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Savings, investments, debts and psychological well-being in married and cohabiting couples

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Non-technical summary

This paper looks at how married and cohabiting couples organise a specific aspect of financial management within the household, namely assets in the form of savings and investments, and liabilities in the form of non-housing related debts. The analysis examines who has savings, investments and debts, the amounts held in each, whether they are held independently in sole names or in joint names, and how the patterns of ownership vary by demographic and life-stage factors. The paper then examines the effect on psychological well-being of having, or your partner having, savings, investments or debts.

A key focus is how inequalities in labour market participation and differences in income levels may translate into inequalities within the household in terms of the ownership of assets and debts by each partner. We find that for both men and women, savings are commonly seen as being shared assets and are more likely to be held jointly than investments or debts. Alongside this we also find that there is a downward trend over the period from 1995 to 2005 in the joint holdings of savings, investments and debts which may suggest a growing independence in financial arrangements between couple members over this period. The ownership of savings, investments and debts does affect psychological well-being for both men and women. For men, psychological well-being is affected by their own levels of savings, investments and debts rather than their partner's. This is also true for women, with the exception that women's well-being is influenced both by their own and their partner's saving status. There is a weak relationship between worse levels of well-being and having debts, possibly because many debts are short-term or do not impose a significant burden to meet these commitments.

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ABSTRACT

This paper builds on the existing literature about the distribution of financial resources within the household between couple members. Using data from the British Household Panel Study (BHPS) we examine the ownership of, and amounts held in savings, investments and debts by couple members, and how these vary by individual and household characteristics. A particular focus is the extent to which financial resources derived from paid employment are allocated within the household through the ownership of assets and debts by couple members. We also examine the relationship between the ownership of assets and liabilities with individual psychological well-being.

Key words: *savings, investments, debts, marriage, cohabitation, gender, intra-household allocations, psychological well-being*

JEL codes: D3, D13, J12, J16

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INTRODUCTION

There is a growing literature on women's wealth holdings compared to men. This focuses on the impact of women's patterns of labour market participation and the gender wage gap on women's ability to build up assets and savings for the future. Rowlingson et al (1999) highlight the importance of the lifecycle for understanding how people accrue assets over time and the implications for women's wealth holdings over the longer term. A major policy concern is the longer term impact on pensions and financial well-being in retirement for women who are unable to accrue savings due to having taken breaks from paid employment to raise children or earning low wages when they are in employment (Warren et al, 2001; Kempson, 1994; Ginn and Arber, 2002; Arber, 2003). Women tend to be more likely to be either out of the labour market altogether due to caring responsibilities or to work part-time. Even if women work full-time across the life-course there is a well documented gender wage gap with women tending to have on average lower wages than men in equivalent occupations (Bardasi and Gornick, 2000). This affects women's long-term ability to save and reduces their pension income in later life relative to men (Warren, Rowlingson and Whyley, 2001), an effect which Bardasi and Jenkins (2004) find is primarily due to differences in personal characteristics between men and women rather than differences in life-time employment patterns. On the other side of the savings and wealth equation, levels of personal debt have on average increased markedly throughout the last two decades, with those who are least able to afford to service credit commitments likely to be hardest hit by the current recession.

In this paper we examine one aspect of patterns of wealth accrual and debt holdings which is rarely considered, namely the saving, investment and borrowing behaviour of men and women *within* married and cohabiting couples. A key outcome of concern for this paper is the effect of potentially gendered patterns of holdings between couple members on

individual psychological well-being as measured by the short-form of the General Health Questionnaire (GHQ12). The paper focuses on liquid assets, excluding pensions and housing, as a means to unpack gender differences in the distribution of assets and debts between couple members and the implications for their psychological well-being.

Theoretical Background and Research Questions

There is an extensive sociological literature on the distribution of financial resources between couple members in terms of the management and control of money entering the household from employment and non-employment sources (for example Pahl, 1989; Pahl and Vogler, 1993; Rake and Jayatilaka, 2002). This work has demonstrated that an assumption that financial resources are equally distributed within the household does not necessarily reflect the reality of financial sharing. There is considerable variation in the way couples manage their money and the access each partner has to money entering the household, processes which produce gendered patterns of consumption for individual household members. Qualitative research has revealed that the financial well-being of each partner depends on negotiations internal to the household about who should have access to money entering the household and how that money should be spent (Goode, 2009) even though, as Hand (2006) points out, negotiation may be based more on assumptions and understandings that have developed over time than rational discussion and clear decision-making. Sung and Bennett (2009) find that loyalty to an ideal of 'coupledom' continues to be strong even if 'more often expressed as jointness and mutuality rather than equality' (p. 169), shedding some light on broader issues of gender relations within the household and how these are mediated both by social norms and the socio-economic characteristics of individuals.

The majority of married and cohabiting couples describe their financial arrangements as being jointly managed (Pahl, 1989; Gershuny and Laurie, 2000; Sung and Bennett, 2007).

Vogler, Brockman and Wiggins (2006) suggest that we are seeing a shift towards greater independence in money management between couple members, particularly for cohabiting rather than married couples. They argue that we are seeing a shift to partially independent or independent financial management, where each partner contributes equally to household expenditure regardless of income levels. This may lead to greater inequalities between couple members as gender inequalities generated in the labour market are translated more directly into inequalities within the household. When considering savings, investments and debts, we might expect to see similar gender inequalities within the household especially if some forms of savings, investments and debts are more likely to be held as individual assets or liabilities. We would also expect that women's labour market participation and income levels will be associated with their savings patterns, investment holdings and debts. Analysis of the savings, investment and debt holdings of men and women using quantitative data reveals significant gender inequalities at the aggregate level which reflect the broader gender inequalities in paid and unpaid work (Westaway and McKay, 2007). This study finds that women are more likely than men to have savings but their savings are worth less on average, women owe less money but are more likely to have problems with debt than men, and women start off saving into pensions as much as men but end up with smaller pensions.

Recent qualitative research in the UK provides insights into the distribution not only of income within the household but of savings and debt holdings between couple members. Rowlingson and Joseph (2010) find that there is an important distinction between formal legal ownership of assets and debts and how these are perceived by couple members. Savings may be held in one name but seen as a joint resource for the couple, a situation which has the potential to disadvantage cohabiting women in particular on the break-up of a relationship if there are inequalities in the value of assets and liabilities held by each partner. This study also found that women were more likely to say they had problem debts due to

debts they had been left with from a previous relationship and the use of credit cards, combined with a greater willingness than men to admit to debt problems when being interviewed. Assets and debts were not equally shared within couples nor did couple members play an equal role in decision-making about assets and debts while 'relative resources' in terms of socio-economic status were important in determining ownership of assets and debts. Rowlingson and Joseph (2010) find that while couples are together, the unequal distribution of assets and debts can cause anxiety for one couple member and where couple members feel relaxed with such inequality, the experiences some report on the break-down of a relationship suggest this might be something they could regret in the future. There is also a possibility of financial exclusion within couples where one member of the couple knows little about their partner's financial situation which may vary widely from their own. As Pahl (2008) points out, the use of credit cards for example is an individualised form of money which can privilege those with good credit ratings and an independent income while disadvantaging others.

In addition to research into savings behaviour, the levels of unsecured personal debt in the UK have been of increasing concern, especially in the context of the recession where households and individuals may be over-stretched and unable to meet their commitments. Kempson et al (2004), in a longitudinal analysis of data from the British Household Panel Study found that just under half (45%) of individuals interviewed in 1995 and again in 2000 owed nothing in both years while 25% owed money in both years. The proportion who owed money did not change between 1995 and 2000 but the amount owed had doubled over the five year period. There were also some shifts in the type of borrowing with credit card use increasing and hire purchase and mail order becoming less common. They also found that certain types of households were more likely to be using credit with 68% of family households and 75% of lone parents owing money. While we have evidence at the household

level that credit use and the amounts owed varies by household composition and income, we have limited quantitative evidence about how debt is distributed within couples.

Being financially independent may be an important factor for women as a safeguard for their own future, for example in the face of unexpected events such as relationship breakdown where women typically fare worse than men financially (Jarvis and Jenkins, 1997; Rowlingson and Joseph, 2010; Goode, 2009; Westaway and McKay; 2007). Additionally, it could be expected that feeling financially secure, with some savings and no debts would be associated with higher reported levels of psychological well-being with worries about debt being likely to reduce individual levels of well-being. A clear relationship between income and life satisfaction at the individual level has been demonstrated by many (Clarke and Oswald, 1996; Blanchflower and Oswald, 2004; Ferrer-i-Carbonell, 2005) even though it is comparison income with a reference group or rank income, rather than income level alone which may be most strongly associated with psychological well-being as measured by self-reported life satisfaction scales.

Focusing solely on income levels to look at the association between economic circumstances and self-reported well-being, the findings usually show that an increase in income does not necessarily increase personal happiness (Boyce, Brown and Moore, 2010). However, as Headey and Wooden (2004) find, measures of wealth are positively associated with life satisfaction and in Britain these effects are larger than income effects when comparing households at the top and bottom end of the wealth distributions. When considering the effect of a lack of savings and problems managing financially, a recent study by Taylor, Jenkins and Sacker (2009) showed a strong association between financial incapability (defined as people who said they were struggling financially and had no savings) and psychological well-being. After controlling for a range of demographic and socio-economic characteristics, higher financial incapability was associated with higher mental

stress, lower reported life satisfaction, and health problems associated with anxiety or depression. They also find that the relationship between financial incapability and psychological well-being varies and is strongest at the bottom of the financial incapability distribution, compounding the already psychologically harmful effects of life events such as unemployment or divorce.

In this paper, we examine savings, investments and debts at the individual level to start to unpack the gender differences which are hidden in family or household approaches to understand the patterns of ownership of financial assets and debts within married and cohabiting couples. The relative value of holdings and the extent to which women hold these independently of their partner is examined. We then examine the association between men's and women's holdings and the levels of psychological well-being reported by each couple member. We expect that holdings of savings and investments are likely to increase psychological well-being while holding debts is likely to decrease levels of well-being. We also expect to find that the overall level of liquid assets is significantly associated with individual well-being. The relationship between one partner's assets and the psychological well-being of their partner will also reveal the extent to which couple members may still perceive assets as "shared" even if they are not held under their own name. We consider both household and individual characteristics including partner's and own employment status, annual income, age, education, marital status, whether cohabiting, the presence of children and how these factors affect married and cohabiting women and men differently in terms of their savings and debt holdings and psychological well-being.

DATA AND METHODS

The data used are from the British Household Panel Survey (BHPS), which collected detailed information on savings, investments and debts at the individual level in the 1995, 2000 and 2005 waves. The sample includes married or cohabiting couples where both

partners are at working age (i.e. women aged < 60 and men aged < 65) in the three waves[1]. There are repeated observations of some respondents in the pooled sample. In our analytical models, robust standard errors are used in most of the models to take account of these multiple observations of individuals.

Three main sets of dependent variables are used in the analysis*:*

- The ownership of savings, investments and debts, and the amounts held in these
- Whether assets and debts are held jointly or in sole names
- Psychological well-being as measured by GHQ12 scores

Ownership of savings, investments and debts, and amounts held

The main dependent variables in our models are the holding status of savings, investment and debts respectively, as well as the amount held in each of the three types of liquid assets and liabilities. The BHPS asked respondents about whether they had a number of types of liquid assets and debts[2]. The number of missing values for these questions is negligible (less than 1%). If respondents reported having one or more types of savings, investments or debts, they were then asked about the total amount held in each type of holding, and whether they were in their sole name, in joint names, or both solely and jointly with someone else. For the questions concerning the amounts held in assets and debts, there are more than 10% missing values[3]. To minimise the potential bias which might be

[1] The number of homosexual couples in the BHPS is too small for analysis so are excluded from the analysis.
[2] Types of savings include: savings or deposit account, national savings bank (post office), Tessa (tax exempted saving accounts) only ISA (individual saving account) or cash ISA, national savings certificates. Types of investments include: premium bonds, unit trusts/investment trusts (excluding ISAs, PEPs (personal equity plans)), stocks and shares ISA or PEP, shares (UK or foreign), national savings bonds, other investments, gilts, government securities. Types of debts include: hire purchase, personal loans from bank or financial institution, credit cards (including store cards), catalogue or mail order, Department of Work and Pensions Social Fund loan, loans from individuals, overdrafts, student loan, and other loans.
[3] The proportion of missing values for savings amount is 17% in wave 5 (but 9% of total respondents reported a banded value rather than an exact figure). The figures are 18% and 21% for wave 10 and wave 15 respectively. The proportions of missing values for investments in the three waves are 13%, 11%, and 12% respectively. The proportions of missing values for debts in the three waves are 3%, 5%, and 4% respectively.

introduced in the analysis as a result of the missing values, we carried out imputation using univariate imputation procedures[4].

To estimate the individual amount of savings, investments and debts, we use the reported values held as well as the information about whether these were held in the respondent's sole name only or whether all or some were jointly held with anyone. The majority of respondents with any joint holdings reported having joint holdings only rather than a combination of sole and joint: 74% for savings, 65% for investments, and 75% for debts. In addition, where a combination of sole and joint holdings were found, the majority of respondents said that they owned half of these assets. In the analysis, if a respondent reported any joint holdings, we therefore assume that they owned half of the amount in these cases. If they reported holdings under their sole name only we assume they owned the total amount.

Logistic regression models are used to estimate the determinants of ownerships of savings, investments and debts for men and women respectively. To account for possible selection effects, we model the amount of savings, investments and debts, using Heckman two-stage modelling techniques (Heckman, 1976, 1979). The first stage equations select observations which report having savings, investments and debts respectively. The main equations at the second stage estimate the parameters of the variables predicting the values held. The equations for the models are given in the Appendix.

Joint and sole holding status

In a second set of models, we are interested in the determinants of having joint holdings of liquid assets and debts. Similar to the models on the value of these assets, we

[4] The values are imputed separately for each wave using the entire sample (i.e. men and women aged 16 or above regardless of their marital status). The steps involve running OLS regressions using variables for which there were few missing cases to predict the values and variances of the missing cases for the values in savings, investments, and debts respectively. The variance of the imputed variable is similar to the non-missing observations of the variables concerning the amount in savings, investments and debts. The variables used for the imputation are: sex, gender, age, age squared, marital status, number of adults, the number of dependent children, employment status, occupational class, educational qualifications, and household income.

need to deal with possible selection biases in the sample. This is because only individuals who have savings, investments and debts will be observed in terms of their joint or sole holdings and these cases may differ in their unobserved characteristics from those who do not have savings, investments or debts. We thus apply probit models with sample selection (Van de Ven and Van Pragg, 1981). The first stage equations censor observations who own savings, investments and debts respectively. The main equations then estimate the likelihood of having joint holdings in these assets and debts.

Psychological well-being

In the final set of models, we examine the possible impacts of having or not having liquid assets on psychological well-being. We measure psychological well-being using the General Health Questionnaire (GHQ12) score. The score is derived from 12 items which measure individuals' self-reported of mental well-being. The score ranges from 0 to 36, where a higher value indicates a more stressful, poorer mental state. OLS regressions are used in these models.

The main independent variables in the models are both partners' employment statuses, and annual income. We are interested in the extent to which resources derived from labour market participation may be allocated through ownerships of assets accounts, the holding of joint assets and the amounts held and how these are associated with psychological well-being. The control variables include year of the study, age group, marital status (married, cohabiting or remarried, i.e., either one or both partners were married more than once), housing tenure status (outright home owners, mortgage payers, private housing renters, and council tenants), presence of a child under 16, as these variables have been shown to be important predictors of both wealth holding and health in past studies.

RESULTS

Descriptive Findings

Table 1 gives the proportion of men and women in the sample who reported having savings, investments and debts respectively and the medians of the estimated amount held in each. Medians (1) are estimated based on the whole sample. Only respondents having ownership of assets or debts are included in the analysis when estimating medians (2). The medians rather than the means are presented because they are less sensitive to extreme outlier cases that are common in data of wealth and assets. Overall, just over 70% of men and women had savings, and just under 50% had debts. However, women were less likely than men to have investments: 38% of women had investments compared to 42% of men. Regarding the amounts held, men had higher values in all types of holdings than women. This confirms Westaway and McKay's (2007) finding that women have a lower amount of savings than men. Of the three years 1995, 2000 and 2005, the proportions of men and women holding investments were the lowest in 2005 (just above 35%) as were the proportions having debts (around 45%).

The statuses and levels of holdings of the three types of liquid assets and debts are also correlated significantly with other household and individual characteristics and reflect what might be expected in terms of life stage and income levels. For example, married people were more likely to have investments and savings than remarried and cohabiting couples. Cohabiting couples were more likely to have debts. The proportions holding savings and investments were higher among the older age group (45 and over), childless couples, outright home owners, the employed and the higher household income groups. The amounts held were also generally higher among these groups. As for debts, the younger age group (24 and under), cohabiting couples, and those with children were more likely to have debts than other

Table 1. *Percentage of ownership and medians of savings/investments/debts by gender and other characteristics*

	Savings						Investments						Debts						Total liquid assets (savings + investments - debts)	
	Men			Women			Men			Women			Men			Women			Men	Women
	ownership	median (1)	median (2)	ownership	median (1)	median (2)	ownership	median (1)	median (2)	ownership	median (1)	median (2)	ownership	median (1)	median (2)	ownership	median (1)	median (2)	median (1)	median (2)
	%	1000£	1000£	%	1000£	1000£	%	1000£	1000£	%	1000£	1000£	%	1000£	1000£	%	1000£	1000£	1000£	1000£
Overall	70.8	1.26	1.50	72.9	0.91	1.00	41.6	0.94	1.75	37.7	0.60	1.00	49.1	2.00	2.00	48.2	0.9	0.90	1.38	1.45
Year																				
1995	67.9	1.01	1.20	70.2	0.70	0.75	43.8	0.75	1.25	38.6	0.38	0.53	50.4	1.04	1.00	51.3	0.5	0.45	1.65	1.17
2000	73.3	1.05	1.50	76.3	0.80	1.00	42.4	1.00	2.00	38.9	0.88	1.00	50.9	2.22	2.50	48.5	1	1.00	1.1	1.58
2005	71.2	1.89	2.24	72.2	1.40	1.76	37.9	1.04	2.00	35.3	0.71	1.22	45.4	3.75	4.00	44.1	1.53	2.00	1.36	1.7
Marital status																				
Married	73.2	1.50	1.80	75.6	1.00	1.14	45.9	1.00	1.75	41.7	0.66	1.00	47.7	2.00	2.00	46.0	0.82	0.75	1.74	1.82
Remarried	69.1	1.50	1.65	67.8	1.15	1.50	36.9	1.00	1.83	37.6	0.57	0.80	44.7	1.72	1.75	45.3	0.75	0.73	2.8	2.05
Cohabiting	63.2	0.62	0.91	65.8	0.50	0.60	28.2	0.56	1.60	24.1	0.46	0.80	55.4	2.00	2.00	56.6	1.19	1.33	0.43	0.34
Age																				
Aged 24 or below	64.6	0.42	0.50	66.5	0.34	0.49	23.3	0.32	0.65	22.1	0.30	0.44	61.1	1.71	2.00	60.6	1	1.00	0.01	0.12
Aged between 25 and 44	69.2	1.00	1.10	72.2	0.79	0.96	39.7	0.80	1.30	38.0	0.54	0.80	55.0	2.14	2.00	51.4	1	1.00	0.77	1.05
Aged 45 or above	74.8	2.52	3.00	77.9	2.00	2.08	50.3	1.53	2.53	47.0	1.00	1.59	38.1	2.00	2.00	36.2	0.69	0.60	4.12	3.96
Parental status																				
No child aged < 16	76.1	2.00	2.00	79.0	1.45	1.50	44.8	1.22	2.00	40.9	0.92	1.35	45.3	2.00	2.00	46.0	1	1.00	2.75	2.6
Have a child aged < 16	65.5	0.96	1.00	66.8	0.53	0.68	38.3	0.64	1.40	34.5	0.40	0.50	52.9	2.00	2.00	50.3	0.8	0.70	0.44	0.65
Housing tenure																				
Outright owner	82.2	3.50	4.48	83.0	2.48	3.00	59.7	2.45	5.00	55.8	1.05	2.11	26.2	2.00	2.30	25.5	0.65	0.50	6.45	4.89
Mortgage payer	75.2	1.38	1.50	77.5	1.00	1.00	45.4	1.00	1.50	40.7	0.70	0.93	53.2	2.25	2.25	51.0	1	1.00	1.33	1.49
Council tenant	37.7	0.40	0.31	39.8	0.21	0.13	9.4	0.35	0.10	8.1	0.24	0.08	46.9	0.97	0.70	53.3	0.46	0.36	0.36	0.35
Private housing renter	63.1	0.56	0.60	65.7	0.58	0.64	26.2	0.44	1.00	24.8	0.41	0.30	56.0	2.20	2.50	55.6	1.5	1.50	0.24	0.26
Annual household income																				
1st quartile	55.0	0.67	0.81	57.1	0.45	0.50	25.3	0.42	0.60	22.8	0.33	0.50	43.4	1.14	1.00	46.6	0.49	0.40	0.6	0.8
2nd quartile	70.0	1.00	1.00	70.5	0.65	0.70	35.5	0.60	0.98	32.9	0.43	0.50	48.6	1.95	2.00	50.1	0.8	0.75	0.78	0.97
3rd quartile	75.1	1.50	1.50	77.7	1.00	1.00	46.3	1.04	1.51	41.3	0.80	1.00	54.4	2.30	2.50	51.3	1.06	1.25	1.75	1.54
4th quartile	84.6	3.20	3.50	87.9	2.38	2.50	61.3	2.75	4.00	55.7	1.35	1.45	49.8	3.50	3.00	44.0	1.51	1.50	5	3.6
Work status																				
Full-time work	73.5	1.29	1.50	80.1	1.00	1.00	42.6	0.99	1.50	40.5	0.80	1.00	51.4	2.21	2.08	56.2	1.5	1.50	1.28	1.4
Part-time work	74.1	1.82	2.25	75.2	0.89	1.00	46.6	1.33	3.20	41.6	0.51	0.74	44.3	2.51	2.70	45.6	0.78	0.55	2.28	1.49
Not employed	51.3	1.00	2.02	58.5	0.71	1.00	32.5	0.55	2.50	28.3	0.47	1.06	36.1	0.90	0.75	38.6	0.46	0.30	1.76	1.47
Partner's work status																				
Full-time work	74.7	1.45	1.50	75.5	1.00	1.00	41.7	1.06	1.75	38.7	0.64	0.90	53.6	2.19	2.50	49.3	1	1.00	1.68	1.46
Part-time work	73.5	1.31	1.52	74.3	0.89	1.18	45.8	0.81	1.50	41.7	0.86	1.14	48.7	2.10	2.00	45.7	0.84	0.60	1.26	1.88

Note: Data from 1995, 2000 and 2005 British Household Panel Survey. The sample contains married and cohabiting men and women at working age. For men, N = 6,108; for women, N = 6,086. For median (1), non-owners of savings, investments and debts, their respective amount in these assets and debts is taken as zero. For median (2), non-owners of savings, investments and debts respectively are excluded from the sample.

groups. Higher-income households and the employed were more likely to have debts and have a higher level of debts than other groups, revealing their higher credit worthiness and ability to service debt from their income. When we define total liquid assets as the sum of savings and investments minus debts, this is positively correlated with being remarried, childless, an outright home owner, being employed, older and having a higher household income.

Findings of Multivariate Analyses

1. Determinants of ownerships of savings, investment and debts

The models in Table 2 investigate the determinants of ownerships of savings, investments and debts. Here we are particularly interested in the associations between individuals' own and their spouses' employment statuses and their holdings of savings of assets and debts.

As shown in Table 2, the three ownership statuses are highly associated with life stage factors, such as age groups, marital status and parenthood status, confirming our descriptive results. For example, after controlling for other factors, those in a cohabiting couple are less likely to have savings and investments than those who are married. In line with our descriptive findings, the likelihood of having debts is associated with being younger after controlling for other factors. Net of other characteristics, having a dependent child reduces the likelihood of having savings, but it is not associated significantly with the holding of investments and debts.

As for work statuses, having no work is generally associated with a lower chance of possessing savings, investments and debts, though in the case of men's investments, the coefficient is marginally insignificant. Women part-time workers are also less likely to have debts than women full-time workers. Partner's employment statuses also play a significant

Table 2. *Logistic Regression Models of Ownership of Savings, Investments and Debts*

	Having Savings				**Having Investments**				**Having Debts**			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**	
	B	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*
Year 2000	0.25***	0.07	0.30***	0.07	-0.10	0.06	-0.03	0.06	0.02	0.06	-0.11	0.06
Year 2005	0.08	0.07	-0.01	0.07	-0.39***	0.06	0.27***	0.06	-0.18**	0.06	-0.26***	0.06
Aged 24 or below	-0.05	0.11	-0.19	0.11	-0.89***	0.11	0.81***	0.11	0.68***	0.10	0.71***	0.10
Aged between 25 and 44	-0.04	0.08	-0.05	0.10	-0.33***	0.08	-0.25**	0.09	0.43***	0.07	0.44***	0.08
Cohabiting	-0.34***	0.09	-0.37***	0.09	-0.31**	0.09	-0.42***	0.10	0.06	0.08	0.09	0.08
Remarried	0.04	0.16	-0.36*	0.16	-0.39**	0.14	-0.24	0.14	0.09	0.13	0.08	0.13
Mortgage payer	-0.42***	0.12	-0.40**	0.12	-0.39***	0.09	-0.51***	0.10	0.78***	0.10	0.72***	0.10
Council tenant	-1.68***	0.14	-1.60***	0.14	-2.33***	0.17	-2.32***	0.19	0.65***	0.13	0.97***	0.13
Private housing renter	-0.85***	0.15	-0.79***	0.16	-0.98***	0.15	-0.91***	0.16	0.83***	0.14	0.80***	0.14
Having a dependent child	-0.43***	0.08	-0.45***	0.08	-0.09	0.07	-0.03	0.08	0.13	0.07	0.04	0.07
Working part time	0.05	0.14	-0.20	0.08	0.15	0.12	-0.08	0.08	-0.11	0.12	-0.36***	0.07
Having no work	-0.67***	0.10	-0.73***	0.09	-0.16	0.11	-0.50***	0.09	-0.32*	0.10	-0.69***	0.08
Spouse working part time	0.05	0.08	-0.03	0.14	0.11	0.08	0.11	0.13	-0.14*	0.07	0.02	0.12
Spouse having no work	-0.22**	0.09	-0.48***	0.11	-0.07	0.09	-0.09	0.11	-0.31***	0.08	-0.03	0.10
Constant	1.81***	0.13	2.21***	0.13	0.74***	0.11	0.71***	0.11	-0.87***	0.11	-0.72***	0.11
Pseudo LL(df)	-3387.82(14)		-3205.52(14)		-3775.9605(14)		-3684.36(14)		-4044.58(14)		-3998.83(14)	
Pseudo R^2	0.082		0.098		0.089		0.087		0.044		0.051	
%N	70.8		72.9		41.6		37.7		49.1		48.2	

Note: Data from the British Household Panel Survey 1995, 2000, and 2005. The sample contains married and cohabiting men and women at working age. For men, N = 6,108; for women, N = 6,086. The reference categories in the three models are non-owners of saving, investment and debt respectively. The omitted categories in the independent variables are: Year 1995, Aged 45 or over, Married, Outright property owner, Having no dependent child, Working full time, and Spouse working full time.
*p < .05. **p < .01. ***p < .001.

role in savings. Women and men with their partners working full time are more likely to have savings compared with those with non-employed partners. However, partner's employment does not increase the likelihood of having investments. Net of controls, the likelihoods of having investments and savings are not statistically different between those with their partners working full-time and those with their partners working part-time. However, men with their partners working part-time are less likely to have debts than men with their partners working full-time.

In sum, the ownership of savings is associated both with individuals' own and their partners' employment status, though the relationship with own employment status is stronger (the coefficients are larger in both men's and women's models), net of other characteristics. Having investments appears to be more independent of partners' employment status, when other factors are controlled for. Having debts is associated with both individuals' own and their partners' employment status for men, but only with their own employment status for women.

2. Determinants of the amount in savings, investments and debts

Table 3 presents Heckman selection models of the amounts held in savings, investments and debts[5]. The descriptive results already discussed show that household background variables and both partners' employment statuses are to a certain extent associated with the likelihood of having savings, investments and debts. Hence we include all variables of the earlier models as well as educational qualifications in the selection equations,

[5] In models of Table 4, we employ Heckman selection models in two steps instead of estimating the parameters by maximum likelihoods (MLE). Hence significance levels and standard errors in the models should be read with cautions. An advantage of using MLE is that robust standard errors can be computed by taking account of the multiple observations of some individuals across the three waves of data. However, estimations of the models concerning investments fail to concave.

which censor those who own savings, investment and debts respectively[6]. In the main estimation equations, we include the main household and life stage variables and both partners' annual income as independent variables.

Regarding the individual level of savings, the associations with the variables are similar in men's and women's models. A higher level of savings is associated with older age and being remarried. Compared with outright house owners, mortgage payers have a lower level of savings, when controlling for other factors. Having a dependent child further reduces the amount of savings for women. Turning to individuals' own and partners' annual income, they are more strongly associated with men's saving amount than women's amount (the coefficients are larger in the men's model). Nevertheless, for both men and women, their saving levels are roughly symmetrically associated with their own and their partners' income.

As for amounts in investments, most of the variables are insignificant predictors in the men's model. The exception is the presence of a dependent child, which is associated with a lower level of investments for men. The coefficients concerning annual income of both partners are also insignificant for men. In the case of women, those who are living in accommodation with a mortgage have a lower level of investments, possibly because much of their available income goes towards the mortgage payments which will be seen by many as a long-term investment. Furthermore, for women, their investment amount is positively associated with their own annual income, but not with their partners' annual income suggesting that within couples investments are more likely to be seen as independently held rather than as joint assets.

Focussing on amounts held in debts, we see a positive period effect. Both men and women were more likely to have higher levels of debt five and ten years on from 1995. Men's debts were also higher where they have a dependent child, possibly due to the

[6] At least one variable in the selection equation should be absent from the main equation. Therefore we add educational qualifications in the selection equation.

Table 3. *Heckman Two-stage Models of Amount of Savings, Investments and Debts*

	Savings				**Investments**				**Debts**			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Year 2000	0.57	2.07	-2.40*	1.17	-4.42	25.29	-0.65	2.08	2.24**	0.67	0.76*	0.39
Year 2005	1.75	2.19	-1.44	1.25	30.86	30.76	1.53	2.46	3.38***	0.77	2.78***	0.47
Aged 24 or below	-6.94*	2.97	-4.91**	1.56	0.15	51.01	-4.94	3.70	0.76	1.34	-0.24	0.73
Aged between 25 and 44	-5.95**	2.13	-3.54**	1.29	24.34	27.87	-3.46	2.41	0.94	0.95	-0.46	0.58
Cohabiting	2.59	2.53	-0.73	1.41	-36.72	34.26	0.13	2.99	0.96	0.75	0.25	0.44
Remarried	7.04*	3.28	9.91***	1.91	-13.91	44.39	-0.64	3.39	0.21	1.14	-0.05	0.65
Mortgage payer	-6.26*	2.56	-3.99**	1.43	9.58	31.04	-9.44***	2.61	0.44	1.61	0.52	0.91
Council tenant	-2.30	6.26	-5.82	3.25	12.05	97.97	-9.53	8.28	-1.57	1.60	-0.25	1.03
Private housing renter	-6.24	4.43	-4.28	2.44	-2.49	63.83	-9.65	5.11	1.81	1.88	0.97	1.07
Having a dependent child	0.28	2.15	-3.30*	1.28	-52.14*	24.37	1.59	2.14	1.42*	0.64	-0.07	0.39
Annual income/1000	0.39***	0.05	0.16**	0.05	0.65	0.58	0.32***	0.09	0.12***	0.02	0.10***	0.02
Spouse annual income/1000	0.36***	0.08	0.16***	0.03	0.73	1.03	0.09	0.05	0.04	0.03	0.01	0.01
Constant	5.98	3.84	8.27***	2.07	19.86	50.02	14.78**	4.69	-4.92	4.41	0.96	2.37
Wald χ^2 *(df)*	113.75(12)		134.49(12)		10.64(12)		36.48(12)		125.63(12)		119.00(12)	
ρ	-0.13		0.05		-0.02		-0.08		0.26		-0.13	
Number of censored observations	4,323		4,439		2,538		2,296		2,997		2,931	

Note: Data from the British Household Panel Survey 1995, 2000, and 2005. The sample contains married and cohabiting men and women at working age. Number of non-censored observations = 6,108 for men and 6,086 for women. The dependent variable is the amount in savings, investments and debts respectively divided by 1000.
The selection equation censors individuals who have savings, investments and debts respectively. Variables included in the selection equation are year, age group, marital status, housing tenure status, presence of a dependent child, work status, partner's work status and educational qualifications. Coefficients of the selection equations are not shown. ρ is the correlation between the estimated equation and the selection equation.
The omitted categories in the independent variables are: Year 1995, Aged 45 or over, Married, Outright property owner, and Having no dependent child.
*p < .05. **p < .01. ***p < .001.

additional expense of children combined with reduced annual income from their partner if they took a break from the labour market or reduced their working hours. Other control variables were not significant predictors. For both men and women, the amount of debt they had was positively associated with their own annual income but not with their partners' annual income. Confirming results of the earlier section, both partners' income is associated more strongly with the amount in savings than the amount in investments or debts.

3. Determinants of holding a joint account in savings, investments and debts

A key factor influencing the individual share of assets within the couple is whether or not assets and debt are held in sole or joint names. Of course resource allocation within the household can be made through income transfers between savings and other bank accounts but we would expect such transfers to be less influential in the case of investments. The models in Table 4 examine the factors that can be related to the likelihood of having joint holdings for each category by probit models with sample selection[7].

The selection equations of the three models censor people who have savings, investments and debts respectively. They include all variables predicting ownership of these liquid assets (see Table 2) as well as educational qualifications. In the main estimation equations, we include the household background variables and both partners' annual income as independent variables. As we can see, among the three types of assets and debts, a higher proportion of savings are held jointly compared with investments and debts: the figures for men and women are respectively 41.5% and 34.7%, compared with 23.4% and 21.6% for investments and 34.3% and 33.9% for debts.

[7] Parameters in the two-stage probit models in Table 5 are estimated by maximum likelihoods (MLE) so that robust standard errors can be computed.

Table 4. *Heckman Two-stage Probit Models of Having Jointly held Savings, Investments and Debts*

	Have a Joint Account in Savings				**Have a Joint Account in Investments**				**Have a Joint Account in Debts**			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**	
	B	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*
Year 2000	-0.38***	0.04	-0.31***	0.04	-0.54***	0.07	-0.54***	0.07	-0.22***	0.06	-0.31***	0.06
Year 2005	-0.49***	0.05	-0.42***	0.05	-0.75***	0.10	-1.02***	0.09	-0.30***	0.08	-0.35***	0.07
Aged 24 or below	0.17*	0.08	0.33***	0.07	-0.21	0.16	-0.22	0.14	0.03	0.16	0.15	0.13
Aged between 25 and 44	0.08	0.05	0.14*	0.06	-0.11	0.08	-0.10	0.09	0.05	0.11	0.17	0.10
Cohabiting	-0.66***	0.07	-0.70***	0.07	-0.74***	0.12	-0.77***	0.13	-0.69***	0.08	-0.50***	0.07
Remarried	-0.06	0.10	-0.19	0.10	-0.14	0.13	-0.10	0.14	-0.09	0.12	-0.11	0.12
Mortgage payer	0.12	0.06	0.19**	0.06	0.07	0.09	-0.03	0.10	0.26	0.21	0.26	0.17
Council tenant	-0.04	0.17	0.10	0.15	-0.17	0.31	-0.40	0.34	0.13	0.18	-0.03	0.19
Private housing renter	-0.03	0.12	0.10	0.11	0.11	0.19	-0.04	0.22	-0.09	0.21	-0.12	0.20
Having a dependent child	0.06	0.05	0.01	0.06	0.17*	0.07	0.22**	0.08	0.11	0.06	0.17**	0.06
Annual income/1000	0.0004	0.001	0.004	0.002	-0.0003	0.002	0.01**	0.00	-0.006*	0.002	-0.002	0.003
Spouse annual income/1000	0.0006	0.002	-0.004**	0.002	0.006	0.003	-0.005*	0.00	0.003	0.003	0.0001	0.002
Constant	0.04	0.10	-0.15	0.09	-0.18	0.14	-0.32	0.18	-0.14	0.61	-0.48	0.47
Pseudo LL	-6107.95		-5874.77		-4905.18		-4649.65		-5758.47		-5685.70	
Wald χ^2(df)	270.86 (12)		252.84(12)		146.7(12)		190.08(12)		184.61(12)		183.09(12)	
Number of censored observations, N	4,319		4,436		2,513		2,269		2,934		2,864	
%N	41.5		34.7		23.4		21.6		34.3		33.9	
ρ	-0.11		-0.25		-0.27		0.01		-0.19		0.02	

Note: Data from the British Household Panel Survey 1995, 2000, and 2005. The sample contains married and cohabiting men and women at working age. Number of non-censored observations = 6,108 for men and 6,086 for women.

The selection equation censors individuals who have savings, investments and debts respectively. Variables included in the selection equation are year, age group, marital status, housing tenure status, presence of a dependent child, work status, partner's work status and educational qualifications. Coefficients of the selection equations are not shown. ρ is the correlation between the estimated equation and the selection equation.

The omitted categories in the independent variables are: Year 1995, Aged 45 or over, Married, Outright property owner, and Having no dependent child.

*p < .05. **p < .01. ***p < .001.

There is a period effect on the likelihood of having joint holdings for all three types of liquid assets and liabilities. After controlling for other factors in the models, the likelihood of having joint holdings is reduced over the ten years from 1995. After controlling for age, cohabitation is another major factor. Cohabiting couples have a lower chance of having joint holdings in all the three types of assets and debts compared to married couples. This may reflect their lower commitment to the relationship, greater independence within the relationship, or indicate that those who choose to cohabit have differing views on how finances should be managed within a relationship. In addition, some cohabitees in the sample are cohabiting following the breakdown of a marriage, with an experience in a previous relationship potentially affecting how they manage their finances in future relationships (Rowlingson and Joseph, 2010). Having a dependent child increases the likelihood of reporting joint investments and debts for women, but only investments for men.

For men, their annual income does not increase the likelihood of having joint savings or investments. Women are less likely to have joint savings and investments as their partners' income increases. On the other hand, they are more likely to have joint investments with increases in their own annual income. Turning to debts, men have a lower chance of having jointly held debts as their income increases. But women's likelihood of having joint debts is not associated significantly with either partner's income, net of other controls. Men's annual income is generally negatively associated with the likelihood of having joint investments and debts. In contrast, as women's annual income increases this is associated with an increase in the likelihood of women holding joint investments.

4. Savings, investment and debts and psychological well-being

In this section, we explore the relationship between savings, investments and debts and psychological well-being. The dependent variable of the models in Tables 5 and 6 is the

psychological well-being score from the GHQ12. This ranges from 0 to 36, where a higher score indicates more stress and poorer psychological well-being.

The background variables in Table 5 behave within our expectations. People in the youngest age group have significantly better well-being than those in the oldest age group which is the reference category. Council tenants are worse off in their well-being than home owners, after controlling for other characteristics. Well-being is generally positively associated with annual income, although the coefficients in some of the models become marginally insignificant after controlling for the ownership of liquid assets.

. Both men's and women's well-being increases where they themselves and their partner have savings. They are both more influenced by their own saving status, and the coefficient concerning the partner's saving status is insignificant in the men's model. Turning to investments, both men's and women's well-being is associated significantly with their own investment status but not with their partner's: those who have investments have better well-being scores than those who do not. Men who have debts have worse well-being scores than those who do not, after taking account of other characteristics. However, women's debt status does not have a significant association with their own or their partner's well-being. This contrasts with some qualitative studies which suggest that women are more likely to express anxiety related to debts, even when the debts are held under their partner's name (Rowlingson and Joseph, 2010).

Table 5. *OLS Models of Associations between Ownerships of Savings, Investments and Debts, and Psychological Well-being*

	Savings & Psychological well-being				**Investments & Psychological well-being**				**Debts & Psychological well-being**			
	Men		**Women**		**Men**		**Women**		**Men**		**Women**	
	B	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*	*B*	*Robust SE*
Year 2000	0.003	0.14	0.10	0.16	-0.03	0.14	0.03	0.16	-0.03	0.14	0.05	0.16
Year 2005	-0.11	0.16	0.04	0.18	-0.12	0.16	0.02	0.18	-0.08	0.16	0.09	0.18
Aged 24 or below	-1.58***	0.23	-1.03***	0.25	-1.62***	0.23	-1.10***	0.26	-1.61***	0.23	-1.04***	0.26
Aged between 25 and 44	-0.27	0.18	-0.48*	0.21	-0.29	0.18	-0.51*	0.21	-0.29	0.18	-0.48*	0.21
Cohabiting	0.12	0.19	-0.04	0.22	0.14	0.20	0.0001	0.22	0.16	0.19	0.04	0.22
Remarried	-0.18	0.37	0.36	0.36	-0.20	0.37	0.41	0.36	-0.17	0.37	0.43	0.36
Mortgage payer	0.20	0.22	0.36	0.23	0.21	0.22	0.35	0.23	0.20	0.22	0.40	0.24
Council tenant	1.05**	0.35	1.28**	0.38	1.23***	0.35	1.53***	0.38	1.31***	0.34	1.71***	0.38
Private housing renter	0.30	0.33	0.64	0.37	0.34	0.33	0.70	0.37	0.35	0.33	0.79*	0.37
Having a dependent child	0.28	0.16	-0.03	0.19	0.34*	0.16	0.09	0.19	0.33*	0.16	0.07*	0.19
Annual income/1000	-0.01*	0.01	-0.01	0.01	-0.02**	0.01	-0.01*	0.01	-0.02**	0.01	-0.02	0.01
Spouse annual income/1000	0.002	0.01	-0.01	0.01	0.001	0.01	-0.01	0.01	-0.00002	0.01	-0.01	0.01
Having savings	-0.42*	0.17	-0.89***	0.20								
Partner having savings	-0.32	0.17	-0.39*	0.19								
Having investments					-0.03**	0.15	-0.45**	0.17				
Partner having investments					-0.22	0.16	-0.06	0.16				
Having Debts									0.43**	0.15	-0.11	0.16
Partner having debts									-0.24	0.15	0.20	0.16
Constant	11.38***	0.31	13.01***	0.33	10.95***	0.27	12.29***	0.30	10.79***	0.26	12.01***	0.27
R^2	0.02		0.02		0.02		0.02		0.02		0.02	
Df	14		14		14		14		14		14	

Note: Data from the British Household Panel Survey 1995, 2000, and 2005. The sample contains married and cohabiting men and women at working age. Cases with missing values in psychological well being are drop (<1%). For men, N = 6,046; for women, N = 6,024.
The dependent variable is the psychological well-being score, measured by 12 items, ranging from 0 to 36. The omitted categories in the independent variables are: Year 1995, Aged 45 or over, Married, Outright property owner, Having no dependent child, Having no savings/investments/debts, and Partner having no savings/investments/debts. A positive score indicates a higher GHQ score and therefore indicates worse psychological well-being.
*p < .05. **p < .01. ***p < .001.

The models in Table 6 test further whether overall liquid assets levels have a relationship with psychological well-being. The independent variables of the models in Table 6 include the household background variables used in previous models, as well as both partners' statuses of savings, investments and debts respectively. In Table 6, the models test the relationship between both partners' total liquid assets (defined as savings + investments - debts) and their psychological well-being.

As we can see, both men's and women's psychological well-being benefits from an increase in their own income, while their partner's income and liquid assets show no significant association with their own well-being. In the case of men, their well-being is significantly worse if their liquid assets level is in the first lowest quartile of the sample. Both male and female council tenants have a negative association between their liquid assets and well-being scores.

In summary, we find that the ownership of savings, investments and debts generally has a significant relationship with psychological well-being for both men and women, with individual income being a significant predictor for both. There is also evidence to show that a low level of liquid assets is associated with poor psychological well-being in the case of men and both men and women living in social housing. Nonetheless, the associations of assets with well-being are due to an individual's own status or total amount in liquid assets held by the individual rather than to their partner's status. The only exception is that women's well-being is influenced both by their own and their partner's saving status. We find that for both men and women, their psychological well-being is affected mostly by assets and liabilities held in their sole name. The findings confirm earlier studies in identifying independence in the management of some forms of financial assets within couple relationships (Vogler, Brockman and Wiggins, 2006). Another possibility, however, is that resources may be

Table 6. *OLS Models of Associations between Ownerships of Savings, Investments and Debts, and Psychological Well-being*

	Men		**Women**	
	B	*Robust SE*	*B*	*Robust SE*
Year 2000	-0.02	0.15	0.05	0.17
Year 2005	-0.09	0.17	0.07	0.19
Aged 24 or below	-1.66***	0.23	-1.14***	0.26
Aged between 25 and 44	-0.23	0.19	-0.52*	0.21
Cohabiting	0.20	0.20	0.02	0.23
Remarried	-0.27	0.37	0.23	0.37
Mortgage payer	0.13	0.22	0.35	0.24
Council tenant	1.26***	0.35	1.68***	0.38
Private housing renter	0.30	0.34	0.74	0.38
Having a dependent child	0.35*	0.17	0.02	0.19
Annual income/1000	-0.02**	0.01	-0.02*	0.01
Spouse annual income/1000	0.00	0.01	-0.01	0.01
Total liquid assets 1st quartile	0.37*	0.18	0.36	0.23
Total liquid assets 2nd quartile	-0.16	0.20	0.26	0.22
Total liquid assets 3rd quartile	0.09	0.19	0.17	0.21
Spouse's total liquid assets 1st quartile	0.19	0.21	0.30	0.20
Spouse's total liquid assets 2nd quartile	0.04	0.20	0.29	0.22
Spouse's total liquid assets 3rd quartile	-0.23	0.19	0.14	0.21
Constant	10.82***	0.30	11.74***	0.32
R^2	0.02		0.02	
Df	18		18	

Note: Data from the British Household Panel Survey 1995, 2000, and 2005. The sample contains married and cohabiting men and women at working age. Cases with missing values in psychological well being are drop (<1%). For men, N = 6,046; for women, N = 6,024.
The dependent variable is the psychological well-being score, measured by 12 items, ranging from 0 to 36. The omitted categories in the independent variables are: Year 1995, Aged 45 or over, Married, Outright property owner, Having no dependent child, Total liquid assets 4th quartile, and Partner's total liquid assets 4th quartile.
*p < .05. **p < .01. ***p < .001.

allocated at an earlier stage when financial assets are debited or credited between partner's bank accounts, or when deciding whether finances are held jointly or independently.

SUMMARY AND CONCLUSIONS

We have investigated the distribution of liquid assets and debts within cohabiting and married relationships in four ways: (i) the ownership of financial assets and debts, (ii) the amounts held in savings, investments and debts, (iii) the joint and sole holding of assets and debts, and (iv) psychological health in relation to financial assets and liabilities.

Among the three types of liquid assets and debts, savings are the most common type to be "shared" between partners. Both partners employment status affects the likelihood of having savings as well as the amount held in savings accounts. Women's psychological well-being, in particular, is positively influenced by having a partner who has savings. These findings support earlier qualitative studies (Rowlingson and Joseph, 2010) which show that savings, in tangible and psychological terms, are commonly perceived as "shared" assets in marital relationships even if in reality the savings are held in one partner's name only.

Where there are investments these are mostly held independently by each couple member. The likelihood of having investments and the amount in investments are not associated significantly with their partner's employment characteristics for either men or women. Partners' labour market activities affect the holding of debts mainly through ownership, but debts held by a partner do not increase psychological stress significantly for either men or women, suggesting that debts may also be perceived as individual rather than joint commitments by many. These results reveal there is independence in some aspects of financial management within couple relationships as Vogler, Brockman and Wiggins (2006) suggest. Whether this indicates a broader secular shift towards more independent forms of financial management in all aspects of household financial resource allocation remains open.

However, the findings do suggest that inequalities between men and women in the labour market with respect to levels of income do translate into inequalities within the household. We see that women are less likely to have investments than men and where they do have savings or investments, the amounts women hold relative to their partner are typically significantly lower. Increases in men's annual income are also associated with a reduction in the likelihood that they have joint holdings in savings and investments with their partner.

The findings also indicate it is becoming increasingly common to manage liquid assets and debts independently within partnerships. There is a strong negative period effect in the likelihood of having joint holdings across the period from 1995 to 2005 in all the three types of assets and debts. Controlling for age and other characteristics, cohabiting couples are also much less likely than married couples to have joint arrangements, suggesting that there are characteristics and attitudes held by cohabiting couples towards financial management which differ from those of married couples.

Independence in financial arrangements within marital partnerships is also reflected in the finding that psychological well-being is associated primarily with an individual's own saving or investment status. The weak relationship between having debts and psychological well-being is most likely due to the fact that most of these debts are short-term or can be managed within available income (Kempson et al., 2004). Annual income is therefore a better predictor of well-being than the holding of debts and the overall liquid assets level. Our further research will examine the relationship between well-being and the amount and duration of debts in order to understand under what circumstances debt becomes problematic within couple relationships.

APPENDIX

1. The models for estimating amounts in savings, investment and debts are fitted in the following form:

$$y_j = \mathbf{x}_j\boldsymbol{\beta} + u_{1j} \quad \text{– regression equation}$$

where y_j represents the amount held by respondent j, $\mathbf{x}$ is a vector of covariates, $\boldsymbol{\beta}$ are the coefficients, u_{1j} is an error term.

The variable y_j is observed when:

$$\mathbf{z}_j\boldsymbol{\gamma} + u_{2j} > 0 \quad \text{-- selection equation}$$

where $\mathbf{z}$ is a vector of covariates, $\boldsymbol{\gamma}$ are the coefficients, u_{2j} is an error term.

$$u_1 \sim N(0, \sigma)$$

$$u_2 \sim N(0, 1)$$

$$\text{corr}(u_1, u_2) = \rho$$

2. The models for estimating the likelihood of having jointly held assets and debts are fitted in the following form:

$$y_j^* = \mathbf{x}_j\boldsymbol{\beta} + u_{1j} \quad \text{– latent equation}$$

such that the binary outcome (whether or not having jointly held assets/debts) is observed as follows:

$$y_j^{prrobit} = (y_j^* > 0) \quad \text{-- probit equation}$$

The dependent variable for j is observed if:

$$y_j^{select} = (\mathbf{z}_j\boldsymbol{\gamma} + u_{2j} > 0) \quad \text{-- selection equation}$$

where $\mathbf{x}$ and $\mathbf{z}$ are vectors of covariates, $\boldsymbol{\beta}$ and $\boldsymbol{\gamma}$ are the coefficients, u_{1j} and u_{1j} are error terms.

$u_1 \sim N(0, 1)$

$u_2 \sim N(0, 1)$

$\text{corr}(u_1, u_2) = \rho$

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