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Joint Retirement Decision of Couples in Europe

The Effect of Partial and Full Retirement Decision of Husbands and Wives on Their Partners' Partial and Full Retirement Decision

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ABSTRACT

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This study examines the effect of partial and full retirement decision of the spouse on the individual's partial and full retirement decision using SHARE dataset and ordered probit reduced form model. Partner's retirement status is predicted using eligibility status of the individual for normal and early retirement. Results show that while the probability of wife's partial retirement increases the probability of their husband's full and partial retirement, their full retirement has a negative impact on their husband's both retirement statuses. On the other hand, for women, husband's retirement decision has a slight positive effect on their probability of retirement and the probabilities of partial and full retirement of the husbands have no significant impact for them. This implies that although women are slightly affected by their husband's retirement decision overall, their decision do not differ by the type of their partner's retirement.

[1] This thesis is written under the supervision of Prof. Dr. Peter Kooreman. I am grateful for his comments, help and support.

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1. Introduction

Due to the current demographical changes and aging problem, governments try to increase labor supply of older age workers. Before implementing policies for later retirement and increase in employment of older workers, it is important to understand the mechanisms behind the retirement decision of individuals. Retirement decision of individuals is affected by many factors. Financials motivations, preferences about leisure, health of individuals and structure of pension schemes such as schemes that incentivize early retirement are main determinants.

Familial and spousal characteristics play an important role in explaining the retirement decision of individuals (Pienta, 2003). One of them is labor supply status of the spouse of an individual (if present). The retirement of a spouse can play a role in the timing of the other partner's retirement or they can decide to retire at the same time. Considering the large proportion of married older people in Europe, analyzing the effect of retirement of the spouse or their decision mechanism is crucial to foresee and evaluate the policy implications of pension reforms.

Retirement behavior of couples has been studied before in Europe. One example is the study by Hospido and Zamarro (2014) which finds that while the retirement decision of the husband increases the likelihood of the wife's retirement, the wife's retirement has no significant impact on her husband's retirement. However their study does not take into account the option of partial retirement. Partial retirement can be defined as individuals' decreasing their working loads by reducing working hours or moving to less demanding jobs before full retirement (Kantarci & Soest, 2013). Analyzing the partial retirement option is important. As Stancanelli (2014) mentions, when one spouse is retired, the other spouse may decrease his or her working hours instead of retiring totally. Therefore, inclusion of partial retirement status of partners can help to explain retirement patterns of couples.

In this respect, in this study, joint retirement process of individuals is analyzed by analyzing the effect of partial and full retirement decision of individuals on their partner's partial or full retirement status. Therefore, the main research question of this study is: does a partner's partial or full retirement decision have an impact on the other partner's partial and full retirement status?

In order to analyze this question, ordered probit reduced form models are estimated. Since men and women may differ in their retirement behavior, specifically they may differ in their responses to their partner's retirement decision and other familial factors such as having grandchildren or not, ordered probit reduced form models are estimated separately for men and women. This strategy is in accordance with existing literature which analyzes couple's retirement decision by reduced-form models. The Survey of

Health, Ageing and Retirement in Europe (SHARE) dataset is used for this analysis. SHARE dataset is a multidimensional dataset which collects information of individuals who are older than 50. The survey includes individual's health information, socioeconomic characteristics and networks.

Remaining sections are as follows: in section 2, the relevant theoretical and empirical literature is discussed; in section 3, the data used in this study is presented; in section 4, the methodology used in this study is explained; and after discussing the results in section 5, finally concluding remarks are given in section 6.

2. Literature Review

2.1 Theoretical Literature

Becker (1974) explains that since marriage is often a voluntary activity, individuals who get married can be assumed to gain positive utility from it. This utility can be explained by the gains from shared goods, love and companionship (Manser & Brown, 1980). Therefore shared goods and allocation of them are important aspects in economic theory about decision making process of couples. Moreover the dependence of individual utility to his or her couple's utility or choice is another component to understand the decision making structure of members of an household. In fact, if utility of an individual does not depend on utility and actions of his or her couple, it would be unnecessary to consider members actions together within the household while modeling the individual behavior (Butler, as cited in Jia, 2005).

In the context of this study, shared goods constitute shared leisure and partners' actions represent their time allocation for leisure and work. In this regard, preferences and decisions of couples are, in general, simply modeled by individual neoclassical utility function which includes individual's and partner's choices with a household budget constraint. The model explained in Kooreman and Kapteyn's (1990) article can be an example for these kind of models. The model is as follows:

$$U_m = (l_m, l_f, c) \tag{2.1.1}$$

$$U_f = (l_m, l_f, c) \tag{2.1.2}$$

$$w_f l_f + w_m l_f + c = w_f T + w_m T + \mu = Y \tag{2.1.3}$$

where U_m and U_f are the utilities of male and female partners , l_f and l_m are leisures of male and female, w_f and w_m are male and female wage rates, c is total household consumption, μ is non-labor income, T is time endowment and Y is total household income.

Given these utility functions and budget constraint, members determine their actions, or retirement decisions in our case, by maximizing their utilities. Individuals' actions as opposed to their partner's choices are modeled in two main approaches in theoretical literature. One is cooperative games in which couples make their decisions collectively by bargaining. The other one is non-cooperative games in which couples are maximizing their utility functions individually. These two approaches are explained in detailed by giving examples in the following sections. Since the focus of this thesis is the retirement decision of couples, examples are chosen from the models that explain couples' retirement decision.

2.1.1 Cooperative Decision Making

In this framework, couples decide their actions collectively or by bargaining. In this type of decision making, households maximize joint utility function with respect to joint household budget constraint and find a pareto optimal solution in general (Jia, 2005).

Retirement decision of couple's is mostly explained by discrete choice models in both cooperative and non-cooperative decision making approaches. One example for cooperative decision making process is modeled in Jia's (2005) study. He proposes a simple model to explain collective type of households. In this type, households try to maximize collective utility function with respect to their choices.

$$U(r_m, r) = pU_m\left(r_m, r_f\right) + (1-p)U_f\left(r_m, r_f\right) \qquad (2.1.1.1)$$

where p is weight for husband's decision making power in the household, r_m and r_f are for the retirement decision of male and female respectively and equal to 1 for retirement and 0 for continuing to work. In this model, couples are expected to maximize this utility function by choosing to retire or work.

Manser and Brown (1980) points out that interdependent utility function of couples are not sufficient to solve decision problem of partners and bargaining assumption is needed in this kind of models. In order to prove this, they modeled mainly two kinds of household type. One is dictatorial type of household in which members are not symmetric. In this type of household one of the members has the power to determine gains and his or her main strategy is to offer a gain that the member would accept. In other household type, couples behave symmetrically and maximize their utility by bargaining. Solving both models they show significance of bargaining for household decision making.

2.1.2 Non-Cooperative Decision Making

In this type of decision making, couples maximize their utilities by non-cooperative game. This game does not require that couples make an agreement, and outcome is the equilibrium of decisions of couples (Jia, 2005)

Kooreman (1994) modeled some examples of this type of labor supply decision making structure of couples. He proposes Nash and Stackelberg models as well as models with Pareto optimality solution and mixed model of Pareto optimality and Nash equilibrium. The Nash and Stackelberg models explain equilibrium of household decision by maximization of male and female utility functions. In the Nash model, utility of male and female partners are symmetrical and they maximize their utility functions given other's action and reach equilibrium such that:

$$U^m\left(r_m, r_f\right) > U^m\left(r'_m, r_f\right) \qquad (2.1.2.1)$$

$$U^f\left(r_m, r_f\right) > U^f\left(r_m, r'_f\right) \qquad (2.1.2.2)$$

where U^i is utility function, r_i is discrete retirement decision as represented in Jia's (2005) model in previous section; r'_i is alternative allocation ($r_i \neq r'_i$) and $i = m, f$ for male and female partners respectively.

Partners have asymmetric roles in Stackelberg game; one is leader and the other is the follower. The leader partner maximizes his or her utility function by anticipating the reaction of the follower partner. Assuming definition of variables are as in equation 2.1.2.1-2 and male is the leader female is the follower, Stackelberg equilibrium is determined with the allocations as follows:

$$\begin{aligned} &U^f\left(r_m, r_f\right) > U^f\left(r_m, r'_f\right) \\ &U^f\left(r'_m, r_f\right) > U^f\left(r'_m, r'_f\right) \\ &U^m\left(r_m, r_f\right) > U^m\left(r'_m, r_f\right) \end{aligned} \qquad (2.1.2.3)$$

or

$$\begin{aligned} &U^f\left(r_m, r_f\right) > U^f\left(r_m, r'_f\right) \\ &U^f\left(r'_m, r_f\right) < U^f\left(r'_m, r'_f\right) \\ &U^m\left(r_m, r_f\right) > U^m\left(r'_m, r'_f\right) \end{aligned} \qquad (2.1.2.4)$$

Although there is not a consensus about which model explains household labor supply or retirement decision best, Stackelberg game is one of the commonly used models.

Kooreman (1994) finds that Stackelberg model with female leader has the highest log-likelihood with the labor force data from the Netherlands. Similarly, Duguet and Simonnet (2007) find similar results with French data. However Hernæs et al. (2006) conclude that Stackelberg game with male leader provides better fit in Norway.

Moreover different households can make their decisions with different type of games or can constitute different types. For example, Jia (2005) used a mixed model for cooperative and non-cooperative type households and he concludes that 61.7% of couples behave according to Stackelberg game, while rest is cooperative type.

2.2 Empirical Literature

Literature shows that most of the couples are retiring at similar times. Apart from the unobserved factors such as assertive mating, this phenomenon is explained by two main reasons in the study of Honore and de Paula (2014). One is partners experience similar shocks and the other is they make their retirement decision jointly due to taste and budget relations. Therefore, joint decision of couples can be explained by Nash bargaining process between them. Taking this as a benchmark, Honore and Paula (2014) examine the joint retirement decision of couples in Europe using SHARE and ELSA (English Longitudinal Survey of Ageing) datasets and simulation using hazard model. They conclude that retirement timing of couples are best modeled as joint economic decision and their simulation results show that delay in the retirement age for women will affect women's tendency to retire directly and men's retirement decision indirectly. Results of the other empirical studies are in line with the study of Honore and de Paula (2014) and show that husbands and wives cooperate in their retirement decision and tend to retire together (Johnson, 2004).

Hospido and Zamarro (2014) use the first, second and fourth waves of SHARE data to analyze retirement patterns of couples in Europe. They used early retirement and statutory retirement ages of countries as an instrument to explain retirement status of the spouse. They used bivariate probit model to estimate retirement decision of an individual and his or her spouse simultaneously and find that while retirement of the wife is insignificant for men, retirement of the husband is significant for women. Similarly, Bloemen et al. (2015) examine the effect of early retirement of husbands on the retirement decision of wives in the Netherlands using administrative data by Statistics Netherlands for the period 2000-2005. They find that retirement of the husband increases the probability of the wife's retirement by 24.6 percentage points.

On the other hand, Stancanelli (2014) investigates the French Labour Force Surveys (LFS) between 1990 and 2002 by taking into account hours of market work. Similarly, she also uses the legal retirement age as an instrument and defines two first stage regressions: one for the retirement of the husband and the other one is for the retirement of the wife and these are used to explain hours of work of an individual. However, she finds the opposite results, that is husband's retirement probability increases with the retirement of wife but it is not the case for wives. This shows the importance of the role of differences across countries and the methods used to explain retirement process in having different results.

3. Data

3.1 Data Source

Survey of Health, Ageing and Retirement in Europe (SHARE) dataset is used for this analysis. This dataset is a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks and it includes information about 27 European countries and Israel.

The SHARE dataset currently have 6 waves (2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, and 2014-2015). The third wave of the Share dataset is devoted to life events of respondents and does not have the same survey questions with other five waves. Therefore, all of the waves are used except the third wave for this study.

The labor market status of individuals and their own and partner's demographic background characteristics including their age, education, health status and familial information are retrieved from the Share dataset.

Information on eligibility for early and normal retirement ages for European countries used in this study is from OECD reports called "Pension at a Glance"(OECD, 2005).

3.2 Sample Selection

The countries used in this study are Austria, Germany, Sweden, the Netherlands, Spain, Italy, France, Denmark, Greece, Switzerland, Belgium, Czech Republic, and Poland. These are OECD countries which are present at least two consecutive waves in the dataset. Choosing OECD countries is more convenient regarding the availability of eligibility ages for early and normal retirement as Hospido and Zamarro (2014) mentioned.

In this study, mainly, individuals who live and participate together with a partner are selected for the dataset. Since full and partial retirement status of individuals are defined as transition out of the labor market between two consecutive waves as in Hospido and Zamarro's (2014) study, couples should be observed at least two consecutive waves. Moreover, in order to observe whether they are phasing out of the labor market together or not, they should be working in their first wave and their retirement status is analyzed in their second wave. It should be noted that this restriction can be problematic regarding selection problem especially for women in countries with low labor force participation. However, since retirement decision of individuals who are not in labor force cannot be evaluated, it is not possible to include those in sample used in this study. Lastly, individuals who are aged between 50 and 70 in their first wave of two consecutive waves are selected for the sample.

To sum up, the sample consists of individuals who live with a partner at least two consecutive waves, are working and aged 50 and 70 in their first wave in the dataset.[2] After dropping observations with missing information total number of observations is 10378 individuals or 5189 couples.[3]

3.3 Definition of Variables

Working, partial retirement and full retirement status of individuals is characterized based on individuals' number of working hours per week. Individuals who work 35 hours or more than 35 hours per week are defined as full-time workers and those who work less than 35 hours per week are defined as part-time workers. [4]

Individuals who work part-time or full-time in their first wave and stop working in their second wave are defined as fully retired. Individuals who are working full-time in their first wave and move to part-time work in the following wave are characterized as partially retired. This characterization is mainly because of the common definition of partial retirement in the literature. Partial retirement often defined as workers' reducing their working hours or moving less demanding jobs with less working hours (Kantarci &Soest 2013).

Analyzing joint retirement decision of individuals, eligibility ages of countries for early and full retirement are commonly used in order to explain the retirement decision of an individual as well as to solve endogeneity in retirement decision of partners. Eligibility for early and normal retirement is formulated by two dummy variables: being older than his or her country's official early retirement age and being older than his or her country's official normal retirement age.

In addition to eligibility dummies for early and normal retirement, several demographic variables are used such as age, health status, education, the number of children and

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[2] Individuals are analyzed in dual wave groups, such as individuals who are present in wave 1-2 or in wave 4-5. For individuals who are in wave 4-5, working status and age criteria is applied for their status in wave 4. Moreover, individuals who are present in at least three waves and are working at least two consecutive waves are contributed to the dataset more than once. In order to solve this problem, individuals are clustered with their survey id.

[3] The distribution of observations across country and waves are presented in appendix Table A1.

[4] This cut-off point is chosen as in line with the Kantarci's (2013) study. However, it is important to consider that definition and hours of part time work can differ across counties.

grandchildren and the partner's education and health status and these are individual's information in their second wave. The health status of individuals is based on self-perceived health question and individuals who ranked their health status as poor are identified and it is created a dummy variable for them. The education level of individuals is categorized according to ISCED97 (International Standard Classification of Education) in the SHARE dataset. It has seven categories which are no education, primary or first stage of basic education, lower secondary education, upper-secondary education, post-secondary non-tertiary education, first stage of tertiary education, second stage of tertiary education. These categories are analyzed in three main groups, namely, low medium and high education in this study. Low education covers individuals with no, primary and lower secondary education, medium education includes individuals with upper secondary and post-secondary non tertiary education and high education group covers rest of the individuals who have at least tertiary education.

3.4 Descriptive Statistics

Summary statistics for women and men are presented in Table 1.[5] Men and women in the sample have similar characteristics. Percentages of fully retired and partially retired men are 18% and 6% respectively and these are 17% and 7% for women. Average age is 59 years old for men, it is 57 for women. Due to the age difference between women and men, shares of individuals who are over normal and early retirement age differ across genders. While 20% of men are older than the age of normal retirement and 11% of them are older than early retirement age, these percentages are almost half of men's percentages for women. Distributions of men and women across different levels of education are also similar. Women in the sample have slightly higher education compared to men. 3% of men, 2% of women rank their health as poor. Couples have approximately 3 children and 2 grandchildren on average.

Retirement status of individuals given their partner's retirement status is shown in Table 2. The table shows that couples tend to have the same retirement status with their partners. For example, percentage of individuals who are fully retired is 37% given their partners' status is fully retired. This share is higher than those whose partners' status is partially retired or not retired. This case is the same for shares of not retired and partially retired individuals as can be seen in Table 2.

[5] Descriptive statistics for each wave are given in appendix Table A2 and Table A3.

Table 1: Descriptive Statistics for Men and Women

	Men		Women	
	Mean	Std. Dev.	Mean	Std. Dev.
Full Retired	0.18	0.39	0.17	0.37
Partially Retired	0.06	0.23	0.07	0.26
Age	59.43	4.21	57.40	3.96
Age>Early Retirement Age	0.20	0.40	0.11	0.31
Age>Normal Retirement Age	0.08	0.27	0.04	0.20
Low Education	0.22	0.42	0.22	0.42
Medium Education	0.43	0.49	0.42	0.49
High Education	0.35	0.48	0.36	0.48
Poor Health	0.03	0.16	0.02	0.15
Number of Children	3.11	2.03	3.11	2.03
Number of Grandchildren	1.70	2.38	1.70	2.38
Number of Observations	5189		5189	

Table 2: Partial and Full Retirement Status of Individuals Given Their Partners' Retirement Status

	Employment Status of Partner		
Status	**Not Retired**	**Partially Retired**	**Fully Retired**
Not Retired	81.28	69.64	56.03
Partially Retired	5.84	10.57	7.21
Fully Retired	12.89	19.79	36.76
Total	100	100	100

4. Method

Implementing the game theoretic models discussed in section 2.1 is beyond the scope of this thesis. In order to analyze the effect of partner's full and partial retirement status on individual's partial and full retirement status, I use an ordered probit reduced form model. The ordered probit model is specified as follows (Wooldridge, 2002):

$$y^* = x\beta + \varepsilon \qquad \varepsilon\ |x \sim \text{Normal}\ (0, 1) \qquad (4.1)$$

where y^* is a latent variable estimated by the vector of control variables, x, and the error term. Together with the cutoff points mentioned in section 3.3, y^* determine retirement status (R) which has the values 0, 1 and 2 for no retirement, partial retirement and fully retirement respectively. It is defined as:

$$R = 0 \quad \text{if } y^* = 0$$
$$R = 1 \quad \text{if } 0 < y^* < 35 \qquad (4.2)$$
$$R = 2 \quad \text{if } y^* \geq 35$$

Assuming ε is normally distributed, conditional distribution of R, given x, is calculated as:

$$P(R = 0|x) = P(y^* = 0|x) = P(x\beta + \varepsilon = 0\ |x) = \theta(0 - x\beta)$$
$$P(R = 1|x) = P(\ 0 < y^* < 35\ |x) = \theta(35 - x\beta) - \theta(0 - x\beta) \qquad (4.3)$$
$$P(R = 2|x) = P(\ y^* \geq 35|x) = 1 - \theta(35 - x\beta)$$

In this model, the vector of control variables, x, includes the retirement status of partner, demographic control variables which include age, education, health status, partner's education and health status, number of children and grandchildren of individual have, his or her eligibility for normal and early retirement and country and wave dummies.

The impact of partner's retirement status on individual's retirement status can be because of unobserved reasons. These unobserved factors create endogeneity problem and lead to biased estimation by being included in error term. The problem arises by two main sources. One is that the partner's retirement decision can be correlated with the error term of individual's equation of retirement decision. Secondly, the error terms in both partners' retirement decision equations can be correlated. This correlation can be due to assertive mating which is marriage of individuals with similar characteristics. Moreover, correlated shocks partners experienced, such as financial problems of household can cause correlation in error terms. In order to solve the endogeneity problem, partner's retirement status is predicted using statutory ages of eligibility for early and normal retirement of the country that the partner lives in.[6] Since official retirement age of countries is related with individual's retirement status but not directly related to partner's retirement status, it helps to solve endogeneity problem. Two dummy variables are used to indicate whether an individual is older than early and normal retirement age of the country he or she lives in as explained in the section 3.3. These dummies are used to predict partner's retirement status using ordered probit model as shown in equation 4.1. This process corresponds to regression discontinuity design (Angrist & Pischke, 2014).

Husbands and wives can have differences in their retirement decisions because of different social roles and identities they have. For example, breadwinner role of men may be associated with husband's later retirement or more likelihood of postponing retirement date in financial distress compared to their wives. Moreover, women's caregiving role causes them to retire early to look after grandchildren or aging parent (Pienta, 2003). Therefore, partner's retirement and demographic factors can affect men's and women's retirement decision in different ways. In this respect, ordered probit reduced form model represented above is estimated for men and women separately as in line with existing literature.

5. Results

The results of the ordered probit regressions for the retirement status of men and women are presented in Table 3 and Table 6.There are five main specifications in both tables. In specification one which is presented in the first column, the retirement status of an individual is regressed on the control variables without the partner's retirement status. In the second column, the retirement status of the partner is included in addition to the control variables used in column one. In the third specification represented in the third column, the predicted retirement status of the partner is included instead of direct retirement status of the partner. The fourth specification includes two dummies of partial and full retirement status of the partner in addition to the control variables in the first specification and finally in the last column, predicted probabilities of partial and full retirement status of the partner are used instead of the partner's partial and full retirement status.

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[6] Early and normal retirement ages of countries used in this study are presented in appendix Table A4.

5.1 Retirement Status of Men

Ordered probit results for retirement status of men are presented in Table 3 for five different specifications mentioned in section 5. The marginal effects of control variables for each outcome of the retirement status for the third and the fifth specifications are given in table 4 and table 5 respectively.

The signs of the control variables are in line with the expectations. High education level decreases the probability of the retirement. Having poor health has positive significant impact on the probability of the retirement of men. For example, individuals who have poor health 3.2 percentage points higher probability of being partially retired and 22 percentage points higher probability of being fully retired (Table 4). While the number of children is negatively associated with men's probability of retirement, the number of grandchildren has positive impact on the probability of retirement of men. Moreover, partner's characteristics do not have significant effect. These are valid for all of five specifications.

In the second specification (Table 3, column 2), the wife's retirement status is included and the results show that retirement of men is correlated with the retirement of their wives. However, when we control for endogeneity and use predicted values of the retirement status of the wife in the third specification, the wife's retirement status is no longer significant (Table 3, column 3). Moreover, the wife's retirement status is also insignificant for each outcome of the retirement status of men (Table 4).

Similar to the second specification, in the fourth specification where we control partner's partial and full retirement status dummies instead of partner's ordered retirement status, we observe that the wife's partial or full retirement statuses are also correlated positively with the retirement of men (Table 3, column 4). In the last specification, predicted probabilities of having partially and fully retired wife are used. After controlling for endogeneity, again the direction and the significance of the wife's retirement status are changed. While the probability of having partially retired wife increases the probability of retirement of men, the probability of having fully retired wife decreases the probability of retirement of men (Table 3, column 5).

Predicted probabilities of having partially and fully retired wife have opposite effects for each outcome of the individual's partial and full retirement status (Table 5). Probability of having partially retired wife increases the probability of being partially and fully retired while the probability of having fully retired wife decreases the probability of being partial or fully retired. Therefore, husband's partial and full retirement status have opposite effect on their wife retirement status. This may be the reason of the insignificant effect of overall retirement of the husbands on their wife's retirement status.

Table 3: Ordered Probit Results for Retirement Status of Men[7]

VARIABLES	(1)	(2)	(3)	(4)	(5)
Partner's Retirement Status		0.216***			
		(0.026)			
Predicted Values of Partner's Retirement Status			0.030		
			(0.064)		
Partially Retired Partner				0.193**	
				(0.076)	
Fully Retired Partner				0.436***	
				(0.053)	
Pred. Prob. of Having Partially Retired Partner					4.709***
					(1.372)
Pred. Prob. of Having Fully Retired Partner					-0.621**
					(0.265)
Age	0.115***	0.111***	0.113***	0.111***	0.111***
	(0.010)	(0.009)	(0.010)	(0.009)	(0.010)
Age>Early	0.163**	0.157**	0.161**	0.157**	0.153**
	(0.071)	(0.072)	(0.071)	(0.071)	(0.071)
Age>Normal	0.066	0.007	0.064	0.007	0.095
	(0.081)	(0.082)	(0.081)	(0.082)	(0.082)
Medium Education	-0.098*	-0.088	-0.096*	-0.088	-0.093
	(0.057)	(0.058)	(0.057)	(0.058)	(0.057)
High Education	-0.208***	-0.206***	-0.208***	-0.206***	-0.213***
	(0.065)	(0.066)	(0.065)	(0.066)	(0.065)
Poor Health	0.733***	0.748***	0.735***	0.748***	0.747***
	(0.128)	(0.128)	(0.128)	(0.128)	(0.127)
Number of Children	-0.028**	-0.026*	-0.028**	-0.026*	-0.025*
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Number of Grandchildren	0.017*	0.013	0.016	0.013	0.015
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Medium Education (Partner)	-0.036	-0.013	-0.030	-0.012	-0.026
	(0.056)	(0.057)	(0.057)	(0.057)	(0.057)
High Education (Partner)	-0.103	-0.065	-0.093	-0.064	-0.075
	(0.064)	(0.065)	(0.067)	(0.065)	(0.067)
Poor Health (Partner)	-0.045	-0.149	-0.065	-0.150	-0.007
	(0.149)	(0.150)	(0.154)	(0.150)	(0.145)
Constant cut1	7.287***	7.208***	7.343***	7.202***	7.356***
	(0.561)	(0.560)	(0.566)	(0.559)	(0.585)
Constant cut2	7.523***	7.448***	7.579***	7.442***	7.592***
	(0.561)	(0.560)	(0.567)	(0.559)	(0.584)
Wald Chi2 (23)	781.4	859.01	782.99	859.61	797.37
Prob > chi2	0	0	0	0	0
Pseudo R2	0.1437	0.1535	0.1438	0.1536	0.1455
Observations	5,189	5,189	5,189	5,189	5,189

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[7] The country and wave of the individual are controlled in all regressions.

Table 4: Marginal Effects for Outcomes of Retirement Status of Men (for Specification 3 in Table 3)

VARIABLES	Outcome 1	Outcome 2	Outcome 3
Predicted Values of Partner's Retirement status	-0.008	0.002	0.007
	(0.018)	(0.004)	(0.014)
Age	-0.032***	0.006***	0.025***
	(0.003)	(0.001)	(0.002)
Age>Early	-0.046**	0.009**	0.037**
	(0.021)	(0.004)	(0.017)
Age>Normal	-0.018	0.004	0.015
	(0.024)	(0.005)	(0.019)
Medium Education	0.027*	-0.005*	-0.021*
	(0.016)	(0.003)	(0.013)
High Education	0.057***	-0.012***	-0.045***
	(0.017)	(0.004)	(0.014)
Poor Health	-0.255***	0.033***	0.222***
	(0.050)	(0.004)	(0.047)
Number of Children	0.008**	-0.002**	-0.006**
	(0.004)	(0.001)	(0.003)
Number of Grandchildren	-0.004	0.001	0.004
	(0.003)	(0.001)	(0.002)
Medium Education (Partner)	0.008	-0.002	-0.007
	(0.016)	(0.003)	(0.013)
High Education (Partner)	0.026	-0.005	-0.020
	(0.018)	(0.004)	(0.015)
Poor Health (Partner)	0.018	-0.004	-0.014
	(0.041)	(0.009)	(0.032)
Observed Probability	0.76	0.06	0.18
Predicted Probability	0.8	0.06	0.14
Observations	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Marginal Effects for Outcomes of Retirement Status of Men (for Specification 5 in Table 3)

VARIABLES	Outcome 1	Outcome 2	Outcome 3
Pred. Prob. of Having Partially Retired Partner	-1.308***	0.268***	1.040***
	(0.379)	(0.080)	(0.301)
Pred. Prob. of Having Fully Retired Partner	0.172**	-0.035**	-0.137**
	(0.073)	(0.015)	(0.058)
Age	-0.031***	0.006***	0.025***
	(0.003)	(0.001)	(0.002)
Age>Early	-0.044**	0.009**	0.035**
	(0.021)	(0.004)	(0.017)
Age>Normal	-0.027	0.005	0.022
	(0.024)	(0.005)	(0.020)
Medium Education	0.026*	-0.005	-0.020*
	(0.016)	(0.003)	(0.012)
High Education	0.058***	-0.012***	-0.046***
	(0.017)	(0.004)	(0.013)
Poor Health	-0.259***	0.034***	0.225***
	(0.050)	(0.004)	(0.047)
Number of Children	0.007*	-0.001*	-0.006*
	(0.004)	(0.001)	(0.003)
Number of Grandchildren	-0.004	0.001	0.003
	(0.003)	(0.001)	(0.002)
Medium Education (Partner)	0.007	-0.001	-0.006
	(0.016)	(0.003)	(0.013)
High Education (Partner)	0.021	-0.004	-0.016
	(0.018)	(0.004)	(0.014)
Poor Health (Partner)	0.002	-0.000	-0.002
	(0.040)	(0.008)	(0.032)
Observed Probability	0.76	0.06	0.18
Predicted Probability	0.8	0.06	0.14
Observations	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2 Retirement Status of Women

Ordered probit results for retirement status of women are presented in Table 6 for five different specifications. Marginal effects of control variables for each outcome of retirement status for the third and the fifth specification are given in table 7 and table 8 respectively.

The signs of control variables are in line with the results for men. Similar to men, the partner's characteristics are not significant for women. Poor health status is important for women's partial and full retirement status as well. Having poor health increases the probability of partially retired by 4 percentage points, and the probability of being fully retired by 22 percentage points. Having high education level also decreases the probability of being retired for women. Being highly educated decreases the probability of being partially retired by 2 percentage points and it decreases the probability of being fully retired by 7 percentage points (Table 7).

Similar to men, in the second specification where we include the retirement status of the partner, we observe that the probability of being retired of women and their husbands are positively correlated (Table 6, column 2). After using predicted values for the retirement status of the husband, the husband's retirement status remains significant for the probability of being retired for being retired for women contrary to men's case (Table 6, column 3). However, it is only significant at 10 percent. Therefore, the effect of husband's retirement is reduced when we control for endogeneity. When we analyze the husband's predicted retirement status for each outcome of the retirement status of women, its effect is not very strong again. It increases the probability of being partially and fully retired of women at 10 percent (Table 7). Therefore husband's retirement does not have a strong effect on women's retirement according to these results.

In the fourth specification, the dummy variables for the husband's partial ad full retirement are included instead of ordered retirement status of the husband. Again we observe that women's probability of being retired is positively correlated with their husband's both partial and full retirement status (Table 6, column 4). However when we include predicted probabilities of the partial and full retirement status of the husband instead of dummy variables for them, the husband's partial and full retirement status are no longer significant for the probability of retirement of women (Table 6, column 5). They are also insignificant for each outcome of the women's retirement (Table 8).

Overall, results show that women are more likely to retire if their husbands are retired, but this effect is not strong. Moreover, since the probabilities of partial and full retirement status of the husband have no significant effect, we can infer that although women are affected by their husband's retirement status, the type of the retirement status (partial or full) is not important for their retirement decision.

Table 6: Ordered Probit Results for Retirement Status of Women

VARIABLES	(1)	(2)	(3)	(4)	(5)
Partner's Retirement Status		0.220***			
		(0.025)			
Predicted Values of Partner's Retirement Status			0.095*		
			(0.051)		
Partially Retired Partner				0.243***	
				(0.078)	
Fully Retired Partner				0.439***	
				(0.050)	
Pred. Prob. of Having Partially Retired Partner					0.610
					(1.553)
Pred. Prob. of Having Fully Retired Partner					0.356
					(0.256)
Age	0.089***	0.079***	0.081***	0.079***	0.080***
	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)
Age>Early	0.213***	0.200**	0.207**	0.200**	0.197**
	(0.082)	(0.082)	(0.082)	(0.082)	(0.083)
Age>Normal	0.161	0.199*	0.164	0.198*	0.158
	(0.105)	(0.104)	(0.105)	(0.104)	(0.107)
Medium Education	-0.158***	-0.153***	-0.156***	-0.153***	-0.156***
	(0.056)	(0.056)	(0.056)	(0.056)	(0.056)
High Education	-0.325***	-0.317***	-0.320***	-0.317***	-0.319***
	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)
Poor Health	0.730***	0.744***	0.733***	0.744***	0.734***
	(0.130)	(0.128)	(0.130)	(0.128)	(0.130)
Number of Children	0.005	0.008	0.008	0.008	0.008
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Number of Grandchildren	0.006	0.001	0.002	0.001	0.002
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Medium Education (Partner)	-0.072	-0.064	-0.062	-0.064	-0.060
	(0.057)	(0.058)	(0.058)	(0.058)	(0.058)
High Education (Partner)	-0.041	-0.014	-0.020	-0.014	-0.017
	(0.063)	(0.063)	(0.064)	(0.063)	(0.064)
Poor Health (Partner)	-0.096	-0.195	-0.168	-0.194	-0.188
	(0.127)	(0.127)	(0.133)	(0.127)	(0.136)
Constant cut1	5.567***	5.146***	5.758***	5.143***	5.205***
	(0.474)	(0.478)	(0.483)	(0.477)	(0.505)
Constant cut2	5.866***	5.450***	6.057***	5.447***	5.504***
	(0.473)	(0.477)	(0.482)	(0.477)	(0.504)
Wald Chi2 (23)	657.4	754.1	658.8	754.09	666.03
Prob > chi2	0	0	0	0	0
Pseudo R2	0.1086	0.1193	0.1091	0.1194	0.1094
Observations	5,189	5,189	5,189	5,189	5,189

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7: Marginal Effects for Outcomes of Retirement Status of Women (for Specification 3 in Table 6)

VARIABLES	Outcome 1	Outcome 2	Outcome 3
Predicted Values of Partner's Retirement status	-0.028*	0.007*	0.021*
	(0.015)	(0.004)	(0.011)
Age	-0.024***	0.006***	0.018***
	(0.003)	(0.001)	(0.002)
Age>Early	-0.064**	0.014**	0.049**
	(0.027)	(0.006)	(0.021)
Age>Normal	-0.051	0.011	0.039
	(0.034)	(0.007)	(0.027)
Medium Education	0.045***	-0.011***	-0.034***
	(0.016)	(0.004)	(0.012)
High Education	0.090***	-0.023***	-0.067***
	(0.017)	(0.005)	(0.013)
Poor Health	-0.261***	0.040***	0.221***
	(0.051)	(0.004)	(0.048)
Number of Children	-0.002	0.001	0.002
	(0.004)	(0.001)	(0.003)
Number of Grandchildren	-0.001	0.000	0.001
	(0.003)	(0.001)	(0.002)
Medium Education (Partner)	0.018	-0.004	-0.014
	(0.017)	(0.004)	(0.013)
High Education (Partner)	0.006	-0.001	-0.004
	(0.019)	(0.005)	(0.014)
Poor Health (Partner)	0.046	-0.012	-0.034
	(0.034)	(0.010)	(0.025)
Observed Probability	0.76	0.07	0.17
Predicted Probability	0.78	0.08	0.14
Observations	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Marginal Effects for Outcomes of Retirement Status of Women (for Specification 5 in Table 6)

VARIABLES	Outcome 1	Outcome 2	Outcome 3
Pred. Prob. of Having Partially Retired Partner	-0.179	0.044	0.135
	(0.455)	(0.111)	(0.344)
Pred. Prob. of Having Fully Retired Partner	-0.104	0.025	0.079
	(0.075)	(0.018)	(0.057)
Age	-0.024***	0.006***	0.018***
	(0.003)	(0.001)	(0.002)
Age>Early	-0.061**	0.014**	0.047**
	(0.027)	(0.006)	(0.021)
Age>Normal	-0.049	0.011	0.038
	(0.035)	(0.007)	(0.027)
Medium Education	0.045***	-0.011***	-0.034***
	(0.016)	(0.004)	(0.012)
High Education	0.090***	-0.023***	-0.067***
	(0.017)	(0.005)	(0.013)
Poor Health	-0.262***	0.040***	0.221***
	(0.051)	(0.004)	(0.048)
Number of Children	-0.002	0.001	0.002
	(0.004)	(0.001)	(0.003)
Number of Grandchildren	-0.000	0.000	0.000
	(0.003)	(0.001)	(0.002)
Medium Education (Partner)	0.018	-0.004	-0.013
	(0.017)	(0.004)	(0.013)
High Education (Partner)	0.005	-0.001	-0.004
	(0.019)	(0.005)	(0.014)
Poor Health (Partner)	0.051	-0.013	-0.038
	(0.034)	(0.010)	(0.024)
Observed Probability	0.76	0.07	0.17
Predicted Probability	0.78	0.08	0.14
Observations	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.3 Robustness Check

Since the main focus of this study is partial and full retirement status of individuals and their partners, different definitions of the partial and the full retirement status are used in order to test robustness of the results Firstly, partial retirement is defined using different cut-off points for working hours per week. Secondly, full retirement status of individuals is restricted only by individuals who report themselves as retired. Further explanation is given in the next two sections.

5.3.1 Robustness Check for Partial Retirement Status

As mentioned in section 3.3, partial retirement is defined as working full time in the first wave and moving to part time work in the next period. Part time work is defined as working less than 35 hours per week. For robustness check, different cut-off points are used to define part-time work. The new cut-off points are 30, 38 and 40 which are other possible cutoff points commonly used. The results after new cut-off points can be seen in the appendix in tables A5 and A6.

For men, significance level and the sign of the partner's predicted values of ordered retirement status and the predicted probabilities of the partial and full retirement status of the wife are in line with those from the regression that uses the cut-off point of 35 (Appendix, Table A5).

For women, the retirement status of their husbands is significant at 10 percent only for the regression that uses the cut-off point of 38. The retirement status of the husbands is not significant in the regressions that use the cut-off points of 30 and 40. As in line with the existing results, the predicted probabilities for partial and full retirement status of the husband are not significant in all of the regressions that use different cut-off points (Appendix, Table A6).

Overall, results are robust in general. The husband's retirement status is not significant in the models that use the cut-off points of 30 and 40. However, as in mentioned section 5.2, the significance of the husband's retirement status is already low (10 percent) using the main cut-off point of 35.

5.3.2 Robustness Check for Full Retirement Status

Definition of full retirement is working in the first period and having zero working hours in the second period. However, individuals may stop working due to other reasons than the retirement. These can be being unemployed or disable in the second period. In order to take into account this, individuals who do not state that they are retired, such as those who choose their current job status as unemployed, disabled or homemaker, are not identified as fully retired. The results can be seen in Appendix table A7. The Results after additional restriction for full retirement are in line with our existing results in general. However, in the model for women that uses new definition of full retirement, the significance level of husband's retirement is increased to 5 percent as opposed to 10 percent in the results that uses the prior definition used in this study. Moreover, analyzing the predicted probabilities of partial and full retirement of the husbands, the effect of predicted probability of having fully retired husband becomes significant and it has positive sign. However, its significance level is only 10 percent.

6. Conclusion

In this thesis, the effect of the partner's full and partial retirement status on the other partner's full or partial retirement decision is analyzed for men and women separately. In order to analyze whether partners are affected by each other's retirement decision, ordered probit reduced form models are estimated using SHARE dataset.

Results show that the retirement decision of both men and women is correlated with their partner's retirement decision. However, since this correlation can be due to the unobserved reasons such as assertive mating or similar experiences of couples, it does not necessarily constitute causation in one partner's retirement decision on another partner's retirement status. In this regard, predicted values of retirement status of the partners are calculated using individuals' eligibility for early and normal retirement in order to deal with endogeneity problem.

Although results show that partial and full retirement of both husbands and wives increase the probability of their partners' probability of partial or full retirement, the magnitude, direction and significance of this effect changes when we control for endogeneity. Moreover, the change in this effect differs across men and women.

While the predicted values of the retirement of the wife does not have a significant effect on the husband's retirement decision, the retirement status of the husband has a slight positive effect on the probability of the wife's retirement. This result is in line with the results of Hospido and Zamarro (2014). However, when we analyze the effect of the predicted probability of the partner's partial and full retirement, the results differ and they show that there can be other dynamics in joint retirement decision of couples.

The predicted probability of having partially retired wife increases the probability of the husband's both partial and full retirement. On the other hand, the predicted probability of having fully retired wife decreases the probability of the husband's both partial and full retirement. One of the intuitive explanations for this can be that although husbands enjoy spending their leisure time together with their wives and they tend to reduce their working hours or retire with their wives' reduced working hours, due to financial burden of the full retirement of both couples in the household which leads decreased consumption, they postpone their retirement date after retirement of their wives. Therefore, while they tend to retire partially or fully with the partial retirement of their wives, they tend to retire later with the full retirement of their partners which decreases financial well-being more compared to partial retirement. These two adverse effects of the wife's partial and full retirement on the husband's retirement decision can cause insignificant results of the wife's overall retirement decision. Therefore it is important to take into account partial retirement option or the number of reduced working hours of the partners in order to fully understand underlying mechanisms of joint retirement decision of couples.

On the other hand, although the husband's retirement decision has positive and significant effect on the wife's retirement decision, the predicted probabilities of the husband's full and partial retirement decision do not have significant effect on the wife's full or partial retirement probability. This implies that women are more likely to retire when their husbands retire, but their retirement decision does not depend on the type of the retirement (partial or full) of their husbands.

The overall results of this thesis somehow complementary to and similar with Stancanelli's (2014) conclusion for joint retirement decision of couples in France. She concludes that husband's retirement probability slightly increases with their wives' retirement while wives' retirement status is not affected by their husband's retirement. Moreover she extends her analysis by analyzing the effect of retirement status of the spouse on the individual's working hours and finds that individuals work less hours after retirement of their spouse. In this regard, although full retirement decision of the partner may seem to be insignificant for the retirement decision of the other partner, when we take into account partial retirement option or hours of the labor market work, we observe that the retirement decision and the number of working hour of individuals are affected by their partner's retirement decision. Overall, this study's results complement the Stancanelli's (2014) result that is the retirement decision of the partner leads to reduction in the hours of market work of the other partner with another perspective. That is: the partial retirement of the partner which can be seen as reduced working hours can have an impact on the retirement status of individuals. In addition, it is important to mention that the effects of partial retirement and full retirement can be in different directions as in the impact of the wife's partial and full retirement in this study.

Overall, this study contributes to the literature by analyzing the joint retirement decision of couples with different perspective including partial retirement option in the analysis of the impact of the partner's retirement decision on the other partner's retirement decision. In fact, the results show that inclusion of the partial retirement option can change the interpretation of the retirement patterns of couples. Specifically, while the wife's retirement decision seem insignificant for their husbands, we observe that while partial retirement of the wife increase the probability of the retirement of the husband, full retirement decision of the wife decreases the probability of the husband's retirement after using the probability of the partner's for full and partial retirement.

These results may also imply or be caused by the non-linearity in the effect of the number of working hours on the other partner's working hours. Therefore, this study can be developed by analyzing the retirement decision of couples using the number of working hours of couples. In this respect, analyzing joint retirement and labor supply decision of couples using models that explain individual's labor market allocation in a continuous setting in Europe should be used for further studies. Moreover, for future studies, in order to understand underlying decision making strategies of husbands and wives, it would be helpful to analyze labor supply and retirement decisions of them with dynamic game theoretical approaches.

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APPENDIX

Table A1: Distributions of individuals by Country and Wave

	Wave 1-2	Wave 2-4	Wave 4-5	Wave 5-6	Total
Austria	52	28	240	214	534
Germany	168	152	114	734	1,168
Sweden	300	232	146	438	1,116
Netherlands	162	182	264	-	608
Spain	56	60	174	398	688
Italy	50	88	146	312	596
France	160	190	284	268	902
Denmark	178	304	402	720	1,604
Greece	102	-	-	-	102
Switzerland	86	138	402	364	990
Belgium	178	150	310	388	1,026
Czech Republic	-	150	374	450	974
Poland	-	70	-	-	70
Total	1,492	1,744	2,856	4,286	10,378

Table A2: Descriptive Statistics of Men by Waves

	Wave 1-2		Wave 2-4		Wave 4-5		Wave 5-6	
	Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.
Full Retired	0.18	0.39	0.32	0.47	0.16	0.36	0.14	0.35
Partially Retired	0.06	0.24	0.10	0.30	0.04	0.20	0.05	0.21
Age	58.61	4.27	60.93	3.89	59.16	4.10	59.28	4.24
Age>Early Retirement Age	0.23	0.42	0.35	0.48	0.21	0.41	0.13	0.34
Age>Normal Retirement Age	0.10	0.29	0.14	0.34	0.07	0.25	0.06	0.23
Low Education	0.27	0.45	0.24	0.43	0.22	0.41	0.20	0.40
Medium Education	0.40	0.49	0.42	0.49	0.42	0.49	0.45	0.50
High Education	0.33	0.47	0.34	0.47	0.36	0.48	0.36	0.48
Poor Health	0.02	0.14	0.03	0.17	0.03	0.17	0.02	0.15
Number of Children	2.20	1.08	2.18	1.09	2.22	1.15	4.41	2.32
Number of Grandchildren	2.49	3.49	2.00	2.13	1.52	2.09	1.48	2.11
Number of Observations	746		872		1428		2143	

Table A3: Descriptive Statistics of Women by Waves

	Wave 1-2		Wave 2-4		Wave 4-5		Wave 5-6	
	Mean	**S. D.**	**Mean**	**S. D.**	**Mean**	**S. D.**	**Mean**	**S. D.**
Full Retired	0.17	0.38	0.31	0.46	0.14	0.35	0.13	0.33
Partially Retired	0.09	0.28	0.07	0.26	0.07	0.26	0.07	0.25
Age	56.80	3.69	59.21	3.76	57.13	3.76	57.06	4.07
Age>Early Retirement Age	0.13	0.33	0.22	0.42	0.11	0.31	0.06	0.24
Age>Normal Retirement Age	0.03	0.18	0.10	0.30	0.03	0.18	0.02	0.15
Low Education	0.32	0.47	0.26	0.44	0.21	0.41	0.18	0.39
Medium Education	0.35	0.48	0.40	0.49	0.44	0.50	0.44	0.50
High Education	0.33	0.47	0.34	0.47	0.36	0.48	0.38	0.49
Poor Health	0.03	0.17	0.03	0.18	0.02	0.13	0.02	0.14
Number of Children	2.20	1.08	2.18	1.09	2.22	1.15	4.41	2.32
Number of Grandchildren	2.49	3.49	2.00	2.13	1.52	2.09	1.48	2.11
Number of Observations	746		872		1428		2143	

Table A4: Statutory Early and Normal Retirement Ages of Countries

	Normal Retirement Ages		Early Retirement Ages	
	Men	**Women**	**Men**	**Women**
Austria	65	60	65	60
Germany	65	65	63	63
Sweden	65	65	61	61
Netherlands	65	65	60	60
Spain	65	65	60	60
Italy	65	65	60	60
France	60	60	60	60
Denmark	65	65	65	65
Greece	65	65	57	57
Switzerland	65	64	63	62
Belgium	65	65	60	60
Czech Republic	63	63	60	60
Poland	65	60	65	60

Table A5: Ordered Probit Results for Men Using Different Cut-Offs for Partial Retirement Status

	30 Hours Cut-off		38 Hours Cut-off		40 Hours Cut-off	
VARIABLES	(1)	(2)	(1)	(2)	(1)	(2)
Predicted Values of Partner's Retirement Status	-0.037		-0.054		-0.042	
	(0.063)		(0.064)		(0.063)	
Pred. Prob. of Having Partially Retired Partner		6.426***		4.207**		4.171**
		(2.263)		(1.808)		(1.793)
Pred. Prob. of Having Fully Retired Partner		-0.738***		-0.732***		-0.696***
		(0.260)		(0.257)		(0.255)
Age	0.129***	0.127***	0.112***	0.111***	0.105***	0.105***
	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
Age>Early	0.161**	0.153**	0.153**	0.149**	0.173**	0.170**
	(0.074)	(0.074)	(0.073)	(0.073)	(0.073)	(0.073)
Age>Normal	0.017	0.044	0.112	0.138	0.129	0.154*
	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)
Medium Education	-0.089	-0.088	-0.101*	-0.100*	-0.118**	-0.118**
	(0.059)	(0.059)	(0.057)	(0.057)	(0.057)	(0.056)
High Education	-0.201***	-0.207***	-0.240***	-0.246***	-0.261***	-0.267***
	(0.068)	(0.068)	(0.065)	(0.065)	(0.065)	(0.065)
Poor Health	0.771***	0.779***	0.744***	0.751***	0.701***	0.709***
	(0.128)	(0.127)	(0.125)	(0.125)	(0.127)	(0.127)
Number of Children	-0.031**	-0.028*	-0.028*	-0.025	-0.025*	-0.023
	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)
Number of Grandchildren	0.024**	0.023**	0.014	0.014	0.016	0.016
	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Medium Education (Partner)	-0.085	-0.084	-0.069	-0.068	-0.071	-0.071
	(0.059)	(0.058)	(0.057)	(0.056)	(0.057)	(0.056)
High Education (Partner)	-0.151**	-0.136*	-0.123*	-0.114*	-0.120*	-0.112*
	(0.070)	(0.070)	(0.067)	(0.067)	(0.066)	(0.066)
Poor Health (Partner)	0.009	0.076	-0.011	0.054	-0.027	0.040
	(0.162)	(0.152)	(0.156)	(0.149)	(0.155)	(0.148)
Constant cut1	7.997***	8.292***	6.945***	7.298***	6.575***	6.883***
	(0.622)	(0.641)	(0.564)	(0.580)	(0.555)	(0.570)
Constant cut2	8.140***	8.436***	7.179***	7.532***	6.807***	7.114***
	(0.622)	(0.641)	(0.564)	(0.580)	(0.554)	(0.569)
Wald Chi2 (23)	791.46	798.1	812.75	823.46	799	806.98
Prob > chi2	0	0	0	0	0	0
Pseudo R2	0.17	0.1717	0.1479	0.1492	0.1451	0.1464
Observations	5,189	5,189	5,189	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A6: Ordered Probit Results for Women Using Different Cut-Offs for Partial Retirement Status

	30 Hours Cut-off		38 Hours Cut-off		40 Hours Cut-off	
VARIABLES	(1)	(2)	(1)	(2)	(1)	(2)
Predicted Values of Partner's Retirement Status	0.077		0.093*		0.083	
	(0.051)		(0.055)		(0.056)	
Pred. Prob. of Having Partially Retired Partner		2.431		1.457		1.540
		(2.535)		(1.590)		(1.636)
Pred. Prob. of Having Fully Retired Partner		0.190		0.232		0.181
		(0.246)		(0.250)		(0.252)
Age	0.098***	0.096***	0.092***	0.091***	0.093***	0.092***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Age>Early	0.129	0.124	0.122	0.117	0.132	0.128
	(0.086)	(0.086)	(0.085)	(0.085)	(0.085)	(0.085)
Age>Normal	0.143	0.151	0.179*	0.183*	0.163	0.170
	(0.107)	(0.108)	(0.108)	(0.109)	(0.107)	(0.108)
Medium Education	-0.168***	-0.167***	-0.149***	-0.148**	-0.146**	-0.146**
	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)
High Education	-0.360***	-0.359***	-0.290***	-0.289***	-0.283***	-0.282***
	(0.067)	(0.068)	(0.066)	(0.066)	(0.066)	(0.067)
Poor Health	0.775***	0.779***	0.777***	0.780***	0.778***	0.782***
	(0.135)	(0.134)	(0.131)	(0.131)	(0.132)	(0.131)
Number of Children	0.003	0.003	-0.007	-0.007	-0.000	0.000
	(0.016)	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)
Number of Grandchildren	0.006	0.005	0.005	0.005	0.006	0.006
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.011)
Medium Education (Partner)	-0.070	-0.067	-0.087	-0.084	-0.092	-0.089
	(0.060)	(0.060)	(0.059)	(0.059)	(0.059)	(0.059)
High Education (Partner)	-0.023	-0.016	-0.029	-0.024	-0.033	-0.027
	(0.068)	(0.068)	(0.067)	(0.067)	(0.067)	(0.067)
Poor Health (Partner)	-0.144	-0.150	-0.207	-0.210	-0.244*	-0.244*
	(0.140)	(0.141)	(0.144)	(0.146)	(0.148)	(0.148)
Constant cut1	6.873***	6.318***	6.590***	6.057***	6.541***	6.093***
	(0.544)	(0.569)	(0.521)	(0.543)	(0.521)	(0.544)
Constant cut2	7.045***	6.491***	6.805***	6.272***	6.754***	6.307***
	(0.544)	(0.569)	(0.521)	(0.543)	(0.520)	(0.544)
Wald Chi2 (23)	699.03	710.71	688.99	699.21	690.9	700.28
Prob > chi2	0	0	0	0	0	0
Pseudo R2	0.1408	0.1411	0.1328	0.1331	0.134	0.1342
Observations	5,189	5,189	5,189	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A7: Ordered Probit Results with an Alternative Full Retirement Definition

	Men		Women	
VARIABLES	(1)	(2)	(1)	(2)
Predicted Values of Partner's Retirement Status	0.036		0.090**	
	(0.054)		(0.046)	
Pred. Prob. of Having Partially Retired Partner		2.515***		0.112
		(0.953)		(1.249)
Pred. Prob. of Having Fully Retired Partner		-0.631**		0.480*
		(0.314)		(0.277)
Age	0.137***	0.135***	0.100***	0.100***
	(0.012)	(0.012)	(0.011)	(0.010)
Age>Early	0.195***	0.181**	0.259***	0.243***
	(0.076)	(0.076)	(0.088)	(0.088)
Age>Normal	0.086	0.116	0.248**	0.223**
	(0.085)	(0.086)	(0.108)	(0.112)
Medium Education	-0.021	-0.020	-0.043	-0.042
	(0.061)	(0.061)	(0.060)	(0.060)
High Education	-0.110	-0.112	-0.067	-0.064
	(0.070)	(0.070)	(0.069)	(0.069)
Poor Health	-0.147	-0.139	-0.014	-0.021
	(0.149)	(0.149)	(0.152)	(0.152)
Number of Children	-0.032**	-0.030**	0.001	0.001
	(0.014)	(0.015)	(0.015)	(0.015)
Number of Grandchildren	0.019*	0.017*	-0.010	-0.011
	(0.010)	(0.010)	(0.011)	(0.011)
Medium Education (Partner)	-0.034	-0.026	-0.066	-0.066
	(0.060)	(0.060)	(0.061)	(0.061)
High Education (Partner)	-0.103	-0.096	-0.067	-0.066
	(0.069)	(0.068)	(0.069)	(0.068)
Poor Health (Partner)	-0.008	0.004	-0.211	-0.208
	(0.157)	(0.154)	(0.140)	(0.140)
Constant cut1	9.018***	8.840***	7.236***	6.596***
	(0.646)	(0.669)	(0.557)	(0.579)
Constant cut2	9.312***	9.133***	7.673***	7.034***
	(0.644)	(0.667)	(0.553)	(0.574)
Wald Chi2 (23)	860.29	864.87	706.12	715.21
Prob > chi2	0	0	0	0
Pseudo R2	18.24	0.1834	0.1485	0.1491
Observations	5,189	5,189	5,189	5,189

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1