NOTTINGHAM
TRENT UNIVERSITY

DISCUSSION PAPERS

IN

ECONOMICS

MULTIPLE JOB HOLDING IN THE UNITED KINGDOM: EVIDENCE FROM THE BRITISH HOUSEHOLD PANEL SURVEY

Zhongmin WU, Mark BAIMBRIDGE and Yu ZU

January 2008

DISCUSSION PAPERS IN ECONOMICS

The economic research undertaken at Nottingham Trent University covers various fields of economics. But, a large part of it was grouped into two categories, *Applied Economics and Policy* and *Political Economy*.

This paper is part of the new series, ***Discussion Papers in Economics***.

Earlier papers in all series can be found at:

http://www.ntu.ac.uk/research/academic_schools/nbs/working_papers/index.html

Enquiries concerning this or any of our other Discussion Papers should be addressed to the Editor:

Dr Juan Carlos Cuestas
Division of Economics
Nottingham Trent University
Burton Street
Nottingham, NG1 4BU
UNITED KINGDOM
Email: juan.cuestas@ntu.ac.uk

Multiple Job Holding in the United Kingdom:

Evidence from the British Household Panel Survey

Zhongmin Wu[*][a], Mark Baimbridge[b], and Yu Zhu[c]

[a] Nottingham Business School, Nottingham Trent University, Nottingham NG1 4BU UK
[b] School of Social & International Studies, University of Bradford, Bradford BD7 1DP UK
[c] Department of Economics, University of Kent, Canterbury CT2 7NP UK

Abstract. This paper examines the determinants of multiple job holding in the United Kingdom. We address these issues using data from the first eleven waves of the British Household Panel Survey, which covered the period from 1991 to 2001. Evidence from the BHPS does not support the hypotheses of main job hours constrained and main job insecurity. We argue that the incentive for moonlighting in the United Kingdom is due to financial pressures and the desire for heterogeneous jobs. The empirical work is carried out separately for men and women.

JEL classification: J22, J23

Key words: Moonlighting, Labour supply, Tobit model, Job satisfaction, the BHPS

1. Introduction

Evidence from the eleventh wave of the British Household Panel Survey (BHPS) indicates that in 2001 approximately 10.5% of British workers held second jobs, while 56.6% of British people held main jobs (Table 1). Given that there were 27.5 million workers in the UK in 2001 (ONS 2003), it is estimated that approximately 2.888 million workers were engaged in multiple job holding in the UK in 2001. This far exceeds official figure of 1.158 million workers with second jobs (ONS, 2003), which is based on the Quarterly Labour Force Survey (QLFS). The large disparity between is mostly likely driven by the differences in the reference period across the two datasets: whereas the BHPS asks people about their second jobs in the last calendar month, the second jobs in the QLFS refer to jobs in the reference week (week ending last Sunday).

However, limited attention has been focused on examining the determinants of multiple job holding, for instance, UK research over the last 20 years is confined to the studies of Bell *et al*. (1997), Boheim and Taylor (2003) and Heineck and Schwarze (2004). Similarly, there is a paucity of contemporary research work on multiple job holding in other countries, most notably the United States (Shishko and Rostker, 1976; Hunt *et al*., 1985; Paxson and Sicherman, 1996; Averett, 2001; Partridge, 2002), Canada (Weersink *et al*., 1998), Poland (Bedi, 1998), Sweden (Lundborg, 1995), Italy (Masi, 1987), Yugoslavia (Reilly and Krstic, 2003), Russia (Foley, 1997) and France (Menger, 1999).

Hence, given both the contradiction between reality and official statistics, together with relatively little academic attention, this study seeks to shed light on the issue of who moonlights and why do some people choose to do so.

To answer this question there are four main hypotheses. Firstly, the main job hours constrained model is where an individual's willingness to take a second job depends on whether they can work enough hours at their prevailing primary wage rate to satisfy their income goals (Shishko and Rostker, 1976). Therefore, individuals take a second job in addition to their main job because their employers do not, for various reasons, offer enough hours on the main job. In relation to this, Friesen (2001) shows that the constraints created by overtime pay regulation appear to induce a considerable number of workers to take up a second job. Thus, hours constraint models assume that

the main job wage exceeds the second job wage, creating a convex kink in the budget constraint due to the hours constraint on the main job (Foley, 1997).

Secondly, the heterogeneous jobs model hypothesis suggests that labour supplied to different jobs may not be perfect substitutes or, put differently, the wage paid and utility lost from the foregone leisure may not completely reflect the benefits and costs of working (Conway and Kimmel, 1998). Therefore, the incentive for moonlighting is that having two jobs enables individuals to engage in activities of particular interest to them.

Thirdly, the main job insecurity model hypothesis is where an individual may hold a second job if they believe that their main job has a high risk of termination. Thus a second job may cushion the financial impact of losing their main source of earnings, especially if there is scope for increasing the number of hours worked in the second job. Therefore, multiple job holding may be a response to perceived job insecurity and may be a "hedge against unemployment" (Bell *et al.*, 1997). Alternatively, multiple job holding may be used as a way of smoothing uncertain incomes[1].

Finally, workers in jobs associated with non-pecuniary benefits are more prone to moonlighting whereby if earnings fall for such jobs, it is rational to have two jobs (Lundborg, 1995). In contrast, for jobs with no non-pecuniary benefits a fall in earnings causes a rational worker to leave that employment altogether. Consequently, we have the so-called target income model, in which the individual determines their allocation of work on different jobs to reach a certain income level.

The purpose of this paper is to examine the determinants of UK multiple job holding. Firstly, we investigate how many moonlighters there are in the United Kingdom and what activities they engage in for their second jobs. Secondly, we compare moonlighter to main job holder in terms of income, main job satisfaction, education, location, and main job occupation. Thirdly, we examine what characteristics of their main jobs favour or encourage moonlighting and what personal or family characteristics of the individuals increase the propensity for second job holding. We address these issues using data from the initial eleven waves (1991-2001) of the BHPS, with empirical work carried out separately for both men and women.

The remainder of this paper is organised as follows. Section two presents stylised facts about moonlighting in the UK. Section three develops a theoretical model to guide the empirical work. Section four discusses the data and the empirical results. Section five offers a brief conclusion.

2. Stylised facts of UK moonlighting

According to the BHPS, from 1991 to 2001, on average, main job holders (single and multiple job holders combined) worked 33.78 hours per week for their main jobs, which included both full-time and part-time work. In the same period, moonlighters worked 25.42 hours per month for their second jobs. The average number of hours worked for the main job (per week) was almost constant over the eleven waves, but the average number of hours worked for the second job (per month) varied over the eleven waves (Figure 1).

Figure 1
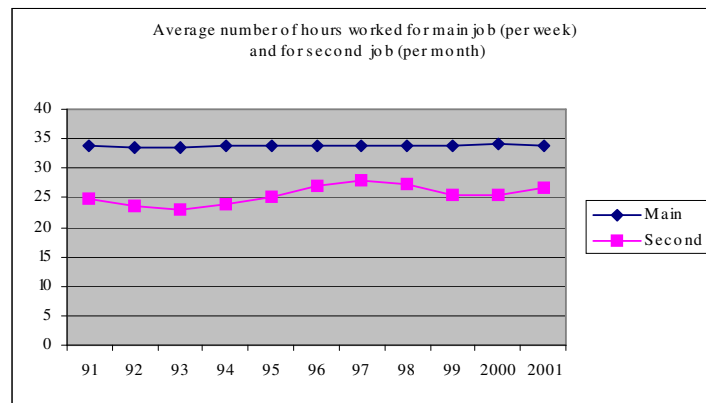
Source: Codebook, Wave 1 to 11, the British Household Panel Survey

In terms of remuneration, real pay per week for the main job, on average, increased from £220.43 in 1991 to £243.81 in 2001, a rise of 10.61 percent. In contrast, real earnings per month from the second job rose, on average, from £181.38 in 1991 to £185.78 in 2001 (a weekly equivalent of £41.89 and £42.91 respectively), an increase of only 2.43 percent (Figure 2). Thus not only are real earnings from second jobs less than those from the main job by a magnitude of some 80 percent, but there rate of increase over the period examined was also substantially smaller at approximately one-fifth of the rate for the main job.

4

Figure 2

Real pay for main job (per week)
and for second job (per month)
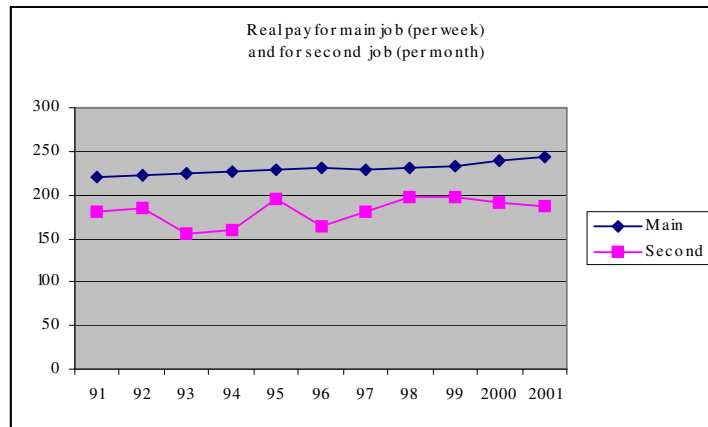
Source: Codebook, Wave 1 to 11, the British Household Panel Survey

A reversal in the above trends occurs, however, when examining part-time employment. Of the total workforce, some 12.6% of main job holders were self-employed on their main job, whereas 45.3% of moonlighters were self-employed on their second job (Figure 3).

Figure 3

Proportions of self employed in total employment

Source: Codebook, Wave 1 to 11, the British Household Panel Survey

Table 1 reports the numbers of main job holders and moonlighters from the initial eleven BHPS waves, whereby 7.8% of people held a second job whilst 56.5% of people held a main job. In terms of the nature of employment, almost half of moonlighters are self-employed on their second job. However, available data indicates that nearly 90% of moonlighters undertake their main job as an employee, while only just over 10% of moonlighters do their main job as self-employed. Hence,

5

moonlighters mainly work as employees rather than self-employed for their main job, while half of them work as self-employed on their second job.

Analysis by gender indicates that whilst 53.5% of total observations were female, they only account for 47.4% of main jobholders, reflecting the fact that women's overall participation rate is still much lower than that of men. Of the total of main job holder employees, 51% were female, but only 27.4% of self-employed people were female, suggesting that either women prefer to be employed rather than self-employed compared with men, or possess little other choice. However, more women take second jobs than men do, since 54.7% of the moonlighters were female. Again, while 62.1% of employed moonlighters were female, they only make up 46.2% of self-employed moonlighters reinforcing the notion that women prefer not to be self-employed, whether for the main job or for the second job.

Table 1. Number of Main Job Holders and Moonlighters

	Total observations	Total observations (Female)	Main job holders	Main job holders (Female)	Second job holders	Second job holders (Female)
Wave1	10264	5431	5794	2671	805	452
Wave2	9845	5215	5480	2550	760	434
Wave3	9600	5124	5390	2558	759	433
Wave4	9481	5041	5371	2530	806	450
Wave5	9249	4929	5295	2503	822	448
Wave6	9438	5003	5465	2586	877	476
Wave7	11193	5981	6353	2993	1033	569
Wave8	10906	5851	6288	2997	923	503
Wave9	15625	8436	8749	4215	1113	581
Wave10	15605	8427	8793	4229	1075	592
Wave11	18869	10238	10576	5170	1110	580
Total	130077	69678	73556	34941	10084	5519

Source: Codebook, Wave 1 to 11, the British Household Panel Survey

Finally, over the initial eleven waves of the BHPS, some 9,888 second job holders reported their second job occupations, and only 1,136 moonlighters reported their occupations as being the same as their main job occupations. Medical practitioners, nurses, motor mechanics, auto engineers, carpenters and joiners, cleaners and

domestics, together with authors, writers and journalists are more likely to take two similar jobs. Whilst the BHPS indicates that more than 88.5% of moonlighters have second jobs that are different from their main jobs which significantly exceeds that reported in the US (Paxson and Sicherman, 1996). Consequently, these facts would appear to lend more credibility to the existence of the heterogeneous jobs hypothesis in the UK.

3. The theoretical model

The theoretical framework for identifying the determinants of multiple job holding is well known (Shishko and Rostker, 1976; Krishnan, 1990; Ballou, 1995; Bell *et al.*, 1997; Foley, 1997; Conway and Kimmel, 1998).

Consider a representative individual with a well-behaved utility function

$$Utility = U(C, L) \qquad (1)$$

where C is a composite consumption good and L is leisure. Suppose each person holds a main job and supplies h_1 hours of work at wage rate w_1, which the main job holder is powerless to affect. The number of hours worked at a second job h_2 depends on the wage rate w_2, which the second job holder is also powerless to affect. The worker faces a budget constraint restricting the level of consumption of C to the sum of all labour and non-labour income.

The utility function written in Eq. (1) is maximized subject to both a budget and a time constraint, or

$$C = w_1 h_1 + w_2 h_2 + Y \qquad (2)$$

and

$$T = h_1 + h_2 + L \qquad (3)$$

Where Y is non-wage income and T is the total amount of time available. Substituting Eqs. (2) and (3) into (1) gives the utility maximisation problem that the individual faces:

$$\underset{h_1, h_2}{Max} : U(C, L) = U(w_1 h_1 + w_2 h_2 + Y, \ T - h_1 - h_2) \qquad (4)$$

Where h_1 and h_2 are two choice variables. The first order condition gives us the two necessary conditions:

$$\frac{\partial U}{\partial h_1} = \frac{\partial U}{\partial C}\frac{\partial C}{\partial h_1} + \frac{\partial U}{\partial L}\frac{\partial L}{\partial h_1} = w_1\frac{\partial U}{\partial C} - \frac{\partial U}{\partial L} = 0$$

$$\frac{\partial U}{\partial h_2} = \frac{\partial U}{\partial C}\frac{\partial C}{\partial h_2} + \frac{\partial U}{\partial L}\frac{\partial L}{\partial h_2} = w_2\frac{\partial U}{\partial C} - \frac{\partial U}{\partial L} = 0$$

(5)

On the conditions of both a budget and a time constraint from Eq. (2) and Eq. (3), we have $w_2 = \frac{\partial U}{\partial L} \Big/ \frac{\partial U}{\partial C}$. If $w_2 > \frac{\partial U}{\partial L} \Big/ \frac{\partial U}{\partial C}$, then the number of hours worked in the second job will increase. If $w_2 < \frac{\partial U}{\partial L} \Big/ \frac{\partial U}{\partial C}$, then the number of hours worked in the second job will decrease. The same analysis applies for the main job. Eq. (5) implies that $w_1 = w_2$ under a long-term general equilibrium condition. When $w_1 > w_2$, the most important reason for moonlighting is due to main job hours being constrained (hypothesis one). However, when $w_1 < w_2$, that is, the wage rate of the second job is greater than the wage rate of the main job, moonlighting has a strong tendency to continue.

4. Data and empirical results

The sample used in this paper includes all adults in the first eleven waves of the BHPS covering the period from 1991 to 2001. The BHPS is suitable for studying multiple job holding since, in each wave, five questions relating to an individual's second job were asked:

1. Do you currently earn any money from a second job or from work that you might do from time to time apart from your main job?
2. What is it that you do and what does the firm or person you work for make or do?
3. Are you an employee or self-employed?
4. How many hours do you usually work a month in your second job, excluding meal breaks but including any overtime you might do?
5. Before tax and other deductions how much did you earn from your second and all other occasional jobs in the last calendar month?

More questions relating to an individual's main job were asked in the BHPS, *inter alia*:

8

1. Did you do any paid work last week – either as an employee or self-employed?

2. What was your main job last week? Please tell me the exact job title and describe fully the sort of work you do.

3. What does the firm/organisation you work for actually make or do (at the place where you work?)

4. Are you an employee or self-employed?

5. How satisfied or dissatisfied are you with particular aspects of your own present job? a) The total pay, including any overtime or bonus. b) Your job security. c) The actual work itself. d) The hours you work. e) All things considered, how satisfied or dissatisfied are you with your present job overall using a 1 – 7 scale?

6. What type of organisation do you work for in your main job?

7. Thinking about your main job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?

8. Is your job a permanent job or not?

9. Are you a member of a trade union/association?

Additionally, many questions regarding personal or family characteristics of the individuals are also contained in the BHPS relating to education, location, number of children, marriage, health, age and time spent travelling to work for the main job. These provide us with a suitable data set for assessing UK multiple job holding.

Table 2 defines the dependent and independent variables, whilst summary statistics of the sample are detailed in Table 3 for men and women. The first column describes the sample of moonlighters, the second column describes the sample of main job holders and the third column describes the full sample.

Averett (2001) points out that when studying moonlighting behaviour one must be careful about the tendency of moonlighters to fail to report their income. However, over the eleven waves of the BHPS, 4,663 workers (10,084 observations) reported that they had a second job and 4,301 workers (8,889 observations) reported their second job pay. Thus although 11.85% of moonlighters did not report their income, this did not just apply to second job holders as 17,702 workers (73,556 observations) reported that they have a main job, but 15,304 workers (61,733 observations) reported their main job salary. Hence, some 16.07% of main job holders failed to report their income from their main job. It therefore appears that the proportion of people failing

to report their income were consistent between the main and second job holders. Thus there appears no special tendency for UK moonlighters to fail to report their income.

A further consideration is that second jobs, on average, yield a much higher wage rate than main jobs (Foley, 1997). This begs the question why do workers who earn a higher wage in their second job not take it as their main job. One possible explanation is that so many of the second-jobs are in self-employment[2]. Moreover, an exclusive focus on the mean wage ratio might be misleading if the distribution is highly skewed. In the US, the mean ratio of second job wage to main job wage is 1.839 for men and 1.715 for women with the median wage ratios being 1.05 and 1.00 respectively (Paxson and Sicherman 1996). Our own calculation based on the BHPS reveals that for the UK the mean ratio of second job wage to main job wage is 2.02 for men and 1.52 for women whilst the median ratios were 0.81 and 0.76 respectively. Hence, on average, the second job wage is much higher than the main job wage. However, if we exclude the wages of the top 5% of moonlighting earners, the mean second job wage is lower than the mean main job wage indicating that the main body of moonlighters are poorer rather than richer. In the case of an hours constrained moonlighter, the wage rate on the main job will be higher than the wage rate on the second job. However, in the case of an individual moonlighter for any reason other than hours constraint, the wage rate on the second job will not necessarily be lower than the wage rate on the main job (Averett 2001). Indeed, the BHPS indicates that over 70% of male and some 65% of female moonlighters earn more on their second jobs than their main jobs, suggesting a lack of support for the first hypothesis, namely that British moonlighters are motivated by having their main job hours constrained.

In relation to the second group of explanatory variables, the job satisfaction variables are derived from the BHPS with workers reporting in scales 5, 6 and 7 grouped as satisfied, while others are grouped as non-satisfied. However, it is important to note the presence of a participation effect whereby for cultural reasons, women who are dissatisfied at work may find it easier to leave the labour force than their male equivalents. Thus, satisfied women workers may be a statistical construct, as more of the women who would be dissatisfied at work are not working (Clark, 1996). Additionally, Booth *et al*. (2002) find that, in general terms that seasonal-casual men and women are significantly less likely to be satisfied with their jobs than permanent workers. However, no difference in overall job satisfaction emerges between workers in permanent jobs and those on fixed-term contracts. When

considering the different aspects of job satisfaction separately, Booth *et* al. (2002) find that temporary workers are less satisfied than permanent workers, who have promotion prospects and job security. Hence, the image of the worker with a second job is not that of someone who is necessarily satisfied with the world of work, consequently, they potentially possess an exaggerated tendency to report lower levels of job satisfaction, but this is less significant than their dissatisfaction with pay (Clark 1996).

We estimate the moonlighting labour supply equation via a Tobit Model separately for men and women using the maximum likelihood estimation (Greene, 2000). Tables 4 and 5 report the results of a Tobit work hours equation for male and female moonlighters with and without wave dummy variables. As Conway and Kimmel (1998) point out, given the large proportion of non-moonlighters, one would expect the participation decision to dominate the hours supplied decision in a Tobit model. To explore the robustness of the results to alternative techniques, we also estimate Probit Model and Logit Model[3] in light of previous studies such as Averett (2001) which estimates a bivariate probit model and finds that the determinants of dual-job holding are fairly similar both for men and women.

In terms of what affects moonlighters' decisions to devote time and effort to their second jobs? Tables 4 and 5 indicate that income is a consistently significant criterion. The decision to moonlight involves a trade-off between income and leisure, whereby higher second job wages (J2WAGE) increase the labour supply of second jobs both for men and women, so that the substitution effect dominates the income effect. The labour supply curve of second jobs, however, has not reached the point of backward bending, although the average second job wage is much higher than the average main job wage (see Table 3). Higher main job wages reduce the incentive for moonlighting, by decreasing the labour supply for second jobs. Furthermore, higher levels of wealth and non-labour income (WEALTH) for all workers appear to increase the reservation wage, thereby lowering the propensity to take second jobs.

Table 2: Definitions of dependent and explanatory variables

Variable name	Variable label
J2hours	Number of hours worked per month for second job
J2wage	Hourly real wage rate for second job
Jbwage	Hourly real wage rate for main job
Wealth	Annual non-labour real income
Satpay	Satisfied with total pay of main job
Satsecurity	Satisfied with job security of main job
Satwork	Satisfied with actual work itself of main job
Sathour	Satisfied with work hours of main job
Satall	Satisfied with all things of present main job
Travel	Minutes spent travelling to work for main job
Children	Number of children in household
Married	The person is married
Ownhealth	The person has excellent / good health
Age	Age at date of interview
Degree	First and higher degree, teaching qualification
GCSE	GCE O Levels / CSE
Alevel	A Levels
Otherhi	Other higher qualification
Permanent	Current main job: permanent
Public	Current main job: work for public sector
Fulltime	Current main job: working hours is more than 30 per week
Union	A member of trade union/association
London	The region is London
Southeast	The region is Southeast
Southwest	The region is Southwest
Eastern	The region is East Anglia and East Midlands
Westmidlands	The region is West Midlands
Northwest	The region is Manchester, Merseyside and rest of Northwest
North	The region is Yorkshire and rest of North
Agriculture	Current main job: in agriculture sector
Manufacturing	Current main job: in manufacturing sector
Hotels	Current main job: in hotels sector
Transport	Current main job: in transport sector
Finance	Current main job: in finance sector
Business	Current main job: in business sector
Publicadmin	Current main job: in public administration sector
Education	Current main job: in education sector
Health	Current main job: in health sector
Community	Current main job: in community sector
Households	Current main job: in households sector

Table 3 Variable Means

	Men			Women		
	Moonlighters (j2wage>0)	Main Job holders (jbwage>0)	Full Sample	Moonlighters (j2wage>0)	Main Job holders (jbwage>0)	Full Sample
J2hours	28.62	2.277	1.855	24.48	2.605	1.741
J2has	1	0.093	0.076	1	0.110	0.079
J2wage	15.88	1.135	0.933	8.780	0.827	0.581
Jbwage	4.417	7.782	3.732	3.558	5.723	2.607
Wealth	1362	641.9	2244	1321	1016	2159
Satpay	0.379	0.624	0.328	0.462	0.675	0.329
Satsecurity	0.473	0.715	0.374	0.537	0.779	0.378
Satwork	0.510	0.788	0.414	0.595	0.831	0.405
Sathour	0.451	0.685	0.359	0.558	0.779	0.379
Satall	0.498	0.769	0.404	0.599	0.843	0.410
Travel	14.16	23.79	12.43	12.54	20.06	9.744
Children	0.724	0.701	0.578	0.805	0.672	0.619
Married	0.489	0.562	0.573	0.486	0.554	0.521
Ownhealth	0.712	0.712	0.641	0.686	0.679	0.595
Age	36.03	36.58	43.76	35.92	36.95	45.35
Degree	0.175	0.166	0.123	0.169	0.158	0.117
GCSE	0.281	0.258	0.214	0.295	0.293	0.239
Alevel	0.143	0.148	0.124	0.132	0.131	0.103
Otherhi	0.232	0.251	0.202	0.179	0.173	0.124
Permanent	0.699	0.926	0.577	0.640	0.905	0.469
Public	0.161	0.177	0.094	0.244	0.314	0.156
Fulltime	0.545	0.914	0.501	0.266	0.547	0.269
Union	0.166	0.256	0.132	0.141	0.247	0.119
London	0.091	0.081	0.081	0.087	0.088	0.083
Southeast	0.214	0.170	0.159	0.239	0.177	0.158
Southwest	0.090	0.083	0.081	0.089	0.075	0.077
Eastern	0.133	0.112	0.112	0.124	0.103	0.104
Westmidlands	0.076	0.079	0.077	0.068	0.076	0.075
Northwest	0.061	0.091	0.091	0.079	0.091	0.090
North	0.118	0.136	0.134	0.109	0.132	0.133
Agriculture	0.028	0.015	0.019	0.012	0.006	0.005
Manufacturing	0.153	0.294	0.170	0.059	0.115	0.060
Hotels	0.029	0.034	0.023	0.065	0.075	0.042
Transport	0.045	0.084	0.055	0.019	0.033	0.017
Finance	0.023	0.039	0.021	0.018	0.048	0.024
Business	0.065	0.089	0.065	0.055	0.076	0.043
Publicadmin	0.063	0.080	0.043	0.035	0.066	0.033
Education	0.062	0.042	0.026	0.129	0.125	0.065
Health	0.033	0.022	0.014	0.077	0.108	0.055
Community	0.073	0.045	0.034	0.107	0.112	0.062
Households	0.012	0.005	0.006	0.042	0.021	0.017
Observations	3550	28968	60399	4610	31736	69678

Table 4 Random-effects Tobit Regression for Men

J2hours	With wave dummy		Without wave dummy	
	Coef.	Std. Err.	Coef.	Std. Err.
J2wage	0.034***	0.002	0.034***	0.002
Jbwage	-0.010	0.010	-0.010	0.010
Wealth	-0.00002*	0.00001	-0.00002*	0.00001
Satpay	-0.396***	0.124	-0.389***	0.124
Satsecurity	0.032	0.126	0.056	0.126
Satwork	0.217	0.153	0.215	0.153
Sathour	0.351***	0.128	0.353***	0.128
Satall	-0.175	0.162	-0.169	0.163
Travel	-0.001	0.003	-0.001	0.003
Children	0.113**	0.056	0.114**	0.058
Married	-0.007	0.123	-0.023	0.123
Ownhealth	0.161	0.102	0.092	0.085
Age	-0.031***	0.004	-0.030***	0.004
Degree	0.696***	0.203	0.747***	0.203
GCSE	0.739***	0.160	0.763***	0.159
Alevel	0.829***	0.184	0.871***	0.184
Otherhi	0.841***	0.163	0.878***	0.162
Permanent	0.410***	0.134	0.381***	0.134
Public	0.811***	0.218	0.789***	0.217
Fulltime	-0.822***	0.145	-0.813***	0.145
Union	0.189	0.149	0.257*	0.146
London	0.368	0.235	0.420*	0.231
Southeast	0.759***	0.185	0.825***	0.180
Southwest	0.598**	0.237	0.660***	0.233
Eastern	0.616***	0.208	0.694***	0.205
Westmidlands	-0.232	0.248	-0.168	0.246
Northwest	-0.352	0.233	-0.298	0.229
North	-0.129	0.202	-0.078	0.198
Agriculture	1.256***	0.355	1.268***	0.355
Manufacturing	-0.173	0.151	-0.183	0.151
Hotels	-0.373	0.302	-0.360	0.302
Transport	-0.442*	0.226	-0.458**	0.226
Finance	-0.423	0.355	-0.450	0.355
Business	-0.124	0.199	-0.122	0.199
Publicadmin	0.437	0.290	0.404	0.289
Education	1.021***	0.350	0.996***	0.349
Health	1.233***	0.444	1.215***	0.444
Community	1.187***	0.258	1.191***	0.258
Households	1.688***	0.579	1.697***	0.249
Sigma_u	4.897***	0.062	4.901***	0.062
Sigma_e	8.477***	0.027	8.479***	0.027
Rho	0.250	0.005	0.250	0.005
Log likelihood	-220911.39		-220932.96	
Wald chi2	714.55***		670.80***	
Prob > chi2	0.0000		0.0000	
Number of obs		60399		
Number of groups		12931		
Obs per group: min		1		
Obs per group: avg		4.7		
Obs per group: max		11		

Note: * p<0.10; ** p<0.05; *** p<0.01. Sigma_u and sigma_e denote the panel-level variance component and the overall variance respectively. Rho is the percent contribution to the total variance of the panel-level variance component. When rho equals zero, the panel estimator is no different from the pooled estimator.

Table 5 Random-effects Tobit Regression for Women

J2hours	With wave dummy Coef.	With wave dummy Std. Err.	Without wave dummy Coef.	Without wave dummy Std. Err.
J2wage	0.137***	0.005	0.137***	0.005
Jbwage	-0.021	0.013	-0.022*	0.013
Wealth	-0.00005***	0.00001	-0.0001***	0.00001
Satpay	-0.093	0.110	-0.117	0.109
Satsecurity	0.038	0.119	0.039	0.119
Satwork	0.571***	0.148	0.594***	0.148
Sathour	0.339***	0.123	0.340***	0.123
Satall	-0.148	0.160	-0.149	0.160
Travel	-0.006**	0.003	-0.006**	0.003
Children	-0.188***	0.048	-0.194***	0.047
Married	-0.391***	0.091	-0.392***	0.091
Ownhealth	0.065	0.083	0.114	0.071
Age	-0.035***	0.003	-0.036***	0.003
Degree	0.413**	0.166	0.386**	0.165
GCSE	0.387***	0.125	0.394***	0.125
Alevel	0.762***	0.159	0.766***	0.158
Otherhi	0.834***	0.148	0.793***	0.147
Permanent	0.272**	0.129	0.249*	0.129
Public	0.847***	0.165	0.858***	0.164
Fulltime	-1.622***	0.113	-1.634***	0.113
Union	-0.242*	0.137	-0.186	0.135
London	0.008	0.187	0.207	0.183
Southeast	1.114***	0.149	1.310***	0.145
Southwest	0.421**	0.194	0.608***	0.191
Eastern	0.466***	0.172	0.661***	0.169
Westmidlands	-0.088	0.196	0.109	0.193
Northwest	0.179	0.183	0.374**	0.179
North	-0.188	0.160	0.005	0.157
Agriculture	2.820***	0.565	2.829***	0.565
Manufacturing	0.188	0.183	0.208	0.183
Hotels	0.298	0.193	0.313	0.193
Transport	0.774**	0.301	0.769**	0.301
Finance	-0.229	0.284	-0.212	0.284
Business	0.275	0.202	0.287	0.202
Publicadmin	-0.183	0.269	-0.208	0.269
Education	0.856***	0.217	0.842***	0.216
Health	0.537**	0.218	0.517**	0.217
Community	1.029***	0.179	1.029***	0.179
Households	0.919***	0.302	0.931***	0.302
Sigma_u	3.746***	0.049	3.744***	0.049
Sigma_e	7.961***	0.023	7.966***	0.023
Rho	0.181	0.004	0.181	0.004

Log likelihood	-248322.84	-248359.24
Wald chi2	1825.66***	1752.43***
Prob > chi2	0.0000	0.0000
Number of obs	69678	
Number of groups	14470	
Obs per group: min	1	
Obs per group: avg	4.8	
Obs per group: max	11	

Note: * p<0.10; ** p<0.05; *** p<0.01. For definitions of Sigma_u, sigma_e and rho, see note of Table 4.

Workers satisfied with their main job work hours (SATHOUR) are more likely to take second jobs. However, these do not suggest that British moonlighting is due to an hours constraint of main jobs. Male workers who are unhappy with the total pay of their main job (SATPAY) appear very keen to moonlight. The incentive for them to be multiple jobholders would appear to be due to financial pressures and the desire to raise standards of living, whilst female workers who are satisfied with the actual work of the main job (SATWORK) are more likely to undertake two jobs. Workers being satisfied or not with the job security of their main job (SATSECURITY) do not have a significant effect on moonlighting. These results provide no support for the hypothesis that job insecurity increases the probability of a worker holding a second job.

The more children a man has, the greater the probability of moonlighting, while for women having more children negatively affects taking a second job. This potentially reflects men taking more responsibility for financially supporting their children by taking a second job, while women have been discouraged from taking a second job because of the need to take care of their children either directly or indirectly through the prohibitive cost of childcare or its unavailability. Moreover, married women are less likely to moonlight, while marriage does not affected male moonlighting. For women a further apparent deterrent to moonlight is if they spend significant time travelling to work for their main job, which again could reflect their wider responsibilities. Finally, age has a significant negative effect on second job labour supply, with young workers being more likely to take second jobs, potentially through either a combination of financial necessity (repayment of student debt/loans, seeking to establish themselves in the housing market etc), or by simply possessing the necessary energy.

We also find that for workers education is associated with a higher probability of holding a second job in all categories relative to possessing no formal qualifications. As Abdukadir (1992) points out, workers are more likely to moonlight if they have low current incomes relative to their educational attainment. Furthermore, having permanent and public-sector jobs as main jobs encourages workers to moonlight, as their main jobs may help them to find second jobs. These estimates provide no support for the hypothesis that multiple job holding may be a response to perceived job insecurity and may be a safeguard against unemployment. However, possessing a

full time per se job discourages a worker from moonlighting, which is consistent with the time constraint condition of the theoretical model.

The geographical variables indicate that relative to the omitted regions (Wales, Scotland and Northern Ireland) people from Southeast, Southwest and Eastern England are more likely to be multiple job holders, perhaps reflecting the high cost of living, not least in terms of house prices, in those regions, or the greater opportunity of additional employment. Finally, main job occupations in agriculture, education, health, community and household encourage moonlighting across both men and women. Although employment in the transport sector affects moonlighting behaviour differently, with female workers more likely to moonlight than their male counterparts.

5. Conclusion

This paper examines the determinants of UK multiple job holding with data obtained from the initial eleven waves of the BHPS. Our analysis does not support the view that British moonlighting is due to main job hours constraint since workers who are satisfied with their main job work hours are more likely to take second jobs. BHPS data indicates that over 70% of male moonlighters earn more on second jobs than on main jobs, while about 65% of female moonlighters earn more on second jobs than on main jobs.

Satisfaction or otherwise with job security of the main job does not have a significant effect on moonlighting per se unless they are permanent and in the public-sector. However, these estimates provide no support for the hypothesis that multiple job holding may be a response to perceived job insecurity and may be a 'hedge against unemployment'.

Over the period of our study (1991-2001) more than 88.5% of moonlighters have second jobs that are different from their main job, which supports the heterogeneous jobs hypothesis. Male workers who are unhappy with the total pay of their main job are very keen to moonlight whilst higher second job wages increase the labour supply for second jobs both for men and women. The incentive for them to moonlight therefore appears to stem from financial pressures and the desire to raise, or secure, standards of living with multiple job holding as one dimension to achieving such goals.

REFERENCES

Abdukadir, Gulnaz (1992) Liquidity Constraints as a Cause of Moonlighting, *Applied Economics,* 24(12): 1307-10

Ajayi-Obe, O. and Parker S.C. (2005) "The Changing Nature of Work among the Self_emplyed in the 1990s: Evidence from Britain", *Journal of Labor Research*, 26 (3), 501-507

Averett, Susan L (2001) Moonlighting: Multiple Motives and Gender Differences *Applied Economics*, 33(11): 1391-1410

Ballou, Dale (1995) Causes and Consequences of Teacher Moonlighting, *Education Economics,* 3(1): 3-18

Bedi, Arjun S (1998) Sector Choice, Multiple Job Holding and Wage Differentials: Evidence from Poland, *Journal of Development Studies,* 35(1): 162-79

Bell, D. N.; Hart, R. A. and Wright, R. E. (1997) Multiple Job-holding as a "Hedge" against Unemployment, Centre for Economic Policy Research Discussion Paper: No.1626

Blau, D., (1987), 'A time-series analysis of self-employment in the United States', J*ournal of Political Economy*, 95, 445-67.

Boheim, Rene and Taylor, Mark P. (2003) The dynamics of second job holding in the UK Manuscript, presented at the 11th Annual BHPS Conference, Essex

Booth, A. L. Francesconi, M. and Frank, J. (2002) Temporary Jobs: Stepping Stones or Dead Ends? *The Economic Journal*, 112: F189-F213

Clark, Andrew E. (1996) "Job Satisfaction in Britain" *British Journal of Industrial Relation,* 34(2): 189-217

Clark, K., Drinkwater, S. and D. Leslie (1998) "Ethnicity and Self-Employment Earnings in Britain 1973-95", Applied Economics Letters, 1998, **5**, pp 631-634.

Conway, Karen Smith; Kimmel, Jean (1998) Male Labour Supply Estimates and the Decision to Moonlight, *Labour Economics,* 5(2): 135-66

Cueto, B. and Mato, J (2006) "An analysis of Self-employment Subsidies with Duration Models"**,** Applied Economics, 38, (1), 23 – 32

de Wit, G., (1993), 'Models of self-employment in a competitive market', *Journal of Economic Surveys*, 7, 367- 397.

Foley, Mark C. (1997) Multiple Job Holding in Russia during Economic Transition,

Yale University Economic Growth Centre Discussion Paper No. 781

Friesen, Jane (2001) Overtime Pay Regulation and Weekly Hours of Work in Canada *Labour Economics,* 8(6): 691-720

Greene, W. H. (2000) *Econometric Analysis*, Fourth Edition, Prentice Hall, USA

Heineck, Guido and Schwarze, Johannes (2004) Fly Me to the Moon: The Determinants of Secondary Jobholding in Germany and the UK IZA Discussion Paper No. 1358

Hunt, Janet C; Hill, C R; Kiker, B F (1985) The Effect of Taxation on Labour Supply: The Case of Moonlighting, *Applied Economics,* 17(5): 897-905

Krishnan, Pramila (1990) The Economics of Moonlighting: A Double Self-Selection Model, *Review of Economics and Statistics*, 72(2): 361-367

Lundborg, Per (1995) Job amenity and the incidence of double work, *Journal of Economic Behaviour and Organization*, 26: 273-287

Masi, A.C. (1987) Moonlighting Under the Italian Sun: A Series on Multiple-Job Holding, *Contemporary Sociology* 16 (4): 485-491

Menger PM (1999) Artistic labour markets and careers, *Annual Review of Sociology,* 25: 541-574

Office for National Statistics (2003) Employment: Full-time, Part-time and Temporary workers, *Labour Market Trends*, October 2003, 111(10): S24

Partridge, Mark (2002) Moonlighting in a High Growth Economy: Evidence from U.S. State-Level Data, *Growth and Change* 33(4): 424-452

Paxson, C. H.; Sicherman, N. (1996) The Dynamics of Dual Job Holding and Job Mobility, *Journal of Labour Economics*, 14(3): 357-393

Reilly, B. Krstic, G. (2003) Employees and Secondary Job-holding in the Federal Republic of Yugoslavia: An Empirical Analysis, *Economics of Transition*, 11(1): 93-122

Shishko, Robert; Rostker, Bernard (1976) The Economics of Multiple Job Holding, *American Economic Review,* 66(3): 298-308

Weersink, A. Nicholson, C. Weerhewa, J. (1998) Multiple Job Holdings among Dairy Farm Families in New York and Ontario, *Agricultural Economics,* 18(2): 127-43

APPENDIX

We undertake robustness checks with respect to the exclusion of the self-employed and the exclusion of the job satisfaction variables in the following tables.

Table A1 and A2 present Random-effects Tobit estimates with and without job satisfaction variables for men and women respectively, using a sample without self-employed people in either the main or the second job. We do not report results with wave dummies as they are very similar. Comparing the first two columns to the corresponding columns in Tables 4 and 5 (i.e. specification without wave dummies), we can see that the estimates all have the same signs and if anything, become more significant statistically. For instance, the effect of the wage in the main job remains negative but turns from being statistically insignificant for men and marginally significant for women to significant at the 1% level for both gender. On the other hand, the effect of the second-job wage remains highly significant statistically but increases in size. Moreover, removing the job satisfaction variables appear to make virtually no difference to the estimates, with perhaps the exception of the main job wage for men, where it increases slightly in size.

Table A3 and A4 focus on the robustness of our main findings in Tables 4 and 5 with respect to the exclusion of the self-reported job satisfaction variables. It turns out that the two sets of estimates are remarkably similar. The only difference worth mentioning is the effect of the wage for the main job, which not only increases in size, but also become much more significant statistically, after we exclude the job satisfaction scores. This is not surprising, given that the job satisfaction variables are likely to partially capture the impact of various domains of the main job, including the satisfaction with pay.

Taken together, our sensitivity analyses suggest that our main findings are reasonably robust with respect to the exclusion of self-employed and the exclusion of the self-reported job satisfaction scores.

Table A1 Random-effects Tobit Regression for Men, Excluding all self-employed

J2hours	With Job Satisfaction		Without Job Satisfaction	
	Coef.	Std. Err.	Coef.	Std. Err.
J2wage	0.223***	0.007	0.224***	0.007
Jbwage	-0.025***	0.008	-0.032***	0.008
Wealth	-0.00002	0.00001	-0.00001	0.00001
Satpay	-0.146***	0.031		
Satsecurity	-0.041	0.029		
Satwork	0.012	0.039		
Sathour	0.090***	0.033		
Satall	0.051	0.047		
Travel	-0.002	0.002	-0.003	0.002
Children	0.084*	0.046	0.082*	0.046
Married	-0.128	0.100	-0.131	0.100
Ownhealth	0.071	0.071	0.072	0.071
Age	-0.023***	0.003	-0.023***	0.003
Degree	0.296*	0.164	0.253	0.164
GCSE	0.630***	0.128	0.609***	0.128
Alevel	0.533***	0.148	0.516***	0.147
Otherhi	0.577***	0.131	0.547***	0.130
Permanent	0.203	0.148	0.071	0.112
Public	0.427**	0.176	0.463***	0.176
Fulltime	-0.786***	0.169	-0.729***	0.164
Union	0.262**	0.116	0.250**	0.116
London	0.006	0.185	0.022	0.185
Southeast	0.516***	0.145	0.515***	0.145
Southwest	0.296	0.186	0.299	0.186
Eastern	0.348**	0.163	0.351**	0.163
Westmidlands	-0.052	0.187	-0.051	0.187
Northwest	-0.311*	0.174	-0.309*	0.174
North	-0.243	0.152	-0.233	0.152
Agriculture	0.782**	0.390	0.743*	0.390
Manufacturing	-0.136	0.124	-0.152	0.122
Hotels	-0.621**	0.264	-0.668**	0.263
Transport	-0.367*	0.191	-0.402**	0.191
Finance	-0.629**	0.285	-0.635**	0.284
Business	-0.193	0.178	-0.212	0.177
Publicadmin	0.429*	0.235	0.410*	0.234
Education	0.666**	0.305	0.642**	0.303
Health	0.856**	0.377	0.854**	0.376
Community	0.601**	0.234	0.576**	0.233
Households	1.858***	0.648	1.835***	0.647
Sigma_u	3.374***	0.046	3.378***	0.046
Sigma_e	6.673***	0.022	6.674***	0.022
Rho	0.204	0.005	0.204	0.005
Log likelihood	-173908.36		-173922.97	
Wald chi2	1389.10***		1358.95***	
Prob > chi2	0.0000		0.0000	
Number of obs		51383		
Number of groups		11867		
Obs per group: min		1		
Obs per group: avg		4.3		
Obs per group: max		11		

Note: * p<0.10; ** p<0.05; *** p<0.01. For definitions of Sigma_u, sigma_e and rho, see note of Table 4.

Table A2 Random-effects Tobit Regression for Women, Excluding all self-employed

J2hours	With Job Satisfaction Coef.	Std. Err.	Without Job Satisfaction Coef.	Std. Err.
J2wage	0.312***	0.008	0.312***	0.008
Jbwage	-0.061***	0.012	-0.060***	0.012
Wealth	-0.00003***	0.00001	-0.00003***	0.00001
Satpay	0.025	0.030		
Satsecurity	-0.031	0.029		
Satwork	0.112**	0.042		
Sathour	-0.006	0.035		
Satall	-0.105**	0.048		
Travel	-0.013***	0.002	-0.013***	0.002
Children	0.193***	0.045	0.192***	0.045
Married	-0.468***	0.085	-0.465***	0.085
Ownhealth	0.040	0.066	0.039	0.066
Age	-0.026***	0.003	-0.026***	0.003
Degree	0.260*	0.157	0.262*	0.157
GCSE	0.503***	0.117	0.499***	0.117
Alevel	0.874***	0.148	0.873***	0.148
Otherhi	0.627***	0.138	0.628***	0.139
Permanent	0.279*	0.143	0.232**	0.111
Public	0.826***	0.152	0.825***	0.152
Fulltime	-1.505***	0.103	-1.488***	0.096
Union	-0.322***	0.123	-0.323***	0.123
London	0.071	0.172	0.069	0.172
Southeast	0.696***	0.138	0.692***	0.137
Southwest	0.330*	0.180	0.329*	0.180
Eastern	0.373**	0.159	0.373**	0.159
Westmidlands	0.070	0.181	0.072	0.181
Northwest	0.290*	0.167	0.290*	0.167
North	-0.133	0.146	-0.132	0.146
Agriculture	3.449***	0.627	3.456***	0.626
Manufacturing	-0.126	0.172	-0.117	0.169
Hotels	-0.029	0.188	-0.029	0.185
Transport	0.367	0.282	0.378	0.281
Finance	-0.435*	0.262	-0.429*	0.260
Business	0.226	0.195	0.233	0.193
Publicadmin	-0.401	0.249	-0.397	0.247
Education	0.093	0.209	0.110	0.206
Health	0.061	0.206	0.072	0.203
Community	0.437**	0.178	0.452**	0.174
Households	0.746**	0.347	0.754**	0.345
Sigma_u	3.538***	0.043	3.538***	0.043
Sigma_e	7.086***	0.021	7.086***	0.021
Rho	0.200	0.004	0.199	0.004

Log likelihood	-224157.24		-224161.86	
Wald chi2	2494.93***		2484.84***	
Prob > chi2	0.0000		0.0000	
Number of obs		65121		
Number of groups		14125		
Obs per group: min		1		
Obs per group: avg		4.6		
Obs per group: max		11		

Note: * p<0.10; ** p<0.05; *** p<0.01. For definitions of Sigma_u, sigma_e and rho, see note of Table 4.

Robustness checks with respect to the inclusion of job satisfaction variables

Table A3 Random-effects Tobit Regression for Men

J2hours	With wave dummy		Without wave dummy	
	Coef.	Std. Err.	Coef.	Std. Err.
J2wage	0.034***	0.002	0.034***	0.002
Jbwage	-0.034***	0.010	-0.034***	0.010
Wealth	-0.00002*	0.00001	-0.00002*	0.00001
Travel	-0.0047*	0.0025	-0.0047*	0.0025
Children	0.102*	0.058	0.102*	0.058
Married	0.029	0.126	0.021	0.126
Ownhealth	0.106	0.106	0.064	0.088
Age	-0.025***	0.004	-0.025***	0.004
Degree	0.971***	0.208	1.010***	0.207
GCSE	0.900***	0.162	0.922***	0.162
Alevel	0.947***	0.188	0.986***	0.188
Otherhi	0.944***	0.166	0.969***	0.165
Permanent	0.245*	0.127	0.224*	0.127
Public	0.469**	0.225	0.454**	0.224
Fulltime	-1.643***	0.208	-1.655***	0.208
Union	0.229	0.154	0.301**	0.151
London	0.283	0.241	0.377	0.236
Southeast	0.703***	0.190	0.804***	0.185
Southwest	0.458*	0.243	0.555**	0.240
Eastern	0.518***	0.213	0.633***	0.210
Westmidlands	-0.335	0.250	-0.239	0.246
Northwest	-0.492**	0.234	-0.408*	0.230
North	-0.244	0.204	-0.155	0.200
Agriculture	1.195***	0.368	1.214***	0.367
Manufacturing	-0.319**	0.152	-0.319**	0.151
Hotels	-0.780**	0.315	-0.766**	0.315
Transport	-0.585**	0.232	-0.599***	0.231
Finance	-0.578	0.367	-0.598	0.366
Business	-0.239	0.205	-0.238	0.205
Publicadmin	0.725**	0.299	0.697**	0.299
Education	0.878**	0.363	0.861**	0.363
Health	1.198***	0.455	1.184***	0.455
Community	0.999***	0.268	1.001***	0.268
Households	1.630***	0.599	1.637***	0.600
Sigma_u	4.898***	0.057	4.902***	0.057
Sigma_e	8.832***	0.027	8.836***	0.027
Rho	0.235	0.005	0.235	0.005
Log likelihood	-221797.95		-221819.78	
Wald chi2	724.18***		679.80***	
Prob > chi2	0.0000		0.0000	
Number of obs		60394		
Number of groups		12927		
Obs per group: min		1		
Obs per group: avg		4.7		
Obs per group: max		11		

Note: * p<0.10; ** p<0.05; *** p<0.01. For definitions of Sigma_u, sigma_e and rho, see note of Table 4.

Table A4 Random-effects Tobit Regression for Women

J2hours	With wave dummy		Without wave dummy	
	Coef.	Std. Err.	Coef.	Std. Err.
J2wage	0.144***	0.005	0.144***	0.005
Jbwage	-0.056***	0.013	-0.058***	0.013
Wealth	-0.00004***	0.00001	-0.0004***	0.00001
Travel	-0.011***	0.003	-0.011***	0.003
Children	-0.183***	0.049	-0.189***	0.049
Married	-0.363***	0.093	-0.365***	0.093
Ownhealth	0.018	0.084	0.080	0.073
Age	-0.031***	0.003	-0.031***	0.003
Degree	0.632***	0.169	0.605***	0.168
GCSE	0.516***	0.128	0.521***	0.128
Alevel	0.870***	0.162	0.872***	0.161
Otherhi	0.967***	0.152	0.927***	0.150
Permanent	-0.074	0.117	-0.098	0.117
Public	0.912***	0.169	0.918***	0.167
Fulltime	-1.833***	0.105	-1.843***	0.105
Union	-0.305**	0.140	-0.249	0.138
London	0.028	0.189	0.222	0.186
Southeast	1.073***	0.152	1.263***	0.148
Southwest	0.385*	0.197	0.565***	0.191
Eastern	0.428**	0.175	0.616***	0.172
Westmidlands	-0.107	0.199	0.085	0.196
Northwest	0.141	0.186	0.330*	0.182
North	-0.205	0.162	-0.018	0.159
Agriculture	2.496***	0.578	2.500***	0.578
Manufacturing	0.138	0.183	-0.122	0.183
Hotels	-0.162	0.198	-0.151	0.198
Transport	0.448	0.308	0.439	0.308
Finance	-0.506*	0.288	-0.495*	0.288
Business	0.039	0.204	0.049	0.204
Publicadmin	-0.586**	0.274	-0.611**	0.273
Education	0.419*	0.221	0.405*	0.220
Health	0.174	0.221	0.155	0.221
Community	0.662***	0.183	0.661***	0.182
Households	0.755**	0.308	0.764***	0.309
Sigma_u	3.778***	0.046	3.776***	0.046
Sigma_e	8.166***	0.023	8.171***	0.023
Rho	0.176	0.004	0.176	0.004

Log likelihood	-249312.35		-249344.84	
Wald chi2	1865.82***		1799.86***	
Prob > chi2	0.0000		0.0000	
Number of obs		69672		
Number of groups		14468		
Obs per group: min		1		
Obs per group: avg		4.8		
Obs per group: max		11		

Note: * p<0.10; ** p<0.05; *** p<0.01. For definitions of Sigma_u, sigma_e and rho, see note of Table 4.

Notes

[1] We thank an anonymous referee for pointing this out.

[2] There is a very small literature on the determinants of self-employment, see e.g. Ajayi-Obe and Parker (2005), Blau (1987), de Wit (1993) and Clark et al. (1998), Cueto and Mato (2006). However, to the best of our knowledge, no study has ever attempted to model self-employment and multiple-job-holding jointly, due to problems with measurement and identification. We argue that a full-treatment of self-employment is beyond the scope of this paper, but will show evidence in the Appendix that our main findings remain robust with respect to the exclusion of all self-employed (in either the main or the second-job).

[3] Results of these estimations are available from the first author upon request.

DISCUSSION PAPERS IN POLITICAL ECONOMY

2006/3   Ioana Negru, *On Homogeneity and Pluralism within Economics Schools of Thought*

2006/2   David Harvie and Bruce Philp, *Learning and Assessment in a Reading Group Format or Reading Capital… For Marks*

2006/1   David Harvie, Bruce Philp and Gary Slater, *Regional Well-Being and 'Social Productivity' in Great Britain'*

2004/2   Massimo De Angelis and David Harvie, *Globalisation? No Question: Foreign Direct Investment and Labour Commanded*

2004/1   David Harvie, *Value-Production and Struggle in the Classroom, or, Educators Within, Against and Beyond Capital*

DISCUSSION PAPERS IN APPLIED ECONOMICS AND POLICY

2007/2   Juan Carlos Cuestas, *Purchasing Power Parity in Central and Eastern European Countries: An Analysis of Unit Roots and Non-linearities*

2007/1   Juan Carlos Cuestas and Javier Ordóñez, *Testing for Price Convergence among Mercosur Countries*

2006/2   Rahmi Cetin and Robert Ackrill, *Foreign Investment and the Export of Foreign and Local Firms: An Analysis of Turkish Manufacturing*

2006/1   Robert Ackrill and Adrian Kay, *The EU Financial Perspective 2007-2013 and the Forces that Shaped the Final Agreement*

2004/5   Michael A. Smith, David Paton and Leighton Vaughan-Williams, *Costs, Biases and Betting markets: New evidence*

2004/4   Chris Forde and Gary Slater, *Agency Working in Britain: Character, Consequences and Regulation*

2004/3   Barry Harrison and David Paton*, Do 'Fat Tails' Matter in GARCH Estimation? Stock market efficiency in Romania and the Czech Republic*

2004/2   Dean Garratt and Rebecca Taylor, *Issue-based Teaching in Economics*

2004/1   Michael McCann, *Motives for Acquisitions in the UK*

2003/6   Chris Forde and Gary Slater, *The Nature and Experience of Agency Working in Britain*

2003/5   Eugen Mihaita, *Generating Hypothetical Rates of Return for the Romanian Fully Funded Pension Funds*

2003/4   Eugen Mihaita, *The Romanian Pension Reform*

2003/3   Joshy Easaw and Dean Garratt, *Impact of the UK General Election on Total Government Expenditure Cycles: Theory and Evidence*

2003/2   Dean Garratt, *Rates of Return to Owner-Occupation in the UK Housing Market*

2003/1   Barry Harrison and David Paton, *The Evolution of Stock Market Efficiency in a Transition Economy: Evidence from Romania*