Retirement patterns of couples in Europe*

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Abstract

In this paper we study the retirement patterns of couples in a multi-country setting using the Survey of Health, Aging and Retirement in Europe (SHARE) dataset. In particular we test whether women's (men's) transitions out of the labor force are directly related to the actual realization of their husbands' (wives') transition, using the institutional variation in country-specific early and normal retirement ages to instrument the latter. Exploiting the discontinuities in retirement behavior across countries, we find significant evidence of complementarities in the wives' transitions out of the labor force. Our estimates indicate that husbands' retirement leads to a 30 percent increase in the probability of wives' also leaving the labor force. Our empirical strategy allows us to give a causal interpretation to the effect we estimate. In addition, this effect has important implications for policy analysis.

JEL Codes: J26, D10, C21.

Keywords: Joint retirement, Social security incentives.

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1 Introduction

As population ages around the world, due to increased life expectancy, individuals are increasingly encouraged to extend their working life to reduce budgetary concerns of old age insurance systems. However, the extent to which people continue to participate in the labor market after the age of 50 varies considerably across countries. Table 1 reports the participation rates, defined as the employment to population ratios, for individuals in between 50 and 64 years old. Those rates are obtained from the two first waves of the Survey of Health Ageing and Retirement in Europe (SHARE), conducted in several countries in years 2004 and 2006-2007.[1] As we can see in the table, the average participation rate in this age interval is of 49 %, being 58 % for males and only 41 % for females. Italy, Austria, Belgium and Spain are in the group of European countries with lowest participation rates (or highest "unused labor capacity"). In addition, big differences are observed in participation rates of men and women, from a difference of 4.79 in Sweden to one of 41.84 in Greece.

Table 1. Employment/population ratios (50-64 years).

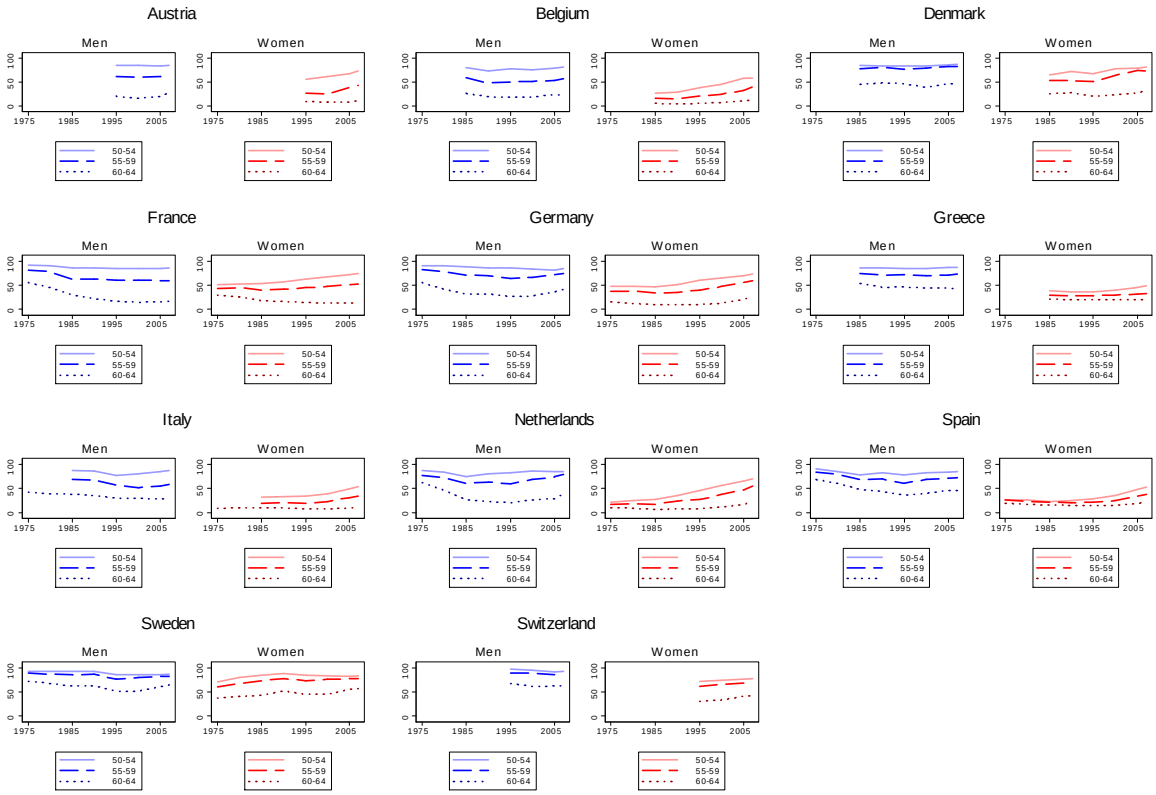
Country	Total	Males	Females	Difference
Austria	38.77	49.40	28.56	20.84
Belgium	43.15	51.20	35.28	15.92
Denmark	64.22	69.00	59.45	9.55
France	51.07	54.67	47.70	6.97
Germany	53.95	59.71	48.33	11.38
Greece	49.23	70.99	29.15	41.84
Italy	37.04	49.62	25.30	24.32
Netherlands	52.42	62.90	41.79	21.11
Spain	44.82	60.90	29.73	31.17
Sweden	73.63	76.01	71.22	4.79
Switzerland	69.54	79.11	59.96	19.15
Total	**49.23**	**58.19**	**40.65**	17.54

Source: SHARE (2004, 2006/07). Weighted means.

Underlying these cross-country differences in labor participation rates of older workers are very different trends over time for males and females (see Figure 1). Participation rates for older men have fallen substantially since the 70's in most countries but by much more in some countries than in others. For instance, participation rates for men aged 55 to 59 dropped 22.7 percentage points in France in between 1975 and 2007, 11.6 in Spain and 8.1 in Germany. In contrast, labor participation rates for older women have been in the rise. However, this increase has been much bigger in some countries than in others. For example, labor participation rates of women aged 50 to 54 increased by 48.2 percentage points in The Netherlands in between 1975 and 2007 while in Spain it increased only by 26.5 percentage points.

[1] This survey was designed and developed by the SHARE project for several countries in Europe. For more information on this project, see www.share-project.org.

Figure 1. Participation rates over time.



Source: OECD.

Numerous studies, based mostly in males, have shown the importance of Social Security incentives for retirement decisions. The timing of retirement has been found to be in part determined by the incentives imbedded in the rules determining Social Security benefits, as well as employer-provided pension benefits (see Hurd, 1990 and Lumsdaine and Mitchell, 1999 for reviews). Likewise, other cross-national research published volumes edited by Gruber and Wise (1999, 2004) note that there is a strong negative correlation between labor force participation at older ages and the generosity of early retirement benefits. Finally, Coe and Zamarro (2011) find that official retirement ages in Europe are a strong predictor of retirement. Official retirement ages in Europe vary by country, and sometimes by gender, by as much as 8 years. In most countries, the effective age of retirement is well below the official age of receiving a full old-age pension and females are found to retire around one to two years earlier than males, especially those who are married or cohabiting with a partner. Table 2 reports the statutory Early and Normal retirement ages in place in each country, jointly with the Effective age of stop working obtained from SHARE.[2]

[2]The main source for this data was Coe and Zamarro (2011). The *official retirement ages* are referred to the law that was in place when individuals in SHARE were facing their retirement decisions. The *effective retirement age* is obtained as the weighted median age of stop working for those respondents who were working at age 50.

Table 2. Retirement Age.

	Males				Females			
	Early	Normal	Effective		Early	Normal	Effective	
			All	Married			All	Married
Austria	60	65	59	58	57	60	56	55
Belgium	60	65	58	58	60	65	57	56
Denmark	65	65	61	61	65	65	60	60
France	57	60	59	59	57	60	59	58
Germany	63	65	60	60	63	65	60	59
Greece	57	65	60	60	57	65	60	60
Italy	57	65	58	58	57	65	57	56
Netherlands	60	65	60	60	60	65	59	58
Spain	60	65	62	61	60	65	61	59
Sweden	61	65	63	63	61	65	62	62
Switzerland	63	65	64	63	62	64	62	62

Source: SHARE (2004, 2006/07). Effective age = weighted median age of stop working.

On the other hand, recent research has also stressed the role of "push" factors in determining the timing of labor market exit. In particular, labor market constraints (Hurd, Michaud, and Rohwedder, 2008; García-Pérez and Sánchez-Martín, 2008), poor health (Currie and Madrian, 1999) or family care-giving obligations (Crespo, 2006; Fevang, Kverndokk and Røed, 2008) have implications on the timing of retirement and may also help to explain the gender differences in employment behavior among men and women.

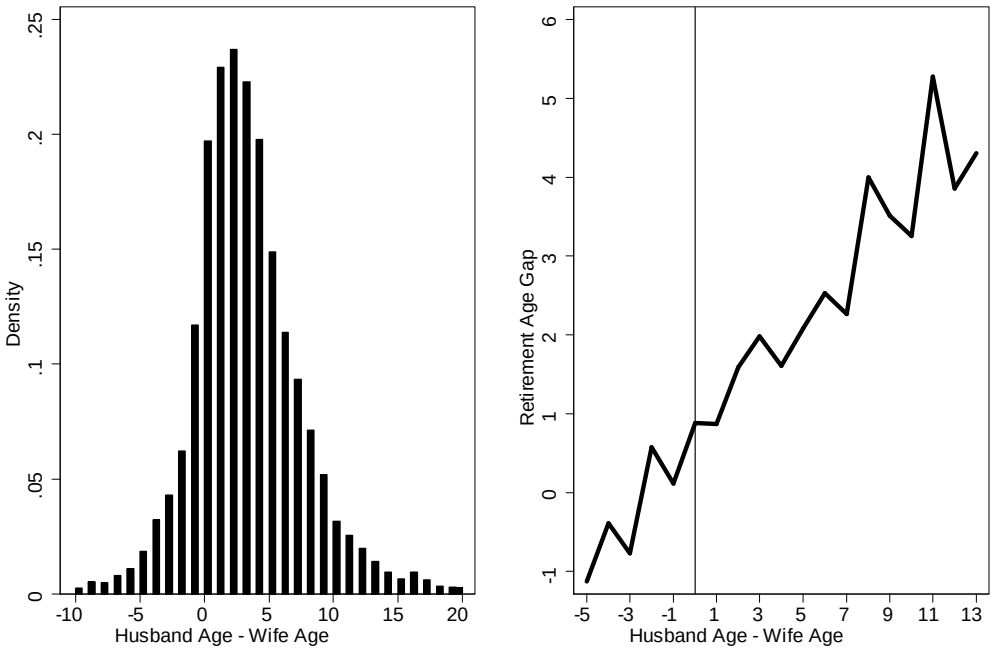
Finally, an increasing part of the literature considers retirement as a decision concerning the couple, rather than the individual (Ruhm, 1996; Gustman and Steinmeier, 2000; Blau and Gilleskie, 2006; Coile, 2004a, 2004b; Michaud, 2003; Michaud and Vermulen, 2004; Casanova, 2010). The phenomenon of *joint retirement* refers to the coincidence in time of spouses' retirement. This follows the observation that a significant share of spouses retire within less than one year of each other, independently of the age difference between them. Figure 2 shows the histogram of the age differences between spouses using couples from the first two waves of SHARE. The average gap between the husband's age and the wife's age is of 3 years, being this difference quite stable among countries (with the only exception of Greece, where the average differential is of 5 years). The figure also shows that, as predicted by the joint retirement hypothesis, there is a positive correlation between the within couple age gaps and the difference between the age of stop working for the husband and the age of stop working for his wife.

Given these facts, what we do in this paper is to analyze the complementarities in spouses' retirement patterns in continental Europe using data from SHARE. This study complements the one of Banks, Blundell and Casanova (2010) for England and the US.[3] Considering the numerous differences

[3] They find that British men are from 14 to 20 percentage points more likely to retire when their wife reaches state pension age at 60 than their American counterparts.

in the labor markets, health insurance and social plans of those countries with respect to many European countries, there is no a priori reason to assume that their findings would still hold. In particular, we test whether women's (men's) transitions out of the labor force are directly related to the actual realization of their husbands' (wives') transition, using the institutional variation in country-specific early and normal retirement ages to instrument the latter.

Figure 2. Age gaps between spouses.



Source: SHARE (2004, 2006/07). Retirement age gap = weighted mean of differences between the age of stop working for the husband and the age of stop working for his wife.

We find significant evidence of complementarities in the wives' transitions out of the labor force. Our empirical strategy allows us to give a causal interpretation to the effect we estimate. This effect also has important implications for policies oriented to extend individuals' working life, as - given the usual age gap at first marriage - joint retirement implies that wives are likely to retire at a younger age than their husbands.

The rest of the paper proceeds as follows. Section 2 describes the data and the key variables. Section 3 discusses the empirical reduced form model and the identification strategy. In section 4 we present the econometric results and conclude in section 5.

2 The Data

We use data drawn from the Survey of Health Ageing and Retirement in Europe (SHARE), a multidisciplinary and cross-national panel database of micro data on health, socioeconomic status and social and family networks of more than 40,000 individuals aged 50 or over. The main purpose of this survey is to provide detailed information about the living conditions of middle-aged and older people for several countries in Europe. They are a balanced representation of the various regions in Europe, ranging from Scandinavia (Denmark and Sweden) through Central Europe (Austria, France, Germany, Switzerland, Belgium, and the Netherlands) to the Mediterranean (Spain, Italy and Greece). Further data have been collected in 2005-06 in Israel. The Czech Republic, Poland and Ireland have joined SHARE in 2006 and participated in the second wave of data collection in 2006-07.

SHARE collects information on health variables (self-reported health, health conditions, physical and cognitive functioning, health behavior, use of health care facilities), biomarkers (grip strength, body-mass index, peak flow), psychological variables (psychological health, well-being, life satisfaction), economic variables (current work activity, job characteristics, opportunities to work past retirement age, sources and composition of current income, wealth and consumption, housing, education), and social support variables (assistance within families, transfers of income and assets, social networks, volunteer activities), both at household and individual level. This gives the possibility to analyze a wide variety of questions related to population ageing and the quality of life of the elderly.

In addition, we supplemented the data with information on early and normal statutory retirement ages by gender in each country taken from Coe and Zamarro (2011).

2.1 Sample Selection

We use data on the first two waves, collected by personal interviews in 2004 and 2006/07, and on the eleven countries for whom we have longitudinal data available (Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, and Switzerland).

Our sample is made of working couples in wave 1, where both spouses are aged between 50 and 69. After dropping those observations with incomplete records or where any of the spouses did not answer his/her own interview in one of the waves, we are left with 1,275 such couples. Step-by-step details on sample selection are reported in Appendix A.1. Sample composition by country and some descriptive statistics by gender are presented in Appendix A.2. In our sample, the average age is 58 for men and 56 for women. A 8 per cent of men and a 3 percent of women are over the normal retirement age, and a 29 and 19 per cent - respectively - over the early retirement age. While the age difference by gender is significant, we have very similar out of the labor force rates for males and females in our

sample (16 and 15 per cent). However, significant gender differences arise again when we look at the proportion of individuals who actually declared being retired (13 per cent for men and 8 per cent for women). On average, 13 per cent of sample males report being in bad or very bad health versus a 15 per cent in the case of women. Also, in this sample, the distribution of educational achievement is similar by gender.

2.2 Retirement Definition

In the literature, there are two common ways of defining retirement: self-reported retirement status, or anyone who is not in the paid labor force. As shown in the descriptive statistics, those two measures offer different pictures in the comparison by gender. In particular, in our sample, we find that the proportion of men and of women who are out of the labor force are not statistically different, whereas the fraction of men who declared being retired is significantly higher than for women. The main reason for this divergence is that there is an important proportion of women who stop working to become homemakers. As usual we consider being a homemaker as being out of the labor force. Thus, we define retirement as making a transition out of work between the two waves, that is, in our sample an individual gets retired if she is active in the first wave and inactive in the second wave. An individual is active when she describes herself as working in the paid labor force, and inactive otherwise.[4]

2.3 Representativeness

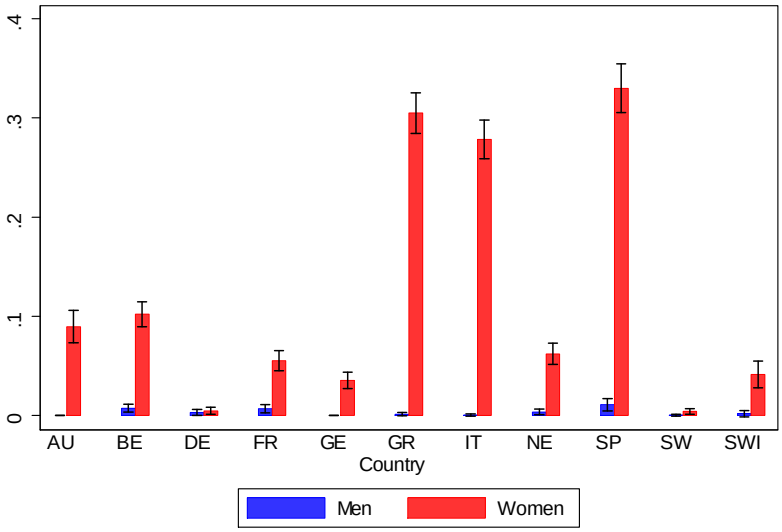
Before presenting the empirical model, it is important to notice that our analysis is focused on working couples only. Given that our aim is to measure the causal effect of joint retirement, this represents the appropriate sample of interest. Even though, it is important to keep in mind that, in some countries, the sample would not be representative of the whole middle-age and older population, especially for women. As shown in Figure 3, in some European countries (notably the Mediterranean countries) the proportion of women who never worked is substantial.

Moreover, when we look at the age at which those individuals who ever worked actually stop working, we observe that in some countries a large number of women stop early in their careers (see bimodal histogram shapes in Figure 4 for females in countries like Italy, the Netherlands or Spain). Many of those early career stops are not related to retirement decisions. In our sample of working couples aged from 50 to 69, early career stops are excluded from the analysis.

Given that recently the labor participation rates for women have been in the rise (see Figure 1 in the Introduction for the case of older women), it is expected that, in the following years, the working couples segment would be of increasing importance in Europe.

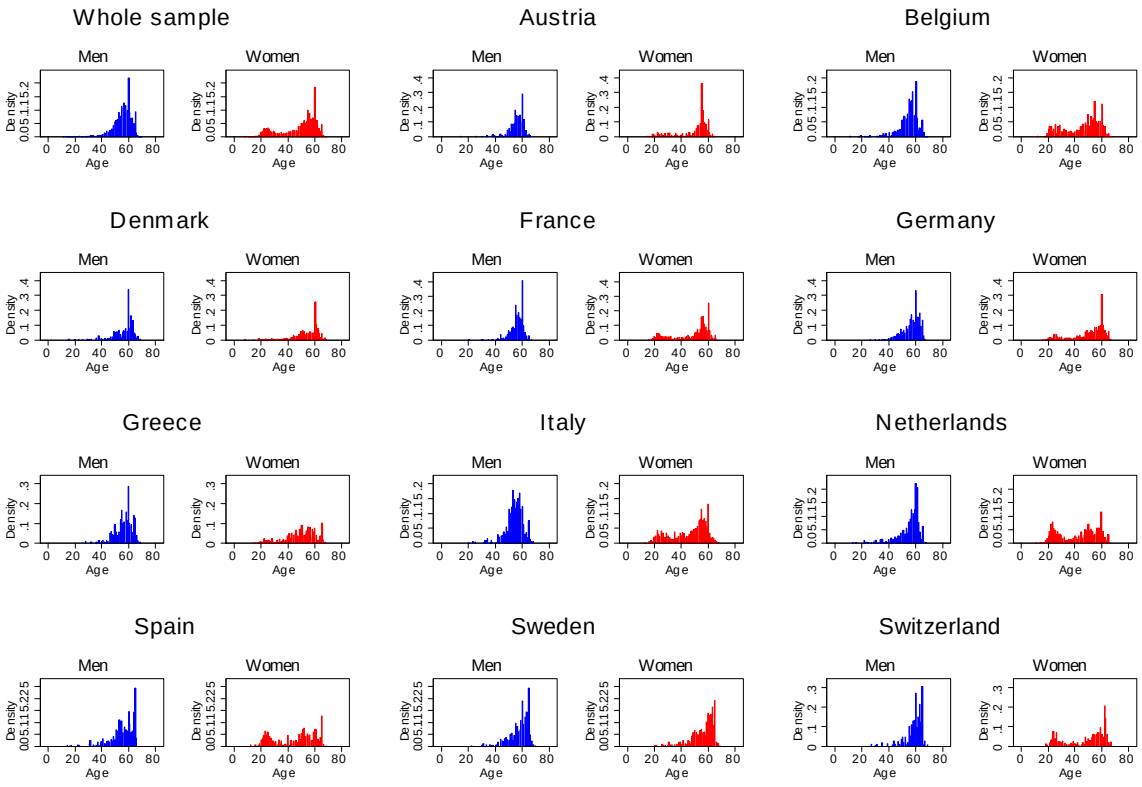
[4] In the empirical analysis we also use the self-reported retirement status as an alternative definition.

Figure 3. Fraction of individuals who never worked.



Notes: Sample size: Men=16,127; Women=19,150. Brackets represent 95% confidence intervals.

Figure 4. Stop working age.



Note: Sample size: Men=16,080; Women=16,751.

3 The empirical model

We aim to determine the effect of the binary decision of one spouse being retired ($R_j = 1$) on the decision of the couple also being retired ($R_i = 1$). We consider a model of the form:

$$R_i = F\left(\alpha + \beta R_j + X_{i,j}\theta'\right) + u_i,\ i = \{h, w\} \text{ and } j = \{w, h\}, \tag{1}$$

where h denotes the husband, w the wife, and the vector $X_{i,j}$ includes a series of controls for spouses' characteristics, such as age, health status, education, and family composition.

At this stage, we consider a linear probability model and assume constant effects across individuals (a homogeneous β). The traditional approach consists on estimating (1) by OLS. However, given the possible simultaneity in the decision of retirement for spouses, OLS estimates would be inconsistent. To solve this problem we use being above early and normal official retirement ages in different countries in Europe as external instruments for retirement decisions.

In particular, we estimate the effect of the husbands' (wives') transitions out of the labor force on their wives' (husbands') transitions, using husbands' (wives') own incentives as instruments. That is, in equation (1) R_j is instrumented with dummy variables indicating whether the spouse j reaches early or normal retirement age.

For instance, D_j^{early} is defined as:

$$D_j^{early} = \begin{cases} 1 & \text{if} \quad age_j >= \text{early retirement age in each country} \\ 0 & , \quad \text{otherwise.} \end{cases}$$

and similarly for D_j^{normal} we have:

$$D_j^{normal} = \begin{cases} 1 & \text{if} \quad age_j >= \text{normal retirement age in each country} \\ 0 & , \quad \text{otherwise.} \end{cases}$$

The econometric approach we use exploits the fact that the regressor of interest (transition into retirement) is partly determined by a known discontinuous (non-linear and non-monotonic) function of an observed covariate (age). This sort of identification strategy has a long tradition in social science and can be viewed as an application of a regression discontinuity design for evaluating the effect of joint retirement.

4 Estimation results

4.1 Descriptive Analysis

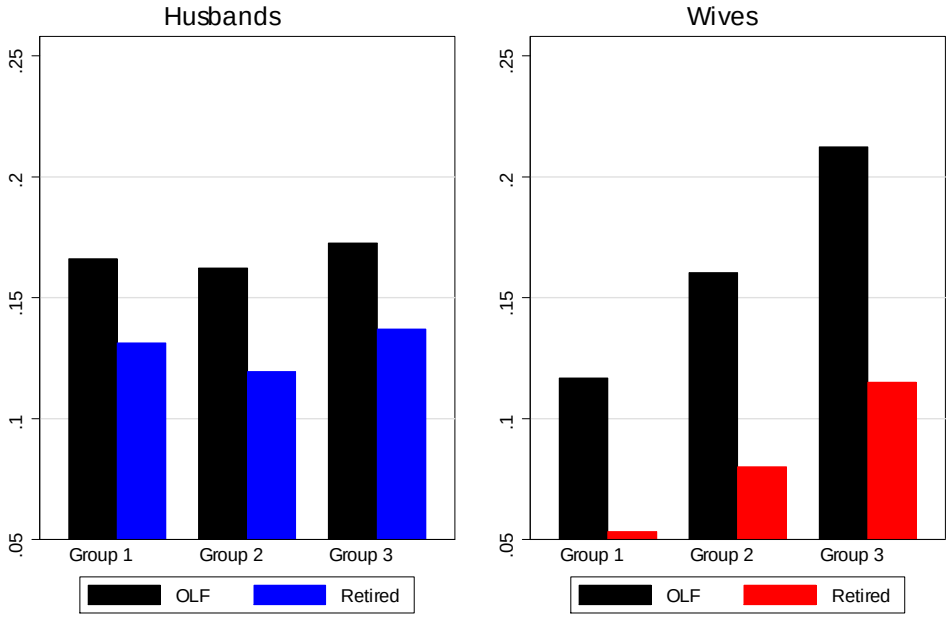
This section describes the labor market and retirement patterns of the couples in our sample. The descriptive analysis is mainly based on gender differences by groups of countries on the self-reported labor market status of the respondents in wave 2. Those groups are defined in terms of their older workers' attachement to the labor market, according to the classification in Table 3.

Table 3. Groups of countries.

Level of labor-market attachment		
Group 1: high	**Group2:** medium	**Group3:** low
Denmark	Belgium	Austria
Sweden	France	Greece
Switzerland	Germany	Italy
	Netherlands	Spain

We first look at the non-working rates in our sample by gender and groups of countries. Figure 5 shows that for men both the non-working rates and the retirement rates are very similar across groups. For women, however, we observe that there is a positive gradient, that is more pronounced for the out of the labor force rates than for those who actually declare being retired.[5]

Figure 5. Out of the labor force (OLF) and retirement rates by groups of countries.

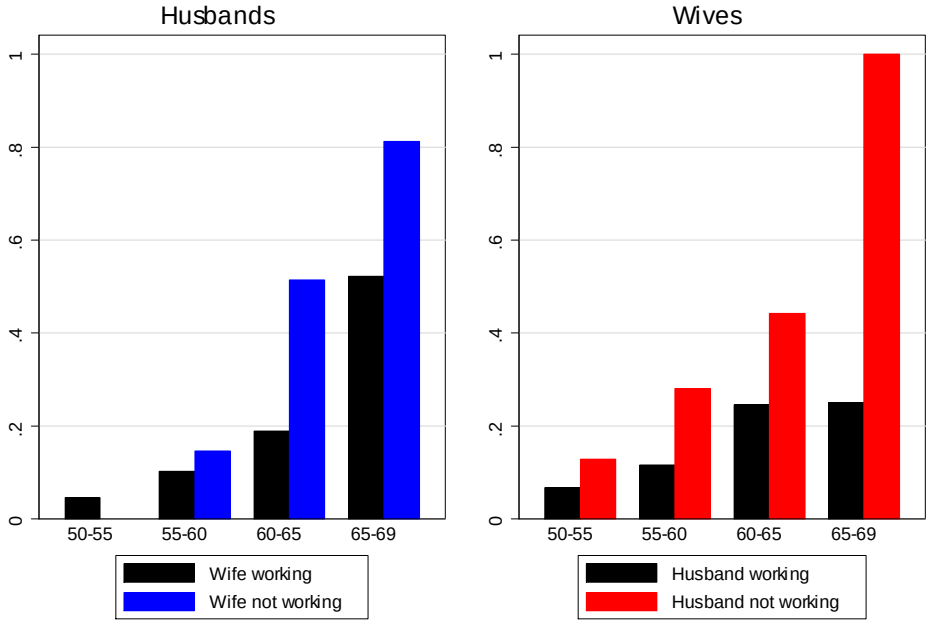


Notes: Wave 2. Sample size: Men=1,275; Women=1,275. Group 1: Denmark, Sweden, Switzerland. Group 2: Belgium, France, Germany, Netherlands. Group 3: Austria, Greece, Italy, Spain.

[5] Similar results have been found for Spain in Gutiérrez-Domènech (2006), using a different dataset.

Secondly, we condition those non-working rates on the fact of having a partner that is still working or not. Figure 6 presents the fraction of out of the labor force individuals when his/her spouse is still working or when he/she is also retired. We observe that the fraction of workers that retire is higher, both for males and females at every age interval, if the partner is also retired.

Figure 6. Out of the labor force rates by age intervals and partner's labor market status.



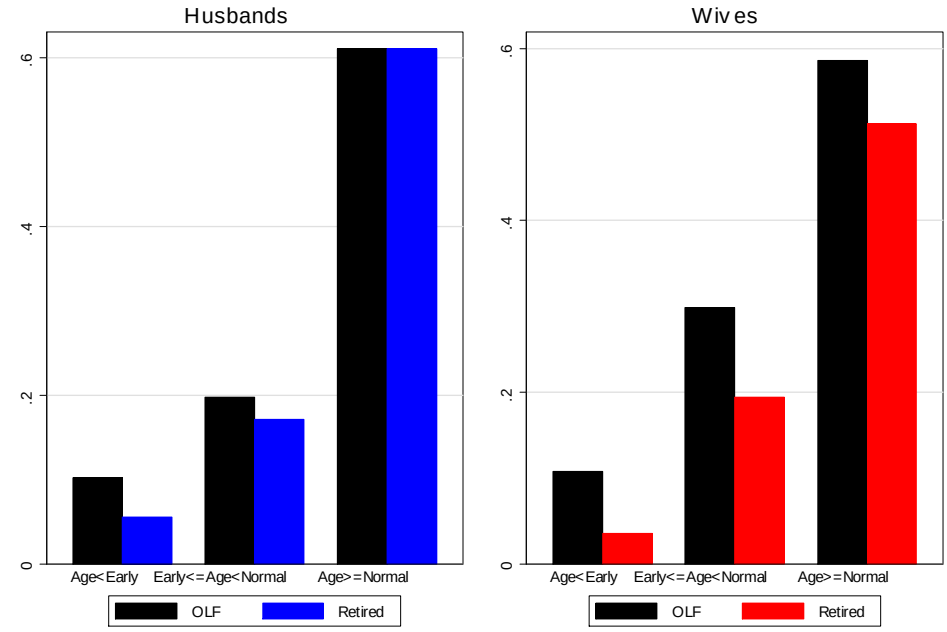
Notes: Wave 2. Sample size: Men=1,275; Women=1,275.

4.2 Instruments Validity

In order for official retirement ages to be valid instruments, they must be exogenous and relevant. With respect to the exogeneity assumption, we are assuming that if the husband (wife) reaches the statutory retirement age, his (her) spouse retirement decision is only affected through his (her) own transition. This assumption is not testable. Regarding relevance, statutory retirement ages must be related to actual retirement behavior. To illustrate this latter point we show graphically how the probabilities of retirement change before individuals are eligible for social security, when they are between the early and normal retirement ages, and after the normal retirement age.

Figure 7 shows the non-working rates by gender, and the corresponding rates for those who declare being retired. We can see that those retirement probabilities increase with age, especially when men reach the normal age of retirement, while for women the peak is also apparent at the early retirement age. Next we provide additional evidence on the predictive power of the instruments based on the first-stage for the IV regressions.

Figure 7. Out of the labor force (OLF) and retirement rates by age intervals.



Notes: Wave 2. Sample size: Men=1,275; Women=1,275.

4.3 Results

In this subsection, we present OLS and IV estimates of equation (1). The set of explanatory variables included in the vector $X_{i,j}$ are age (of both spouses), education, an indicator of bad health status (own, and partner's), and dummy variables of having children or grandchildren. The first-stage for the IV regressions are reported in Table B.1 in Appendix B. Those first-stage regressions show that official retirement ages are a strong predictor for the transition out of the labor force. In the case of men, only the normal retirement age matters, whereas for women both the early and the full retirement ages are statistically significant.

Table 4 shows the results by gender using as the dependent variable a dummy indicating a transition out of the labor market from the first wave to the second. As we can see in the table, OLS estimates of joint retirement are significant and have a similar value, both for males and females. However, IV estimates are only significant for women and they are almost double in size relative to the OLS estimates. The own age also has a significant and positive effect, whereas the partner's age effect that we find for women using OLS vanishes once we apply the IV method. A bad health status is positively related with moving out of the labor force for both groups. A higher degree of education reduces the likelihood of leaving the labor market only for men, whereas for women those likelihood is less for those who have a partner in bad health. Finally, having grandchildren has a positive effect on non participation but only statistically significant for men.

Table 4. Moving out of the labor force.

	[1]		[2]		[3]		[4]	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
(A) MEN								
Partner moving OLF	0.118***	0.157	0.113***	0.142	0.116***	0.142	0.110***	0.138
	(0.028)	(0.230)	(0.028)	(0.225)	(0.028)	(0.225)	(0.028)	(0.216)
Age	0.035***	0.034***	0.034***	0.034***	0.034***	0.033***	0.033***	0.032***
	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Partner's Age	0.006	0.005	0.006*	0.006	0.006	0.006	0.006	0.005
	(0.004)	(0.007)	(0.004)	(0.007)	(0.004)	(0.007)	(0.004)	(0.006)
High education			-0.112***	-0.111***	-0.102***	-0.102***	-0.094***	-0.094***
			(0.025)	(0.026)	(0.025)	(0.026)	(0.025)	(0.025)
Medium education			-0.051**	-0.051**	-0.047*	-0.048*	-0.049**	-0.049**
			(0.025)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Bad health					0.080***	0.081***	0.078***	0.080***
					(0.028)	(0.029)	(0.028)	(0.029)
Partner's bad health							0.011	0.009
							(0.027)	(0.019)
Having children							-0.010	-0.010
							(0.019)	(0.019)
Having grandchild							0.055***	0.054**
							(0.020)	(0.022)
Constant	-2.176***	-2.096***	-2.089***	-2.031***	-2.087***	-2.036***	-2.014***	-1.961***
	(0.180)	(0.492)	(0.180)	(0.480)	(0.179)	(0.478)	(0.182)	(0.451)
R-squared	0.202	0.200	0.214	0.214	0.220	0.219	0.224	0.224
Test overidentif.		2.036		2.346		2.816*		2.376
(B) WOMEN								
Partner moving OLF	0.115***	0.307**	0.112***	0.306**	0.110***	0.304***	0.109***	0.304*
	(0.028)	(0.154)	(0.028)	(0.156)	(0.028)	(0.155)	(0.028)	(0.156)
Age	0.025***	0.023***	0.025***	0.023***	0.024***	0.023***	0.024***	0.022***
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's Age	0.009**	0.002	0.008**	0.001	0.009**	0.002	0.008**	0.001
	(0.003)	(0.006)	(0.003)	(0.006)	(0.03)	(0.006)	(0.003)	(0.006)
High education			-0.043*	-0.031	-0.036	-0.025	-0.034	-0.025
			(0.024)	(0.027)	(0.024)	(0.026)	(0.025)	(0.026)
Medium education			-0.024	-0.016	-0.016	-0.009	-0.016	-0.010
			(0.024)	(0.025)	(0.024)	(0.025)	(0.024)	(0.025)
Bad health					0.066**	0.060**	0.071***	0.067**
					(0.027)	(0.027)	(0.027)	(0.027)
Partner's bad health							-0.051*	-0.067**
							(0.028)	(0.031)
Having children							-0.006	-0.004
							(0.019)	(0.019)
Having grandchild							0.039**	0.026
							(0.020)	(0.022)
Constant	-1.735***	-1.272***	-1.709***	-1.251***	-1.727***	-1.267***	-1.670***	-1.227***
	(0.182)	(0.408)	(0.182)	(0.406)	(0.182)	(0.406)	(0.184)	(0.395)
R-squared	0.167	0.135	0.169	0.137	0.173	0.141	0.178	0.146
Test overidentif.		1.856		2.090		2.199		2.555

Notes: N. observations=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level.

Next, we allow for heterogeneous effects in different groups of countries. As defined in Table 3, we consider three groups of countries according to their workers' attachement to the labor force: High (Denmark, Sweden, and Switzerland), Medium (Belgium, France, Germany, and the Netherlands) and Low (Austria, Greece, Italy, and Spain). Table 5 shows the total effects for the interactions terms from the IV estimates, and the corresponding p-values. The complete set of OLS and IV estimates are reported in Table B.2 in Appendix B.[6]

Table 5. Moving out of the labor force: Interactions.

	Total effect			
	[1]	[2]	[3]	[4]
(A) MEN				
Partner moving OLF×Group 1	0.342	0.294	0.290	0.278
	[0.223]	[0.288]	[0.291]	[0.303]
Partner moving OLF×Group 2	0.451**	0.418**	0.404**	0.368**
	[0.015]	[0.023]	[0.026]	[0.041]
Partner moving OLF×Group 3	0.333	0.310	0.285	0.270
	[0.132]	[0.156]	[0.186]	[0.196]
(B) WOMEN				
Partner moving OLF×Group 1	0.157	0.155	0.165	0.173
	[0.313]	[0.322]	[0.293]	[0.271]
Partner moving OLF×Group 2	0.417***	0.419***	0.417***	0.400***
	[0.003]	[0.003]	[0.004]	[0.006]
Partner moving OLF×Group 3	0.507*	0.489	0.510*	0.493*
	[0.091]	[0.103]	[0.087]	[0.097]

Notes: N. observations=1,275. Total effects from the IV estimates in Table B.2 in Appendix B. Group 1=Denmark, Sweden, and Switzerland; Group 2=Belgium, France, Germany, and the Netherlands; Group 3=Austria, Greece, Italy, and Spain. p-values in squared brackets. Significant at the * 10%, ** 5%, and *** 1% level.

We can see that the effect of joint retirement is only significant for men in countries belonging to Group 2, that is, Belgium, France, Germany, and the Netherlands. For those countries, the effect is also significant and similar in magnitude in the case of women. In addition, for women the effect of having a partner moving out of the labor market is not significant for countries in Group 1, while is strongly positive for countries in Group 3. However, this latter effect is estimated with low precision due to the small sample size.

Summing up, we find significant evidence of complementarities in the wives' transitions out of the labor force. In particular, our estimates indicate that husbands' retirement leads to a 30 percent increase in the probability of wives' also leaving the labor force. By groups of countries, we find that those complementarities are significant for women in Belgium, France, Germany, and the Netherlands, and that they are even stronger for women in Austria, Greece, Italy, and Spain, countries that are

[6] The first-stage of the IV regression are not reported in this case, but they are available upon request from the authors.

characterized by a low older workers' attachement to the labor market. For men, we only find evidence of a positive joint retirement effect in Belgium, France, Germany, and the Netherlands.

4.4 Robustness Checks

Alternative definition of retirement. Tables B.3 and B.4 in Appendix B show the results using as an alternative dependent variable a dummy variable that indicates moving to a self-reported retirement status. The main result still holds for this alternative definition. As previously, OLS estimates of joint retirement are significant both for males and females, whereas IV estimates are only significant for women. In this case, however, the IV approach for males seems problematic, as shown by the test of over-identifying restrictions. As before, the own age has a significant and positive effect, both for men and women. Again, a higher degree of education reduces the likelihood of leaving the labor market while having grandchildren increases it, but only for men. Now the bad health status is not significant any more.

Using only one instrument. Tables B.5 and B.6 in Appendix B show the results using again as the dependent variable the dummy indicating a transition out of the labor market, but now considering only as instrument the normal official retirement age (and not the early retirement age). We find that the main result remains, but the values of the R-squared are higher - both in the first and in the secons stages - using the two instruments.

Introducing non-linearities in age. Finally, Tables B.7 and B.8 in Appendix B show the results when we allow for non-linearities in the age variables, including in our specifications age dummies for each age year for both spouses. In this case the main result remains as well. In fact, we find even stronger evidence of complementarities in the wives' transitions out of the labor force: from a 30 percent to a 53 percent increase in the probability of leaving the labor market.

5 Conclusions

In this paper we study the retirement patterns of couples in a multi-country setting using the Survey of Health, Aging and Retirement in Europe (SHARE) dataset. In particular we test whether women's (men's) transitions out of the labor force are directly related to the actual realization of their husbands' (wives') transition, using the institutional variation in country-specific early and normal retirement ages to instrument the latter. Exploiting the discontinuities in retirement behavior across countries, we find significant evidence of complementarities in the wives' transitions out of the labor force. Our empirical strategy allows us to give a causal interpretation to the effect we estimate. In addition, this effect has important implications for policy analysis.

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A Sample selection and composition

A.1 Sample Selection

Starting point: SHARE waves 1 and 2 - merged files (Balanced panel: 37,482 observations). Filters:

1. We keep married individuals who answered their own interview as the household's reference person or as his/her spouse or partner = Sample (25,004 observations).
2. We drop couples with incomplete records = Sample (19,318 observations).
3. We select individuals aged 50-69 = Sample (9,850 observations).
4. Keep only those couples in which both were working at wave 1 = SAMPLE (1,275 couples and 2,550 observations).

A.2 Sample composition

Table A.2.1. Distribution of couples by country.

Country	No. observations
Austria	104
Belgium	292
Denmark	324
France	288
Germany	292
Greece	190
Italy	98
Netherlands	250
Spain	60
Sweden	520
Switzerland	132
Total	2,550

Table A.2.2. Descriptive Statistics by gender.

	[1] Men	[2] Women	Dif=[1]-[2]
Age	57.89	56.30	1.59***
	(0.10)	(0.10)	(0.08)
Over Early Age	0.29	0.19	0.10***
Over Normal Age	0.08	0.03	0.05***
Out of the labor force	0.16	0.15	0.01
Declared as retired	0.13	0.08	0.05***
Bad Health	0.13	0.15	-0.01
Low Education	0.27	0.29	-0.02
Medium Education	0.39	0.36	0.03*
High Education	0.35	0.36	-0.01
Dummy of having children	0.62		
Dummy of having grandchildren	0.50		

Notes: Wave 2. Standard deviations of non-binary variables in parentheses. Significant at the * 10%, ** 5%, and *** 1% level.

B Additional Tables

Table B.1. Moving out of the labor force: First-Stage Regressions.

	WOMEN				MEN			
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Over Early Age	0.092***	0.096***	0.094***	0.095***	0.009	0.004	0.004	0.012
	(0.036)	(0.036)	(0.036)	(0.036)	(0.033)	(0.033)	(0.033)	(0.33)
Over Normal Age	0.191***	0.190***	0.192***	0.204***	0.272***	0.269***	0.269***	0.265***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.042)	(0.042)	(0.042)	(0.041)
Age	0.014***	0.014***	0.014***	0.013***	0.024***	0.028***	0.024***	0.022***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)
Partner's Age	0.012***	0.012***	0.012***	0.011***	0.009**	0.009**	0.009**	0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's High education		-0.023	-0.027	-0.013		-0.058**	-0.056**	-0.040
		(0.025)	(0.025)	(0.025)		(0.024)	(0.025)	(0.025)
Partner's Medium education		0.014	0.012	0.014		-0.030	-0.027	-0.019
		(0.025)	(0.025)	(0.025)		(0.024)	(0.024)	(0.024)
Partner's Bad health			-0.034	-0.042			0.027	0.022
			(0.028)	(0.028)			(0.027)	(0.027)
Bad health				0.083***				0.079***
				(0.026)				(0.028)
Having children				-0.006				-0.011
				(0.019)				(0.019)
Having grandchild				0.047**				0.066***
				(0.020)				(0.020)
Constant	-1.359***	-1.325***	-1.329***	-1.254***	-1.689***	-1.674***	-1.682***	-1.549***
	(0.238)	(0.239)	(0.239)	(0.240)	(0.247)	(0.247)	(0.247)	(0.249)
R-squared	0.168	0.170	0.171	0.181	0.218	0.221	0.222	0.234
F stat	9.605	9.822	9.792	10.675	21.703	21.202	21.166	21.023
	[0.001]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]

Notes: N. observations=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level. p-values in squared brackets.

Table B.2 (i). Moving out of the labor force: Interactions (MEN).

	[1]		[2]		[3]		[4]	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Partner moving OLF	0.128***	0.342	0.128***	0.294	0.130***	0.290	0.132***	0.278
	(0.048)	(0.280)	(0.048)	(0.277)	(0.048)	(0.275)	(0.048)	(0.269)
Partner moving OLF×Group2	0.062	0.109	0.056	0.124	0.057	0.114	0.046	0.090
	(0.061)	(0.222)	(0.061)	(0.219)	(0.060)	(0.27)	(0.060)	(0.217)
Partner moving OLF×Group3	-0.190**	-0.009	-0.199***	0.016	-0.198***	-0.005	-0.208***	-0.008
	(0.074)	(0.254)	(0.074)	(0.250)	(0.074)	(0.248)	(0.074)	(0.248)
Age	0.035***	0.032***	0.035***	0.031***	0.034***	0.031***	0.033***	0.030***
	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Partner's Age	0.006	-0.001	0.006	-0.000	0.006	0.000	0.005	0.000
	(0.004)	(0.006)	(0.004)	(0.006)	(0.004)	(0.006)	(0.004)	(0.006)
High education			-0.113***	-0.104***	-0.103***	-0.095***	-0.095***	-0.090***
			(0.025)	(0.026)	(0.025)	(0.026)	(0.025)	(0.026)
Medium education			-0.049**	-0.050**	-0.046*	-0.047*	-0.048**	-0.049**
			(0.024)	(0.025)	(0.024)	(0.025)	(0.024)	(0.025)
Bad health					0.080***	0.089***	0.079***	0.088***
					(0.028)	(0.029)	(0.028)	(0.029)
Partner's bad health							0.007	-0.007
							(0.027)	(0.030)
Having children							-0.010	-0.009
							(0.019)	(0.019)
Having grandchild							0.056***	0.044**
							(0.020)	(0.022)
Constant	-2.200***	-1.638***	-2.113***	-1.617	-2.110***	-1.648***	-2.035***	-1.624***
	(0.179)	(0.420)	(0.179)	(0.414)***	(0.179)	(0.409)	(0.181)	(0.394)
R-squared	0.210	0.147	0.223	0.171	0.228	0.183	0.233	0.194
Test overidentif.		6.058		6.082		6.243		5.728

Notes: N. observatons=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level.

Table B.2 (ii). Moving out of the labor force: Interactions (WOMEN).

	[1]		[2]		[3]		[4]	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Partner moving OLF	0.050	0.157	0.046	0.155	0.048	0.165	0.044	0.173
	(0.043)	(0.156)	(0.043)	(0.157)	(0.043)	(0.165)	(0.043)	(0.157)
Partner moving OLF×Group2	0.151***	0.260**	0.150***	0.264**	0.145***	0.252*	0.144**	0.227*
	(0.055)	(0.129)	(0.055)	(0.129)	(0.055)	(0.129)	(0.055)	(0.129)
Partner moving OLF×Group3	-0.018	0.350	-0.012	0.334	-0.021	0.346	-0.000	0.320
	(0.074)	(0.252)	(0.074)	(0.251)	(0.074)	(0.250)	(0.074)	(0.245)
Age	0.025***	0.023***	0.025***	0.023***	0.025***	0.023***	0.024***	0.022***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's Age	0.009**	0.002	0.008**	0.002	0.009**	0.002	0.008**	0.002
	(0.003)	(0.006)	(0.003)	(0.006)	(0.003)	(0.006)	(0.003)	(0.006)
High education			-0.041*	-0.032	-0.034	-0.027	-0.032	-0.027
			(0.024)	(0.026)	(0.025)	(0.026)	(0.025)	(0.026)
Medium education			-0.023	-0.019	-0.015	-0.013	-0.015	-0.014
			(0.024)	(0.025)	(0.024)	(0.256)	(0.024)	(0.025)
Bad health					0.064**	0.051*	0.069**	0.060**
					(0.026)	(0.028)	(0.027)	(0.028)
Partner's bad health							-0.048*	-0.077**
							(0.028)	(0.034)
Having children							-0.007	-0.006
							(0.019)	(0.020)
Having grandchild							0.036*	0.028
							(0.020)	(0.022)
Constant	-1.735***	-1.272***	-1.741***	-1.290***	-1.756***	-1.286***	-1.704***	-1.252***
	(0.182)	(0.408)	(0.183)	(0.385)	(0.183)	(0.385)	(0.184)	(0.377)
R-squared	0.173	0.114	0.175	0.118	0.179	0.118	0.183	0.128
Test overidentif.		4.992		5.401		5.611		5.719

Notes: N. observatons=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level.

Table B.3. Moving to a self-reported retirement status.

	[1]		[2]		[3]		[4]	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
(A) MEN								
Partner moving OLF	0.252***	0.170	0.252***	0.159	0.251***	0.159	0.250***	0.178
	(0.034)	(0.179)	(0.034)	(0.176)	(0.034)	(0.176)	(0.034)	(0.175)
Age	0.036***	0.037***	0.036***	0.036***	0.036***	0.036***	0.035***	0.035***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Partner's Age	-0.001	0.001	-0.001	0.001	-0.001	0.001	-0.002	-0.001
	(0.003)	(0.006)	(0.003)	(0.006)	(0.003)	(0.006)	(0.003)	(0.006)
High education			-0.082***	-0.082***	-0.087***	-0.086***	-0.076***	-0.076***
			(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Medium education			-0.043**	-0.042*	-0.045*	-0.043*	-0.046**	-0.044**
			(0.021)	(0.022)	(0.021)	(0.022)	(0.021)	(0.021)
Bad health					-0.037	-0.038	-0.041*	-0.041*
					(0.024)	(0.024)	(0.024)	(0.024)
Partner's bad health							0.032	0.031
							(0.023)	(0.023)
Having children							-0.006	-0.006
							(0.017)	(0.017)
Having grandchild							0.058***	0.059***
							(0.017)	(0.017)
Constant	-1.887***	-2.023***	-1.815***	-1.970***	-1.815***	-1.970***	-1.735***	-1.855***
	(0.159)	(0.334)	(0.156)	(0.331)	(0.160)	(0.330)	(0.162)	(0.327)
R-squared	0.245	0.241	0.253	0.245	0.254	0.250	0.262	0.259
Test overidentif.		8.031***		8.373***		7.982***		7.226***
(B) WOMEN:								
Partner moving OLF	0.165***	0.350***	0.165***	0.355***	0.166***	0.356***	0.166***	0.356***
	(0.022)	(0.088)	(0.022)	(0.089)	(0.022)	(0.089)	(0.022)	(0.089)
Age	0.026***	0.025***	0.026***	0.025***	0.026***	0.025***	0.026***	0.025***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Partner's Age	-0.002	-0.009**	-0.002	-0.009**	-0.002	-0.009	-0.002	-0.001
	(0.003)	(0.004)	(0.003)	(0.004)	(0.03)	(0.004)	(0.003)	(0.004)
High education			0.012	0.018	0.011	0.016	0.011	0.015
			(0.017)	(0.018)	(0.017)	(0.018)	(0.018)	(0.018)
Medium education			0.008	0.015	0.006	0.013	0.006	0.012
			(0.017)	(0.018)	(0.017)	(0.018)	(0.017)	(0.018)
Bad health					-0.014	-0.019	-0.001	-0.020
					(0.019)	(0.019)	(0.020)	(0.020)
Partner's bad health							-0.014	0.006
							(0.020)	(0.020)
Having children							-0.010	-0.009
							(0.014)	(0.014)
Having grandchild							-0.001	0.013
							(0.014)	(0.016)
Constant	-1.291***	-0.864***	-1.300***	-0.867***	-1.296***	-0.862***	-1.289***	-0.873***
	(0.131)	(0.238)	(0.131)	(0.238)	(0.132)	(0.239)	(0.133)	(0.232)
R-squared	0.221	0.178	0.221	0.176	0.221	0.177	0.222	0.178
Test overidentif.		0.311		0.261		0.248		0.247

Notes: N. observations=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level.

Table B.4. Moving to a self-reported retirement status: First-Stage Regressions.

	WOMEN				MEN			
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Over Early Age	0.069***	0.072***	0.072***	0.071***	0.054*	0.053*	0.053*	0.053*
	(0.025)	(0.026)	(0.026)	(0.026)	(0.029)	(0.029)	(0.029)	(0.029)
Over Normal Age	0.252***	0.253***	0.253***	0.254***	0.327***	0.325***	0.325***	0.326***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.036)	(0.036)	(0.036)	(0.036)
Age	0.016***	0.016***	0.016***	0.016***	0.019***	0.019***	0.019***	0.018***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's Age	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Partner's High education		0.007	0.006	0.007		-0.023	-0.020	-0.013
		(0.018)	(0.018)	(0.018)		(0.021)	(0.021)	(0.021)
Partner's Medium education		0.026	0.026	0.025		-0.027	-0.024	-0.021
		(0.018)	(0.018)	(0.018)		(0.021)	(0.021)	(0.021)
Partner's Bad health			-0.009	-0.009			0.025	0.031
			(0.020)	(0.020)			(0.023)	(0.023)
Bad health				-0.002				-0.038
				(0.019)				(0.024)
Having children				-0.009				-0.010
				(0.014)				(0.017)
Having grandchild				0.009				0.067***
				(0.014)				(0.017)
Constant	-1.040***	-1.031***	-1.032***	-1.014***	-1.227***	-1.218***	-1.225***	-1.119***
	(0.170)	(0.171)	(0.171)	(0.172)	(0.215)	(0.215)	(0.215)	(0.216)
R-squared	0.216	0.218	0.218	0.219	0.264	0.265	0.267	0.276
F stat	23.514	24.059	24.057	23.873	44.879	43.990	43.910	44.847
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]

Notes: N. observations=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level. p-values in squared brackets.

Table B.5. Moving out of the labor force: 1 instrument.

	[1]		[2]		[3]		[4]	
	IV (1)	IV (2)	IV (1)	IV (2)	IV (1)	IV (2)	IV (1)	IV (2)
(A) MEN								
Partner moving OLF	-0.080	0.157	-0.119	0.142	-0.136	0.142	-0.095	0.138
	(0.289)	(0.230)	(0.290)	(0.225)	(0.288)	(0.225)	(0.269)	(0.216)
Age	0.037***	0.034***	0.037***	0.034***	0.037***	0.033***	0.035***	0.032***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.004)
Partner's Age	0.011	0.005	0.012	0.006	0.013	0.006	0.011	0.005
	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)	(0.006)
High education			-0.118***	-0.111***	-0.110***	-0.102***	-0.098***	-0.094***
			(0.027)	(0.026)	(0.027)	(0.026)	(0.026)	(0.025)
Medium education			-0.050**	-0.051**	-0.046*	-0.048*	-0.048*	-0.049**
			(0.025)	(0.024)	(0.025)	(0.024)	(0.025)	(0.024)
Bad health					0.072**	0.081***	0.070**	0.080***
					(0.030)	(0.029)	(0.030)	(0.029)
Partner's bad health							0.026	0.009
							(0.033)	(0.019)
Having children							-0.011	-0.010
							(0.020)	(0.019)
Having grandchild							0.065***	0.054**
							(0.024)	(0.022)
Constant	-2.575***	-2.096***	-2.552***	-2.031***	-2.589***	-2.036***	-2.411***	-1.961***
	(0.607)	(0.492)	(0.604)	(0.480)	(0.599)	(0.478)	(0.548)	(0.451)
R-squared	0.171	0.200	0.172	0.214	0.169	0.219	0.192	0.224
(B) WOMEN								
Partner moving OLF	0.316**	0.307**	0.310**	0.306**	0.308**	0.304***	0.317**	0.304*
	(0.154)	(0.154)	(0.156)	(0.156)	(0.155)	(0.155)	(0.157)	(0.156)
Age	0.023***	0.023***	0.023***	0.023***	0.023***	0.023***	0.022***	0.022***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's Age	0.001	0.002	0.001	0.001	0.002	0.002	0.001	0.001
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
High education			-0.031	-0.031	-0.024	-0.025	-0.024	-0.025
			(0.027)	(0.027)	(0.026)	(0.026)	(0.026)	(0.026)
Medium education			-0.016	-0.016	-0.009	-0.009	-0.010	-0.010
			(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Bad health					0.060 **	0.060**	0.067**	0.067**
					(0.027)	(0.027)	(0.027)	(0.027)
Partner's bad health							-0.069**	-0.067**
							(0.031)	(0.031)
Having children							-0.004	-0.004
							(0.019)	(0.019)
Having grandchild							0.025	0.026
							(0.023)	(0.022)
Constant	-1.251***	-1.272***	-1.241***	-1.251***	-1.257***	-1.267***	-1.195***	-1.227***
	(0.409)	(0.408)	(0.406)	(0.406)	(0.406)	(0.406)	(0.397)	(0.395)
R-squared	0.132	0.135	0.136	0.137	0.139	0.141	0.141	0.146

Notes: N. observations=1,275. IV(1) uses as instrument normal retirement age. IV(2) uses as instruments normal and early retirement ages. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level.

Table B.6. Moving out of the labor force: 1 instrument. First-Stage Regressions.

	WOMEN				MEN			
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Over Normal Age	0.208***	0.207***	0.209***	0.222***	0.273***	0.270***	0.270***	0.267***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.041)	(0.041)	(0.041)	(0.041)
Age	0.022***	0.022***	0.022***	0.020***	0.024***	0.024***	0.024***	0.023***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's Age	0.012***	0.012***	0.012***	0.011***	0.009**	0.009**	0.009**	0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Partner's High education		-0.024	-0.028	-0.015		-0.059**	-0.056**	-0.041*
		(0.025)	(0.025)	(0.025)		(0.024)	(0.025)	(0.025)
Partner's Medium education		0.008	0.007	0.008		-0.030	-0.027	-0.019
		(0.025)	(0.025)	(0.024)		(0.024)	(0.024)	(0.024)
Partner's bad health			-0.037	-0.045			0.027	0.022
			(0.028)	(0.028)			(0.027)	(0.027)
Bad health				0.080***				0.078***
				(0.027)				(0.028)
Having children				-0.006				-0.011
				(0.019)				(0.019)
Having grandchild				0.049**				0.066***
				(0.020)				(0.020)
Constant	-1.743***	-1.725***	-1.721***	-1.646***	-1.731***	-1.692***	-1.698***	-1.603***
	(0.186)	(0.187)	(0.187)	(0.189)	(0.198)	(0.199)	(0.199)	(0.200)
R-squared	0.164	0.165	0.167	0.176	0.218	0.221	0.222	0.234
F stat	12.529	12.412	12.633	14.268	43.359	42.422	42.353	41.940
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]

Notes: N. observations=1,275. All specifications include country dummies. Standard errors in parentheses.
Significant at the *10%, ** 5%, and *** 1% level. p-values in squared brackets.

Table B.7. Moving out of the labor force: Age dummies.

	[1]		[2]		[3]		[4]	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
(A) MEN								
Partner moving OLF	0.109***	0.385	0.106***	0.418	0.111***	0.453	0.106***	0.418
	(0.028)	(0.377)	(0.028)	(0.367)	(0.028)	(0.176)	(0.028)	(0.356)
High education			-0.105***	-0.100***	-0.097***	-0.089***	-0.089***	-0.085***
			(0.024)	(0.026)	(0.025)	(0.027)	(0.025)	(0.026)
Medium education			-0.045*	-0.048*	-0.042*	-0.045*	-0.043*	-0.046*
			(0.024)	(0.025)	(0.024)	(0.025)	(0.024)	(0.025)
Bad health					0.072***	0.095**	0.069**	0.092**
					(0.028)	(0.038)	(0.028)	(0.039)
Partner's bad health							0.021	-0.002
							(0.026)	(0.037)
Having children							-0.015	-0.013
							(0.019)	(0.019)
Having grandchild							0.046**	0.033
							(0.019)	(0.025)
Constant	0.368	0.314	0.457	0.395	0.403	0.319	0.380	0.306
	(0.354)	(0.367)	(0.353)	(0.370)	(0.353)	(0.378)	(0.353)	(0.373)
R-squared	0.282	0.226	0.293	0.222	0.297	0.211	0.301	0.230
Test overidentif.		1.360		1.307		1.121		0.987
(B) WOMEN:								
Partner moving OLF	0.111***	0.536**	0.108***	0.553**	0.105***	0.530**	0.107***	0.532**
	(0.028)	(0.261)	(0.028)	(0.258)	(0.028)	(0.261)	(0.028)	(0.257)
High education			-0.043*	-0.021	-0.037	-0.017	-0.036	-0.022
			(0.025)	(0.030)	(0.025)	(0.029)	(0.025)	(0.028)
Medium education			-0.045*	-0.031	-0.037	-0.027	-0.038	-0.031
			(0.024)	(0.027)	(0.024)	(0.027)	(0.025)	(0.026)
Bad health					0.055**	0.039	0.063**	0.048*
					(0.026)	(0.030)	(0.026)	(0.029)
Partner's bad health							-0.082***	-0.112***
							(0.028)	(0.035)
Having children							-0.003	0.003
							(0.019)	(0.020)
Having grandchild							0.035*	0.011
							(0.020)	(0.025)
Constant	0.153	-0.012	0.213	0.004	0.228	0.024	0.255	0.096
	(0.357)	(0.394)	(0.359)	(0.404)	(0.358)	(0.402)	(0.358)	(0.393)
R-squared	0.226	0.086	0.229	0.076	0.232	0.093	0.239	0.102
Test overidentif.		1.420		1.508		1.595		1.791

Notes: N. observations=1,275. All specifications include country, own age, and partner's age dummies.
Standard errors in parentheses. Significant at the *10%, ** 5%, and *** 1% level.

Table B.8. Moving out of the labor force: Age dummies. First-Stage Regressions.

	WOMEN				MEN			
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Over Early Age	0.097**	0.099**	0.098**	0.099**	-0.015	-0.019	-0.020	-0.017
	(0.041)	(0.041)	(0.041)	(0.040)	(0.035)	(0.035)	(0.035)	(0.035)
Over Normal Age	0.088	0.093	0.088	0.107	0.279***	0.284***	0.279***	0.282***
	(0.082)	(0.082)	(0.082)	(0.082)	(0.068)	(0.068)	(0.068)	(0.068)
Partner's High education		-0.018	-0.025	-0.012		-0.054**	-0.051**	-0.037
		(0.025)	(0.025)	(0.025)		(0.025)	(0.025)	(0.025)
Partner's Medium education		0.013	0.011	0.012		-0.032	-0.028	-0.021
		(0.025)	(0.025)	(0.025)		(0.024)	(0.024)	(0.024)
Partner's Bad health			-0.064**	-0.072**			0.031	0.026
			(0.028)	(0.028)			(0.026)	(0.026)
Bad health				0.075***				0.070**
				(0.026)				(0.028)
Having children				-0.004				-0.015
				(0.019)				(0.019)
Having grandchild				0.041**				0.058***
				(0.020)				(0.019)
Constant	0.047	0.039	0.093	0.067	0.117	0.200	0.213	0.100
	(0.368)	(0.369)	(0.369)	(0.368)	(0.361)	(0.362)	(0.362)	(0.362)
R-squared	0.221	0.223	0.226	0.233	0.283	0.286	0.287	0.296
F stat	3.587	3.806	3.676	4.047	8.458	8.772	8.393	8.687
	[0.028]	[0.022]	[0.026]	[0.018]	[0.000]	[0.000]	[0.000]	[0.000]

Notes: N. observations=1,275. All specifications include country, own age, and partner's age dummies. Standard errors in parentheses. Significant at the *10%, ** 5%, and *** 1% level. p-values in squared brackets.