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Not always for richer or poorer: The effects of income shocks and house price changes on marital dissolution

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Abstract

There has been much informal speculation on how changes in economic circumstances contribute to partnership dissolution; however there has been little empirical work testing these speculations. This paper aims to shed light on how micro level factors such as receiving a financial windfall and changes in investment income as well as macro level changes such as changes in house prices at the regional level impact on the likelihood of divorce. We use information from 18 waves (1991-2008) of the British Household Panel Survey. The long panel allows us to control for both upturns and downturns in the economic cycle. The estimation strategy employs a discrete time duration model. The results suggest that windfalls and changes in investment income may be pathways through which financial surprises or new information impacts on the likelihood of partnership dissolution. Specifically we find a positive and significant effect on partnership dissolution of a wife receiving an inheritance and a husband having a positive change in his income from interests and dividends. This finding is consistent with much of the theoretical literature suggesting a positive shock will reduce the benefits of the current marriage and increase the likelihood of an individual finding a ‘better’ partner. Interaction models for changes in regional house prices and housing tenure show a small positive significant increase in the likelihood of divorce for couples in mortgaged property and private rented accommodation when house prices rise by 1% compared to those in social housing. A rise in house prices for couples with mortgages may increase the pay-offs for divorce reducing the returns to remaining in the current partnership. For couples, in private rented accommodation, a rise in house prices may signify an inability to get on the housing ladder reducing the benefits of the current partnership leading individuals to seek a partner with more capital or a homeowner.

JEL Classification: C41, D10, J12

I. Introduction

Economic downturns invariably spark a greater attention to the impact on families and partner dissolution and the media usually presents a number of often sketchy and competing perspectives.¹ The standard argument made is that increased financial pressures lead to greater family breakdown. In addition, family instability may rise when individuals believe they can get a more favourable divorce settlement when their current income is relatively low. Alternatively it is also argued that money troubles may keep couples together as couples cannot perhaps afford to get divorced and living apart is deemed economically inefficient. Divorce rates are then expected to fall in a recession.

Whilst a range of theoretical perspectives is supportive of these types of arguments (Becker et al. 1977, Weiss and Willis, 1997, Weiss 1994), the empirical evidence on the role of changing economic circumstances and economic shocks on partnership dissolution is rather limited (Boheim and Ermisch, 2001; Charles and Stephen 2004, and Rainer and Smith 2010). The aim of this research is to explore the role of micro-level factors such as a change in personal financial situation and macro level factors such as changes in house price at the regional level in tandem with home-ownership.

The analysis uses data on couples in their first marriage from all eighteen waves (1991 to 2008) of the British Household Panel Survey (BHPS). The long panel of data allows us to control for economic cycles. Indeed, this is the first longitudinal study on marital instability to include data from the latest global recession beginning with the credit crunch in autumn 2007.

Financial shocks may have different effects on the gains to marriage in economic upturns and downturns influencing the likelihood of partnership dissolution from changes to economic circumstances. In particular, we focus on the impact of unexpected changes to financial situation (both positive and negative), house price changes at the regional level by type of housing tenure of the couple, windfall payments, and investment income changes on the likelihood of partnership dissolution over the 17 year period covered by the BHPS. The econometric method allows us to obtain consistent estimates of the parameters of interest using spells of partnerships formed before and during the life of the panel because of marital history information contained in wave 2 of the data for partnership formation pre-dating 1992

¹ See Wolfers (2010) and Kapner (2011)

as well as containing detailed information on partnerships formed during the panel which is updated in each year of the panel after wave 2.

The remainder of the paper has the following structure. In the next section, a short review of the existing literature is provided. Section three provides an overview of the data and the econometric framework. Section four discusses the results and section five provides a summary with conclusions.

II. Background

The seminal work by Becker et al. (1977) is the foundation for the empirical research on marital dissolution. Partnership formation is partially based on match quality measured by similar interests, goals, life experiences or complementary characteristics such as one partner being a good cook and the other being a good gardener. A better quality match is more likely to endure. Additionally, at the time when partnerships are formed, couples form expectations about their partner's economic potential such as future earnings streams. Union dissolution may occur if one partner meets someone who they perceive is a better quality match than their current partner. More relevant to this research, throughout the relationship, individuals receive information about themselves and their partner which may cause them to re-evaluate the benefits of the partnership. This new information was unanticipated when the partnership was formed. Hence this new information is a shock that may change the gains to marriage leading to partnership dissolution.

Becker et al. (1977) test their theoretical model using a cross-section of data from the 1967 Survey of Economic Opportunity and the Terman Sample. As pointed out by Charles and Stephen (2004), there are empirical difficulties with estimating the effect of shocks on marital dissolution with only a cross-section of data, as the researcher cannot observe initial marital quality. Thus, one cannot distinguish relationship dissolutions resulting from marital shocks from those caused by a poor quality match. Weiss and Willis (1997) overcome this problem by using longitudinal data from the National Longitudinal Study of Youth (1972 to 1986) where partnership formation is observed, to separate initial match quality from the effect of earning shocks on marital dissolution. They estimate a dynamic model using information on past wage earnings to determine the difference between realised and potential earnings on marital dissolution. They find heterogeneous effects by gender. Men who experience a positive shock to earning capacity have a reduced likelihood of divorce and women who experience a positive shock to earnings capacity have an increased likelihood of divorce.

These gains to marriage are more important than initial match quality on marital stability. This had important implications for future research as it supported the idea of new information playing an important role in marital stability.

Further researcher (Boheim and Ermisch 2001, Charles and Stephen 2004, and Rainer and Smith 2010) has then focused on the role of ‘surprises’ or new information on marital stability. Boheim and Ermisch (2001) using data from the British Household Panel Survey (BHPS) on financial expectations construct a measure of financial surprise to determine how new information related to the gains of the partnership impacts on marital stability. They find a positive financial surprise significantly reduces the likelihood of partnership dissolution; suggesting that an unanticipated gain to the partnership decreases the likelihood of separation. Charles and Stephen (2004) focus on the first instance of a negative shock such as a health disability and job loss on partnership dissolution using data from the Panel Study of Income Dynamics (PSID). They find that job loss significantly increases the likelihood of divorce particularly job loss caused by a layoff, but partner disability has no effect. This suggests that changes in employment that were not anticipated at the start of the partnership may reduce the economic gains from the partnership leading to dissolution of the relationship. However, divorce may not be driven solely by pecuniary motives and the two different shocks may provide different information about nonfinancial variables that affect marital well-being. A job loss may signal important information about a partner’s personality where a disability may be viewed as bad luck. Rainer and Smith (2010) explore the effects of house price shocks on partnership dissolution using data from the BHPS. Results indicate that negative house price shocks significantly increase the likelihood of partnership dissolution. A negative unanticipated shock to house prices may affect the gains to marriage by impacting on household income through an increase in borrowing constraints and hence a reduction in consumption opportunities.

We hypothesise that different types of financial surprises such as windfall payments, shocks to investment income, unexpected changes in one’s financial situation, unexpected changes in house prices at the regional level may have different effects on the likelihood of partnership dissolution. The different types of shocks will provide different information about the partner’s or couples’ economic capacity. Additionally as pointed out by Charles and Stephen (2004), the nature of the shock such as winning the lottery may matter in partnership dissolution as it will affect how other’s view the individual for initiating the dissolution of the relationship. An individual who is concerned by these social factors may only initiate

divorce for what they perceive to be socially acceptable reasons. Thus, there is a need to control for multiple types of changes to a partner's or the couples' financial situation. Additionally, these financial variables may explain the significant effect of financial surprise indicators found in Boheim and Ermisch (2001). Combining all these factors in one paper will provide a better understanding on how economic factors impact on the likelihood of partnership dissolution.

III. Econometric Framework

The basic econometric framework follows the model proposed in Boheim and Ermisch (2001) which is also used as the base equation in Rainer and Smith (2010). Boheim and Ermisch (2001) use data from waves 1 to 8 (1991 to 1998) of the BHPS to estimate a discrete time duration model for the j_{th} couple in period t :

$$P[dissolution_t | X_{jt-1}, dur_{jt-1}] = \Phi(\log dur_{it-1} + \beta X_{jt-1}) \quad (1)$$

The probability of the union dissolving in period t is conditional on its survival until period $t-1$, $\Phi(\cdot)$ is the cumulative standard normal distribution function, dur_{jt-1} is the duration of the relationship measured in period $t-1$, the vector X_{jt-1} contains a number of explanatory variables which will be described below, measured in period $t-1$, and α and β are the parameters to be estimated. The model is estimated using a maximum likelihood approach which gives consistent estimates as long as all covariates included in the model are measured in period $t-1$. This framework assumes the results are not affected by couple specific individual heterogeneity.

Also following Boheim and Ermisch (2001) financial surprises are measured by using information from period $t-2$ regarding the respondent's financial expectations for the following year ($t-1$) which is compared to reported changes in financial situation between periods ($t-2$) and ($t-1$) to devise measures of negative and positive financial surprises.

This work builds upon Boheim and Ermisch (2001) by controlling for multiple observations per couple and couple specific heterogeneity influencing the findings by controlling for random effects.

Additionally, windfall amount, payment, and type, positive and negative changes in investment income, changes in house prices at the regional level interacted with type of tenure, are added to the model whilst retaining Boheim and Ermisch (2001) financial surprise

variable. This allows us to investigate if these financial variables explain the influence of financial surprise indicators on the likelihood of partnership dissolution. Positive and negative shocks are allowed to have asymmetric effects on the likelihood of dissolution.

IV. The Data

The empirical analysis utilises longitudinal data from the BHPS covering the 17 year period 1991-2008. The BHPS was a nationally representative sample of approximately 5000 households containing roughly 10,000 individuals who were interviewed annually. The initial household selection for the survey was determined by using a two-stage stratified systematic sampling procedure designed to give each address an approximately equal probability of selection. In Wave 9 (1999), two additional samples of 3000 households were recruited from Scotland and Wales allowing for independent analysis of the countries, and comparison with England. In Wave 11 (2001), an additional sample from Northern Ireland of approximately 2000 households was added to increase the representativeness of the sample across the UK. From wave 4 (1994), a youth questionnaire for household members aged 11-15 was included in the survey.

The core questionnaire collects information on income, labour market behaviour, housing conditions, household composition, health, and education. Information on changes related to marital status, employment, income, and source of income in the period between successive interviews is also collected. In wave 2 (1992) of the survey, lifetime histories detailing number and duration of cohabiting partnerships and marriages was collected. This information is used to determine the starting date of partnerships which began before the start of the survey in 1991.

The woman is selected as the representative for each partnership. Divorces are more likely to be initiated by women. For example, in 2010, 66% of divorces filed by one partner were done so by the wife (ONS 2011). The sample is restricted to adult couples that co-reside and where both partners' are observed in at least three waves. Information on the start date of the partnership is also required. The analysis is restricted to first marriages. We have 18,758 couple year observations.

Financial Surprise Variables:

In addition, to the financial surprise variables adapted from Boheim and Ermisch (2001) we also estimate a number of additional financial change variables. If these additional financial

change variables are significant on top of the surprise variables from Boheim and Ermisch (2001) this would suggest these financial variables may explain how new information related to economic factors influences the likelihood of partnership dissolution.

Windfalls:

We use information collected in waves 5, 7, and 9-18 for both partners on if the individual had received a windfall payment in the previous year, the amount of the windfall, and the type of windfall payment (i.e. lottery or inheritance). The effect on union dissolution of windfalls is allowed to be asymmetric by partner gender. Windfalls are a positive financial surprise. It is hypothesised that windfalls could either increase or decrease the likelihood of relationship dissolution. If the acquisition of a windfall makes one partner perceive themselves a better potential mate they may dissolve their current union to try their hand at finding a better partner in the marriage market. Alternatively, a windfall may increase the economic capacity of the couple and their consumption possibilities reducing the likelihood of relationship dissolution.

Changes to Investment Income

A number of investment income variables are utilised in the estimation strategy. First, we construct a variable exploring positive and negative change in annual household investment income. Positive change in annual household income is measured by a change in household investment income between period $t-3$ and $t-2$ that is greater than zero and vice versa for a negative change in annual household investment income. Secondly, a computed variable on interest and dividend payments available in waves 9-18 is used to construct a variable controlling for positive and negative changes in interest and dividend payments. Positive changes in interest and dividend payments are measured as a change greater than zero between period $t-3$ and $t-2$ and vice versa for a negative change in interest and dividend payments. Asymmetric effects if the shock is positive or negative and by partner gender on the likelihood of partnership dissolution is permitted in the analysis.

Change in House Prices by Type of Housing Tenure

A continuous variable for percent change in house price between period $t-2$ and $t-1$ is measured using data from the historical regional house price index (Lloyds TSB Bank, Plc) over the period 1990 to 2008. To test the relationship between housing tenure and changes in house price at the regional level on the likelihood of partnership dissolution; interaction

terms for being an owner/occupier with or without a mortgage, a private renter and change in regional house price between period $t-2$ and period $t-1$ are created. The base category is couples lives in social housing. We hypothesise that type of tenure may affect the likelihood of partnership dissolution conditional on a change in house price. For example, owner/occupiers may experience a rise in household economic capacity if regional house prices rise reducing the likelihood of partnership dissolution. Alternatively, a rise in regional house price may increase potential divorce settlements for owner/occupier couples increasing the likelihood of partnership dissolution. Similarly, a rise in regional house prices for couples in private rented accommodation may increase the likelihood of partnership dissolution if they are pushed off the housing ladder. Partners' may re-enter the marriage market to find a partner with more capital to purchase a house or a current homeowner.

Table 1 shows the descriptive statistics for the variables included in the analysis. From the data we can see that the annual partnership dissolution rate is approximately 2%. Table 1 indicates that the total number of children in partnerships that dissolve is higher than in continuing partnerships. There are a higher percentage of women with a university level education in the dissolving partnership group compared to partnerships that continue in period t . This is consistent with the hypothesis that economic opportunities available to more highly educated women may reduce the gains of marriage leading to partnership dissolution. However, husband's education has the opposite relationship with partnership dissolution. A higher percentage of men with university level and A-level educational qualifications are in the continuing relationship category suggesting the possibility of gender effects on how educational attainment impacts on the gains to marriage and the likelihood of partnership dissolution. The log of household income is higher in continuing partnerships compared to dissolving partnerships suggesting the financial costs to partnership dissolution may be higher for couples with more income. For both men and women, the windfall amount for dissolving partnerships is higher than for continuing partnerships. Whereas, the opposite is seen for investment income and income from interest and dividends also supporting the hypotheses that the financial costs to partnership dissolution may be higher for couples with more income. A higher percentage of couples living in private rented accommodation are in the dissolution group.

V. Results

Table 2 presents results in the first two columns, of the effect of partnership characteristics, age difference variables, and labour market variables on the likelihood of partnership dissolution. The second two columns add the surprise variables from Boheim and Ermisch (2001). To be consistent with Boheim and Ermisch coefficients are shown. We also include average marginal effects to give the results a more quantitative explanation. The dependent variable is a binary variable indicating whether the marriage ends in divorce in the current period. Probit equations were run on pooled observations for all couples. The standard errors reported in the table are robust allowing for arbitrary correlation between the random error terms within a couple.

In both model specifications there is a marginally significant and negative effect of relationship duration on the likelihood of partnership dissolution. Dependent children under the age of 5 years old significantly decreases the likelihood of divorce whereas having more children increases the likelihood of partnership dissolution. This finding is similar to the results from Boheim and Ermisch (2001) and Lillard and White (1993). If the husband is older compared to the wife being older this significantly increases the likelihood of divorce. If the wife was unemployed in the previous year this has a positive and significant effect on the likelihood of divorce. This effect of unemployment on the likelihood of divorce is only marginally significant in columns (3) and (4) suggesting a change in employment may lead to an unexpected change in financial circumstances and expectations. The negative financial surprise variables in columns (3) and (4) are positive and marginally significant. The coefficients of negative financial surprise variables are of a larger magnitude than that found in Boheim and Ermisch (2001) of 0.83 and 2.18 for worse off and much worse off respectively however the average marginal effects in Table 2 are very small at 0.03% and 0.04% increase in the likelihood of divorce. This implies that on average a negative financial surprise increases the likelihood of divorce by less than 1%.

The next stage of the estimation strategy explores the role of the other financial characteristics after controlling for shocks to financial expectations on the likelihood of partnership dissolution. In the remaining models in Tables 3, 4, and 5 only financial characteristics are shown for ease of exposition. The impact of partnership characteristics, age difference variables, and labour market variables has a similar effect on the likelihood of partnership as in Table 2.

Table 3 shows the results for the impact of the windfall variables on partnership dissolution. In all three of the windfall model specifications the financial expectation variables of better off and much better off are omitted from the equation because of collinearity issues. It is likely that a positive surprise to financial expectations may be related to receiving a windfall payment suggesting windfalls may be a potential pathway to explaining positive financial surprises. In all three models, compared to Table 2, negative surprises to financial expectations do not have a significant effect on the likelihood of partnership dissolution. Windfall amount and payment received by both the husband and wife in Models 1 and 2 do not have a significant effect on the likelihood of divorce and in most cases the coefficients and marginal effects are close to zero. In Model 3, if the wife received an inheritance payment in period $t-1$ this has a positive and significant effect on the likelihood of divorce in period t . Weiss and Willis (1997) find that an unexpected increase in the wife's earning capacity increases the risk of partnership dissolution. If the inheritance is unexpected or changes the wife's economic capacity this may explain the positive effect of receiving an inheritance on the likelihood of divorce.

Table 4 shows the results for models investigating the impact of investment income on the likelihood of partnership dissolution. As a robustness check on the results, models were also estimated with lagged investment income and lagged income from stocks and dividends however; these are not shown because the variables had no effect on the likelihood of partnership dissolution. This is consistent with expectations as investment income from the previous year will not provide any new information regarding the marriage, thus it should not influence the likelihood of partnership dissolution. Similar to Table 3, after adding the changes in investment income to the model, the financial expectation variables were not significant. A positive change in interest and dividend shares between period's $t-3$ and $t-2$ for husbands had a positive and significant effect on the likelihood of partnership dissolution. This suggests that increasing in income may induce the husband to re-enter the marriage market with his earnings potential increased.

Table 5 displays the results from the models showing the interaction effects of change in house price at the regional level and type of house tenure. The interaction effects are the mean cross-partial derivative effect or the average of the cross-partial derivate for each couple in the sample. For each observation the interaction effect is the change in the conditional probability that divorce=1 for a change in house prices at the regional level as the three tenure dummies move from zero to one. To further clarify, it is the difference in the

marginal effect of percent change in house price at the regional level on the conditional probability that divorce=1 for home owners without a mortgage, home owners with a mortgage, and private renters compared to couples in social housing (Karaca-Mandic et al.2012). The cross-partial derivatives were calculated using the user written programme for STATA, *inteff* (Norton, et al. 2004).

In the model specifications, shown in Table 5, the financial expectation variable of worse off and much worse off have a positive and marginally significant effect on the likelihood of partnership dissolution which are similar to the coefficients and marginal effects from Table 2. This suggests that changes in house prices at the regional level are not captured by the financial expectation variables. Percent change in house prices at the regional level has no significant effect on the likelihood of divorce on its own. Compared to couples in social housing there is a negative effect of being a home owner with or without a mortgage, or living in private rented accommodation on the likelihood of divorce. The average change in the conditional probability that divorce=1 for a one percent increase in regional house prices between home owners without a mortgage and those in social housing is -0.10 percentage points. Whereas the average change in the conditional probability that divorce=1 for a one percent increase in regional house prices for homeowners with a mortgage is 0.10 percentage points and for couples in private rented accommodation is 0.20 percentage points compared to couples in social housing. These findings suggest that there may be heterogeneity of the effect of a change in house prices by tenure. Couples with a mortgage may be more likely to separate on average if house prices rise, increases pay-offs of divorce and thus lowering the returns to remaining in the union. Couples living in private rented accommodation may be more likely to divorce on average if the rise in house prices push them off the housing ladder reducing the returns to remaining in the current union.

VI. Conclusion:

This paper uses 18 waves of the British Household Panel Survey, to explore the role of financial variables on the likelihood of partnership dissolution, for couples in their first marriage. Using a long panel covering the period 1991 to 2008 allow us to control for the economic cycle impacting on the likelihood of partnership dissolution. We explore the pathways through which financial surprise indicators such as an unexpected worsening of one's financial position may operate on the likelihood of partnership dissolution. Our results show that in the basic model the negative financial surprise variable has a positive and significant

effect on the likelihood of partnership dissolution. We find that in models estimated with variables measuring financial windfalls and changes in investment income, the negative financial surprise variables are no longer significant. This suggests that windfalls and changes in investment income may be pathways explaining the role of financial surprise on the likelihood of partnership dissolution. An inheritance windfall for the wife and a positive increase in investment income for the husband had a positive and significant effect on the likelihood of partnership dissolution. These changes in income may affect perceived earning or consumption potential of the affected partner reducing the gains to remaining in the current partnership.

Further results exploring the role of the interaction of changes in house price at the regional level and home ownership show that changes in house prices at the regional level do not explain the role of financial surprises on the likelihood of partnership dissolution. On average there is a small increased risk of divorce for couples living in a mortgaged property and privately rented accommodation compared to couples in social housing when regional house prices rise by 1%.

References:

Battu, H, Ma, A. and Phimister, E. (2008). Housing tenure, job mobility and unemployment in the UK *Economic Journal*, Vol. 18 (March): 1–18.

Becker, G., Landes, E. and Michael, R. (1977). 'An economic analysis of marital instability', *Journal of Political Economy*, **85**, pp. 1141-87.

Stevenson, Betsey, and Wolfers, Justin. 2007. Marriage and Divorce: Changes and their driving forces. *Journal of Economic Perspectives* 21(2): 27-52.

Böheim, R. and Ermisch, J. (2001) 'Partnership dissolution in the UK—the rôle of economic circumstances' *Oxford Bulletin of Economic Statistics*. **63**, pp.197–208.

Charles, K.K. and Stephen, M. (2004). 'Job displacement, disability, and divorce', *Journal of Labour Economics*, **22**, pp. 489-522.

Kapner, S. (2011) Recovery Prompts US divorce Rebound, *The Financial Times*, April 22nd.

Karaca-Mandic, P., Norton, E.C. and Dowd, B. (2012). 'Interaction terms in non-linear models.' *Health Service Research*, **47**, pp. 255-274.

Lillard, L. A. and Waite, L. J. (1993). 'A joint model of marital childbearing and marital disruption', *Demography*, **30**, pp. 653-81.

Lloyds TSB Bank, Plc (2011). Regional historical house price index. Available from http://www.lloydsbankinggroup.com/media/economic_insight/halifax_house_price_index_page.asp. Accessed on 20.01.2012.

Norton, E., Wang, H. and Ai, C. (2004). 'Computing interaction effects and standard errors in logit and probit models'. *Stata Journal*, **4**, pp. 154-167.

Office for National Statistics. (2011). 'Divorces in England and Wales.' Statistical Bulletin. Available from <http://www.ons.gov.uk/ons/rel/vsob1/divorces-in-england-and-wales/2010/stb-divorces-2010.html>. Accessed on 30 March 2012.

Rainer, H. & Smith, I. (2010). 'Staying together for the sake of the home?: house price shocks and partnership dissolutions in the UK.' *Journal of Royal Statistical Society Series A*, **73**, pp. 557-574.

Weiss, Y. and Willis, R. J. (1997). 'Match quality, new information, and marital dissolution', *Journal of Labour Economics*, **15**, pp. S293-329.

Wolfers, J. (2010). How Marriage Survives, The New York Times, October 12th.

Table 1: Descriptive Statistics

Woman is reference spouse	Continuing Partnerships		Dissolving Partnerships	
<i>Partnership Characteristics</i>				
Age at start of partnership t-1	24.51	(5.88)	24.99	(5.61)
Log duration of partnership t-1	5.43	(0.71)	5.03	(0.78)
Youngest child <5 t-1	0.10	(0.31)	0.09	(0.29)
Total number of dependent children t-1	0.75	(1.05)	1.16	(1.20)
University t-1	0.11	(0.32)	0.17	(0.37)
A-level t-1	0.55	(0.50)	0.55	(0.50)
GCSE t-1	0.30	(0.46)	0.30	(0.46)
University (Husband) t-1	0.14	(0.35)	0.11	(0.31)
A-level (Husband) t-1	0.57	(0.50)	0.34	(0.48)
GCSE (Husband) t-1	0.22	(0.41)	0.16	(0.37)
<i>Age Difference</i>				
Husband 2-4 years older t-1	0.26	(0.44)	0.04	(0.20)
Husband > 4 years older t-1	0.16	(0.37)	0.03	(0.18)
Wife 0-3 years older t-1	0.16	(0.37)	0.03	(0.17)
Wife 3-5 years older t-1*	0.02	(0.16)	0	0
Wife > 5 years older t-1*	0.03	(0.16)	0	0
<i>Labour Market</i>				
Employed t-1	0.62	(0.48)	0.68	(0.47)
Unemployed t-1	0.01	(0.10)	0.04	(0.20)
Employed (Husband) t-1	0.77	(0.42)	0.82	(0.38)
Unemployed (Husband) t-1	0.03	(0.17)	0.06	(0.24)
Household Income (Log) t-1	9.08	(0.66)	8.70	(0.86)
<i>Financial Characteristics</i>				
Much better off	0.01	(0.10)	0.01	(0.10)
Better Off	0.08	(0.27)	0.07	(0.25)
Worse Off	0.13	(0.34)	0.17	(0.38)
Much Worse Off	0.02	(0.14)	0.05	(0.23)
Windfall t-1	0.25	(0.44)	0.25	(0.43)
Windfall Amount t-1	1083.96	(8758.52)	2488.66	(28843.66)
Inheritance t-1	0.03	(0.18)	0.06	(0.24)
Lottery t-1	0.13	(0.34)	0.10	(0.30)
Windfall (Husband) t-1	0.32	(0.47)	0.33	(0.48)
Windfall Amount (Husband)t-1	2019.12	(15502.77)	8567.67	(45608.10)
Inheritance (Husband) t-1	0.03	(0.17)	0.07	(0.27)
Lottery (Husband) t-1	0.17	(0.38)	0.15	(0.36)
Annual investment income t-1	515.87	(2073.45)	193.63	(588.86)
Positive change in investment income	0.25	(0.43)	0.17	(0.37)
Negative change in investment income	0.25	(0.43)	0.19	(0.40)
Annual investment income (Husband) t-1	790.78	(3606.07)	592.76	(2344.92)
Positive change in investment income (Husband)	0.26	(0.44)	0.20	(0.41)
Negative change in investment income (Husband)	0.27	(0.44)	0.16	(0.37)
Amount interest and dividends t-1	429.08	(1500.37)	109.39	(384.22)

Table 1: Descriptive Statistics (Continued)

Positive change in interest and dividends	0.29	(0.45)	0.18	(0.38)
Negative change in interest and dividends	0.26	(0.44)	0.16	(0.36)
Amount interest and dividends (Husband) t-1	760.39	(3203.70)	87.90	(224.44)
Positive change in interest and dividends (Husband)	0.29	(0.46)	0.19	(0.40)
Negative change in interest and dividends (Husband)	0.29	(0.45)	0.17	(0.38)
<i>Household Tenure</i>				
Owned	0.30	(0.46)	0.11	(0.31)
Mortgage	0.57	(0.49)	0.59	(0.49)
Private Rent	0.03	(0.18)	0.14	(0.35)
n	18373		385	

Notes: Means and Standard deviations in parenthesis are shown. All monetary variables are measured in British pounds. Base category for education is no formal educational qualifications. Base category for employment status variables is not participating in the labour market. Base category for changes in investment income and interest and dividend income is no change. Base category for household tenure is social housing. * indicates that these variables are excluded from the analysis.

Table 2: Probit Models on Partnership Dissolution

VARIABLES	Model 1		Model 2	
	(1) coef	(2) margins	(3) coef	(4) margins
Age at start of partnership t-1	-0.002 (0.011)	-0.000 (0.000)	-0.001 (0.012)	-0.000 (0.000)
Log duration of partnership t-1	-0.138* (0.074)	-0.001* (0.001)	-0.131* (0.075)	-0.001* (0.001)
Youngest child <5 t-1	-0.395** (0.194)	-0.004** (0.002)	-0.422** (0.194)	-0.004** (0.002)
Total number of dependent children t-1	0.200*** (0.051)	0.002*** (0.001)	0.205*** (0.051)	0.002*** (0.001)
University t-1	-0.059 (0.228)	-0.001 (0.002)	-0.053 (0.230)	-0.001 (0.002)
A-level t-1	0.070 (0.149)	0.001 (0.002)	0.059 (0.150)	0.001 (0.002)
GCSE t-1	-0.183 (0.140)	-0.002 (0.001)	-0.185 (0.138)	-0.002 (0.001)
University (Husband) t-1	0.186 (0.207)	0.002 (0.002)	0.178 (0.209)	0.002 (0.002)
A-level (Husband) t-1	0.092 (0.153)	0.001 (0.002)	0.074 (0.151)	0.001 (0.002)
GCSE (Husband) t-1	0.116 (0.134)	0.001 (0.001)	0.118 (0.137)	0.001 (0.001)
Husband 2-4 years older t-1	0.515** (0.234)	0.005** (0.002)	0.513** (0.237)	0.005** (0.002)
Husband > 4 years older t-1	0.590** (0.240)	0.006** (0.003)	0.587** (0.243)	0.006** (0.003)
Wife 0-3 years older t-1	0.396 (0.245)	0.004 (0.003)	0.368 (0.245)	0.004 (0.003)
Employed t-1	-0.040 (0.151)	-0.000 (0.002)	-0.024 (0.149)	-0.000 (0.002)
Unemployed t-1	0.674** (0.301)	0.007** (0.003)	0.596* (0.316)	0.006* (0.003)
Employed (Husband) t-1	0.047 (0.201)	0.000 (0.002)	0.050 (0.203)	0.001 (0.002)
Unemployed (Husband) t-1	0.243 (0.298)	0.002 (0.003)	0.196 (0.300)	0.002 (0.003)
Household Income (Log) t-1	0.115 (0.097)	0.001 (0.001)	0.134 (0.101)	0.001 (0.001)
Better Off			-0.389 (0.291)	-0.004 (0.003)
Worse Off			0.268** (0.136)	0.003* (0.001)
Much Worse Off			0.426* (0.244)	0.004* (0.003)
Constant	-3.722*** (1.004)		-3.984*** (1.015)	
Observations	10,091		9,965	

Notes: Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. Much better off omitted in columns (3) and (4) because of collinearity.

Table 3: *Probit Models of effect of Windfalls on Partnership Dissolution*

	Model 1		Model 2		Model 3	
VARIABLES	(1) coef	(2) margins	(3) coef	(4) margins	(5) coef	(6) margins
Worse Off	0.072 (0.189)	0.001 (0.002)	0.040 (0.192)	0.000 (0.002)	0.087 (0.193)	0.001 (0.002)
Much Worse Off	0.421 (0.284)	0.005 (0.003)	0.330 (0.303)	0.004 (0.003)	0.392 (0.261)	0.004 (0.003)
Windfall t-1	0.092 (0.160)	0.001 (0.002)				
Windfall (Husband) t-1	0.000 (0.158)	0.000 (0.002)				
Windfall Amount t-1			0.000 (0.000)	0.000 (0.000)		
Windfall Amount (Husband) t-1			0.000 (0.000)	0.000 (0.000)		
Inheritance t-1					0.702*** (0.223)	0.008*** (0.003)
Lottery t-1					-0.158 (0.264)	-0.002 (0.003)
Inheritance(Husband) t-1					-0.013 (0.315)	0.000 (0.003)
Lottery (Husband) t-1					0.062 (0.198)	0.001 (0.002)
Constant	-2.401* (1.313)		-2.882** (1.355)		-2.176* (1.288)	
Observations	5,179		5,921		5,196	

Notes: Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. Better off and Much better off omitted because of collinearity. Other controls included in the model are partnership characteristics, age difference, and labour market variables.

Table 4: *Probit Models of effect of Investment Income on Partnership Dissolution*

	Model 1		Model 2		Model 3		Model 4	
VARIABLES	(1) coef	(2) margins	(3) coef	(4) margins	(5) coef	(6) margins	(7) coef	(8) margins
Worse Off	0.222 (0.141)	0.003 (0.002)	0.217 (0.140)	0.003 (0.002)	-0.180 (0.312)	-0.002 (0.003)	-0.202 (0.328)	-0.002 (0.004)
Much Worse Off	0.169 (0.288)	0.002 (0.003)	0.174 (0.290)	0.002 (0.003)	0.294 (0.334)	0.003 (0.004)	0.249 (0.343)	0.003 (0.004)
Positive change in investment income	-0.117 (0.150)	-0.001 (0.002)						
Positive change in investment income (Husband)	0.198 (0.130)	0.002 (0.002)						
Negative change in investment income			0.103 (0.135)	0.001 (0.002)				
Negative change in investment income (Husband)			-0.165 (0.151)	-0.002 (0.002)				
Positive change in interest and dividends					-0.163 (0.259)	-0.002 (0.003)		
Positive change in interest and dividends (Husbands)					0.525*** (0.196)	0.006** (0.003)		
Negative change in interest and dividends							0.144 (0.214)	0.002 (0.002)
Negative change in interest and dividends							-0.485 (0.301)	-0.005 (0.004)
Constant	-2.037 (1.251)		-2.222* (1.287)		0.651 (2.262)		-0.687 (2.384)	
Observations	7,704		7,704		2,527		2,527	

Notes: Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1. Much better off omitted because of collinearity. Other controls included in the model are partnership characteristics, age difference, and labour market variables.

Table 5: *Probit Models of effect of Interaction of Change in Price House at the Regional Level and Type of House Tenure on Partnership Dissolution*

VARIABLES	(1) coef	(2) margins	(3) coef	(4) margins
Better off	-0.408 (0.283)	-0.004 (0.003)	-0.407 (0.283)	-0.004 (0.003)
Worse off	0.273** (0.135)	0.003* (0.001)	0.273** (0.135)	0.003* (0.001)
Much Worse	0.430* (0.245)	0.004* (0.003)	0.430* (0.245)	0.004* (0.003)
% change in house price by region	0.001 (0.006)	0.000 (0.000)	0.002 (0.007)	0.000 (0.000)
Owned	-0.149 (0.224)	-0.001 (0.002)	-0.101 (0.238)	-0.001 (0.002)
Mortgage	-0.254 (0.198)	-0.003 (0.002)	-0.260 (0.202)	-0.003 (0.003)
Private Rent	-0.240 (0.387)	-0.002 (0.004)	-0.217 (0.394)	-0.002 (0.002)
Interaction Terms				
Owned * % change house price				-0.001 (0.0002)
Mortgage * % change house price				0.001 (0.0002)
Private rent * % change house price				0.002 (0.001)
Constant	-4.001*** (1.091)		-3.973*** (1.110)	
Observations	9,955		9,955	

Notes: Robust standard errors in parentheses. . *** p<0.01, ** p<0.05, * p<0.1. Much better off omitted because of collinearity. Other controls included in the model are partnership characteristics, age difference, and labour market variables.