perhaps has the effect that employees worry less about their job security. Instead they have “the luxury” of mainly focusing on the quality of the type of job. This also means that companies who seek to diminish the number of quits simply should focus more on describing the job content and the career opportunities so that the type of job is as well known as possible before the employment contract is signed.

Finally, we find that search is a better signal of an upcoming quit than job satisfaction or changes in job satisfaction. That search is a strong predictor of quits is hardly surprising. Nevertheless, it indicates that questions about intentions to quit or whether an employee search for another job might add valuable information to the traditional “climate surveys” – which for some companies already include these types of questions.

There are several relevant extensions to the analysis in this paper. It is technically feasible to link the survey data applied in this paper with data from Statistics Denmark’s registers. This would greatly improve the opportunities for calculating comparison wage and would increase the amount of information particularly prior to 1994. Another relevant extension would be to model quit and job satisfaction (or income) simultaneously in order to circumvent some of the potential endogeneity problems.

## 8. Appendix

**Table 6 Comparison of models with and without wage and hours of work per week, parameter estimates and log-likelihood values**

	Type of job satisfaction							
	Overall	Earnings	Security	Type of work	Working hours	Working time	Environment	Distance
<i>All, controlling for wages and hours</i>								
Satisfaction coefficient	-0.505	-0.134	0.009	-0.230	-0.096	-0.124	-0.112	-0.042
P-value	0.000	0.000	0.785	0.000	0.005	0.000	0.002	0.176
Log-likelihood	-2046.3	-2061.3	-2069.0	-2051.1	-2065.3	-2062.1	-2064.3	-2068.2
<i>All, Not controlling for wages and hours</i>								
Satisfaction coefficient	-0.501	-0.126	0.009	-0.227	-0.095	-0.123	-0.111	-0.043
P-value	0.000	0.000	0.789	0.000	0.006	0.000	0.002	0.166
Log-likelihood	-2046.7	-2062.5	-2069.2	-2051.6	-2065.5	-2062.3	-2064.5	-2068.2

**Table 7 Quits and job satisfaction domain, by gender, age and education**

	Type of job satisfaction							
	Overall	Earnings	Security	Type of work	Working hours	Working time	Environment	Distance
<i>All</i>								
Satisfaction coefficient	-0.505	-0.134	0.009	-0.230	-0.096	-0.124	-0.112	-0.042
P-value	0.000	0.000	0.785	0.000	0.005	0.000	0.002	0.176
Log-likelihood	-2046.3	-2061.3	-2069.0	-2051.1	-2065.3	-2062.1	-2064.3	-2068.2
Number of observations = 12478	Number of individuals = 3754							
<i>Men</i>								
Satisfaction coefficient	-0.280	-0.097	-0.023	-0.234	-0.119	-0.159	-0.062	-0.026
P-value	0.000	0.043	0.581	0.0	0.0	0.0	0.2	0.5
Log-likelihood	-1140.7	-1151.6	-1153.5	-1143.3	-1150.5	-1147.1	-1152.8	-1153.4
Number of observations = 6476	Number of individuals = 1936							
<i>Women</i>								
Satisfaction coefficient	-0.286	-0.183	0.051	-0.236	-0.071	-0.077	-0.175	-0.069
P-value	0.000	0.000	0.343	0.000	0.182	0.130	0.001	0.163
Log-likelihood	-892.2	-896.8	-902.4	-894.7	-902.0	-901.7	-897.8	-901.9
Number of observations = 6002	Number of individuals = 1818							
<i>Age below 30</i>								
Satisfaction coefficient	-0.256	-0.052	-0.024	-0.211	-0.090	-0.065	-0.131	-0.064
P-value	0.000	0.368	0.650	0.000	0.102	0.211	0.021	0.199
Log-likelihood	-677.3	-684.9	-685.2	679.1	-684.0	-684.6	-682.8	-684.5
Number of observations = 2189	Number of individuals = 1055							
<i>Age 30 or above</i>								
Satisfaction coefficient	-0.296	-0.182	0.023	-0.245	-0.099	-0.163	-0.096	-0.028
P-value	0.000	0.000	0.586	0.000	0.029	0.000	0.038	0.482
Log-likelihood	-1359.0	-1365.9	-1374.0	-1362.4	-1371.9	-1367.1	-1372.1	-1373.9
Number of observations = 10289	Number of individuals = 2962							
<i>More than secondary education</i>								
Satisfaction coefficient	-0.522	-0.061	0.032	-0.291	-0.120	-0.089	-0.106	0.060
P-value	0.000	0.294	0.589	0.000	0.046	0.121	0.085	0.249
Log-likelihood	-779.0	-786.2	-786.6	-777.2	-784.8	-785.5	-785.3	-786.0
Number of observations = 4627	Number of individuals = 1490							
<i>Upper secondary education</i>								
Satisfaction coefficient	-0.319	-0.176	0.024	-0.227	-0.140	-0.130	-0.079	-0.128
P-value	0.000	0.001	0.624	0.000	0.004	0.005	0.138	0.003
Log-likelihood	-936.5	-945.7	-951.2	-943.0	-947.4	-947.6	-950.3	-947.2
Number of observations = 5599	Number of individuals = 2091							
<i>Lower secondary or primary education</i>								
Satisfaction coefficient	-0.239	-0.232	-0.077	-0.208	0.093	-0.130	-0.243	0.018
P-value	0.027	0.019	0.346	0.036	0.354	0.125	0.008	0.843
Log-likelihood	-306.8	-306.4	-308.8	-307.1	-308.8	-308.1	-305.7	-309.2
Number of observations = 2252	Number of individuals = 898							

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