The job satisfaction of English academics and their intentions to quit academe

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Abstract

This paper considers the job satisfaction of academics using a detailed dataset of over two thousand academics from ten English higher education institutions. The results of our analysis suggest that one would be wrong to consider one single measure of job-satisfaction. Academics appear to be considering three separate sets of elements of their jobs, namely the pecuniary factors (both the salary and the ability to earn money from additional work. We also consider the influence of these elements of job satisfaction on their intentions to leave the sector.

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1 Introduction

The analysis of the subjective concept of satisfaction has become a part of micro economic analysis (e.g. Freeman, 1978; Clarke, 1997, 2001; Clark and Oswald, 1996; Ward and Sloane, 2000). This reflects the understanding that in a world of limited knowledge, subjective measures can tell us something over and above what the objective quantities at our disposal can, such as in predicting quits (Freeman, 1978; Akerlof, Rose and Yellen, 1988; Clark, Georgellis and Sanfey, 1998; Clark, 2001). Overall job satisfaction, however, is a product of satisfaction with a number of different aspects of the job. In this paper, we use a structural model of job satisfaction and intentions to quit based on models in the job satisfaction (e.g. Clark and Oswald, 1996; Clark, 1997, 2001; Ward and Sloane, 2000; Lydon and Chevalier, 2002) and labour turnover/quit behaviour (e.g. Jovanovic, 1979; Farber, 1999; Gibbons and Waldman, 1999) in the literature. Conventional models of intentions to quit and turnover behaviour (e.g. Brewer, 1996) concentrate on the pecuniary aspects of the current job and potential alternatives, e.g. current salary. Whilst they acknowledge the importance of non-pecuniary factors, the datasets used for analysis seldom contain information on these. If an attempt is made to model the non-pecuniary aspects of a job, it is done so via a limited set of job characteristics, such as total hours of work. Most studies of job satisfaction do not assess the implication of their results for actual worker behaviour, i.e. the propensity to quit. In this study we are able to combine the two in order to examine the influences on the various elements of job satisfaction and the effect of job satisfaction on intentions to quit.

The academic labour market is one where individuals appear to earn less than similarly qualified individuals elsewhere (Machin and Oswald, 2000; Stevens, 2004). This suggests that there are elements of academic employment that compensate for these disparities (Rosen, 1986). Unfortunately, the literature on the job satisfaction of academics is limited[1]. Oshagbemi (1996, 1998), investigated job satisfaction of UK academics, but the analysis does not go beyond cross-tabulation. More recently, Ward and Sloane (2000) studied the job satisfaction of academics in five Scottish higher

[1] In an extensive review of job satisfaction, Oshagbemi (1996) found no studies published between 1981 and 1995 relating to the job satisfaction of university staff and only seven from an earlier date. Only one of the latter covered more than one university. There have been, to our knowledge, only two studies since, Oshagbemi (1998) and Ward and Sloane (2000).

education institutions (HEIs) in a more systematic framework, using ordered probit analysis. Our dataset allows us to consider the satisfaction of a much larger group of academics from ten English HEIs and its implications for intentions to quit.

An important but often-ignored fact about self-reported satisfaction is that it is conditional the current job having been chosen previously on the basis of expectations about unknown elements of the job and then experienced. Whilst the pay and other financial aspects of employment (e.g. pensions) are often known with certainty before a contract is made, many of the non-pecuniary aspects (such as how well one will get on with ones colleagues) are not. Thus, the fact that many studies report high levels of satisfaction is no longer a mystery. People choose jobs that they wish to undertake, given their expectation of pecuniary and non-pecuniary aspects of the job. High levels of reported job-satisfaction do not necessarily mean that most jobs are inherently satisfactory, but rather that most people's expectations are fulfilled; and that those for whom they are not are likely to shift jobs in order to find a better match. Also, if the nature of the job changes, such as pressure to increase the number of hours undertaken or how they are spent (i.e. the relative balance of the more and less pleasurable aspects of the job) job satisfaction will fall and the likelihood of an individual leaving will increase in just the same way as it would if wages were cut or grew at a slower than expected rate. Another type of change that might affect job satisfaction and/or the likelihood of an individual leaving are changes in an individual's circumstances. The arrival of children may mean that staff reassess the balance between the pecuniary and non-pecuniary aspects of the job. Pleasure in the job itself may be less important and salary more so, when there are more mouths to feed.

One important point to note about studies of satisfaction is that reported levels of satisfaction in the economy as a whole tend to be fairly high (consider the first column of Table 1). Workers tend to be fairly satisfied with most aspects of their jobs. The levels of satisfaction reported by academic staff (Oshagbemi, 1996, 1998; Ward and Sloane, 2000) are generally slightly lower than those reported for the economy as a whole (e.g. Clark, 2001). Academic staff are most satisfied with the work itself and teaching in particular (Oshagbemi, 1996). However, it must be noted that such comparisons are tenuous, as they refer to different surveys, and in particular slightly

different questions. There have been no analyses comparing the satisfaction of academic staff in HE with the rest of the population using the same survey[2]. With this caveat in mind, the single area where academic staff compare well with the population as a whole is in the opportunity to use initiative (Ward and Sloane, 2000)[3]. The greatest differences in satisfaction between academics and the population as a whole are with pay and promotions. Although these are the areas where satisfaction is the lowest in the economy as a whole (Clark, 2001), the difference between satisfaction with these two facets and the other is much larger for academics than for other workers. This is something that we shall investigate further in sections 3.1.1 and 4.3 below.

Table 1 Reported satisfaction in previous studies

	Whole economy	*UK academics*	*Scottish academics*
	Clark (2001)	*Oshagbemi (1996)*	*Ward and Sloane (2000)*
Overall job satisfaction	5.427	4.212†	5.04
Work itself	5.562	Teaching = 5.09 Research = 4.66 Admin = 3.93	5.27
Promotion	4.484	3.42	3.40
Pay	4.615	3.44	3.60
Hours	5.214	-	4.52
Job security	5.192	-	4.41
Opportunity to use initiative	5.745	-	5.81
Supervisors	5.529	4.18	5.09
Co-workers	-	4.81	5.42
Physical work conditions	-	4.33	-

- *Table shows the percentage of respondents reporting a given level of satisfaction*
- *Satisfaction is coded as follows: 1 = Completely dissatisfied, 2 = Mostly dissatisfied, 3 = Somewhat dissatisfied, 4 = Neither satisfied nor dissatisfied, 5 = Somewhat satisfied, 6 = Mostly satisfied, 7 = Completely satisfied*
- † *This comes from Oshagbemi (1998)*

[2] However, note that this is consistent with the fact that satisfaction is generally found to be negatively correlated with education (Clark and Oswald, 1996).
[3] Note that Oshagbemi (1996) does not ask a question relating to the use of initiative.

The rest of the paper is as follows. We outline our general model in section 2. We investigate the determinants of the job satisfaction of academics in section 4 and the factors influencing the reported likelihood of leaving UK higher education in section 5. In the final section we draw out the conclusions of the study.

2 The General Model

Our model has essentially two stages: in the first stage we consider the determinants of academics' job satisfaction; the less satisfied an individual is with their job, the more likely they are to consider leaving academe.

In economic terms, the utility a job provides is a product of a number of factors, the most obvious of which is the wage it pays, but others include the hours of work the job-holder must undertake, the environment he or she must work in (both in terms of the physical and social environment) and the longer term prospects it offers in terms of job-security and possibilities for promotion.

Consider the following static utility function

$$v = U + u(w, h, x, z) \tag{1}$$

where U is utility relating to non-work aspects of life, w represents earnings (including other non-wage financial benefits, together these make up what we call the pecuniary benefits of a job), h represents hours worked, x represents non-pecuniary aspects of work, z represents personal characteristics likely to affect utility derived from work (such as whether the individual has a family etc). Like many studies, we assume that overall utility is separable in U and $u(.)$[4] and concentrate our analysis on job-related utility[5].

An individual will quit a job j if they think there is an alternative job k such that

$$E[u(w_k, h_k, x_k, z_i)] - q > u(w_j, h_j, x_j, z_i) \tag{2}$$

[4] This is assumption is generally only implicit, with studies taking $u(.)$ as the starting point (e.g. Clark and Oswald, 1996).
[5] Note that we will allow the impact of certain aspects of the job on other utility generating activities through $u(.)$.

where q represents the costs associated with quitting for alternative employment and $E[.]$ is an expectations operator. It is possible that u can vary across individuals, e.g. long hours may be less attractive for people with children..

(3) $$E\left[u\left(w_j, h_i, x_j, z_i\right)\right] > u\left(w_0, h_0, x_0, z_i\right)$$

where

This model is closely related to the worker-side of the classic turnover model of Jovanovic (1979), where worker-firm matches are experience goods[6]. In Jovanovic (1979), dissatisfaction – that is, reality being worse than one's expectation – reveals itself in a positive relationship between the probability of separation and firm-specific tenure at low levels of tenure. As the individual learns more about the job, they are more likely to find aspects of it fail to meet their expectations. After this learning period, where expectations are confronted with outcomes, the separation probability will decrease with tenure as those with a higher probability of leaving do so and those with a lower probability remain (this is also because little learning takes place and there is only a small probability that the expected marginal product will decline sufficiently to cause the worker to move to a new firm). Moreover, if there is heterogeneity in the rate at which individuals find out whether their expectations are true or not, the relationship between tenure and separations will be negative. This heterogeneity can be due to heterogeneity of workers themselves or due to some random influence on the hazard rate at which the true values of $u(.)$ for the job are revealed.

Because of the uncertainty surrounding what other jobs are available and the probability of actually obtaining them, we can generalise (2) to obtain

(4) $$P = f\left\{-u\left(w_j, h_j, x_j, z_i\right) + E\left[u\left(w_k, h_k, x_k, z_i\right)\right] - q\right\}$$

[6] In Jovanovic (1979), the wage offered is based on the firms' expectation of the individual's marginal product.

That is, the probability of leaving UK HE, P, is a negative function of utility in the current job, a positive function of the expectation of utility outside of UK HE, and a negative function of the costs of quitting[7].

As is common with studies of satisfaction, we evaluate $u(w_j, h_j, x_j, z_i)$ using measured job satisfaction. When it comes to the elements of $E[u(w_k, h_k, x_k, z_k)]$, this is rather more difficult. We do have a measure of what respondents expect that they could earn if they worked outside of academe, $E[u(w_k)]$. Other elements and the effects of the costs of quitting are more difficult, and we aim to pick these up with other variables, such as subject dummies and variables to account for whether individuals have experience of work outside academe. Moreover, it is likely that individuals' expression of satisfaction may not only be influenced by their current job, but also their expectations of alternatives.

3 Data Description and Preliminary Analysis

Our sample is based on a survey of academics at ten institutions of higher education (four old and five new universities, plus one college of higher education). The 2,722 respondents were asked to rate their satisfaction with ten aspects of their jobs on a seven-point scale like those of the studies summarised in Table 1 (from completely dissatisfied to completely satisfied). Their responses are summarised in Table 2. Our results echo those of Ward and Sloane (2000) in that we find that academics rate the work itself, the opportunity to use their own initiative and their relations with their colleagues most highly. The aspects with which they are least satisfied are their promotion prospects, their salary and their total earnings.

[7] Note that in this report what we are interested in is the probability of leaving UK higher education rather than merely the probability of leaving the job.

Table 2 Reported satisfaction, %

	Level of Satisfaction							
	1	2	3	4	5	6	7	Mean
The actual work itself	1	2	7	3	21	55	10	5.48
Promotion prospects	15	12	18	21	15	15	4	3.69
Salary	11	14	23	13	17	19	4	3.85
Total earnings	9	13	22	15	16	20	4	3.95
Relations with manager	5	7	10	12	14	36	16	4.96
Job security	11	7	10	12	16	29	15	4.63
Being able to use own initiative	2	3	5	6	21	42	21	5.54
The hours you work	5	8	16	12	16	30	13	4.68
Relations with colleagues	1	2	5	7	18	49	18	5.59
Physical work conditions	5	8	15	10	19	33	9	4.66

- *Table shows the percentage of respondents reporting a given level of satisfaction*
- *Satisfaction is coded as follows: 1 = Completely dissatisfied, 2 = Mostly dissatisfied, 3 = Somewhat dissatisfied, 4 = Neither satisfied nor dissatisfied, 5 = Somewhat satisfied, 6 = Mostly satisfied, 7 = Completely satisfied*

3.1.1 Are Female Academics Happier?

One common finding from analyses of satisfaction is that females tend to report higher levels of satisfaction than men (e.g. Clark, 1997). Ward and Sloane (2000) found that for Scottish academics, this was not the case. We can test the hypothesis that male and female academics report similar levels of satisfaction using a simple non-parametric test (called the 'Mann-Whitney Test', Wilcoxon, 1945). The responses to our survey support this finding for some aspects of job satisfaction but not others (Table 3). The aspects with which there is no significant difference in reported job satisfaction were what one might call the non-pecuniary aspects of the job: i.e. the actual work itself, being able to use their own initiative, the hours, relations with colleagues and the physical working conditions. In a compensating variation or equalising differences framework (e.g. Rosen, 1986), these are the aspects of academic work that one might think of as the compensating for low wages.

Table 3 Satisfaction by Gender

	Total	*Male*	*Female*	*Difference (F-M)*	*Mann-Whitney*
The actual work itself	5.48	5.48	5.48	0	0.593
Promotion prospects	3.69	3.80	3.54	-0.27	3.870***
Salary	3.85	3.72	4.02	0.30	4.323***
Total earnings	3.95	3.83	4.11	0.28	4.323***
Relations with manager	4.96	5.01	4.89	-0.12	1.766*
Job security	4.63	4.69	4.55	-0.15	1.817*
Being able to use own initiative	5.54	5.55	5.53	-0.02	0.058
The hours you work	4.68	4.70	4.65	-0.05	0.686
Relations with colleagues	5.59	5.58	5.61	0.03	0.912
Physical work conditions	4.66	4.66	4.66	0	0.106

It is, however, with the pecuniary aspects of academic work that there are significant differences between the reported satisfaction of men and women. In particular, women are even less satisfied with their promotion prospects than men. Women are certainly less likely to be promoted than men in some areas (Booth, Burton and Mumford, 2000). They are, however, more satisfied with their earnings. One reason for this is that the inequality within academe, although present, is less than that elsewhere (Stevens, 2004).

4 The Job Satisfaction of Academics

Our model of job satisfaction is a generalisation of models such as Clark (1997), Ward and Sloane (2000) and Lydon and Chevalier (2002). Our model differs because it explicitly models the links between the influence of the characteristics of a job (i.e. the elements of job satisfaction) and intentions to quit the UK higher education sector.

In our model, job satisfaction depends on a number of elements of the job, as outlined in Table 2. Before entering employment, individuals will form an expectation of what academic and alternative jobs will yield in terms of these elements and choose the one which offers the best set of features. Following Clark and Oswald (1996), Clarke, (1997, 2001), Ward and Sloane (2000) and Lydon and Chevalier (2002), we call the job which offers the best set of features the one that offers the *highest utility*.

Once an individual takes up a job and experiences the true value of the elements of the job, they will remain in the job unless they think that there is an alternative job which offers a higher level of utility, once one accounts for the costs associated with searching for alternative employment and changing jobs.

We have noted that our model links models of satisfaction with Jovanovic's (1979) classic model of job-matching and turnover, where worker-firm matches are experience goods. In common with this model and its descendents, the dissatisfaction caused by reality being worse than one's expectation leads to a positive relationship between the probability of leaving and experience at low levels of experience at early stages whilst the individual learns more about the job[8].

Since dissatisfaction is caused by a dissonance between expectations and reality. The fact that average reports of satisfaction tend to be high can be due to the fact that either: (*a*) individuals do have some useful knowledge of what the elements of the job are and/or (*b*) those who are dissatisfied with their job tend to leave. The implication is that the relationship between reported satisfaction and experience will be non-linear.

4.1 The satisfaction of temporary staff

We have so far assumed that individuals will be offered a job that they find satisfactory. However, universities are not entirely certain of the productivity of potential staff. This problem is particularly acute at the beginning of an academic's career. Indeed, academia is one of the few sections of the labour market where there is a readily accessible measure of workers productivity – research output. Publications in peer-reviewed journals represent an instrument whereby potential employers can form expectations (however imperfect) of future productivity. The outcome of the research assessment exercise (RAE) on the academic labour market has been such that university departments will tend to be populated by individuals of a similar academic standard (particularly in terms of the RAE assessment criteria)[9]. The RAE has created an incentive for departments to employ staff who are as good or better than the

[8] If an individual's expectations turn out to be correct, they will of course not quit unless a new job comes into being that offers higher utility (after accounting for job search and moving costs).
[9] Although this may change with the new structure of the RAE 2008.

current average in the department, in terms of research output, and to dispense with staff who do not 'make the grade'. The outcome of this state of affairs is likely to be university departments with similar levels of productivity[10].

The existence of such a metric of productivity creates a problem for individuals with low levels of academic experience, particularly new academics. This means that these may have to endure jobs with lower levels of job satisfaction than more experienced academics with similar levels of productivity, in order to obtain academic credentials. This may create a dissonance between the levels of satisfaction that they feel they ought to be experiencing and those which the market is willing to offer. This is a potential explanation for the high proportion of new academics in fixed-term research posts, a group which suffers particular retention difficulties (Bett, 1999; Metcalf *et al*, 2005)[11].

4.2 Satisfaction in a dynamic framework

Thus far we have concentrated on individuals' short-term expectations about a job. They will also have longer-term expectations about their career path. There are a number of reasons why they may have to reassess their situation: the nature and terms of the job may change[12], they may not receive promotion or their own circumstances may change. For example, young, single academics may be willing to accept research or teaching assistant posts with a fixed-term, because they place a lower value on their own time and require a lower level of consumption than those who have families. Indeed, early research posts may be seen as investments. These changes will affect the utility an individual gains from a job and thus their reported satisfaction with it and their propensity to search for alternative employment or quit for another post.

Thus it can be seen that what is important for reported satisfaction is not merely the level of the factors influencing job satisfaction – the number of hours, the amount of time spent on certain aspects (research, administration etc) – but rather changes in

[10] Unfortunately, we do not have information on publications at the individual level, only departmental RAE scores.

[11] Another explanation for universities suffering recruitment difficulties among fixed-term research staff is caused by the uncertainty of re-employment. If staff value the security that tenured positions offer, and the possibility of a permanent post following a temporary one is uncertain, it is entirely rational for individuals to increase their job search intensity as they approach the end of their contract.

[12] By job here we include other roles within the university that make up the expected career path that begins with the initial post the individual is hired to fill.

them. These changes also include the change that comes about when a job is sampled and an expectation is revealed.

4.3 Analysis

We investigate the determinants of satisfaction using ordered probits. In order to account for potential correlations between the equations, we estimate them as a system of seemingly-unrelated ordered probits (Weesie, 1999). The variables used in the analysis are outlined in Table 4. Explanatory variables include terms for experience, staff grade, permanence of contract and hours worked. Because not all staff undertake teaching, research and administration, we include the log of total hours and separate variables for hours research and administration (taking the value of zero where staff report that they do not spend any hours on them). We also include dummy variables to account for differences by subject area and university. Because only a little over half of our respondents report what they expect to earn if they worked outside higher education, we exclude this from our initial specification. We do however report results including this variable in our salary and total earnings equations in Table 6.

Table 4 Variable used in the analysis of job satisfaction

Variable	Explanation
e	Experience. Years employed in UK higher education
e^2	Experience squared
G_{Prof}	Grade = Professor or head of department
G_{SLect}	Grade = lecturer
Non-perm	Not on permanent contract
h_{total}	Log of total hours of work
$h_{research}$	Log of hours spent on research
h_{admin}	Log of hours spent on administration
*RAE5**	Department rated 5* in last RAE exercise
RAE5	Department rated 5 in last RAE exercise
RAE4	Department rated 4 in last RAE exercise
w	log of annual earnings
*w**	log of annual earnings would expect to earn if worked outside academia
Non-white	Non-white ethnic group
Female	Female
Children	Has children
Female×Children	*Female* interacted with *Children*
Num children	Number of children
Female×Num children	*Female* interacted with *Num children*
Married	Married
Female×Married	*Female* interacted with *Married*
University dummies (baseline = old southern university 2)	
Old Sth uni 1	Old southern university 1
New Sth uni 1	New southern university 1
New Lon uni	New London university
New Sth uni 2	New southern university 2
Old Lon uni	Old London university
New Nth uni	New northern university
New Sth uni 3	New southern university 3
Old Nth uni	Old northern university
New Nth uni 2	New northern university 2
Subject area dummies (baseline = Subjects allied to medicine)	

The results of our estimation on the full sample are set out in Table 5 (those for the reduced sample are presented in Table 6). At the bottom of the table are the Log-pseudo likelihood, the likelihood ratio χ^2 test of joint significance of the coefficients and an R^2 goodness-of-fit measure due to McKelvey and Zaviona (1975) for the independent equations to give us an indication of the fit of the model to the data[13].

[13] Note that the methodology used to estimate the satisfaction ordered probits as a system involves first estimating the individual models separately and then using the variance covariance matrices to

These indicate that there is some variation in how our equations fit the data. All of them are in the range one would expect for this type of ordered categorical data. The likelihood ratio test that the regressions are informative, the joint test of significance of the coefficients of each equation, is accepted at the 1% level for all equations.

First of all, we can see that our results support the earlier result that there are no significant differences between the satisfaction men and women with many of the elements of the academic employment. It is only with respect to their salary and total earnings that women report significantly different levels of satisfaction. In both cases, women report higher levels of satisfaction (this is not the case when we reduce the sample to those who report what they feel they could earn outside of academia (Table 6) although married women are significantly more satisfied with their salary and total earnings in this case). Members of non-white ethnic minorities are less satisfied with the opportunity they have to use their own initiative, the hours they have to work and their relations with their colleagues than their white colleagues are. This may indicate one of two things – either non-white staff have higher expectations than white staff over these dimensions of the job or they find themselves in jobs where these dimensions are less satisfactory. It seems unlikely that the former is the case, and therefore suggests that they are finding themselves in less satisfactory jobs[14]. There is some evidence also that they are less satisfied with their salary and total earnings, although only the latter is statistically significant, and then only at the 10% level. The dissatisfaction with total earnings becomes stronger (and more significant from a statistical standpoint) when we confine our sample to those who report what they feel they could earn outside of the higher education sector. The fact that nonwhites feel less dissatisfied with their salary than they are with their total earnings suggests that there may be greater wage equality within higher education than there is in the areas where academics work to supplement their salary.

As we would expect, given our discussion above, the relationship between experience and job-satisfaction (where it is statistically significant) is non-linear. Satisfaction with the non-pecuniary aspects of the job tends to decrease with

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calculate robust standard errors. The goodness of fit measures are calculated based on the independent estimates and so are likely to under report the fit of the more efficient final system of equations.

[14] Our supposition is based on the lack of evidence that ethnic minority employees have higher expectations in these areas and that disadvantage in employment is common for ethnic minorities.

experience for the first half of academics careers but then increases. Whether this can be seen as a pure learning effect as noted above is unclear, as the results imply that it can take ten or twenty years to learn whether one likes the job or not. In a cross-sectional study such as ours, it is difficult to distinguish between true experience and other age-related effects, which may have a part to play in explaining job-satisfaction among English academic staff.

Two elements where experience does not have a significant effect are satisfaction with salary and total earnings. This is as we would expect, as the wage structures in UK HEIs are highly structured and pay scales can be seen by job applicants before they apply for and accept job offers. The one influence on earnings that the individual can predict less well is promotions and the coefficients are significant and of the expected sign; the non-linear relationship of satisfaction decreasing over the early career and then increasing is supported by the data.

Professors and, to a lesser extent, senior lecturers are generally happier in their jobs than lower grades – particularly, and unsurprisingly, with promotions. Professors tend on the whole to be more satisfied with their jobs than senior lecturers. In particular, professors are significantly more satisfied with their salary and total earnings whereas senior lecturers are not significantly different to lower grade staff. One explanation for this result is that if all staff have similar levels of ability, but that jobs are rationed so that only a lucky few get promoted, then those that do not get promoted will exhibit higher levels of dissatisfaction. Another extreme case is where the ability of staff varies and those that are promoted are the ones of the highest ability. In this case, if lower ability staff feel they are of the same ability as those who are promoted (or higher), they are will exhibit higher levels of dissatisfaction. The truth may lie somewhere between these two extremes. One area where senior lecturers are significantly more satisfied than professors and lower grades is with their physical work conditions. It may be the case that senior lecturers receive better offices etc than lower grades and are thus more satisfied than lower grades, but that professors do not receive an additional one and compare themselves with senior lecturers when considering their satisfaction.

We suggested in the introduction that staff on non-permanent contracts are likely to be less satisfied with elements of their job than other staff because temporary

jobs reflect an investment at the beginning of an academic career, rather than a career job in itself. Our results show that staff on non-permanent contracts are significantly less satisfied with their promotion prospects and their job security. They appear to be more satisfied with the actual work itself than permanent staff, although this result is only statistically significant at the 10% level. It is interesting to note that they are more satisfied with their earnings than permanent staff. This is consistent with the idea that they are willing to sacrifice earnings for other aspects of the job at this early stage of their career.[15]

There are few clear patterns in the variation in satisfaction across subject areas. Academic staff working in medicine and dentistry, biological and physical sciences are more dissatisfied with their job security than those working in other areas, although those in physical sciences appear to be more satisfied with their salary and other earnings.

[15] Note that staff on non-permanent contracts are, on average, ten years younger than permanent staff.

Table 5 Results – satisfaction

	Actual work itself	*Promotion prospects*	*Salary*	*Total earnings*	*Rel. with manager*	*Job security*	*Use own initiative*	*Hours*	*Rel. with colleagues*	*Physical work conditions*
Female	-0.112 (0.086)	-0.128 (0.083)	0.240*** (0.088)	0.205** (0.088)	-0.067 (0.083)	0.008 (0.083)	0.087 (0.084)	0.021 (0.083)	0.090 (0.085)	0.058 (0.082)
Children	-0.103 (0.103)	0.019 (0.099)	-0.056 (0.105)	-0.063 (0.106)	0.070 (0.099)	-0.028 (0.100)	0.038 (0.100)	0.007 (0.099)	0.106 (0.101)	0.049 (0.098)
Female× Children	0.226 (0.161)	-0.178 (0.154)	-0.258 (0.164)	-0.239 (0.164)	-0.196 (0.154)	-0.060 (0.156)	0.105 (0.156)	0.060 (0.154)	-0.133 (0.158)	-0.028 (0.154)
Num children	0.058 (0.038)	-0.044 (0.037)	0.006 (0.039)	0.028 (0.040)	0.003 (0.037)	0.018 (0.037)	0.014 (0.037)	0.027 (0.037)	0.022 (0.038)	-0.002 (0.036)
Female× Num children	-0.035 (0.065)	0.083 (0.062)	0.049 (0.066)	0.039 (0.066)	0.042 (0.062)	0.002 (0.063)	-0.076 (0.063)	-0.015 (0.062)	0.002 (0.064)	0.008 (0.062)
Married	-0.049 (0.073)	-0.019 (0.071)	0.007 (0.075)	-0.031 (0.075)	-0.096 (0.071)	-0.078 (0.071)	-0.010 (0.072)	0.138* (0.071)	0.006 (0.072)	0.084 (0.070)
Female× Married	0.074 (0.105)	0.065 (0.101)	0.110 (0.107)	0.147 (0.108)	0.105 (0.101)	0.193* (0.102)	0.011 (0.103)	-0.176* (0.102)	-0.014 (0.103)	-0.060 (0.101)
Non-white	-0.024 (0.083)	-0.038 (0.081)	-0.102 (0.085)	-0.161* (0.085)	-0.014 (0.081)	0.034 (0.080)	-0.267*** (0.081)	-0.154* (0.081)	-0.270*** (0.082)	-0.069 (0.080)
e	-0.019** (0.008)	-0.058*** (0.008)	-0.007 (0.008)	-0.002 (0.008)	-0.045*** (0.008)	-0.024*** (0.008)	-0.012 (0.008)	-0.039*** (0.008)	-0.026*** (0.008)	-0.020*** (0.008)
e^2	0.001** (0.000)	0.001*** (0.000)	0.000 (0.000)	-0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
G_{Prof}	0.183** (0.080)	0.991*** (0.078)	0.319*** (0.090)	0.370*** (0.090)	0.368*** (0.077)	0.645*** (0.079)	0.326*** (0.079)	0.086 (0.076)	0.071 (0.078)	-0.029 (0.076)
G_{SLect}	-0.069 (0.063)	0.272*** (0.061)	0.084 (0.066)	0.069 (0.066)	0.076 (0.061)	0.169*** (0.061)	0.036 (0.062)	-0.107* (0.061)	-0.092 (0.062)	-0.186*** (0.061)
Non-perm	0.116* (0.063)	-0.475*** (0.061)	0.356*** (0.068)	0.316*** (0.068)	0.022 (0.061)	-1.447*** (0.065)	-0.068 (0.062)	0.055 (0.061)	-0.079 (0.062)	-0.096 (0.061)

	Actual work itself	*Promotion prospects*	*Salary*	*Total earnings*	*Rel. with manager*	*Job security*	*Use own initiative*	*Hours*	*Rel. with colleagues*	*Physical work conditions*
h_{total}	0.050	-0.250***	-0.521***	-0.454***	-0.217***	-0.148**	-0.149**	-0.853***	-0.108*	-0.107*
	(0.060)	(0.060)	(0.080)	(0.078)	(0.061)	(0.060)	(0.059)	(0.079)	(0.059)	(0.058)
$h_{research}$	0.069***	0.035	-0.054**	-0.058**	0.018	-0.015	0.067***	0.136***	-0.001	0.018
	(0.023)	(0.022)	(0.024)	(0.024)	(0.022)	(0.023)	(0.023)	(0.023)	(0.023)	(0.022)
h_{admin}	-0.135***	-0.027	-0.103***	-0.109***	-0.042	-0.054**	-0.072***	-0.205***	-0.111***	-0.078***
	(0.028)	(0.027)	(0.029)	(0.029)	(0.027)	(0.027)	(0.027)	(0.028)	(0.027)	(0.027)
*RAE5**	0.253***	0.191**	-0.166**	-0.101	0.135*	0.109	0.148*	0.088	0.011	-0.002
	(0.081)	(0.077)	(0.081)	(0.081)	(0.078)	(0.078)	(0.079)	(0.078)	(0.079)	(0.077)
RAE5	0.168**	0.073	-0.177**	-0.141**	0.047	0.091	0.039	-0.061	-0.071	-0.073
	(0.070)	(0.067)	(0.071)	(0.071)	(0.067)	(0.068)	(0.068)	(0.067)	(0.069)	(0.067)
RAE4	0.062	0.031	-0.053	-0.015	-0.083	-0.144**	-0.008	0.007	-0.169**	-0.256***
	(0.072)	(0.069)	(0.073)	(0.073)	(0.069)	(0.070)	(0.070)	(0.069)	(0.070)	(0.069)
w	-0.001	0.003	0.911***	0.795***	0.005	0.010*	0.000	0.001	0.004	0.002
	(0.006)	(0.006)	(0.108)	(0.108)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Medicine and dentistry	-0.033	-0.099	-0.132	-0.149	-0.128	-0.269**	0.010	0.075	-0.095	0.050
	(0.115)	(0.110)	(0.118)	(0.120)	(0.110)	(0.111)	(0.112)	(0.111)	(0.113)	(0.109)
Biological sciences	-0.132	-0.151*	0.008	-0.029	-0.167*	-0.348***	-0.050	-0.091	-0.093	-0.093
	(0.093)	(0.089)	(0.094)	(0.094)	(0.089)	(0.090)	(0.090)	(0.089)	(0.091)	(0.088)
Agriculture and related subjects	0.273	-0.100	-0.238	-0.314	0.085	0.096	0.208	-0.230	-0.048	-0.423**
	(0.212)	(0.205)	(0.210)	(0.211)	(0.204)	(0.209)	(0.210)	(0.203)	(0.210)	(0.200)
Physical sciences	0.136	-0.076	0.245**	0.242**	0.001	-0.288***	0.130	0.083	0.065	-0.057
	(0.101)	(0.096)	(0.102)	(0.103)	(0.097)	(0.097)	(0.098)	(0.097)	(0.099)	(0.096)
Mathematical sciences	0.125	0.233*	0.134	0.114	0.111	0.057	0.253*	0.201	0.005	0.212
	(0.135)	(0.129)	(0.136)	(0.136)	(0.131)	(0.131)	(0.133)	(0.131)	(0.133)	(0.129)
Computing sciences	0.064	-0.055	0.191*	0.215*	0.117	0.030	0.059	-0.062	-0.200*	0.388***
	(0.114)	(0.109)	(0.115)	(0.115)	(0.110)	(0.110)	(0.111)	(0.111)	(0.112)	(0.110)
Engineering	-0.131	-0.062	0.079	0.033	-0.050	-0.068	-0.045	-0.179*	-0.073	0.048
	(0.111)	(0.108)	(0.114)	(0.114)	(0.108)	(0.108)	(0.109)	(0.108)	(0.110)	(0.107)

	Actual work itself	*Promotion prospects*	*Salary*	*Total earnings*	*Rel. with manager*	*Job security*	*Use own initiative*	*Hours*	*Rel. with colleagues*	*Physical work conditions*
Other technology	0.505 (0.362)	-0.055 (0.333)	0.192 (0.349)	0.234 (0.350)	0.343 (0.341)	0.091 (0.339)	0.276 (0.342)	0.104 (0.334)	0.043 (0.344)	0.045 (0.328)
Architecture and planning	-0.453** (0.192)	-0.551*** (0.190)	-0.179 (0.196)	-0.112 (0.201)	-0.220 (0.186)	-0.249 (0.189)	-0.213 (0.188)	-0.340* (0.188)	-0.395** (0.190)	-0.267 (0.185)
Social studies	-0.047 (0.084)	0.104 (0.081)	0.118 (0.087)	0.120 (0.088)	-0.110 (0.081)	-0.066 (0.082)	-0.091 (0.082)	-0.102 (0.081)	-0.221*** (0.083)	-0.091 (0.081)
Business and admin. studies	-0.039 (0.108)	-0.213** (0.104)	-0.140 (0.111)	-0.093 (0.111)	-0.035 (0.104)	0.139 (0.104)	-0.077 (0.105)	-0.074 (0.104)	-0.243** (0.106)	0.167 (0.104)
Librarianship & info. science	0.159 (0.372)	0.234 (0.347)	0.223 (0.383)	0.072 (0.383)	0.660* (0.363)	0.391 (0.362)	0.152 (0.358)	0.144 (0.347)	-0.387 (0.359)	-0.073 (0.349)
English lit. And classics	0.076 (0.168)	-0.038 (0.160)	0.187 (0.164)	0.108 (0.166)	-0.208 (0.160)	-0.271* (0.163)	-0.175 (0.163)	-0.293* (0.160)	-0.005 (0.165)	-0.210 (0.159)
Modern languages	0.288** (0.147)	0.183 (0.142)	0.021 (0.156)	-0.057 (0.156)	0.002 (0.143)	0.036 (0.145)	0.101 (0.144)	0.224 (0.144)	0.243* (0.146)	0.521*** (0.142)
Other humanities	0.046 (0.101)	0.139 (0.096)	0.141 (0.104)	0.132 (0.104)	0.011 (0.097)	-0.142 (0.098)	-0.123 (0.098)	-0.160* (0.097)	-0.196** (0.099)	-0.134 (0.096)
Art and design	-0.284* (0.159)	-0.290* (0.157)	-0.071 (0.174)	-0.152 (0.174)	-0.272* (0.155)	-0.422*** (0.156)	-0.383** (0.156)	-0.260* (0.157)	-0.236 (0.159)	-0.302* (0.156)
Education	0.265*** (0.099)	0.064 (0.094)	0.029 (0.101)	0.048 (0.102)	0.149 (0.095)	0.164* (0.095)	0.170* (0.096)	-0.048 (0.094)	0.033 (0.097)	0.105 (0.094)
Combined studies	0.037 (0.124)	-0.078 (0.118)	0.055 (0.124)	0.105 (0.124)	-0.056 (0.119)	-0.148 (0.120)	0.199 (0.122)	0.125 (0.119)	0.181 (0.123)	0.039 (0.119)
Old Sth uni 1	0.097 (0.101)	-0.291*** (0.096)	-0.248** (0.099)	-0.186* (0.099)	0.101 (0.097)	0.191* (0.099)	0.284*** (0.099)	0.146 (0.097)	-0.088 (0.098)	0.116 (0.096)
New Sth uni 1	0.322*** (0.124)	0.322*** (0.119)	0.244* (0.127)	0.243* (0.127)	0.259** (0.121)	0.292** (0.121)	0.266** (0.121)	0.147 (0.119)	0.109 (0.122)	-0.174 (0.118)
New Lon uni	0.065 (0.101)	-0.162* (0.098)	-0.061 (0.105)	-0.034 (0.105)	0.005 (0.098)	-0.345*** (0.098)	-0.088 (0.099)	0.095 (0.098)	0.008 (0.100)	-0.888*** (0.098)

	Actual work itself	*Promotion prospects*	*Salary*	*Total earnings*	*Rel. with manager*	*Job security*	*Use own initiative*	*Hours*	*Rel. with colleagues*	*Physical work conditions*
New Sth uni 2	0.231**	0.091	-0.010	0.016	0.062	0.031	0.025	-0.052	0.157*	-0.163*
	(0.094)	(0.091)	(0.097)	(0.097)	(0.090)	(0.091)	(0.092)	(0.091)	(0.093)	(0.090)
Old Lon uni	0.120	0.045	-0.230***	-0.211***	0.283***	-0.002	0.258***	0.169**	0.101	-0.060
	(0.079)	(0.075)	(0.080)	(0.080)	(0.076)	(0.076)	(0.077)	(0.075)	(0.077)	(0.075)
New Nth uni	0.198	-0.083	0.089	0.026	0.213*	-0.589***	0.004	0.031	0.104	-0.607***
	(0.128)	(0.122)	(0.136)	(0.136)	(0.122)	(0.122)	(0.123)	(0.123)	(0.125)	(0.122)
New Sth uni 3	0.157*	-0.051	-0.162*	-0.169*	0.230**	-0.000	0.089	0.039	0.308***	-0.133
	(0.094)	(0.090)	(0.098)	(0.098)	(0.091)	(0.091)	(0.092)	(0.091)	(0.093)	(0.090)
Old Nth uni	-0.057	-0.046	-0.032	-0.070	0.215***	0.239***	0.077	0.067	0.059	-0.062
	(0.066)	(0.064)	(0.067)	(0.068)	(0.064)	(0.065)	(0.065)	(0.064)	(0.065)	(0.063)
New Nth uni 2	0.044	-0.096	0.077	0.111	-0.186	-0.519***	-0.147	0.245**	-0.103	-0.421***
	(0.128)	(0.123)	(0.135)	(0.135)	(0.124)	(0.124)	(0.125)	(0.124)	(0.126)	(0.123)
τ_1	-2.346***	-2.468***	5.946***	4.893***	-2.615***	-2.703***	-2.685***	-5.221***	-3.202***	-2.534***
	(0.242)	(0.232)	(1.033)	(1.033)	(0.234)	(0.233)	(0.235)	(0.295)	(0.241)	(0.227)
τ_2	-1.733***	-1.993***	6.545***	5.513***	-2.156***	-2.292***	-2.224***	-4.669***	-2.668***	-1.947***
	(0.232)	(0.231)	(1.033)	(1.033)	(0.232)	(0.231)	(0.230)	(0.292)	(0.232)	(0.225)
τ_3	-1.142***	-1.453***	7.179***	6.147***	-1.750***	-1.852***	-1.832***	-4.001***	-2.174***	-1.364***
	(0.230)	(0.230)	(1.034)	(1.034)	(0.231)	(0.230)	(0.228)	(0.290)	(0.230)	(0.224)
τ_4	-0.974***	-0.871***	7.519***	6.544***	-1.364***	-1.413***	-1.496***	-3.641***	-1.763***	-1.057***
	(0.229)	(0.229)	(1.035)	(1.035)	(0.231)	(0.230)	(0.227)	(0.289)	(0.228)	(0.224)
τ_5	-0.224	-0.374	8.030***	7.032***	-0.983***	-0.909***	-0.794***	-3.187***	-1.139***	-0.539**
	(0.229)	(0.229)	(1.036)	(1.035)	(0.230)	(0.229)	(0.226)	(0.288)	(0.227)	(0.223)
τ_6	1.509***	0.628***	9.142***	8.105***	0.097	0.162	0.375*	-2.104***	0.267	0.637***
	(0.230)	(0.231)	(1.039)	(1.038)	(0.230)	(0.229)	(0.226)	(0.286)	(0.227)	(0.224)
Observations	2,706	2,662	2,361	2,339	2,692	2,695	2,705	2,690	2,706	2,698
LPL	-3,464.2	-4,763.7	-4,257.9	-4,235.1	-4,630.7	-4,432.4	-3,997.9	-4,567.0	-3,774.3	-4,668.2
χ^2	215.6***	418.4***	245.8***	225.9***	204.2***	1082.8***	196.3***	708.3***	156.3***	94.1***
M&Z R^2	0.087	0.160	0.106	0.099	0.073	0.354	0.073	0.236	0.060	0.102

- *Robust standard errors in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%*

Levels of satisfaction with many of the job dimensions among staff at university 2 (one of the southern new universities) appear to be higher than those at the other universities (recall that the baseline is one of the highly-rated southern old universities). There seems no reason to believe this was merely a locational effect, as, whilst the location might be thought to be good, other case study universities were in good locations. It, therefore, was likely to be a function of the university. In the qualitative research, the main difference between this university and the other case study universities was that many respondents praised the ethos of the university and its treatment of staff, describing it as caring, respectful of individuals and flexible over individual needs. It is this, perhaps, that led to greater satisfaction amongst its staff. The universities where satisfaction with salary is lower are located in the south of England where living costs are higher. However, this dissatisfaction is not present at all of the southern and London universities. Indeed the satisfaction at the first of the highly-rated southern old universities (and the London one) is significantly higher than the other.

There is a negative relationship between total hours worked and satisfaction with all elements except the actual work itself. This reflects the general premise that people generally prefer fewer hours of work than more. However, for those who do it, hours spent on research have a positive effect on satisfaction with the actual work itself, the ability to use one's own initiate and with hours generally. Note that this is the effect of an hour of research, leaving the total number of hours worked unchanged. The net affect of an *additional* hour of research on satisfaction (i.e. accounting for both the coefficient on h_{total} and $h_{research}$) is only positive with respect to the actual work itself. Hours of work spent on administration has a negative effect on satisfaction with all dimensions of academics' job satisfaction, with the exception of their promotion prospects and relations with their manager. It may be the case that the positive benefits of administration with respect to these two factors offset the negative effects on general satisfaction. Alternatively, it may just be the case that there no significant relationship between the amount of time spent on admin and satisfaction with promotion prospects and relations with one's manager.

The fact that the negative effect of hours spent on research and administration are greater than extra hours generally, suggests that staff who put in extra effort in

these tasks do not feel that they are adequately rewarded. The fact that the more time staff spend on research the more satisfied they are with the actual work itself is consistent with the idea that research is a non-pecuniary benefit of academic work. That is, research is one of the factors that offsets the low salaries in academic relative to alternative employment. Conversely, hours spent on administration appear to reduce satisfaction almost across the board.

Staff in five star departments tend to enjoy the work itself more than other staff (as, to a lesser extent, do staff at five-rated departments) and tend to be more satisfied with their promotion prospects, their relations with their manager and their ability to use their own initiative. This is consistent with the idea that staff wish to work at institutions of academic excellence, and the stability that the recognition of this excellence imparts is also appreciated by staff. Staff at five star departments are, however, less satisfied with their salary (although not their total earnings). This may reflect the fact that the national pay scales in academia constrain institutions ability to reward the most productive workers. This conclusion is supported by the results reported in Table 6, where the inclusion of a measure of individual staff's own assessment of their abilities – the wage they would expect to command outside of academia – is included. In this case, the negative effect of *RAE5** on satisfaction with salary and total earnings disappears.

Earnings are not significantly correlated with satisfaction with any of the non-pecuniary aspects of the job. This suggests that staff are able to consider the pecuniary and non-pecuniary aspects of their job independently. This cannot, however, tell us whether lower wages are traded off with other aspects of the job, because there is not enough within-academia variation in these factors. In order to answer this question, one would have to have a sample that included responses for people in non-academic jobs.

Apart from the effect of being in a five-star department noted above, the inclusion of the expected outside wage has little effect on the coefficients in the results for satisfaction with salary and total earnings except for that on current wages and experience. The constraint that the coefficients on w and w^* are equal and opposite is rejected at the 1% level for both equations. We can, therefore, reject hypothesis that it is only relative earnings that count for satisfaction with earnings.

The lack of a significant effect of experience in these specifications may reflect the fact that individual's perception of their own worth outside UK academia diverge from their actual salaries over their career.

Table 6 Including alternative salary

	Salary	*Total earnings*
Female	0.085 (0.105)	0.054 (0.105)
Children	0.018 (0.129)	-0.009 (0.129)
Female×Children	-0.286 (0.214)	-0.253 (0.214)
Num children	0.022 (0.050)	0.040 (0.050)
Female× Num children	0.045 (0.092)	0.028 (0.092)
Married	-0.106 (0.088)	-0.132 (0.088)
Female×Married	0.328** (0.128)	0.352*** (0.128)
Non-white	-0.138 (0.102)	-0.210** (0.102)
e	-0.014 (0.011)	-0.001 (0.011)
e^2	-0.000 (0.000)	-0.000 (0.000)
G_{Prof}	0.509*** (0.117)	0.536*** (0.117)
G_{SLect}	0.115 (0.081)	0.084 (0.081)
Non-perm	0.294*** (0.082)	0.263*** (0.082)
h_{total}	-0.587*** (0.100)	-0.504*** (0.095)
$h_{research}$	-0.043 (0.030)	-0.044 (0.030)
h_{admin}	-0.085** (0.036)	-0.091** (0.036)
*RAE5**	-0.012 (0.097)	0.038 (0.097)
RAE5	-0.025 (0.088)	-0.003 (0.089)
RAE4	0.083 (0.089)	0.120 (0.089)
w	1.758*** (0.152)	1.474*** (0.149)
w^*	-0.992*** (0.089)	-0.868*** (0.089)
Medicine and dentistry	-0.192 (0.145)	-0.190 (0.147)
Biological sciences	-0.069 (0.113)	-0.101 (0.113)

	Salary	*Total earnings*
Agriculture and related subjects	-0.113 (0.236)	-0.239 (0.237)
Physical sciences	0.325*** (0.122)	0.316*** (0.122)
Mathematical sciences	0.216 (0.168)	0.241 (0.168)
Computing sciences	0.244* (0.134)	0.293** (0.134)
Engineering	0.058 (0.131)	0.023 (0.131)
Other technology	0.611 (0.413)	0.708* (0.414)
Architecture and planning	-0.416* (0.239)	-0.341 (0.247)
Social studies	0.204* (0.107)	0.168 (0.107)
Business and admin. studies	-0.026 (0.132)	0.015 (0.132)
Librarianship & info. science	0.229 (0.511)	0.022 (0.510)
English lit. And classics	0.006 (0.210)	-0.066 (0.210)
Modern languages	-0.108 (0.211)	-0.154 (0.211)
Other humanities	0.145 (0.134)	0.164 (0.134)
Art and design	-0.053 (0.215)	-0.161 (0.216)
Education	-0.171 (0.129)	-0.113 (0.129)
Combined studies	-0.088 (0.155)	0.004 (0.154)
Old Sth uni 1	-0.166 (0.117)	-0.114 (0.117)
New Sth uni 1	0.338** (0.161)	0.284* (0.161)
New Lon uni	0.028 (0.132)	0.034 (0.132)
New Sth uni 2	0.116 (0.118)	0.144 (0.118)
Old Lon uni	-0.119 (0.095)	-0.080 (0.095)
New Nth uni	0.061 (0.175)	0.017 (0.175)
New Sth uni 3	-0.126 (0.121)	-0.127 (0.122)
Old Nth uni	0.015 (0.080)	-0.017 (0.080)
New Nth uni 2	0.300* (0.163)	0.355** (0.163)
τ_1	3.964*** (1.450)	2.601* (1.445)
τ_2	4.616*** (1.451)	3.269** (1.445)
τ_3	5.296*** (1.452)	3.956*** (1.446)

	Salary	*Total earnings*
τ_4	5.654*** (1.452)	4.363*** (1.446)
τ_5	6.208*** (1.453)	4.899*** (1.447)
τ_6	7.309*** (1.455)	5.952*** (1.448)
Observations	1,621	1,610
LPL	-2,839.295	-2,847.043
χ^2	326.64***	279.23***
M&Z R^2	0.204	0.175

- *Standard errors in parentheses*
- ** significant at 10%; ** significant at 5%; *** significant at 1%*

4.4 Is there a single overall measure of satisfaction?

Many studies utilise a single measure for overall job satisfaction, with the assumption (either implicit or explicit) that the factors mentioned above are intermediate determinants. This can be done by extracting the first principal component of reported satisfaction with these elements. Beyond the statistical objection to performing factor analysis on categorical variables, our discussion above suggests that this may be an overly simplistic view of job satisfaction and that there may be a number of separate and possibly orthogonal elements that need to be considered. A more appropriate methodology is to perform a factor analysis on the predicted values of latent variables assumed to underlie these categorical reported measures of satisfaction and examine how much of the total variation in satisfaction with these ten elements can be explained by the extracted factors[16].

Because of the reduction in sample size imposed by the inclusion of *w** in our analysis, we restrict our analysis here to the predicted values obtained from the analysis outlined in Table 5. The results of performing principal-components factor analysis on our predicted values of the ten elements of job satisfaction are reported in Table7. This table reports the factor loadings, along with the eigenvalues and the proportion explained by the factors extracted with eigenvalues of more than one[17].

[16] For more on factor analysis, see for example Harman (1976).
[17] The so called 'Kaiser-Guttman rule' after Guttman (1954) and Kaiser (1970).

Table7 Factor loadings for overall job satisfaction

Element of satisfaction	*Factor 1*	*Factor 2*	*Factor 3*
The actual work itself	**0.815**	-0.044	-0.201
Promotion prospects	0.431	0.120	**0.800**
Salary	0.011	**0.986**	-0.167
Total earnings	0.015	**0.986**	-0.161
Relations with manager	**0.874**	0.051	0.139
Job security	-0.045	0.181	**0.917**
Being able to use own initiative	**0.892**	0.037	0.107
The hours you work	**0.801**	-0.124	-0.336
Relations with colleagues	**0.736**	-0.014	-0.066
Physical work conditions	**0.751**	0.000	-0.045
Eigenvalue	4.158	2.013	1.724
Proportion explained	0.416	0.201	0.172
Cumulative proportion explained	0.416	0.617	0.790

There are three factors with eigenvalues of more than one and together these explain 79 per cent of the variation in the ten latent satisfaction variables[18]. The first factor explains just over half of the common variance of the predicted satisfaction variables. The factor loadings suggest that this factor explains much of the variation of six of the factors: respondents' relations with their manager, being able to use their own initiative, the hours they work, relations with colleagues and physical work conditions[19]. We label this factor 'satisfaction with non-pecuniary elements of the current job'. The second factor merely reiterates what we saw in the analysis above, namely that the explanation for both salary and total earnings are highly correlated. Moreover, the analysis on the whole sample suggests that the pecuniary factors are quite separate from the non-pecuniary ones. The final factor in the analysis of the whole sample includes satisfaction with promotion prospects and job security. We call this factor 'longer term prospects'.[20]

These results suggest that there are in fact three separate sets of factors which determine the job satisfaction of academics. The most important from the viewpoint

[18] In what follows, we will refer to the ten predicted latent satisfaction variables as 'predicted satisfaction variables' for brevity.
[19] It also explains some of the satisfaction with promotion prospects.
[20] Note that promotion prospects also enter into the principal 'non-pecuniary' factor, although with a lower factor loading than the other non-pecuniary factors.

of most economists, namely earnings, is distinct from the other dimensions of the job. Satisfaction with their longer term prospects explains almost as much of the total variation. The majority of the variation in six of the job dimensions is explained by a single common factor, which we call 'satisfaction with non-pecuniary elements of the current job'. It is important to note that these proportions of variance explained are *not* the same as weights – they do not rank the relative importance of these factors. However, the influence of these factors on the likelihood of leaving can be assessed and this is explored in the next section.

5 Factors affecting the likelihood of leaving Higher Education

5.1 Introduction

In this section we examine the influence of reported satisfaction, wage differentials, experience and other characteristics on the likelihood of leaving UK higher education of academics. Our survey asked how likely staff thought it was that they would leave UK higher education[21]. Their responses are summarised in Table 8.

Table 8 Likelihood of moving to another UK university in the next year (%)

How likely will move to another UK university in next year	*Total*
Definitely	2
Very likely or definitely	5
Quite likely, very likely or definitely	15
Neither likely nor unlikely	16
Quite unlikely, very unlikely or definitely not	68
Very unlikely or definitely not	46
Definitely not	17
No answer	2
	100
n	2,788

- *Source: NIESR/DfES Staff Survey, 2004*

[21] Due to concern about the reliability of responses to a question on the likelihood of leaving, respondents were also asked to describe their job search activities. The relationship between responses to these questions and to the likelihood of leaving was tested and the likelihood of leaving reflected job search activity. However, analysis similar to that which follows was conducted using job search activities as the dependent variable. The results were similar (in the same direction) to those using the likelihood of leaving variable, but tended to be insignificant. Therefore, we report the analysis using the likelihood of leaving only.

We will investigate the influence of job satisfaction and a number of other elements on this likelihood leaving by means of ordered probits, as used in the analysis above. The variables included in the analysis are set out in Table 9.

Table 9 Variables used in analysis of likelihood of leaving

Variable	*Description*
w	log of annual earnings
*w**	log of annual earnings would expect to earn if worked outside academia
*No w**	Individual does not report w*
S_1	First factor of satisfaction (non-pecuniary elements)
S_2	Second factor of satisfaction (pecuniary elements)
S_3	Third factor of satisfaction (longer term prospects)
Age 55+	Aged 55 years or over
Non-white	Non-white ethnic group
Female	Female
Married	Married
Female×married	Female interacted with married
Children	Has children aged 16 or under
Female× Children	Female interacted with Children
Num children	Number of children aged 16 or under
Female× Num children	Female interacted with children
EU Pass	Holds non-UK EU or EEA passport
OZNZ	Holds Australian or New Zealand passport
USA	Holds US passport
Foreign	Holds other foreign passport
HQ UG	Highest qualification = UG degree
HQ Masters T	Highest qualification = Taught masters
HQ Masters R	Highest qualification = Masters by research
Study PhD	Is studying part time for PhD
e	Experience. Years employed in higher education
e^2	Experience squared
Break from academe	Has taken career break from academia
Non-UK HE	Has worked in non-UK HE for more than one year
Career change	Has changed career to enter academia
Prof: manager	Occupation prior to HE: Manager or senior official
Prof: prof	Occupation prior to HE: Professional
Prof: assoc	Occupation prior to HE: Associate professional
Prof: admin	Occupation prior to HE: Administrative or secretarial
Prof: other	Occupation prior to HE: Some other job
PT	Working part-time
Non-perm	Not on permanent contract
End of contract	Months to end of contract (fixed-term contracts only)

Variable	*Description*
Staff-type (baseline = teaching staff)	
Researcher-only	Staff type = researcher only
Lecturer/researcher	Staff type = lecturer and researcher
G_{Prof}	Grade = Professor or head of department
G_{SLect}	Grade = lecturer
h_{total}	Total hours worked
$h_{research}$	Hours spent on research
h_{admin}	Hours spent on administration
RAE lowers sat	RAE lowers satisfaction a lot
QAA lowers sat	QAA lowers satisfaction a lot
Policy lowers sat	The general direction of higher education policy lowers satisfaction a lot
Teach no	Would prefer to spend no time teaching
Research all	Would prefer to spend all time on research
Admin no	Would prefer to spend no time on administration
Workload to high	Consider total workload to be very much too high
Not fair	Find decisions on either individual pay, recruitment to senior posts or promotion at current university not at all fair
*RAE 5**	Department rated 5* in last RAE exercise
RAE 5	Department rated 5 in last RAE exercise
RAE 4	Department rated 4 in last RAE exercise
Subject dummies	
University dummies	

5.2 Results

The results of estimating our ordered probit model of the likelihood of leaving UK higher education are presented in Table 10. We estimate four specifications of the model. Because of the large numbers who do not report *w**, the first specification includes a dummy variable for these non-reporters (*No w**) and the second excludes these. The goodness-of-fit statistic suggests that the latter is marginally a better fit to the data. The third specification replaces the *w* and *w** with the second principal component factor from the satisfaction analysis – satisfaction with pecuniary factors (salary and total earnings). The fit of this equation is slightly lower than the first two specifications. Finally, because of the co-linearity between *w* and *w** discussed below, we include a further specification with the difference between current and expected alternative salary, *w*-*w**.

The effect of both current earnings (*w*) and expected non-HE earnings (*w**) on the likelihood of leaving UK HE is negative, with the latter is slightly smaller than the former. One reason for this result is that it is due to the high degree of co-linearity between the two terms – individuals who earn more in UK academia expect to earn more outside of UK academia[22]. Because of this, in the final column of Table 10 we report the results of a specification with the difference between current and expected earnings *w*–*w**. This term is almost always negative[23], implying that most academic staff feel they can earn more outside of UK academia. The sign on coefficient on the wage difference variable is positive, implying that the likelihood of leaving UK academia falls the greater current earnings are relative to expected earnings, the coefficient is, however, not significant. When *w* and *w** are replaced with the satisfaction with earnings factor (factor 2), this is found to be negatively related to the likelihood of leaving – i.e. the more satisfied an academic is with their earnings, the less likely they are to leave.

Turning to the other satisfaction factors, the first factor – satisfaction with non-pecuniary elements of the current job – has a negative and statistically significant effect on the likelihood of leaving UK HE. Thus the more satisfied academics are with the elements of their job such as the actual work itself, relations with managers and colleagues and hours, the less likely they are to leave the sector. This is not true for the third factor – longer term prospects. The effect of this on academics propensity to leave the UK HE appears to be positive – that is, the likelihood of their leaving actually increases with their satisfaction with their longer-term prospects – although the statistical significance of the term is not robust to specification. This result may be because what is important is factors such as the permanency of academics' jobs and the amount a fixed-term contract remaining for non-permanent staff that are the important influences on the likelihood of leaving the sector; both terms are statistically significant and of the expected sign (see below).

In periods of staff shortages, it is common to look abroad for solutions. What implication does this have for the future supply of academics in the UK? Do foreign academics remain? Our results are unambiguous: Academics from other EU (and

[22] A regression of *w** on *w* yields a coefficient on w of 1.03 and an R2 of 0.999.
[23] it is only positive for ten percent of those for whom it can be calculated

EEA) countries, Australia, New Zealand and the US are more likely to leave UK HE than UK (and other foreign) academics. Our results support the hypothesis that these staff enter academic employment in the UK after completing a higher degree in the UK, but ultimately intend to return to their home country. If this is the case, such staff will only represent a short-term solution for lower-level jobs in UK higher education unless they can be persuaded to remain in the UK.

Previous work on employee turnover suggests that the likelihood to leave jobs generally and possibly UK HE in particular would decline with tenure (see Farber, 1999; Gibbons and Waldman, 1999). Our results support this hypothesis, with the likelihood of leaving UK HE falling with experience, although doing so at a decreasing rate. The effect of experience on quits remains declines for the first thirteen to seventeen years, depending on the specification, and remains negative until experience hits the mid to late twenties.

There is evidence that individuals who have had a break in their academic career are more likely to leave again, suggesting that these staff are indeed more peripatetic in nature. This may be because of the individuals' preferences themselves or because they work in an area where there is more flow backwards and forwards between academia and the rest of the economy. There is little evidence that those who have previous experience of working in other countries' HE systems are less likely to leave, *ceteris paribus*, although note that it relates to UK academics; the combined effect of being from another EU or EEA country, Australia, New Zealand or the US and having worked in a foreign HE institution on the likelihood of leaving UK HE is still positive.

Although the effect of the 'longer term prospects' factor on the likelihood of leaving UK academia appeared counter-intuitive, the permanency of academics contracts and the contract time remaining were. Staff on non-permanent contracts are significantly more likely to leave UK HE than their colleagues on permanent ones. Furthermore, as the end of a fixed time contract approaches, there more likely an academic is to leave. The negative significant coefficient on *End of contract* implies that the greater the amount of time left a contract has to run, the less likely the individual is to leave UK HE.

Academics who work longer hours are more likely to leave UK HE, although the statistical significance of this varies across specifications. This is less true for hours of research than hours spent on teaching or admin. Note that this effect on leaving is over and above their influence on job satisfaction.

When we consider the aspects of academic employment that staff feel is important for their satisfaction, we find that few of them appear to affect their likelihood of leaving. Those who say that the RAE, the QAA and the general direction of higher education policy lowers their satisfaction by a lot are no more likely to leave UK HE than those who do not. The exceptions to this are those who feel that their workload is too high and those who feel that decisions on either individual pay, recruitment to senior posts or promotion at their current university not at all fair, who are both more likely to leave UK higher education.

There is evidence that the likelihood of leaving UK higher education is higher in the areas with strongest competition from outside academia. The likelihood of leaving is highest among staff working in other (non-engineering) technology and medicine and dentistry. It is lowest in English literature and other humanities.

There is little difference in the likelihood of leaving UK academia when one compares staff across institutions, *ceteris paribus*, although staff in two of the new universities, one northern and one southern feel that they are more likely to leave.

Table 10 Results – Likelihood of leaving UK higher education

	full	*reduced*	*wage dif*	*wage sat*
w	-0.297* (0.155)	-0.307** (0.155)	-1.446 (0.882)	-0.148*** (0.054)
*w**	-0.221** (0.086)	-0.226*** (0.087)		
*w – w**			0.123 (0.083)	
*No w**	-2.497*** (0.922)			
S_1	-0.776** (0.326)	-0.696** (0.323)	-0.836** (0.325)	-0.838*** (0.325)
S_2				-1.218** (0.505)
S_3	0.711 (0.450)	0.591 (0.446)	0.843* (0.447)	1.029** (0.449)
Age 55+	-0.185*** (0.065)	-0.176*** (0.065)	-0.202*** (0.065)	-0.190*** (0.065)
Non-white	-0.242 (0.203)	-0.164 (0.203)	-0.269 (0.203)	-0.344* (0.204)
Female	0.356 (0.272)	0.270 (0.270)	0.431 (0.270)	0.413 (0.271)
Married	0.126 (0.099)	0.119 (0.098)	0.140 (0.098)	0.127 (0.099)
Female×married	-0.257 (0.159)	-0.224 (0.158)	-0.289* (0.158)	-0.222 (0.162)
Children	-0.090 (0.064)	0.116 (0.144)	-0.101 (0.063)	0.112* (0.064)
Female× Children	-0.107 (0.089)	-0.155 (0.257)	-0.125 (0.089)	-0.109 (0.089)
Num children	-0.078 (0.116)	0.069 (0.063)	-0.061 (0.116)	-0.058 (0.116)
Female× Num children	-0.253 (0.220)	-0.077 (0.089)	-0.307 (0.219)	-0.188 (0.224)
EU Pass	0.293*** (0.092)	0.314*** (0.092)	0.287*** (0.092)	0.296*** (0.091)
OZNZ	0.721*** (0.246)	0.715*** (0.245)	0.697*** (0.242)	0.706*** (0.245)
USA	0.401* (0.231)	0.363 (0.232)	0.408* (0.231)	0.382* (0.231)
Foreign	-0.119 (0.118)	-0.087 (0.120)	-0.117 (0.117)	-0.119 (0.117)
HQ UG	0.111 (0.091)	0.136 (0.091)	0.132 (0.091)	0.104 (0.091)
HQ Masters T	0.173 (0.144)	0.197 (0.143)	0.191 (0.144)	0.165 (0.144)
HQ Masters R	0.162** (0.074)	0.186** (0.075)	0.168** (0.074)	0.166** (0.074)
Study PhD	-0.142 (0.087)	-0.163* (0.088)	-0.124 (0.086)	-0.134 (0.087)
e	-0.026** (0.013)	-0.025** (0.013)	-0.033*** (0.013)	-0.026** (0.013)
e^2	0.001** (0.000)	0.001** (0.000)	0.001*** (0.000)	0.001** (0.000)
Break from academe	0.269*** (0.090)	0.280*** (0.090)	0.259*** (0.089)	0.265*** (0.089)

	full	*reduced*	*wage dif*	*wage sat*
Non-UK HE	-0.172 (0.275)	-0.220 (0.271)	-0.142 (0.272)	-0.162 (0.272)
Career change	-0.029 (0.066)	-0.025 (0.066)	-0.036 (0.066)	-0.035 (0.066)
Prof: manager	0.001 (0.117)	-0.000 (0.116)	-0.004 (0.117)	-0.008 (0.117)
Prof: prof	0.143* (0.074)	0.158** (0.074)	0.139* (0.074)	0.146** (0.074)
Prof: assoc	0.034 (0.105)	0.044 (0.105)	0.046 (0.104)	0.042 (0.104)
Prof: admin	-0.134 (0.150)	-0.143 (0.152)	-0.105 (0.150)	-0.105 (0.151)
Prof: other	0.105 (0.098)	0.118 (0.097)	0.117 (0.097)	0.117 (0.097)
PT	-0.169 (0.125)	-0.193 (0.125)	0.034 (0.108)	-0.190 (0.124)
Non-perm	1.769** (0.694)	1.607** (0.687)	2.043*** (0.685)	2.136*** (0.684)
End of contract	-0.020*** (0.003)	-0.020*** (0.003)	-0.020*** (0.003)	-0.020*** (0.003)
Researcher-only	0.134 (0.097)	0.167* (0.098)	0.159 (0.097)	0.155 (0.097)
Lecturer/researcher	0.187** (0.084)	0.194** (0.083)	0.174** (0.084)	0.175** (0.083)
G_{Prof}	-0.454 (0.469)	-0.348 (0.464)	-0.769* (0.452)	-0.495 (0.470)
G_{SLect}	-0.384 (0.275)	-0.323 (0.273)	-0.508* (0.271)	-0.440 (0.273)
h_{total}	0.541*** (0.200)	0.450** (0.220)	0.318 (0.200)	0.304 (0.213)
$h_{research}$	-0.185*** (0.070)	-0.094 (0.078)	-0.210*** (0.071)	-0.053 (0.076)
h_{admin}	0.277* (0.144)	0.098 (0.155)	0.195 (0.141)	-0.017 (0.150)
RAE lowers sat	0.063 (0.166)	-0.060 (0.081)	0.033 (0.168)	0.056 (0.166)
QAA lowers sat	-0.157 (0.324)	-0.128 (0.110)	-0.142 (0.326)	-0.148 (0.328)
Policy lowers sat	0.000 (0.151)	-0.128* (0.068)	0.007 (0.152)	-0.006 (0.151)
Teach no	0.086 (0.160)	0.121 (0.077)	0.076 (0.158)	0.098 (0.159)
Research all	-0.225* (0.135)	0.084 (0.055)	-0.222* (0.135)	-0.226* (0.135)
Admin no	0.152 (0.097)	0.034 (0.054)	0.155 (0.097)	0.148 (0.096)
Workload to high	0.248*** (0.070)	0.159*** (0.052)	0.249*** (0.070)	0.239*** (0.070)
Not fair	0.268*** (0.055)	0.249*** (0.056)	0.276*** (0.055)	0.261*** (0.055)
*RAE 5**	0.049 (0.115)	0.043 (0.115)	0.043 (0.115)	-0.023 (0.117)
RAE 5	-0.005 (0.096)	-0.008 (0.096)	-0.016 (0.096)	-0.096 (0.100)
RAE 4	-0.212** (0.100)	-0.213** (0.101)	-0.220** (0.100)	-0.263*** (0.101)

	full	*reduced*	*wage dif*	*wage sat*
norae	-0.006 (0.071)	-0.011 (0.072)	0.007 (0.071)	-0.009 (0.071)
Medicine and dentistry	0.351** (0.162)	0.315* (0.162)	0.407** (0.162)	0.311* (0.166)
Biological sciences	0.004 (0.118)	-0.028 (0.118)	0.049 (0.117)	0.018 (0.118)
Agriculture and related subjects	-0.084 (0.205)	-0.089 (0.208)	-0.098 (0.200)	-0.215 (0.208)
Physical sciences	0.474* (0.253)	0.408 (0.252)	0.559** (0.252)	0.640** (0.251)
Mathematical sciences	0.229 (0.164)	0.195 (0.163)	0.269* (0.163)	0.292* (0.164)
Computing sciences	0.126 (0.129)	0.098 (0.130)	0.150 (0.129)	0.237* (0.134)
Engineering	0.055 (0.138)	0.067 (0.138)	0.058 (0.138)	0.068 (0.139)
Other technology	1.090*** (0.403)	1.007** (0.399)	1.188*** (0.398)	1.282*** (0.405)
Architecture and planning	-0.480 (0.305)	-0.446 (0.301)	-0.463 (0.307)	-0.541* (0.307)
Social studies	-0.431** (0.192)	-0.411** (0.191)	-0.445** (0.192)	-0.439** (0.192)
Business and admin. studies	-0.118 (0.143)	-0.116 (0.141)	-0.129 (0.142)	-0.181 (0.144)
Librarianship & info. science	-0.812 (0.531)	-0.851 (0.528)	-0.851 (0.529)	-0.783 (0.532)
English lit. And classics	-0.516*** (0.193)	-0.556*** (0.189)	-0.454** (0.192)	-0.432** (0.192)
Modern languages	0.086 (0.327)	0.020 (0.328)	0.199 (0.327)	0.135 (0.325)
Other humanities	-0.496*** (0.185)	-0.484*** (0.183)	-0.482*** (0.185)	-0.469** (0.186)
Art and design	-0.392 (0.256)	-0.405 (0.258)	-0.351 (0.253)	-0.461* (0.256)
Education	0.308** (0.135)	0.291** (0.134)	0.307** (0.134)	0.356*** (0.136)
Combined studies	0.340 (0.246)	0.288 (0.243)	0.405* (0.244)	0.425* (0.244)
Old Sth uni 1	0.352* (0.194)	0.308 (0.193)	0.380* (0.194)	0.304 (0.196)
New Sth uni 1	0.038 (0.158)	0.026 (0.158)	0.020 (0.156)	0.122 (0.164)
New Lon uni	-0.117 (0.126)	-0.140 (0.127)	-0.132 (0.127)	-0.147 (0.126)
New Sth uni 2	0.068 (0.120)	0.033 (0.119)	0.075 (0.120)	0.077 (0.120)
Old Lon uni	0.262 (0.173)	0.228 (0.172)	0.255 (0.172)	0.206 (0.175)
New Nth uni	0.536* (0.279)	0.461* (0.277)	0.658** (0.275)	0.641** (0.276)
New Sth uni 3	0.398* (0.209)	0.343* (0.208)	0.436** (0.208)	0.384* (0.210)
Old Nth uni	-0.088 (0.084)	-0.099 (0.084)	-0.091 (0.083)	-0.107 (0.084)
New Nth uni 2	-0.088	-0.124	-0.029	-0.041

	full	*reduced*	*wage dif*	*wage sat*
	(0.211)	(0.209)	(0.209)	(0.209)
τ_1	-7.538*** (1.789)	-7.601*** (1.794)	-2.301*** (0.701)	-3.362*** (0.825)
τ_2	-6.544*** (1.787)	-6.602*** (1.793)	-1.310* (0.700)	-2.369*** (0.824)
τ_3	-5.951*** (1.787)	-6.007*** (1.793)	-0.718 (0.700)	-1.777** (0.824)
τ_4	-5.380*** (1.788)	-5.437*** (1.793)	-0.149 (0.701)	-1.208 (0.825)
τ_5	-4.837*** (1.787)	-4.893*** (1.793)	0.392 (0.700)	-0.667 (0.825)
τ_6	-4.539** (1.787)	-4.594** (1.793)	0.688 (0.703)	-0.370 (0.827)
Observations	2312	2312	2312	2312
LL	-3699.2	-3692.9	-3705.0	-3703.0
M&Z R^2	0.195	0.200	0.190	0.192

Standard errors in parentheses
** significant at 10%; ** significant at 5%; *** significant at 1%*

6 Conclusion

We have analysed the determinants of satisfaction of academic staff with a number of elements of satisfaction. Our results support the finding of Ward and Sloane (2000) that there is no significant difference in the job satisfaction of male and female academics. Satisfaction with the non pecuniary aspects of the academic job tends to decrease with seniority in the early years of careers, but increase later on. This relationship does not hold for the salary or total earnings of academics. Professors, and to a lesser extent senior lecturers, are on the whole happier in their jobs than lower grades. Staff on non-permanent contracts are significantly less satisfied with a number of elements of their job, although not their earnings. This result provides an explanation for reports that staff on fixed contracts are hard to retain and may even be leaving the sector altogether (Bett, 1999).

The results of our factor analysis suggest that one would be wrong to consider one single measure of job-satisfaction. Academics appear to be considering three separate sets of elements of their jobs, namely the pecuniary factors (both the salary and the ability to earn money from additional work.

We also investigated the effects of satisfaction on academic staff's reported intentions to leave UK higher education. We found that dissatisfaction with both the

pecuniary and the non-pecuniary elements of the job does indeed increase the likelihood of leaving. The effect of satisfaction with longer term prospects is ambiguous, and possibly positive.

Academics from other EU (and EEA) countries, Australia, New Zealand and the US are more likely to leave UK HE than UK (and other foreign) academics. Our results support the hypothesis that these staff enter academic employment in the UK after completing a higher degree in the UK, but ultimately intend to return to their home country. If this is the case, such staff will only represent a short-term solution for lower-level jobs in UK higher education unless they can be persuaded to remain in the UK.

As one would expect, the likelihood of leaving UK HE falling with experience, although doing so at a decreasing rate. The effect of experience on quits declines for the first thirteen to seventeen years, depending on the specification, and remains negative until experience hits the mid to late twenties.

Individuals who have had a break in their academic career are more likely to leave again, suggesting that these staff are indeed more peripatetic in nature. This may be because of the individuals' preferences themselves or because they work in an area where there is more flow backwards and forwards between academia and the rest of the economy. It would be useful to investigate further the causes for greater movement. Staff on non-permanent contracts are significantly more likely to leave UK Higher Education than their colleagues on permanent ones. Furthermore, as the end of a fixed time contract approaches, there more likely an academic is to leave.

Academics who work longer hours are more likely to leave UK Higher Education, although the statistical significance of this varies across specifications, an effect that is over and above their direct influence on job satisfaction. This is less true for hours of research than hours spent on teaching or admin. Those who feel that their workload is too high and those who feel that decisions on either individual pay, recruitment to senior posts or promotion at their current university not at all fair, who are both more likely to leave UK higher education. There is some evidence that the likelihood of leaving UK Higher Education is higher in the areas with strongest competition from outside academia. The likelihood of leaving is highest among staff

working in other (non-engineering) technology and medicine and dentistry. It is lowest in English literature and other humanities.

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