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Part-time work and Health among Older Workers in Ireland and Britain

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Abstract:

Part-time work is viewed as a viable option for people who wish to have a gradual transition to retirement. From a policy viewpoint, this may help to alleviate some labour supply shortages, especially in the context of the aging population. Factors such as health or pension provision may influence a person's decision to work part-time. This paper considers the impact of health on the work decision for people aged 50 and over in the UK and Ireland. Methodological issues are discussed and the impact of unobserved individual effects is estimated using the Mundlak estimator applied to the multinomial probit model. The impact of health on part-time work is negative in Ireland, but we find no significant effect in the UK. The paper discusses potential reasons for these impacts and current policies on part-time work.

Keywords: health, retirement, panel data.

JEL codes: J26, I10, C23.

1. Introduction

Part-time (PT) work is viewed as a viable option for people who wish to have a gradual transition to retirement. From a policy viewpoint, this may help to alleviate some labour supply shortages, especially in the context of the aging population. In Europe, 18.2% of all age groups work PT, and 51% of those are in the 50-64 age category. In Ireland and the UK, approximately 20% and 28% of those aged 50-64 work PT respectively, compared to the EU-15 average of 19%. Many more women than men work PT. Only a small proportion of those working PT do so on an involuntary basis - in other words, PT work seems to be the preferred option for many people. Several factors may influence the decision to work PT rather than full-time (FT), not least health problems or disabilities. This paper aims to identify the impact of health on the PT work decision for older people in Ireland and the UK.

On the supply side, a relevant question is whether or not financial incentives exist to encourage people to work PT. In terms of policy, in Ireland people who are long term unemployed are entitled to enrol in the Part Time Job Incentive Scheme – this gives them an allowance, similar to Jobseekers rate plus job earnings, and benefits such as a medical card. Likewise, a Back To Work scheme exists for those wishing to work FT. There is no particular scheme for older workers aged 50 and over. In the UK, the New Deal 50 Plus is specifically aimed at this age group, to help older people on benefits to get back to work. Unlike the more general Pathways to Work scheme targeted at all incapacity benefit claimants, the New Deal does not provide health advice, and it is argued this is a shortcoming since health problems are an important reason for labour market inactivity amongst the over 50s (Kodz and Eccles, 2001)[1]. In this paper, we use estimates from our analysis to compare the UK and Ireland system of benefits for PT workers.

In the UK, Emmerson and Tetlow (2006) note the increased policy interest in enabling individuals to have a phased retirement, moving from FT to PT work before exiting the labour market completely. Ill-health often impacts on a person's decision to reduce their working hours or to not work at all, but the relationship between health and work is complex and it can be very difficult to establish causation. The main

[1] In addition participation in the New deal is voluntary whereas Pathways is mandatory.

methodological issues are endogeneity of health with respect to work and measurement of self-reported health. Extensive investigation of this relationship requires longitudinal data. These data could suffer from attrition, so this must also be accounted for in any analysis of health on work/retirement.

Using the BHPS, Disney *et al.* (2006) found that adverse health shocks are an important predictor of individual retirement behaviour. Using similar data, Rice *et al.* (2007) found spousal health is also important, particularly for women. Dwyer and Mitchell (1999), using data from the Health Retirement Survey, find that health problems influence retirement behaviour more strongly than economic factors. Correcting for potential endogeneity of self-reported health, due to justification bias, men in 'poor health' expect to retire one to two years earlier, than those in 'good health'. McGarry (2004) finds that those in poor health are less likely to continue working than someone in good health – changes in retirement expectations are driven moreso by changes in health than changes in income or wealth. Dave *et al.* (2006) review the evidence on reverse causation from retirement to health. Retirement may reduce social contacts and induce isolation and mental health problems. Conversely, if work is stressful and utility reducing, retirement may improve physical and mental health. Dave *et al.* then proceed to solve the endogeneity problem using a fixed effects approach on samples stratified by pre-retirement health status. The authors note that PT work may have positive effects through social support and physical activity, and indeed they find that partial retirement has a much smaller negative effect on health outcomes than full retirement.

Despite this causal evidence, the decision to work PT or FT or to retire, has not yet been explored to the same extent. This paper aims to examine the causal effect of health on the PT versus FT work decision, using the Living in Ireland survey 1995-2001 and BHPS 1991-2004. The reverse causality issue is solved using appropriate econometric methodology, i.e. panel data estimators, (see Rice *et al.* (2007), Gannon (2005)).

The paper continues as follows: in section 2 we discuss the theory behind the analyses of work and health; methodological issues are discussed further in section 3 and the econometric methodology is outlined in section 4. Data are described in section 5,

results and policy implications are provided in section 6 and 7, and section 8 concludes.

2. Theoretical Considerations

Gustmann and Steinmeier (1986) developed a structural retirement model based on the life cycle whereby individuals are assumed to maximize utility over their lifetime, subject to a budget constraint. They suggest the choice between higher-paying work and lower-paying PT work in later life may be influenced by the preference for leisure in later years. Pension plans could also influence the choice for PT work, if individuals are availed of early pension incentives. Family preferences for retirement were included into the model by Kim and DeVaney (2005). Results from Gustmann and Steinmeier (2000) suggest that the primary reason for couples retiring simultaneously is a shared preference for leisure. It is possible that PT work decisions are also influenced in this manner.

A further point to consider in the analysis of health and work is the influence of health shocks and health declines. Bound *et al.* (1999) discuss in detail the labour supply impact of health declines and suggest that lagged values of health may be related to current labour force behaviour.

On the demand side, we should note that while there are a high percentage of older workers in PT hours, it is possible that even more workers wish to work PT. The question therefore is, are there enough PT jobs for older workers. This in practice will be a more difficult question to answer.

So from a theoretical viewpoint, the supply side issues of health and economic factors are more straightforward to implement in an empirical analysis of retirement. For this reason, we concentrate in this paper on the relationship between health and retirement, and will return to issues of joint retirement and demand side complications in later research.

3. Methodological Problems

In estimating the effect of disability or health on labour force participation, there are two main sources of bias that may arise, from measurement error and endogeneity. Previous research by Bound (1991) and Lindeboom and Kerfhofs (2002) has already set out the main issues involved and we now review these. Firstly, there may be problems with the measurement of the health variable and lack of comparability across individuals may lead to underestimates of the effect of health (via classical measurement error). On the other hand, economic or psychological incentives may affect an individual's response to questions on health, leading to differential measurement error within the self-reported measure of health in the participation model. Secondly, participation and health may be endogenously related because of direct effects of participation on health. In addition, there may be unobservables that influence both health and participation outcomes, for example through an individual's time preference or previous investments in human or health capital. Endogeneity would lead to overestimation of the effect of health.

Overall, a simple model of work status (PT, FT or not working), whereby work is regressed on health will lead to biased estimates of the effect of health, and the competing effects of classical measurement error and endogeneity (which includes differential measurement error), will result in either overestimation or underestimation. In this paper, we strive to eliminate the endogeneity bias. This will be dealt with following the approach used in Gannon (2005).

Attrition (drop-out) may be endogenous and related to retirement or partial retirement or health. In this paper, because we are focusing on the relationship between health and actual retirement levels, as opposed to transitions, we treat each observation as a person. We therefore do not correct for any potential attrition bias but simply adjust the standard errors for clustering at the individual level.

4. Data and Variables

For this comparative study, we utilise data from the Living in Ireland (LII) Survey and the British Household Panel Survey (BHPS). These data are a rich source of

information on socio-demographic and health variables. The LII Survey was carried out each year from 1994 to 2001. The design is longitudinal, in that the same individuals are followed from one year to the next. Where possible each adult in the household was interviewed and the design aimed to produce a nationally representative sample[2]. The advantage of these data is the panel nature so we utilise as many years as possible given questionnaire consistency. We use 7 years of the LII from 1995-2001. The BHPS is a longitudinal survey of private households in Great Britain, and was designed as an annual survey of each adult (age 16+) member of a nationally representative sample. The BHPS started in 1991 and 14 waves (to 2004) were available at the time of our analysis. The first wave achieved a sample of some 5,500 households, covering approximately 10,300 adults from 250 areas of Great Britain. Additional samples of 1,500 households in each of Scotland and Wales were added to the main sample in 1999, and in 2001 a sample of 2,000 households was added in Northern Ireland.

In both cases our sample of interest is those aged 50 and over and we wish to look at the probability of PT work for anyone aged between 50 and 65 so we focus on anyone in that age group in any year.

The main outcome variable, the work decision, is a multi-response variable consisting of: (1) PT work; (2) FT work; (3) not working. PT work is defined as less than 30 hours per week and FT work is defined as 30 or more hours per week. Our measurement of health problems is derived from the question in the LII 'Do you have any chronic, physical or mental health problem, illness or disability?'. If individuals answered yes to this question, they were then asked 'are you hampered in your daily activities by this physical or mental health problem, illness or disability?'. A choice of three answers was provided: (1) yes, severely; (2) yes, to some extent; (3) no. Gannon and Nolan (2004) have previously shown that in terms of work, people with no limitations were not statistically different to those with no disability, so in this paper we construct a variable called 'health limitations' and this has a value of 1 if individuals had *severe* or *some* limitations, and a value of 0 otherwise. The

[2] Those living in institutions such as hospitals, nursing homes, convents, monasteries and prisons, were excluded from the target population.

corresponding question in the BHPS sample is 'does your health limit you in daily activities?' and the answers are dichotomous: 1 = yes; 0 = no.

A full set of explanatory variables are provided in Table 1.

[Table 1]

The samples in LII and BHPS are sufficiently large to carry out an analysis of retirement decisions. In the LII, there are 941 individuals aged between 50 and 65 in 1995 and this is reduced to 508 by the year 2001. In total, there are 4903 observations. In the BHPS there are 1957 individuals of this age in 1991 and 3464 in 2004 due to the top-up sampling; there are 16,697 observations. If attrition is associated with health status or retirement, we may get biased estimates of the impact of health on retirement. It could be that our remaining sample are either more healthy or more likely to be in work, so we bear this in mind when interpreting our results. However, Gannon (2005) has looked at the impact of attrition on estimates of disability in a participation equation and found that although attrition exists, the reported results were not affected by non-random attrition. Further details of attrition rates are reported in Appendix A.

5. Econometric analysis

Probability of Partial Retirement

First we determine the probability of partial retirement (PT work) compared to either FT work or full retirement. Following Hermes, Sollie and Strom (2000) we let U_{kt} denote the utility derived from consumption and leisure when the individual *i* is in state *k* at time *t,* where *k* represents one of the three working states. Preferences vary across individuals with a deterministic element (v) that captures the effects of consumption and leisure on individual welfare and a stochastic taste shifter (ε) that accounts for the impact of unobserved variables:

$$U_{kit} = v_{kit} + \varepsilon_{ik} \qquad [1]$$

The deterministic part is assumed to be a linear function of consumption, C_k, leisure L_k, and socio-demographic variables (X_i) and ε_{ik} includes an unobserved individual effect α_i. Therefore,

$$v_{kit} = \phi C_{kit} + \gamma L_{kit} + \beta X_{kit} \qquad [2]$$

Assuming that the stochastic variables are normally distributed across states, our model of estimation is a multinomial probit. Hermes, Sollie and Strom (2000) apply the logit version but we concentrate on the probit model, as this facilitates our inclusion of health as an endogenous variable.

Endogeneity is controlled for by use of a Mundlak (1978) type estimator. Assuming there is an individual unobserved effect, α_i ,that influences both health and the work decision, we then control for this by specifying the distribution of the unobserved effect conditional on the time-averages of potentially endogenous variables;

$$\alpha_i = \alpha_0 + \alpha_1' \overline{X}_i + a_i \qquad [3]$$

If endogeneity via unobserved effects is an issue, we should find lower estimates of the effects of the endogenous variables compared to the base model.

6. Results

Descriptive Statistics

The proportion of older workers in PT work in Ireland and the UK is significant and worthy of further investigation. Table 2 presents the proportion of people who were aged 50 and over by employment status. For Ireland, it indicates that between 1995 and 2001 the percentage of employed people in PT work increased from 10.3 per cent

to 15.6 per cent. The proportion in PT work is slightly higher in the BHPS sample at about 20 per cent each year.

[Table 2]

In terms of health limiting disabilities, in each year, in Ireland, about 20-25 per cent of people aged 50-65 had a health problem, and the corresponding rates in the UK range between 18 and 26 per cent.

Table [3]

Probability of PT or FT work or retirement

The first step in establishing baseline figures for the impact of health on the retirement decision for Ireland is presented in Table 4. This presents the marginal effects of the multinomial probit model for the three outcomes, PT, FT or retired**.** The results indicate that many more people (15 percentage points) with a health problem will be retired compared to those with no health problem. The question is, are these people less likely to be in PT or FT work – the marginal effect for PT work is insignificant indicating that these people are indifferent to PT work and will more than likely be retired from full-time work. This suggests that incentives to work PT may not exist for people with disabilities in the age group 50-65. In terms of education levels individuals with higher education levels are less likely to be retired compared to the lower educated and more likely to have FT work. Females are less likely to be retired or working FT but have a higher probability of working PT. This could be indicative of the increase in female labour force participation, return to work for many women in the late 1990s and increased flexibility in terms of working hours. In terms of age, compared to age 60-65, those in the age group 55-60 are less likely to be retired, with some in PT work and most people in FT work. For the younger age group, 50-55, there is an even lower probability of being retired, again with the majority in FT work.

[Table 4]

Table 5 presents the corresponding results from the BHPS data. Having a health problem also impacts on retirement in the UK, but with a lower magnitude. Individuals with a health problem are more likely to be retired and less likely to work FT. The marginal effect on PT work is not significant. The level of education is significant for those with secondary education, compared to lower levels. Females have an increased probability of retirement and are much more likely to work PT than FT. People aged 50-55 are less likely to work PT, and more likely to work FT.

[Table 5]

These estimates of the effects of health problems must be interpreted with caution because it is likely that there is an endogenous relationship between retirement and health. If unobservables are related to both variables, it is possible to control for this using the Mundlak type estimator outlined earlier. Results for the LII data are presented in Table 6. These indicate that health may have been endogenous. The impact of health on PT work is insignificant, but it does have a significant impact on FT work. The time average of health problems indicates that people with longer term problems are even more likely to be retired, less likely to be in FT work and the marginal effect for PT work is insignificant. The direction of effect indicates that individuals with disabilities have unobserved characteristics that both make them more prone to having a disability and to have a higher probability of being retired. It is also possible that these people never worked so a dynamic model may be more appropriate in this case, or alternatively an analysis of transitions to retirement.

[Table 6]

In the UK, different results emerge when we control for unobserved individual effects. In table 7, there appears to be no significant effect in the time-averages suggesting longer term health problems are not as important as current problems in terms of work decisions. It also appears there are no common unobserved characteristics in an individual's probability of having a health problem and in

obtaining work. This may be because individuals with long-term health problems are detached from the labour market at an earlier stage and therefore are excluded from our analysis (see Brown et al 2008).

[Table 7]

7. Policy Implications

Labour supply issues are at the forefront of the agenda for many European countries. In future years, with changing demographics and higher dependency ratios, there will be an increased reliance on new employment patterns. Older workers play an important role as a potential source of labour supply. The main question is, what is the current rate of PT work for older workers and is it a viable option, particularly for those with health problems. The next question is, how can we increase the supply of and demand for PT work among older workers. Several atypical employment modes are possible, including people who: (1) previously worked PT and wish to continue this form of work; (2) stay with same employer but retire gradually; (3) leave FT work and work for a new employer on a PT basis; (4) retire from work and return to PT work. These employment modes depend on the aggregate demand for workers and the skills required.

An additional critical deciding factor for older workers is their current income and expected retirement income. In Ireland, the Green Paper on Pension Policy has opened up the debate on pension policy and how to avoid a pension crisis in years to come. The crucial question for PT workers is will they get sufficient pension entitlement and this is somewhat addressed in the Fixed Term Workers (PT) Act 2003. Therefore, in the next stage of our research we will look at the impact of pension provisions.

In terms of work and health problems, if individuals could work PT and still receive some disability allowance, this may encourage more people into work. In Ireland, there is currently little incentive to work PT if a person has health problems or disabilities. Those who are in receipt of disability allowance may get a Back to Work

allowance but must have been receiving the disability payment for at least 12 months. People are allowed to work and receive disability allowance but only in rehabilitative work. Individuals on state contributory pensions are allowed to work but this applies to individuals aged 66 and over.

Similarly in the UK those on incapacity benefit are permitted only to work very limited hours and earn only small amounts so in practice very few claimants also work and there is little to encourage then to do so. In their qualitative evaluation of the New Deal 50 Plus Kodz and Eccles (2001) identify fear of loss of benefit income as an important barrier to the employment of older workers. Some hope is provided by early evaluation of the UK Pathways to Work scheme, designed to help people on incapacity to get back into work. This scheme provides specific health advice and might be usefully extended more generally to help older workers with health problems. However, currently, this programme only targets those workers who have already left the labour force whereas it may be more effective to design policy that helps older workers to remain economically active. Once individuals leave the labour market their skills start to deteriorate so it is better to keep them in, by say allowing more flexible working arrangements to cope with health problems

8. Conclusion

This paper assesses the impact of health on the decision to work PT or FT for older workers in Ireland and the UK. From a policy viewpoint, this research contributes towards the debate on alleviating labour supply shortages that will result from demographic changes in many countries in the near future. The results in this paper are the base estimates of the impact of health on the probability of PT work. As noted earlier, it may be preferable to analyse transitions to retirement, but this would require a large sample size and currently we do not have such data for Ireland. In the UK, the sample is larger so such analysis may be possible. This highlights the need for good data on health and work for older people in Ireland. The TILDA survey (The Irish Longitudinal Study of Ageing) is a positive step in this direction. Furthermore, Ireland is now included in the SHARE data (Survey of Health Ageing and Retirement in Europe) so future analyses will focus on comparisons using this data and comparing TILDA to ELSA (English Longitudinal Survey of Ageing).

Nonetheless, this paper provides good baseline estimates on which more detailed analyses may build on. The next stage of this research will focus on correcting for measurement error and reporting bias in health data.

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Table 1 Variables

Work Status:	
Part-time	=1 if weekly hours of work <30, =0 otherwise
Full-time	=1 if weekly hours of work>=30, =0 otherwise
No Work/Retired	=1 if retired from work, =0 otherwise
Health Problems	
Severe or some limitations	=1 if severe or some limitations, =0 otherwise
No limitations/no health problem/	=1 if no limitations or no health problem or disability,=0 otherwise
Education	
Primary	=1 if highest level of education is no qualifications or primary, =0 otherwise
Secondary	=1 if highest level of education is secondary, =0 otherwise
Third Level	=1 if highest level of education is third level, =0 otherwise
Age	
Age 50-55	=1 if aged 50 or over and under 55, =0 otherwise
Age 55-60	=1 if aged 55 or over and under 60, =0 otherwise
Age 60-65	=1 if aged 60 or over and under 65, =0 otherwise
Other variables	
Female	=1 if female, =0 if male
Married	=1 if married, =1 if not married

Table 2 Employment in LII and BHPS for people aged 50+

Wave	1	2	3	4	5	6	7	8	9	10	11
LII											
Part-time %	10.3	10.7	12.5	14.2	13.2	14.4	15.6	N/A	N/A	N/A	N/A
Full-time %	68.2	67.0	67.8	67.7	69.4	71.1	68.9	N/A	N/A	N/A	N/A
Retired %	21.5	22.3	19.7	18.1	17.3	14.4	15.6	N/A	N/A	N/A	N/A
N	941	822	771	702	612	547	508	N/A	N/A	N/A	N/A
BHPS											
Part-time %	20	20.7	20	20.8	19.7	20.4	18.6	19.5	17.8	17	18.6
Full-time %	52.3	51.6	50.2	50.3	52.3	51.9	53.4	53.8	49.5	50.7	51.0
Retired %	27.7	27.7	29.9	28.9	28	27.7	28	26.7	32.7	32.3	30.5
N	1457	1364	1298	1291	1287	1340	1679	1694	2590	2601	3140

Table 3 Proportion aged 50-65 with health problems LII and BHPS

Wave	1	2	3	4	5	6	7	8	9	10	11
LII											
% with severe/some limitations	19	17	19	20	19	21	24	N/A	N/A	N/A	N/A
BHPS											
% with limitation	18.4	18.5	19.0	19.9	20.5	21.2	24.4	22.2	N/A	24.4	26.0

Table 4 Multinomial Probit Descriptive Model – Baseline Results – Age 50-65, LII

Marginal Effects

	Part-time work	Full-time work	Retired
Health problems	-0.0188	-0.1709**	0.1521**
Secondary Education	-0.0430**	0.0558**	-0.0127
Third level education	0.0106	0.0536*	-0.0643**
Female	0.3136**	-0.2441**	-0.0694**
Married	0.0287	0.0662*	-0.0950**
Other income	0.0029	0.0012	-0.0048
Age 50-55	0.0371*	0.1956**	-0.2323**
Age 55-60	0.0218	0.1043**	-0.1264**

Note: Year dummies included ** $p \leq 0.05$, * $p \leq 0.10$

Table 5 Multinomial Probit Descriptive Model– Baseline Results – Age 50-65, BHPS

Marginal Effects

	Part-time	**Full-time**	**Not working**
Health limitations	0.0419	-0.0955**	0.0536**
Secondary Education	-0.0335	0.0424**	-0.0089**
Third level Education	-0.0467**	0.0485**	-0.0018
Female	0.3640**	-0.3719**	0.0079**
Married	-0.0198	0.0160	0.0038
Other income	0.0000**	0.0000**	0.0000
Age 50-55	-0.1615**	0.1734**	-0.0119**
Age 55-60	-0.0657**	0.0703**	-0.0046

Note: Year dummies included. ** $p \leq 0.05$, * $p \leq 0.10$

Table 6 Multinomial Probit Model Controlling for Endogeneity – age 50-65 in any wave, LII

Marginal Effects

	Part-time work	Full-time work	Not working
Health problems	-0.0001	-0.0913**	0.0914**
Secondary Education	-0.0120	0.01696	-0.0049
Third level education	-0.0246	0.0509	-0.0263
Female	0.0791**	-0.3387**	0.2596**
Married	0.0089	0.1147**	-0.1237**
Other income	-0.0021	0.0011	0.0000
Age 50-55	0.0598**	0.2378**	-0.2975**
Age 55-60	0.0381**	0.1425**	-0.1805**
Time-averages			
Health problems	-0.0363	-0.1751**	0.2114**
Secondary Education	0.0209	0.1495**	-0.1704**
Third Level Education	0.1749**	0.2873**	-0.4622**
Other Income	0.0000	-0.0023**	0.0023

Note: Year dummies included ** $p \leq 0.05$, * $p \leq 0.10$

Table 7 Multinomial Probit Model Controlling for Endogeneity – age 50-65 in any wave, BHPS

Marginal Effects

	Part-time work	Full-time work	Not working
Health problems	0.0241	-0.0460**	0.0218
Secondary Education	0.1859	-0.1801	-0.0058
Third level education	0.1726	-0.1463	-0.0262
Female	0.3605**	-0.3685**	0.0080
Married	-0.0227	0.0196	0.0030
Other income	0.0000	0.0000**	0.0000
Age 50-55	-0.1637**	0.1757**	-0.0119
Age 55-60	-0.0658**	0.0702**	-0.0043
Time-averages			
Health problems	-0.0393	0.0599	-0.0206
Secondary Education	-0.2143	0.2180**	-0.0037
Third Level Education	-0.2152	0.1646	0.0506
Other Income	0.0000**	0.0000**	0.0000

Note: Year dummies included ** $p \leq 0.05$, * $p \leq 0.10$

Appendix A

Table A1 Sample Size and Composition (%) at each Wave

	1995	**1996**	**1997**	**1998**	**1999**	**2000**
Men	50.4	50.5	50.4	49.8	49.9	49.1
Women	49.6	49.5	49.6	50.2	50.1	50.9
Age 15-24	24.9	24.7	24.2	23.7	22.8	23.1
24-34	20.5	20.2	20.3	20.5	20.0	18.7
35-44	20.6	20.7	21.1	20.9	21.4	21.3
45-54	19.1	19.4	19.3	19.7	19.8	19.5
55-65	14.8	14.9	15.0	15.2	15.9	17.4
Education						
Primary	26.9	26.3	26.2	24.6	23.8	21.8
Secondary	59.8	60.7	60.7	58.7	58.3	60.7
Third Level	13.2	13.1	13.1	16.6	17.9	17.6
Married	59.1	58.7	59.2	58.5	58.6	56.9
N	7254	6337	5782	5273	4482	3670

Table A2 Attrition rates %

Wave	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
BHPS	14.24	11.35	4.84	5.85	3.47	4.22	4.67	5.13	6.08	5.45	5.05	5.67	7.28