

Böheim, René; Taylor, Mark P.

Working Paper

And in the evening she's a singer with the band: second jobs, plight or pleasure

ISER Working Paper Series, No. 2004-03

Provided in Cooperation with:

Institute for Social and Economic Research (ISER), University of Essex

Suggested Citation: Böheim, René; Taylor, Mark P. (2004) : And in the evening she's a singer with the band: second jobs, plight or pleasure, ISER Working Paper Series, No. 2004-03, University of Essex, Institute for Social and Economic Research (ISER), Colchester

This Version is available at:

<https://hdl.handle.net/10419/91890>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



And in the evening she's a singer with the Band – second jobs, plight or pleasure?

René Böheim
Department of Economics
Johannes Kepler University Linz, Austria
and IZA, Bonn

Mark P. Taylor
Institute for Social and Economic Research
University of Essex

**ISER Working Papers
Number 2004-3**

Institute for Social and Economic Research

The Institute for Social and Economic Research (ISER) specialises in the production and analysis of longitudinal data. ISER incorporates the following centres:

- ESRC Research Centre on Micro-social Change. Established in 1989 to identify, explain, model and forecast social change in Britain at the individual and household level, the Centre specialises in research using longitudinal data.
- ESRC UK Longitudinal Centre. This national resource centre was established in October 1999 to promote the use of longitudinal data and to develop a strategy for the future of large-scale longitudinal surveys. It was responsible for the British Household Panel Survey (BHPS) and for the ESRC's interest in the National Child Development Study and the 1980 British Cohort Study
- European Centre for Analysis in the Social Sciences. ECASS is an interdisciplinary research centre which hosts major research programmes and helps researchers from the EU gain access to longitudinal data and cross-national datasets from all over Europe.

The British Household Panel Survey is one of the main instruments for measuring social change in Britain. The BHPS comprises a nationally representative sample of around 5,500 households and over 10,000 individuals who are reinterviewed each year. The questionnaire includes a constant core of items accompanied by a variable component in order to provide for the collection of initial conditions data and to allow for the subsequent inclusion of emerging research and policy concerns.

Among the main projects in ISER's research programme are: the labour market and the division of domestic responsibilities; changes in families and households; modelling households' labour force behaviour; wealth, well-being and socio-economic structure; resource distribution in the household; and modelling techniques and survey methodology.

BHPS data provide the academic community, policymakers and private sector with a unique national resource and allow for comparative research with similar studies in Europe, the United States and Canada.

BHPS data are available from the Data Archive at the University of Essex
<http://www.data-archive.ac.uk>

Further information about the BHPS and other longitudinal surveys can be obtained by telephoning +44 (0) 1206 873543.

The support of both the Economic and Social Research Council (ESRC) and the University of Essex is gratefully acknowledged. The work reported in this paper is part of the scientific programme of the Institute for Social and Economic Research.

Acknowledgement: Thanks to Rudolf Winter-Ebmer and participants at the BHPS 2003 conference for comments on an earlier version. This work forms part of the scientific programme of the Institute for Social and Economic Research and funding from the ESRC and the University of Essex is gratefully acknowledged.

Readers wishing to cite this document are asked to use the following form of words:

Böheim, René and Taylor, Mark P. (2004) 'And in the evening she's a singer with the Band – second jobs, plight or pleasure?', *Working Papers of the Institute for Social and Economic Research*, paper 2004-3. Colchester: University of Essex.

For an on-line version of this working paper and others in the series, please visit the Institute's website at: <http://www.iser.essex.ac.uk/pubs/workpaps/>

Institute for Social and Economic Research
University of Essex
Wivenhoe Park
Colchester
Essex
CO4 3SQ UK
Telephone: +44 (0) 1206 872957
Fax: +44 (0) 1206 873151
E-mail: iser@essex.ac.uk
Website: <http://www.iser.essex.ac.uk>

© March 2004

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form, or by any means, mechanical, photocopying, recording or otherwise, without the prior permission of the Communications Manager, Institute for Social and Economic Research.

ABSTRACT

We describe the dynamics of second job holding in Britain during the 1990s using panel data from the British Household Panel Survey. Our results show that second job holding is surprisingly persistent over time – about 10% of workers have a second job at any point in time while two thirds of second job holders remain in second jobs for at least two consecutive years. We find that negative financial shocks trigger second job holding, and that second jobs are not a measure to smooth labour supply over time. Heterogeneous main job characteristics are more important than hours constraints in determining second job holding.

NON-TECHNICAL SUMMARY

Evidence from both Britain and the US indicates that a substantial, and growing, proportion of workers hold a second job. But many questions regarding the holding of second jobs remain unanswered. For example what motivates second job holding? Who holds a second job and why? How stable are second jobs? In this paper, we present new and unique evidence on the dynamics of second jobs in Britain using panel data covering the period 1991-1998, and investigate the validity of several hypotheses for why workers choose to work in second jobs.

There are a number of reasons why workers may choose to take second jobs. Firstly, it is possible that a worker would like to work more hours in her main job, but is unable to because of, for example, institutional factors or employer restrictions. In this case, the worker is hours constrained in her first job and needs to work in a second job to optimise her labour supply. A second, and related, reason for second job holding concerns negative financial shocks. A worker may change their labour supply preferences in response to experiencing a negative financial shock. If such a shock motivates an increase in labour supply and the worker faces short term hour constraints in the first job, then this may result in second job holding. A third reason for having a second job is insecurity in the first job. A worker may have a second job if she believes that her first job has a high risk of termination. Workers who fear losing their first job may use second jobs to insure against the risk of first job loss and diversify their human capital into two jobs. Finally, it is possible that workers hold second jobs because of complementarities with the first job. For example, an accountant may work for an accountancy firm during the week and also work as a consultant at weekends, or Molly Jones may indeed spend her evenings singing it with the band.

Our data and approach allow us to test empirically the validity of each of these reasons for holding a second job. We take advantage of the panel nature of our data to follow workers over time and examine entry and exit from second jobs, whether or not second jobs are a temporary phenomenon caused by first job insecurity, hours constraints or financial shocks. Our results indicate that first and second jobs are not substitutes but jobs of different quality. Although our evidence suggests that negative financial shocks increase the probability of starting a second job, we find that second jobs are not a temporary adjustment to changes in labour supply preferences but persist over time.

1 Introduction

Evidence from both Britain and the US indicates that a substantial, and growing, proportion of workers hold a second job. Kimmel and Conway (2001) find that about 6% of US men had a second job in 1993, while Paxson and Sicherman (1994) report that 20% of working men in the US had a second job at some point between 1976 and 1989. However, there is little European evidence on second job holding. Bell et al. (1997) report that about 10% of workers in Britain hold a second job and that the number is increasing, while Schwarze and Heineck (2001) report that 6% of employed workers in Germany have a second job. But many questions regarding the holding of second jobs remain unanswered. For example what motivates second job holding? Who holds a second job and why? How stable are second jobs? In this paper, we present new and unique evidence on the dynamics of second jobs in Britain using panel data covering the period 1991-1998.

There are a number of reasons why workers may choose to take second jobs. Firstly, it is possible that a worker would like to work more hours in her main job, but is unable to because of, for example, institutional factors or employer restrictions. In this case, the worker is hours constrained in her first job and needs to work in a second job to optimise her labour supply. Recent evidence on hours constraints in Britain suggests that 40% of employed men and women face hours constraints at their current wage, and that 8% wish to increase their number of working hours (Böheim and Taylor 2003, 2004). A second, and related, reason for second job holding concerns negative financial shocks. A worker may change their labour supply preferences in response to experiencing a negative financial shock. If such a shock motivates an increase in labour supply and the worker faces short term hour constraints in the first job, then this may result in second job holding. A third reason for having a second job is insecurity in the first job. A worker may have a second job if she believes that her first job has a high risk of termination. Workers who fear losing their first job may use second jobs to insure against the risk of first job loss and diversify their human capital into two jobs. Bell et al. (1997) found little evidence of hedging behaviour of this type in Britain. Low or insufficient wages in the first job may also encourage second job holding. In this case we would expect second job holders to earn a lower wage in the first job than those who do not hold a second job. Kimmel and Conway (2001) find some evidence for this in the US. Finally, it is possible that workers hold second jobs because of complementarities with the first job. For example, an accountant

may work for an accountancy firm during the week and also work as a consultant at weekends, or Molly Jones may indeed spend her evenings singing it with the band.

Our data and approach allow us to test empirically the validity of each of these reasons for holding a second job.¹ Using panel data from the British Household Panel Survey (BHPS) we investigate labour supply decisions over the 1990s. By taking advantage of the panel nature of the data we are able to follow workers over time and examine entry and exit from second jobs, whether or not second jobs are a temporary phenomenon caused by first job insecurity, hours constraints or financial shocks. Our results indicate that first and second jobs are not substitutes but jobs of different quality. Although our evidence suggests that negative financial shocks increase the probability of starting a second job, we find that second jobs are not a temporary adjustment to changes in labour supply preferences but persist over time.

2 Theoretical Framework

A worker's labour supply is assumed to result from utility maximisation. Since jobs are not identical, the number of hours worked in the first job, h_1 , the number of hours worked in the second job, h_2 , and the hours of leisure, l , enter the utility function separately:

$$U=(h_1, h_2, \ell; C), \quad (0.1)$$

where C denotes consumption.² The utility function is maximised subject to a budget and time constraint:

$$\begin{aligned} C &= w_1 h_1 + w_2 h_2 + Y, \text{ and} \\ T &= h_1 + h_2 + \ell \end{aligned} \quad (0.2)$$

The wages in the first (second) job are denoted as w_1 (w_2), income from other sources is denoted as Y , and T denotes the time endowment. Combining these equations results in the following expression:

¹ Another reason for holding a second job relates to flexibility. For example parents may have two jobs to allow them more flexibility in combining work and family responsibilities (Plewes and Stinson, 1991). A worker may have one job while her child is at school and another in the evenings when her partner is available for child care. We do not investigate this possibility in the current paper.

² The theoretical model follows Shishko and Rostker (1976) and Conway and Kimmel (1998).

$$\max_{h_1, h_2} U(w_1 h_1 + w_2 h_2 + Y, h_1, h_2, T - h_1 - h_2). \quad (0.3)$$

If the worker would like to supply more hours in the first job than she is able to, then she is constrained and h_1 is no longer a choice variable. The decision to work in a second job, given that the maximum number of hours (\bar{h}_1) have already been supplied to the first job, will depend on the marginal utility of working in the second job. In the optimum, the relationship between the two jobs is determined by the marginal disutility of working and the wage rate in the second job:

$$\frac{\partial U / \partial h_2 - \partial U / \partial \ell}{\partial U / \partial C} = -w_2. \quad (0.4)$$

The numerator ($\partial U / \partial h_2 - \partial U / \partial \ell$) is the marginal disutility from an extra hour of work in the second job. Rearranging yields the condition for hours supplied in the second job for those who are constrained in their first job:

$$h_2 = h_2^c(w_2, (w_1 + w_2)\bar{h}_1 + Y, \bar{h}_1) \quad (0.5)$$

If leisure is a normal good, then the derivative of $\partial h_2 / \partial Y < 0$ - hours in the second job fall as income from other sources increases. The sign of $\partial h_2 / \partial w_2$ is ambiguous because of income and substitution effects.

If workers hold a second job because the jobs differ in utility or cost, and not because of hours constraints in the main job, then there are two relationships to consider because the number of hours in the first job are not constrained:

$$\begin{aligned} \frac{\partial U / \partial h_1 - \partial U / \partial \ell}{\partial U / \partial C} &= -w_1, \\ \frac{\partial U / \partial h_2 - \partial U / \partial \ell}{\partial U / \partial C} &= -w_2. \end{aligned} \quad (0.6)$$

These two equations imply that labour is supplied to either job until the disutility of working in that job is equal to the negative wage of that job. If the jobs do not differ, then the worker will supply all labour to the job that has the higher wage rate.

Solving implies that there are two labour supply equations,

$$\begin{aligned}h_1 &= h_1^n(w_1, w_2, Y) \\h_2 &= h_2^n(w_1, w_2, Y)\end{aligned}\tag{0.7}$$

If leisure is a normal good, then both $\partial h_1 / \partial Y$ and $\partial h_2 / \partial Y$ are positive. Because of income and substitution effects, the partial derivatives of hours supplied with respect to wages, $\partial h_1 / \partial w_1$ and $\partial h_2 / \partial w_2$ are ambiguous in sign. Conway and Kimmel (1998) state that under standard assumptions these partial derivatives are negative.

Distinguishing between those who are constrained in their first job and those who are not leaves us with four different groups, as each of the first two may or may not decide to work in a second job (Conway and Kimmel, 1998). How do these two groups differ? Those who are constrained in their first job and decide to work in a second job will have on average shorter tenure in the second job than those who are not constrained in their first job. The reason is that eventually those who are constrained in their labour supply decision will move employers to optimise their hours supplied. Further, wages in the second jobs will be less (or equal) to the wages in the first job if they are constrained. If, on the other hand, the reason for holding a second job is differences in utility, then we will not expect to see any particular relationship between wages in the first and the second job. In addition, we expect to see longer tenures in both jobs.

3 Econometric specification

Our empirical analyses focus on two aspects of second job holding. The first aspect relates to hours constraints in the first job. We test the hypothesis that individuals have second jobs because of hours constraints in their first job by estimating probit models of holding a second job with preferences over hours worked in the first job as an explanatory variable.³ We expect the probability of holding a second job to be positively correlated with wanting to work more hours. We estimate two types of probit equations. The first probit equation controls for a potential selectivity bias by applying a Heckman-type two-step method.⁴ The second is a random-effects panel probit that exploits the panel nature of the data. Since the BHPS provides information on hours constraints, we can estimate the models directly.⁵

The second aspect relates to the dynamics of second job holding. Over time, and assuming that there are firms which offer jobs with flexible hour-wage packages, workers will sort themselves into jobs which reflect their desired labour supply. We use the panel nature of our data to investigate the probability of starting a second job and the probability of leaving a second job. We estimate the chances of starting (ending) a second job, conditional on last year's second job status. This amounts to estimating a transition matrix or a two-state Markov model with heterogeneity (Boskin and Nold, 1975). We expect the correlation between subjective information such as perceived job instability and starting a second job to be positive.

4 Data

Our analyses use data from the British Household Panel Survey (BHPS). Since 1991, this has interviewed annually a representative sample of 5,500 households containing about 10,000 persons. The same individuals are re-interviewed each year, and if they leave their original households to form new households all adult members of these new households are also

³ We estimate $P_i[\text{second job}|X_i] = \Phi(X_i'\beta)$. The vector X_i contains the explanatory variables, among these the dummy variables indicating preferences over hours supplies. All our estimations use Stata 8.

⁴ We estimate $P_i[\text{second job}|X_i] = \Phi(X_i'\beta + \lambda'\beta_\lambda)$ and $P_i[\text{employed}|Z_i] = \Phi(Z_i'\gamma)$ simultaneously by maximum likelihood.) We also experimented with fixed-effects panel probit equations but since second job holding is quite persistent over time, see below, we did not succeed in estimating a satisfactory model.

⁵ Conway and Kimmel (1998) used the SIPP which does not contain information on preferences over hours worked. They employed a disequilibrium model to estimate differences between those who have a second job and those who do not. We believe that our approach, despite the potential bias which may arise by using subjective variables, is more robust than their approach.

interviewed. Similarly children in original households are interviewed when they reach the age of 16. The sample therefore remains broadly representative of the population of Britain as it changed through the 1990s. Panel data are required to enable observation of individuals' desired changes in working hours at time t , and subsequent changes in labour market behaviour between t and $t + 1$. We restrict our sample to employees of working age (16 to 65 for men and 16 to 60 for women). We exclude the self-employed as they have by definition more flexibility of choosing their number of working hours.⁶

Table 1: Incidence of second job holding

	Year								Total
	1991	1992	1993	1994	1995	1996	1997	1998	
Men	0.08	0.08	0.08	0.09	0.10	0.10	0.10	0.11	0.09
(N)	(2427)	(2213)	(2097)	(2124)	(2124)	(2230)	(2303)	(2308)	(17826)
Women	0.11	0.11	0.11	0.11	0.11	0.12	0.11	0.12	0.12
(N)	(2406)	(2229)	(2178)	(2189)	(2167)	(2253)	(2282)	(2290)	(17994)

Note: BHPS. Data are weighted using cross-sectional weights.

Table 1 confirms results from previous research: a larger proportion of women than men hold a second job, and there is little variation over time (Bell et al., 1997). On average, 9% of male and 12% of female employees held a second job between 1991 and 1998.

The data allow us to directly investigate the relation between hours constraints and the holding of a second job. All respondents in employment were asked, "Thinking about the hours you work, assuming that you would be paid the same amount per hour would you prefer to ... work fewer, work more, continue same hours".⁷ Table 2 tabulates second job holders and their stated preference over working hours. Those who want to work *more* hours are a significant minority, 11% of men and 14% of women who hold a second job want to work more hours. However, a higher proportion of second job holders than those without a second job would like to work more hours. The numbers also suggest that hours constraints are not the only cause of second job holding as 30 per cent of men and 20 per cent of women who have a second job want to work fewer hours than they are currently working.

⁶ Note however that 12% of the self-employed report having a second job.

⁷ The question is asked directly after questions relating to the first (main) job.

Table 2: Preference over hours and second job holding (column percentages).

<i>Men</i>	Second job	
	Yes	No
Wants to work		
Less	30.8	35.4
More	11.6	7.7
Same	57.6	56.9
N	1623	15813
<i>Women</i>		
Wants to work		
Less	19.9	30.7
More	14.2	8.9
Same	65.9	60.3
N	2032	15666

Note: BHPS. Data are weighted using cross-sectional weights.

Table 3 shows that those who have a second job work on average fewer normal hours and fewer overtime hours in their main job than those without a second job, further evidence in favour of the hours constraints hypothesis. The average number of hours worked in the second job is some six hours for both men and women.

Table 3: Mean hours worked per week

<i>Men</i>	One job	Two jobs	Overall
Normal hours	39.10	37.77	38.98
Normal overtime hours	5.70	5.05	5.64
Normal paid overtime hours	5.74	4.27	5.61
Hours in second job	–	6.25	6.25
	(16142)	(1684)	(17826)
<i>Women</i>			
Normal hours	30.08	25.92	29.60
Normal overtime hours	2.77	2.55	2.75
Normal paid overtime hours	3.15	3.00	3.13
Hours in second job	–	5.94	5.94
	(15910)	(2084)	(17994)

Note: BHPS. Data are weighted using cross-sectional weights. Numbers in parentheses are sample sizes.

Second job holding is persistent. Table 4 shows that of all workers who were employed at two consecutive interviews, about 60% who had a second job in one year also had a second job in the next year. Over the course of two years, i.e. looking at three consecutive interviews, the persistence is somewhat lower, but still considerable: about half will have a second job at the beginning and at the end of the two years (not shown in Table). In comparison, relatively few workers start working in a second job from year to year, some 4 per cent of men and some 5 per cent of women start in a second job.

Table 4: Transition matrix of second job holding (row percentages).

Second job at time t-1	Second job at time t	
<i>Men</i>	Yes	No
Yes (N=1203)	63.0	37.0
No (N=11697)	3.7	97.0
<i>Women</i>	Yes	No
Yes (N=1499)	58.8	41.2
No (N=11345)	5.3	94.7

Note: BHPS. Data are weighted using cross-sectional weights. Sample restricted to workers who were employed at two consecutive interviews.

Table 5 shows that those who had a second job in two consecutive years worked on average 31 hours/week in their first job and some 6 hours/week in their second job. In comparison, those who had one job in both years worked on average 35 hours/week. Those who stopped working in their second job from one year to the next had an increase of one hour/week in their first job; hours in their second job were some 5 per week. Those who took up a second job from one year to the next, on average did not increase their hours/week in their first job, and supplied some 5 hours/week in their second job.

If hours restrictions in the first job are the main motivation for working in a second job we expect to see some adjustment in hours worked over time. Workers are, at least in the medium term, free to change jobs and bargain a wage-hours package that corresponds to their labour supply preferences. In Table 4 we do see some evidence for hours constraints in the first job. Those who stop working in a second job work more hours per week in their first job, and those who start working in a second job work on average the same number of hours in their first job in both years.

Table 5: Dynamics of second job holding.

	No second job t			Second job t		
	Men	Women	Total	Men	Women	Total
<i>Second job t – 1</i>						
Mean hours t – 1	37.62	27.80	32.08	37.89	24.81	31.08
Mean hours t	38.26	29.47	33.30	37.87	25.44	31.36
Mean hours second job t – 1	5.11	5.05	5.08	6.59	6.46	6.52
Mean hours second job t	–	–	–	6.43	6.31	6.37
N	455	631	1086	758	878	1636
<i>No second job t – 1</i>						
Mean hours t – 1	39.23	30.45	35.09	38.13	27.33	31.99
Mean hours t	39.28	30.64	35.21	38.64	26.78	31.94
Mean hours second job t	–	–	–	5.27	5.48	5.39
N	11254	10726	21980	433	609	1042

Note: BHPS. Data are weighted using cross-sectional weights. Sample restricted to workers who were employed at two adjacent interviews.

Table 5 tabulates the summary statistics for the estimating sample, by second job status. The two groups appear rather similar but have a number of differences. Hourly wages in the second job are relatively high, the average is more than twice the average of wages earned in the first job. Workers who want to work more hours are more likely to have a second job. However those who want to work fewer hours are relatively more frequent among those who do not have a second job.

Following Bell et al. (1997) we use variables in our estimations that proxy job security. First, we use the person’s job tenure and the job retention rate. The job retention rate is constructed as the percentage of individuals in an occupation with less than one-year tenure (two digit SOC).⁸ The second measure of job security is a subjective evaluation of a respondent’s job security. This is taken as the answer to the question: “I’d like you to tell me from this card which best describes how satisfied or dissatisfied you are with that particular aspect [job security] of your job”. The possible answers range from “not satisfied at all” (coded 0) to “completely satisfied” (coded 7). Our variable takes the value 1 if the worker was not satisfied (reported a satisfaction level of 1), or not satisfied at all (a satisfaction level of 0), and takes the value of 0 otherwise. Another proxy variable of job security is whether or not the first job is permanent.

⁸ We also compared the occupational codes of the first and second jobs. Using the 2-digits classification, we find that about 20 per cent work in the same occupation in both jobs.

Table 6: Summary statistics, by second job status.

	No second job		Second job	
	Mean	S.D.	Mean	S.D.
Hourly wage first job ^a	6.730	4.276	6.387	4.552
Hourly wage second job ^b	–	–	14.250	40.671
Wants to work				
less	0.193	0.395	0.167	0.373
more	0.062	0.241	0.102	0.303
Female	0.544	0.498	0.576	0.494
Age	35.291	8.538	35.726	8.479
Job tenure	4.755	5.462	4.384	5.061
Residential tenure	8.314	5.297	8.572	5.092
Permanent contract	0.560	0.496	0.606	0.489
Education				
Degree	0.291	0.454	0.387	0.487
A-level	0.133	0.340	0.133	0.339
O-level	0.356	0.479	0.332	0.471
Financial development t–1, t				
Negative shock	0.247	0.431	0.255	0.436
Positive shock	0.138	0.345	0.166	0.372
Married/Cohabiting	0.829	0.377	0.818	0.386
Spouse's hours/week ^c	21.477	20.549	23.074	21.081
Household size	4.032	1.049	4.066	1.013
Number of children	1.703	0.977	1.677	0.950
London	0.083	0.275	0.068	0.252
White	0.917	0.275	0.927	0.260
Household income (£1,000/month)	2.032	1.385	2.323	1.590
Difficulties meeting housing costs	0.135	0.342	0.140	0.347
N	18,522		2,238	

Note: BHPS. Data are weighted using cross-sectional weights. Sample restricted to workers who were employed at two adjacent interviews.

a Sample sizes 11,446 and 1,542 due to missing values.

b Sample size 1,854 due to missing values.

c Set to zero if not partnered or partner does not work.

5 Estimation Results

Table 6 presents the marginal effects (and the means of the explanatory variables) from two estimations of the probability of holding a second job. The first results are the results from estimating a selectivity-corrected probit on holding a second job. The selection equation uses the same controls as listed in the table plus two identifying variables, the age of the youngest child and whether or not the person moved in the year prior to the interview. These two variables are thought to influence the probability of being in work, but not the probability of holding a second job. The second results are the marginal effects from estimating a random-

effects panel probit equation. Our preferred model is the random-effects panel model, but we acknowledge that selection has not been taken into account. It however serves as an upper bound of the estimated marginal effects.

The estimated marginal effects show that there is a correlation between the probability of holding a second job and the wish to work more or fewer hours per week. Those who wish to work less have a lower probability (-1.6 percentage points in the probit estimation, and -29 percentage points in the random-effects model) of having a second job, relative to those who say that they do not want to change the number of hours worked. Those who say that they would like to work more hours per week are more likely to have a second job. The estimate from the panel regression shows a large positive effect, the probability is some 19 percentage points greater than for those who do not wish to change the number of working hours per week. We take these results as evidence of constraints on labour supply.

The estimated coefficient on hours supplied in the first job also supports the hypothesis that constraints on hours supplied are the (main) reason for holding a second job. Those who work more hours in their first job are less likely to hold a second job, an additional hour in the first job reduces the probability of holding a second job by about 1.4 percentage points (in the panel regression).

Although we find evidence for an association between job security and having a second job – a permanent contract reduces the probability of a second job by between 4.5 percentage points (probit) and 17 percentage points (panel), we generally find little association between the insecurity measures used by Bell et al. (1997) and the probability of holding a second job. Similar to their results, the probability of holding a second job does not decrease with the sectoral job tenure or perceived job insecurity (measured using reported levels of satisfaction with job security).

We also consider dynamic household effects and control for the financial development over the last year. To do this, we construct a variable which is coded 1 if the respondent's subjective evaluation of the financial development between $t-1$ and t measured at t , is better than her expectation at time $t-1$. It is coded 0 otherwise and corresponds to a "positive financial shock". A variable to indicate a negative financial shock is constructed in a similar

fashion. The estimated marginal effects on these two indicator variables are both positive. Those who experienced a positive or a negative financial shock are more likely to work in a second job in comparison to those who did not experience a financial shock. This is weak evidence supporting the financial shock hypothesis in that individuals with a more uncertain future income stream are more likely to be in second jobs. We also control for a number of household characteristics, amongst these whether or not the worker stated that paying for housing proved difficult. The estimations show that the probability is greater if the household faced such difficulties.

The third explanation for holding a second job, complementarity between first and second job, is difficult to establish empirically. If we assume that the amount of human capital is a proxy for people who have access to such jobs, then the hypothesis is not rejected by the data: workers with high levels of human capital are more likely to work in a second job. We have also estimated regressions where we control for the occupational code of the first job, these estimates did not point to different probabilities of having a second job between sectors.

The estimated marginal effects for starting or stopping a second job are presented in Table 8. The estimates confirm the results obtained above. Workers who want to work more hours are more likely to start a second job than those who do not want to change their hours or wish to reduce their working hours. Workers who wish to reduce their working hours are more likely to stop working in a second job, in comparison to all other workers. The more hours supplied in the first job, the less likely it is for a worker to start a second job. These findings support the hypothesis that second jobs are a way to overcome hours constraints. Workers on permanent contracts are considerably less likely to start a second job, they have an estimated reduction of 26 percentage points in their likelihood of taking up a second job. The other variables which are thought to capture job insecurity do not show a statistically significant association with taking up a second job.

Our measures of financial constraints do not provide a clear picture of who starts or stops working in a second job. Both measures of financial shocks show a positive association with starting and with stopping to work in a second job. This is a puzzling result and we have experimented with various specifications to examine this in more detail. However, we cannot provide an intuitive explanation for this association.

6 Conclusion

Using data from 1991–1998 from the British Household Panel Survey we have estimated models of holding a second job. The conventional hypothesis concerning second job holding rests on labour supply restrictions: those who cannot supply labour according to their preferences in their first job are forced to take up a second job.

We have examined several aspects of holding a second job. First, we considered whether or not holding a second job is a response to hours constraints in the first job. Our estimates provide some evidence that this indeed the case. Those who wish to work more hours/week are more likely to hold a second job and are also more likely to take up a second job between any two years of interview. Also, the more hours a worker works in the first job the less likely the worker is to work in a second job. Secondly, we have examined whether or not job insecurity might be a reason for having a second job. The results show that a permanent contract reduces the chances of holding a second job, but other indicators of job insecurity fail to support such a hypothesis. A third explanation for holding a second job, complementarity between first and second job, is difficult to establish empirically. If we assume that workers with more human capital are more likely to have jobs with flexible arrangements, and that these flexible arrangements allow workers to pursue a second career, then the data support this hypothesis.

A novel finding of our analysis is that second job holding is not a temporary measure to adjust for fluctuations in labour supply. These fluctuations are in some part triggered by financial shocks, as our estimations show, but second job holding is persistent over time. Even if we focus on two-year periods, more than half of those who had a second job in the beginning of the period will have a second job at the end of the period.

Table 7: Probability of holding a second job: marginal effects.

	Cross-section			Panel		
	dy/dx	(SE)	\bar{x}	dy/dx	(SE)	\bar{x}
Wants to work						
less	-0.016	(0.038)	0.190	-0.290	(0.130)	0.316
more	0.025	(0.015)	0.066	0.193	(0.048)	0.088
First job						
Hours	-0.003	(0.001)	32.017	-0.014	(0.002)	34.364
Permanent	-0.045	(0.018)	0.657	-0.169	(0.054)	0.923
Job tenure (days)	0.002	(0.001)	4.715	-0.003	(0.004)	4.604
Short tenure	-0.001	(0.001)	25.431	-0.006	(0.003)	26.448
Low job security	0.003	(0.013)	0.110	0.089	(0.040)	0.174
Low job security*	0.000	(0.001)	4.867	0.005	(0.005)	8.124
Short tenure						
Financial development t – 1, t						
Bad shock	0.022	(0.010)	0.248	0.006	(0.034)	0.210
Good shock	0.031	(0.012)	0.141	0.082	(0.039)	0.151
Female	0.017	(0.021)	0.547	0.110	(0.052)	0.496
Age	-0.002	(0.007)	35.338	0.000	(0.014)	36.732
Age ² /00	0.004	(0.010)	13.216	-0.012	(0.019)	14.783
Residential tenure (years)	-0.001	(0.001)	8.341	0.003	(0.003)	9.297
Education						
Degree	0.045	(0.022)	0.302	0.451	(0.070)	0.359
A-levels	0.011	(0.025)	0.133	0.273	(0.080)	0.150
O-levels	0.004	(0.021)	0.354	0.194	(0.073)	0.310
Married/Cohabiting	-0.007	(0.025)	0.828	-0.135	(0.066)	0.706
Partner's hours	-0.003	(0.001)	21.649	0.001	(0.003)	20.817
Partner's hours ² /100	0.004	(0.002)	8.936	0.000	(0.004)	8.387
Household size	0.014	(0.009)	4.036	0.063	(0.018)	3.057
One child	-0.007	(0.037)	0.373	0.010	(0.054)	0.159
Two children	-0.007	(0.038)	0.379	0.016	(0.069)	0.149
Three or more children	0.020	(0.045)	0.173	0.082	(0.098)	0.053
London	-0.023	(0.023)	0.081	-0.018	(0.074)	0.098
White	-0.012	(0.023)	0.918	-0.018	(0.084)	0.911
Housing costs difficult	0.022	(0.015)	0.136	0.154	(0.049)	0.094
Unemployed at t – 1	-0.012	(0.036)	0.047	-0.269	(0.100)	0.023
Changed job, t – 1, t	0.023	(0.011)	0.187	0.031	(0.036)	0.208
N	20760			35918		

Note: BHPS. The cross-sectional estimation is a selectivity-corrected probit equation, where the selection equation estimates the probability of being in work. Exclusion restrictions are the age of the youngest child and whether or not the person moved in the year before the interview. The sample includes also persons not in work. The panel estimation is a random-effects panel probit. Standard errors are corrected for multiple observations (robust S.E.).

Table 8: Estimated marginal effects of starting and stopping a second job between t and $t + 1$.

	Start			Stop		
	M.E.	(SE)	Mean	M.E.	(SE)	Mean
Wants to work						
less	-0.673	(0.445)	0.301	0.337	(0.434)	0.301
more	0.329	(0.135)	0.105	0.058	(0.150)	0.105
First job						
Hours	-0.019	(0.005)	32.023	-0.007	(0.005)	32.023
Permanent (=1)	-0.266	(0.153)	0.918	-0.208	(0.156)	0.918
Job tenure (days)	-0.012	(0.013)	4.072	-0.022	(0.014)	4.072
Short tenure	-0.014	(0.009)	26.398	0.011	(0.008)	26.398
Low job security	-0.121	(0.130)	0.174	0.075	(0.126)	0.174
Low job security*Short tenure	0.019	(0.016)	7.697	-0.018	(0.016)	7.697
Financial development $t - 1, t$						
Bad shock	0.702	(0.106)	0.234	0.509	(0.107)	0.234
Good shock	0.658	(0.121)	0.158	0.305	(0.129)	0.158
Female	0.308	(0.137)	0.499	0.324	(0.136)	0.499
Age	0.014	(0.055)	35.643	-0.060	(0.054)	35.643
Age ² /100	-0.016	(0.075)	13.363	0.075	(0.074)	13.363
Residential tenure (years)	-0.014	(0.010)	8.547	0.016	(0.010)	8.547
Education						
Degree	0.299	(0.153)	0.355	0.450	(0.159)	0.355
A-levels	0.088	(0.183)	0.139	0.237	(0.188)	0.139
O-levels	0.056	(0.153)	0.346	0.150	(0.159)	0.346
Married/Cohabiting	-0.127	(0.213)	0.854	-0.209	(0.215)	0.854
Partner's hours	-0.002	(0.007)	23.392	-0.004	(0.007)	23.392
Partner's hours ² /100	-0.004	(0.012)	9.309	0.005	(0.011)	9.309
Household size	0.086	(0.076)	3.983	0.092	(0.074)	3.983
One child	0.279	(0.337)	0.392	0.287	(0.326)	0.392
Two children	0.346	(0.330)	0.390	0.486	(0.322)	0.390
Three or more children	0.434	(0.334)	0.138	0.548	(0.329)	0.138
London	-0.354	(0.206)	0.072	0.014	(0.183)	0.072
White	-0.138	(0.197)	0.928	0.314	(0.213)	0.928
Housing costs difficult	0.141	(0.141)	0.118	0.246	(0.139)	0.118
Unemployed at $t - 1$	0.178	(0.298)	0.020	0.190	(0.298)	0.020
Changed job, $t - 1, t$	0.371	(0.117)	0.199	0.299	(0.118)	0.199
Household income, $t - 1$	0.131	(0.057)	1.352	0.123	(0.059)	1.352

Note: N=13,118. BHPS. The estimations are random-effects probit regressions.

References

- Bell, David N F, Robert A Hart and Robert E Wright (1997), 'Multiple job-holding as a 'hedge' against unemployment', *CEPR discussion paper series No. 1626*. Centre for Economic Policy Research, London, UK.
- Böheim, René and Mark P Taylor (2003), 'Option or obligation? the determinants of labour supply preferences in Britain', *The Manchester School* **71**(2), 113–31.
- Böheim, René and Mark P Taylor (2004), 'Actual and preferred working hours', *British Journal of Industrial Relations*, **42**(1), 149-166.
- Boskin, M J and F C Nold (1975), 'A Markov model of turnover in Aid for Families with dependent children', *Journal of Human Resources* **10**, 467–81.
- Conway, Karen Smith and Jean Kimmel (1998), 'Male labor supply estimates and the decision to moonlight', *Labour Economics* **5**, 135–66.
- Kimmel, Jean and Karen Smith Conway (2001), 'Who moonlights and why? Evidence from the SIPP', *Industrial Relations* **40**(1), 89–120.
- Paxson, Christina H and Nachum Sicherman (1994), 'The dynamics of dual-job holding and job mobility', *NBER working paper series No. 4968*. National Bureau of Economic Research, Cambridge (MA).
- Plewes, T J and F Stinson, Jr (1991), 'The measurement and significance of multiple jobholding in the United States', *Statistical Journal* **8**, 57–67.
- Schwarze, Johannes and Guido Heineck (2001), 'Auswirkungen der Einführung der Sozialversicherungspflicht für geringfügige Beschäftigung – Eine Evaluation des "630-DM-jobs"-Reformgesetzes', *DIW discussion papers* 257. Deutsches Institut für Wirtschaftsforschung, Berlin.
- Shishko, Robert and Bernard Rostker (1976), 'The economics of multiple job holding', *American Economic Review* **66**(3), 298–308.

Appendix–Data

Main variables used in analysis

Item	Question asked
Hours first job	Thinking about your (main) job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?
Hours overtime	And how many hours overtime do you usually work in a normal week?
Paid overtime	How much of that overtime (usually worked) is usually paid overtime?
Hours preference	Thinking about the hours you work, assuming that you would be paid the same amount per hour would you prefer to...(work fewer hours, work more hours, continue with same hours).
Has a second job?	Do you earn any money from (a second job) odd jobs or from work that you might do from time to time (apart from your main job)? (inc baby sitting, mail order agent, pools agent etc.
Standard Occupational Code	What is it that you do (and what does the firm or person you work for make or do)? (in your second job.
Type of employment in second job?	Are you an employee or self employed (in your second job)?
Hours in second job?	How many hours do you usually work a month in your second/odd job(s), excluding meal breaks but including any overtime you might do?
Income from second job(s)	Before tax and other deductions how much did you earn from your second and all other occasional jobs in the last calendar month?