

# **Linked lives, linked retirement? Relative income differences within couples and gendered retirement decisions in Europe**

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## ***Abstract***

Our article investigates the role of relative income distributions within couples for individuals' retirement risks. It addresses the following questions: How does the share someone provides to the couple income affect that person's retirement decision? What gender differences do we observe and what contextual factors can explain country differences? Our multilevel analyses draw on data from the European Union Statistics on Income and Living Conditions (EU-SILC) study (2010–2016), comparing 26 countries. The results show that female main earners transition to retirement earlier than female secondary earners as they approach the official retirement age. This effect is even stronger in countries with more traditional gender norms. The opposite pattern is found for men, whereby male secondary earners retire earlier than male main earners in more gender traditional societies. We explain this finding on the basis of doing gender theories, which predict that gender-atypical behaviour in one area of life is compensated by traditional gender behaviour in other areas, especially in contexts with traditional gender norms. A further finding relates to the generosity of the country's pension replacement rate, which shows to be a factor facilitating retirement especially for those with an equal earning partner.

## ***Key words:***

Retirement, Life course, Couples, Gender Norms, Pension Policy, EU-SILC

## ***1. Introduction***

The past decades have seen an increasing share of women participating in the labour market (Thévenon and Horko, 2009; Vlasblom and Schippers, 2004). This means that the forthcoming decennia will be marked by a rising prevalence of dual-earner couples among the population aged 50 years or older, wherein both partners face retirement decisions (Denaeghel et al., 2011; Dotti Sani, 2017; Gustafson, 2017). While career and retirement planning have traditionally indeed been more anchored in male careers (Bennett and Möhring, 2015; Engelhardt, 2012), the increasing share of dual-earner households facing retirement decisions makes the interdependencies of working life and retirement transitions within the couple more important. As women have increased their labour market participation, also the family and gender dimensions of retirement are starting to attract academic attention (Finch, 2013; Dahl et al., 2003; Danø et al., 2005; Hank, 2004; Bhatt, 2017; De Preter et al., 2015; Denaeghel et al., 2011; Gustafson, 2017; Legendre et al., 2018). The present study contributes to insights in this domain by showing that the relative contribution to the household income influences retirement timing in opposite directions for men and women, suggesting gendered expectations that play even stronger in gender traditional societies. Moreover, we show that a country's pension replacement rate facilitates retirement especially for those with an equal earning partner.

From a life course perspective, gender differences, couple influence and contextual characteristics can be assumed to influence retirement decisions. Life courses are gender-specific, and the decisions relating to, and participation in, the domains of paid labour and unpaid family work are path-dependent (Moen, 2001; Moen, 1996). Following the idea of "linked lives" (Elder, 1998; Settersten, 2015), couples influence each other's decisions and transitions in the labour market (Langner, 2015). This is also true for decisions regarding retirement (Eismann et al., 2019). While there is ample literature on how couples synchronise their retirement timing (see, for example, Radl and Himmelreicher, 2015; Bhatt, 2017; Gustafson, 2017), what is less well explored is how inequalities between spouses in terms of economic resources influence individual retirement decisions (Pozzoli and Ranzani, 2009; Pienta and Hayward, 2002; Denaeghel et al., 2011), and how this differs by gender, and across social contexts.

The present study addresses the following research questions by gender: How is the partner's income related to an individual's decision to retire? Does the link between relative income within couples and the likelihood of retirement vary with gender? What role do pension policies and gender norms in a country play in moderating the relationship between relative income and retirement decisions for men and women? Thereby, this study contributes to the literature in several ways. First, we provide insight into female, next to male, retirement timing which is important given the gender gap in retirement behaviour and pension incomes. Second, we look at how relative income positions within couples are related to men's and women's retirement decisions. Finally, we demonstrate how these within-couple dynamics interact with the policy and cultural context.

Findings from various countries, such as Germany (Blau and Riphahn, 1999; Drobnič, 2002; Radl and Himmelreicher, 2015), the Netherlands (Henkens, 1999; Eismann et al., 2019), Denmark (An et al., 1999), and Sweden (Gustafson, 2017), as well as studies based on comparative European data (Pozzoli and Ranzani, 2009; Denaeghel et al., 2011), suggest that spousal influence on retirement decisions can be observed in very different institutional contexts. Typically, studies have focused on the question of whether partners retire together, but some studies examining the

role of a partner's income have shown that having a partner with a higher income expedites retirement. While several studies report that wives are more likely to be influenced by their husbands' labour market resources than the other way around (Moen et al., 2006; Gustafson, 2017; Pienta and Hayward, 2002), others suggest that men's and women's retirement decisions are not differently affected by their spouses' resources (Drobnič, 2002; Blau and Riphahn, 1999).

What has been empirically overlooked is the question of whether spousal influence works in the same fashion across country contexts, and how potential gender differences can be explained by contextual characteristics. Two factors at the country level are of special interest: first, European countries vary considerably in the level of pension replacement rate, which sets important incentives for retirement decisions; second, countries differ substantially in the role that is attributed to women in society. Not only does women's degree of labour market participation vary substantially across countries, also gender norms vary, i.e. cultural ideas as to whether women should have the same participation in the workforce as men and who should take over family care tasks. This study contributes to the literature by examining how couples' relative resources influence men's and women's decisions regarding retirement and how pension replacement rates and traditional gender norms moderate men's and women's retirement decisions based on their contribution to the couple income. A better understanding of the mechanisms involved in these decisions is important not least in order to make further progress towards gender equality in the second half of life. This is especially true for analyses of how contextual circumstances impact on gender differences. Such an understanding can provide policy makers with valuable information on how couples' bargaining processes differ according to their access to pension replacement or the prevalence of traditional gender norms.

The remainder of this paper is structured as follows: section 2 provides an overview of previous research; section 3 outlines the theoretical background and hypotheses; section 4 describes the data and methods used; section 5 presents the results; and section 6 concludes the article with a discussion.

## ***2. Retirement planning from a couple perspective: Previous research***

An increasing number of studies address the question of how (married) couples influence each other's retirement decisions. A large number of studies have analysed the phenomenon of "joint retirement" (Gustman and Steinmeier, 2000; Szinovacz, 2002; for a European comparison, see De Preter et al., 2015; Legendre et al., 2018). This synchronisation of retirement timing was found to be the result of gendered processes whereby women are more likely to adjust their retirement timing to align it with their partner's retirement (for Sweden, see Gustafson, 2017; for Switzerland, see Lalive and Parrotta, 2017). When asking dual-earner couples earlier in their life courses about their retirement timing plans, Moen et al. (2005) found that women were more than twice as likely as men to plan to adjust their retirement timing to align it with their partner's.

Besides the studies on couples' (joint) timing of retirement, another strand of literature analyses how the partners' relative earnings are associated with individuals' retirement decisions. Several studies have shown that having a partner with a higher income expedites retirement. Blau and Riphahn (1999) found that, among older dual-earner couples, the higher the spouse's wage, the higher the chances of exiting the labour market. Similarly, the lower a person's share in the total household labour income, the sooner he or she retires (An et al., 1999; Drobnič, 2002). While

these studies report gender-neutral effects, other research has shown a clear gender component, in the sense that women's retirement is more likely to be facilitated by the high socio-economic position of their partner than is the case for men. Pienta (2003) found that retirement is more related to spousal employment characteristics for women than it is for men, in that women with partners in white-collar occupations retire sooner. Jackson (2017) examined the role of an individual's partner, as well as personal characteristics, across cohorts and found that, while for the most recent cohort women's retirement decisions had become increasingly linked to their own personal employment and pension-entitlement characteristics, rather than their spouses', importantly there was no change in the effect of relative earnings. Hence, being the lower earner in the household remained associated with an earlier retirement for women across the cohorts, while for men there was no effect of relative earnings in any of the cohorts examined. Another recent study based on life history data in Sweden, Spain and the Netherlands finds a gender effect that is opposite to that of previous studies, whereby men are more likely to retire if they are minor or equal breadwinners, whereas women are more likely to retire if they are equal breadwinners (Komp-Leukkunen, 2019). This is important to note because previous research has shown that female main earners are not such an uncommon phenomenon, even among older couples (Winkler et al., 2005; Dotti Sani, 2017).

In sum, previous evidence is mixed: some studies suggest that couples follow a logic of specialisation, whereby having a partner with a higher labour market position expedites retirement; but other studies report this effect only for women; and others find that one's own economic resources are increasingly more important than the resources of one's partner.

### *Country differences in retirement*

Life course decisions are not only embedded in individuals' trajectories and couple households, but also in geographical, historical, and cultural contexts (Elder, 1998). Retirement decisions, too, have been shown to depend on the societal context. Pension policies in Europe differ widely in various aspects, such as the type and level of benefit, the number and nature of pillars, the existence of (mandatory) private savings schemes, and, importantly, the statutory retirement age (Soede and Vrooman, 2008). Together, these pension policies set incentives or generate costs for (early) retirement decisions (Yabiku, 2000; Ebbinghaus, 2006). Individuals react to early retirement "penalties" and late retirement "premiums" by adjusting their retirement age (Piekkola, 2008), and early retirement is more prevalent in states which are characterised by high pension replacement rates (Schils, 2008).

Generally, it has been shown that retirement decisions are not only driven by economic considerations but are also related to country differences in work–retirement cultures (Jansen, 2018; Radl, 2012). Besides such work–retirement cultures, previous research suggests that gender norms also play a role in men's and women's differential retirement planning. As previous research suggests, preferences for work and attitudes towards gender roles seem to play a role in couples' decisions regarding (joint) retirement (Bhatt, 2017) and couples' negotiations regarding paid and unpaid work (Leopold and Skopek, 2014). In contexts with less traditional gender norms, both men and women exhibit a higher labour market attachment (Hank and Jürges, 2007), and retirement decisions, as well as their determinants, can be expected to be more similar for both sexes.

Besides such direct influence, contextual factors, such as welfare policy and social norms have been shown to influence individuals' and couples' retirement decisions. Welfare regimes structure life courses (Engelhardt, 2012) and constitute a context within which individuals' and couples' decisions take place (Börsch-Supan and Nisticò, 2007). Women's earlier – as compared to men's – exit from the labour market has been supported by legal regulations in many European countries (OECD, 2017). In countries with pension policies where contributions are closely linked to previous labour market performance, as is the case in Germany for instance, women's interrupted working biographies (Finch, 2013; Hank, 2004; Yabiku, 2000) lead to lower relative pension replacements (Frommert and Strauss, 2013; Möhring, 2015), which in turn attributes a weaker position to women in negotiations about retirement planning within couple households (De Preter et al., 2015). This is accompanied by traditional gender norms that expect mothers to be the main providers of care (Hagqvist et al., 2017).

In social democratic welfare regimes, such as Sweden, women's labour market participation is enabled by public childcare provision. This is accompanied by social norms that support dual roles among both men and women to a great extent (Hagqvist et al., 2017). In these less traditional countries, the division of paid employment and unpaid family work is shared more equally among partners – also in the second half of life (Leopold and Skopek, 2014; Fuwa, 2004). As more women participate in paid employment, their pension entitlements are also higher and this should increase their bargaining power within the couple (Frericks et al., 2009). There are still hardly any cross-national studies examining how couples mutually influence each other's retirement transitions. The few studies that exist do not explicitly test, with country indicators, how contextual factors such as pension policies or gender norms moderate couples' mutual influence on retirement decisions (Denaeghel et al., 2011; De Preter et al., 2015; Komp-Leukkunen, 2019).

### ***3. Theoretical approaches to explain spousal influence on retirement transitions***

#### *Retirement planning from a couple perspective: Linked lives, household economy and doing gender*

Following the idea of “linked lives” (Settersten, 2015; Landes and Settersten, 2019), individuals make their labour market participation not only dependent on their own characteristics but also on their partners' options and decisions. The distribution of income within couples thus affects each partner's decision to exit the labour market. There are two theoretical mechanisms to explain how relative income translates into men's and women's retirement decisions.

The first is the notion of the household economy (Becker, 1993). Its theoretical assumption is that partners aim to maximise the common household's utility by the division of labour, i.e. one partner specialises in paid work, the other in unpaid housework and family work. Although much of the theoretical and empirical literature on couples' division of labour has focused on younger couples with small children, numerous studies have shown that specialisation in paid and unpaid work also continues in later life (Hank and Jürges, 2007), with women in their second half of life being more involved in informal caregiving to elderly relatives (Haber Kern et al., 2015) or care for grandchildren (Leopold and Skopek, 2014) than men. Visser and Fasang (2018) demonstrated that late-life employment in couple households is a reflection of specialisation between the partners in terms of education levels achieved earlier in the life course. Applied to the question of couples' mutual influence on retirement, the household economy approach assumes that people's

retirement decisions are influenced by their focus on market work versus housework. From that perspective, the secondary earner specializes more in unpaid work and is expected to have a higher likelihood of retiring than the partner who is the main earner.

The second theoretical mechanism for how relative income translates into men's and women's retirement decisions involves the idea that men's and women's behaviour is not so much a question of rational reasoning as it is of "doing gender" (West and Zimmerman, 1987). Because paid work is an essential part of masculine, but not feminine, role expectations, employed women may feel pressure to conform to these gender norms. This pressure should increase for women the more they deviate from traditional gender norms, by for instance earning more than their partner. This theoretical argument is supported by empirical research on younger couples' division of childcare and employment that has shown that women who earn more than their partners invest more time in childcare and housework than women who earn the same amount as their partners (Young and Schieman, 2018; Bittman et al., 2003). The explanation for such behaviour is that men and women who deviate from the predominant gender stereotype in one respect compensate for such a deviation by engaging intensively in other gender-typical practices (Bittman et al., 2003).

Both theories predict that male main earners are less likely to retire than male secondary earners, and female secondary earners are more likely to retire than female main earners. Individuals who are equal earners can be expected to behave somewhere in between main and secondary earners, as they both have high opportunity costs (household economy), and they are partly at odds with the traditional division of labour ("doing gender"). However, the expectations of these two theories diverge with regard to male secondary earners and female main earners. Looking at non-standard income constellations allows us to test the theoretical mechanisms at work when couples decide for retirement strategies based on relative income shares. Hence, we formulate two competing hypotheses, one based on household economy (H1a) and one on "doing gender" (H1b). While household economy theory assumes gender-neutral processes, the theory of "doing gender" expects gender-specific behaviour. Following the theory of household economy, we assume that *both male or female secondary are more likely to retire than male or female main earners (H1a)*; following the idea of "doing gender" we assume the opposite, namely that *both male and female secondary earners are less likely to retire than male and female main earners (H1b)*.

Moreover, it is plausible to assume that economic considerations regarding the transition to retirement become particularly relevant when one approaches statutory retirement age and becomes eligible for a pension (Hairault et al., 2010). Likewise, attitudes towards retirement may change as the age distance to statutory retirement shrinks (Micheel et al., 2010). We thus include an interaction term between age distance to retirement and relative income to allow the effect of relative income to vary depending on the age distance to statutory retirement age. We thus assume *that the effect of relative income is weaker for individuals who are more than two years below the respective country- and gender-specific statutory retirement age, as compared to persons who are around that statutory retirement age (H2)*.

#### *Contextual influence: Pension policies and gender norms*

We assume these linkages to be moderated by characteristics at the societal level, particularly pension policies and gender norms. While pension policies set incentives for retiring earlier or

working longer (Engelhardt, 2012; Schils, 2008), gender norms guide men's and women's labour market participation, and thus also their retirement decisions. Pension income entitlements have been shown to be related to employment history differently across countries, especially for women (Möhring, 2015). Komp-Leukkunen (2019) concludes that men and women make their retirement decisions contingent on their breadwinner status – but the degree to which breadwinner status affects retirement decisions for men varies between countries. It is thus plausible to assume that the effects of relative income on retirement decisions (outlined above in H1a and H1b) are moderated by the political and cultural context, and that particularly the gender-specific linkages assumed in H1b are further reinforced by stronger gender norms.

Assuming that individuals are rational actors, considering opportunity costs, as proposed by household economy (H1a), partners who are the secondary earner should have lower opportunity costs when retiring and are therefore expected to retire sooner, whereas main earners and equal earners should be more likely to stay in the labour market. The need for the main earner's income and, hence, a delay in his or her retirement should apply particularly in contexts with low pension replacement rates (such as Croatia or Estonia). In such contexts, the loss of the main income could mean a severe cut in the couple's common household income – or: particularly high opportunity costs – and should thus rather be avoided from a household-economic perspective. In contrast, pension policies with generous wage replacement rates, i.e., the percentage of the former income disbursed as pension income after retirement, make it easier for older workers to determine their retirement timing irrespective of economic need or gender (Piekkola, 2008; Ebbinghaus, 2006; Möhring, 2015). In countries with higher pension replacement rates (such as Poland or France), the decline in household income, which occurs when the main earner retires, is cushioned more strongly, possibly enabling early retirement. Related to this, equal earners also face less opportunity costs for retiring in countries with higher pension replacement rates. Therefore, we expect that the effect of relative income on retirement is moderated by the pension replacement rate. More specifically, we can formulate the following, third, hypothesis (extending H1a): *We assume that both men and women who are main earners are less likely to retire than secondary earners, and this effect is expected to be weaker in countries with higher pension replacement rates (H3).*

With regard to the cultural context, we focus on the role of gender norms. The more traditional the gender norms in a country are, the more prevalent is a gendered division of labour among couples, i.e. a male breadwinner model (Pfau-Effinger, 2005). Such standard models have a normatively binding power and serve as a framework for orientation. We expect that the more traditional the gender norms in a society, the more likely it is that decisions with regard to retirement are driven by the wish to adhere to the standard of the male breadwinner model. This implies on the one hand a weaker labour market attachment for women and a stronger one for men (i.e. the male breadwinner model being the prevailing standard), and on the other hand stronger penalties for deviating from the standard model. As described above (H1b), the compensation mechanisms should become evident when looking at couples with non-standard income constellations (i.e., couples with a female main earner and a male secondary earner). More traditional gender norms in a country (such as in Greece, Cyprus, and Latvia) should reinforce the compensatory “doing gender” behaviour in such gender-atypical income constellations, because the male breadwinner model has a stronger standing and the social penalties for deviation are larger. Stronger gender norms can thus be expected to moderate the effect of relative income on men's and women's retirement probability. We thus expect the effect of H1b (“doing gender”) to be stronger in countries with more traditional gender norms than in

countries with less traditional gender norms. This results in two hypotheses (which are based on H1b): *Male secondary earners are less likely to retire than male main earners, and this effect is expected to be stronger in countries with more traditional gender norms (H4a). Female main earners are more likely to retire than secondary earners, and this effect is expected to be stronger in countries with more traditional gender norms (H4b).*

#### **4. Data and method**

##### *Sample selection*

The comparative nature of our research questions implies that we need information about the end of individuals' working lives, as well as information on their partners' employment status and income, collected in several countries for a large enough sample of people in the appropriate age group. We use the European Union Statistics on Income and Living Conditions (EU-SILC) survey, as it collects information on the socio-economic and demographic characteristics of individuals and households across Europe. This data is complemented by aggregate country-level data from Eurostat (Eurostat, 2019) and the European Social Survey (ESS). To increase statistical power and the number of units at the country level, we pool two non-overlapping longitudinal datasets, namely the 2016 longitudinal scientific use file (featuring observations from 2013 to 2016) and the 2013 longitudinal scientific use file (featuring observations from 2010 to 2013). The participating countries differ between longitudinal rounds. In our pooled data set, Iceland, Ireland, the UK, and Lithuania are only featured in 2010–2013, whereas Switzerland and Serbia participated only in 2013–2016.<sup>1</sup> We excluded five countries for which no gender norm indicators from ESS were available (Iceland, Italy, Luxembourg, Malta, and Serbia). In total, data from 26 countries are included in our analyses.

In each dataset, individuals were surveyed in up to four consecutive years. The basic unit of analysis is thus person-years ( $n = 1,864,726$  person-years nested in  $n = 749,114$  persons in the pooled longitudinal rounds for the 26 countries). We limited the analysis to individuals in the risk set for retirement, i.e. who are between age 50 and the age that lies at most two years above the respective national statutory retirement age ( $n = 525,968$  person-years nested in  $n = 201,110$  persons) and who are still in the labour market ( $n = 297,389$  person-years nested in  $n = 111,925$  persons). To measure relative income, we need information about the partner's income, which we retrieve from the spouses' interviews. Hence, we only select individuals who live together with a partner or a spouse who is in the same age bracket, and where both partners are in the labour market and – thus – gain an income ( $n = 127,489$  person-years observed in  $n = 58,212$  persons). Finally, since our analytical design measures the dependent variable as the transition to retirement in the following wave, we have to rely on data from individuals with at least two subsequent observations, and could thus only use the first, second and third of the maximum four observations per person (available =  $75,845$  person-year observations in  $n = 44,438$  persons). Finally, we excluded all person-year observations without valid information on our explanatory variables. This further limits our sample. Our final analytical sample which fulfils all these conditions consists of  $n = 34,994$  person-year observations for men and  $n = 35,733$  person-year observations for women (total:  $n = 70,727$  person-year observations in  $n = 40,213$  persons).

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<sup>1</sup> More information about the data structure of EU-SILC longitudinal data can be obtained from <https://www.eui.eu/Research/Library/ResearchGuides/Economics/Statistics/DataPortal/EU-SILC>



### *Dependent and independent variables*

The dependent variable was created as follows: For all person-year observations in the longitudinal dataset, we created a variable containing information on the employment status in the subsequent wave (measured according to five categories: “full-time”, “part-time”, “retired”, “unemployed”, “not in the labour market”). This variable was further recoded into a dichotomous variable containing information on whether the person had retired in the following wave (taking the value “1” or being coded as “0” otherwise).

Our main independent variable at the micro level is the relative income. It is operationalised as follows: First, we calculate an individual’s relative share in the couple’s income as the individual’s yearly gross earnings divided by the sum of both partners’ gross yearly incomes. This results in a continuous variable ranging from “0” (no contribution to the couple’s income) to “1” (respondent is the sole earner). In order to examine possible non-linear relationships, we recode these values into a categorical variable with three groups: “male main earner - female secondary earner” refers to individuals living in couples where the woman earns 40 per cent or less of the total income whereas the man earns at least 60 per cent of the total couple income; “equal earners” refers to individuals living in couples where both partners each contribute between 40 and 60 per cent to the common couple’s income; and “female main earner - male secondary earner” refers to individuals living in couples where the woman earns more than 60 per cent of the total couple’s income whereas the man earns at most 40 per cent of the total couple’s income (for the distribution of this variable across countries, see Figure A1 in the Appendix).

To test our hypothesis stating that the effect of relative income depends on the distance to statutory retirement age, we include an interaction term between the categorical variable measuring relative income and a dichotomous variable indicating the distance to the statutory retirement age in the respective year and country. In this way, we distinguish between individuals who are more than two years younger than the statutory retirement age and those who are at most two years above or below statutory retirement age.

At the country level, we use two variables to test the assumed moderation effects. Thereby, we use data from Eurostat as well as from two rounds of the European Social Survey (ESS) (ESS, 2008; ESS, 2010). Our observations in the individual-level data set from EU-SILC span a period from 2010 to 2016. In order to obtain meaningful statistical relations between the country characteristics and individual behaviour, we decided to let the values of our country-level variables vary with time, and to include a time lag, to the degree that the availability of the contextual-level indicators allows us to do so (for details, see the next section). To account for pension policies, we use the aggregate pension replacement rate as a percentage, measured separately for men and women (Eurostat, 2019). This is calculated as the share in the average pension income of individuals aged 65–74 over the average income of employed individuals aged 50–59 (for details see: Eurostat, 2019); this indicator makes it possible to estimate the context-specific opportunity costs of retiring. This measure is available separately for each year in which the independent variables were observed and is hence included to be fully time varying with a lag of one year (i.e., for an observation in the year 2016, we use value on this indicator for the year 2015). With regard to gender norms, we aggregate the weighted rates of agreement with two statements to gender norms (namely “Women should be prepared to cut down on paid work for the sake of the family” and “When jobs are scarce, men should have more right to a job than

women?) using data from ESS. However, in ESS, fewer time points are available. Here, we can only rely on two rounds where this information was captured: namely round 4 (2008), which we used for the longitudinal sample collected between 2010 and 2013, and round 5 (2010), which we used for the sample collected between 2013 and 2016. All country-level variables were centred at their grand mean (for the country-specific values, see Table A1 in the Appendix), before being introduced into the models.

A number of further factors that have been identified in previous research as influencing retirement decisions are included as control variables. The respondent's age is measured in years. Because the age of both spouses tends to be correlated (Szinovacz, 2002; Denaeghel et al., 2011), we control for the age difference between the respondent and his or her partner. Moreover, we include two dummy variables indicating whether the person, or his or her partner, works full-time or part-time, as well as an interaction term between those two variables. To account for income need (Stoller and Stoller, 2003), we include a dummy variable indicating whether the couple is living in a low-income household (operationalised as belonging to the two bottom quintiles of the respective national and annual distribution of equivalised household incomes in our sample). Finally, we control for the year in which the interview was conducted.

### *Analytical strategy*

The analysis consists of a linear probability model for retirement transitions. In this type of model, a dichotomous dependent variable is treated as if it were a continuous one, hence estimating probabilities. The coefficients can thus be interpreted as percentages. The data allows us to follow sampled individuals for two to four years and the analysis includes sample members for repeated yearly observations until they retire or until the end of the survey follow-up. As such, we employ a discrete-time event history model for retirement transitions, with age as the duration variable (Allison, 2014). Random intercepts and random slopes were specified to account for the nested structure of person-year observations in countries. This allows us to study individual- and country-level variation in retirement transitions simultaneously, and to include cross-level interaction terms between country-level indicators and relative income (Heisig and Schaeffer, 2018). With 26 countries, our number of second-level units is close to the minimum number of countries, which has been suggested as necessary in order to conduct multilevel analysis (Bryan and Jenkins, 2016). We rely on multilevel modelling, as it provides us with the opportunity of estimating random slopes, which is highly recommended when estimating cross-level interaction terms (Heisig and Schaeffer, 2018), which are needed to test the assumed moderation effects of the country context on the linkage between relative income and retirement probability. We calculate separate models for each of the country-level indicators and their cross-level interaction terms.

Different models are specified: Since our theoretical framework assumes that the link between relative income and the likelihood of retirement is gendered, we calculate separate models for men and women. Finally, since we assume in H2 that both couple-level financial resources, as well as contextual-level influencing factors, mainly play a role for individuals who are around statutory retirement age, we estimate another set of models where we specify these cross-level interaction terms for the age group which is at most two years away from statutory retirement and compare them with a model where they relate to the entire sample.

A number of additional models is estimated to test for the robustness of our findings. First, the literature has shown that, using subjective measures, pinpointing the exact date of retirement may be complex (Drobnič, 2002) and that the transition to inactivity may take a different route (Komp-Leukkunen, 2019). Hence, to check the robustness of our results, we also estimate models with the transitions to inactivity (i.e. retirement, being economically inactive or homemaking) as a dependent variable. We find that the transition to inactivity is less likely for women who are the main or an equal earner; for men, the results are robust. Since people at the beginning of their 50s might still be very far from the decision of retirement timing, we also calculated robustness checks with two subsamples with individuals aged from 55 years respectively 60 years and up to two years above the statutory retirement age (Tables A3 and A4 in the Appendix). Whereas most of the coefficients for the group around official retirement remain stable in the analysis with the sample aged 55 or older, smaller significance levels and effect sizes can be found for those who are more than 2 years away from statutory retirement as compared to the full sample, indicating that the findings are largely driven by the group aged 50 to 54 years. This further corroborates the finding that relative income in interaction with contextual characteristics matters the more strongly the closer one comes to statutory retirement. The models with the sample aged 60 or older do not contain any significant effects, however, they are based on much smaller samples, which may have reduced statistical power.

## ***5. Results***

Table 1 depicts the bivariate likelihood of retiring from one year to the next for our sample of individuals aged between 50 and at most two years above statutory retirement age as well as the sample characteristics. On average, the likelihood of retiring amounts to around 4 per cent per observation year for men and about 2.5 per cent per observation year for women (for country-specific retirement probabilities, see Table A1 in the Appendix). Although the likelihood of retiring is somewhat higher for the German women in Hank's (2004) study (7 per cent for women, men were not studied), this strengthens our observation that the likelihood of observing a transition to retirement between two subsequent years is rather small, even in the population aged 50 or older<sup>2</sup>.

[Insert Table 1 here]

Table 2 displays the effects of relative income as bivariate and multivariate effects, as well as their interaction with the distance to statutory retirement age (separate models for men and women). Since it is not straightforward to interpret these interaction terms, we additionally present them as predictive margins (see Figure 1). Generally, coefficients can be interpreted as differences in the retirement probability in percentage points given a one-unit change in the independent variable. For instance, the coefficient for age (0.009\*\*\*) for men indicates that with each year of life, the probability of retiring increases by almost one percentage point (0.9 per cent). Relative income within the couple influences female but not male retirement. While for men there are no significant differences across household types, women are more likely to retire if they themselves are the main earner (0.022\*\*, in the full model with all control variables) than when they are the

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<sup>2</sup> Whereas women on average retire earlier, female retirement transitions are less likely to be observed on a yearly basis than male transitions in our sample. This is due to the fact that women are typically younger than their partner. The gender difference disappears once we control for the age difference between spouses.

secondary earner (reference category), which confirms our assumption based on the theoretical idea of “doing gender” (H1b).

Our second assumption that economic considerations become more relevant when individuals approach statutory retirement age, as they become eligible for pensions and may change their attitudes towards retirement (H2), can be confirmed, too. This was tested with an interaction term between relative income and age distance to retirement (Figure 1). For both men and women, relative income does not play a role as long as they are still more than two years below statutory retirement age, as the overlapping estimates on the left side in each panel of Figure 1 indicate. Generally, the likelihood of retiring is much smaller for individuals who are more than two years below statutory retirement age than for individuals who are around statutory retirement age. This can be seen in the negative coefficients for the interaction between age distance to retirement and the reference category of male main earners ( $-0.105^{***}$ ) respectively female secondary earners ( $-0.096^{***}$ ). Moreover, both the steeper slope in the right panel in Figure 1, as well as the negative interaction term ( $-0.022^{**}$ ) for female main earners in Table 2 indicate, that these women’s compensation behaviour only occurs in the age group closer to statutory retirement age (since the interaction coefficient of  $-0.022^{**}$  offsets the main effect for female main earners, which was  $0.022^{*}$ ). Equal earners do not differ significantly from the reference category, and this holds for both genders and all age groups. Hence, the idea of a compensation mechanism for deviating from the standard breadwinner model (H1b) is supported, but only for women who are at most two years away from statutory retirement age.

[Insert Figure 1 about here]

[Insert Table 2 about here]

Our third and fourth hypotheses addressed the role of country characteristics, namely pension replacement rates and gender norms. Table 3 displays their effects in interaction with relative income (separate models for each country characteristic). The effects presented in Table 3 are not conditional on age. In order to check whether these contextual characteristics moderate the relative income effect for the population around statutory retirement age, we additionally calculate these effects conditionally on being at most two years below statutory retirement age. This means that we include a three-way interaction term between age distance to retirement, relative income, and the respective contextual characteristic (for coefficients, see Appendix, Table A2). For ease of interpretation, we present these specified effects graphically in Figure 2, as predicted probabilities. Generally, the effects between Table 3 and Table A2 are very similar. The comparison of these tables reveals that the constellations of couple and contextual characteristics only matter when a person is within two years’ reach of statutory retirement.

With regard to pension policies, we assumed that both men and women who are main or equal earners are more likely to delay retirement than secondary earners and this effect is expected to be stronger in countries with lower pension replacement rates (H3). As our results indicate, independent of whether men are main earners (reference category) or secondary earners, their likelihood of retiring does not depend on the pension policy context (as the rather flat lines in the top left panel of Figure 2 indicate). However, male equal earners’ likelihood of retiring is larger the more generous the pension replacement rate (as indicated by the steep grey dashes slope in the top left panel in Figure 2 as well as by the coefficient  $0.004^{***}$  in Table A2). Likewise, female main and secondary earners’ likelihood of retiring is unaffected by the pension replacement rate (top right panel in Figure 2). But the retirement probability of female equal earners is

considerably higher where pension replacement rates are higher as compared to countries where the pension replacement rates are lower. With each 10 per cent increase in replacement rates, female equal earners' retirement probability increases by about 2 per cent (as indicated by the coefficient 0.002\*\* in Table A2). Please note that the effect sizes presented are generally very small due to the metric of the independent variable (percentages) and the type of model (linear probability models, which estimate changes in probabilities in percentages).

Our assumptions formulated in H3 (which are an extension of H1a) regarding the main earners' higher likelihood of retiring in countries with more generous pension policies is thus not confirmed. Nevertheless, we find that generous pension replacement rates promote the retirement of individuals with an equal earning partner. This holds for both genders, and for both models (conditional and non-conditional on age distance to statutory retirement age). However, as the three-way-interactions (-0.004\*\*\* for men and -0.002\* for women) in Table A2 indicate, this effect is again much stronger for individuals who are within reach of statutory retirement, which is in line with our observations regarding H2 above. Given the desire for joint retirement among many couples (Gustman and Steinmeier, 2000; Legendre et al., 2018), higher replacement rates seem to enable couple households with a relatively egalitarian distribution of incomes to plan their retirement according to their preferences without being financially restricted.

With regard to gender norms, we assumed – based on Hypothesis H1b – that men (the middle and bottom left panels in Figure 2) have lower likelihood of retiring if they live in a couple with a female main earner in countries with more traditional gender norms (H4a). The rationale behind this expectation is that traditional gender norms may lead to compensatory behaviour to make up for going against the predominant norm (“doing gender”). Our results support this hypothesis for both country indicators of gender norms (indicated by the downward pointing light grey slopes for male secondary earners in the bottom and middle left panel of Figure 2). In countries, where gender norms are more traditional, such as in Cyprus, Greece, Latvia or Spain, men who are the secondary earner exhibit a lower likelihood of retiring than men who are the main earner (reference category). Conversely, in countries where gender norms are less traditional (e.g., in Sweden or Denmark), male secondary earners exhibit a higher likelihood of retiring than men who are main earners. Our interpretation is that in the latter contexts, normative prescriptions are not suppressing other options than the traditional division of labour, which might give room to household economic considerations. Besides that, for men who are equal earners, the likelihood of retiring seems to be rather unaffected by the normative climate in their countries (flat lines for the grey dashed slopes in both the lower and middle left panel of Figure 2).

With regard to women, we assumed that female main earners are more likely to retire than female secondary earners, and this effect is expected to be stronger in countries with more traditional gender norms (H4b). We find that in countries with more traditional gender norms (see the right side of the x-axis in the middle and bottom right panels in Figure 2), women who themselves are the main earners have a similarly high retirement probability as women who are the secondary earner (reference category). However, both main and secondary female earners are more likely to retire relative to equal-earning women the more traditional the gender norms are in a given country (see the middle and bottom right panels in Figure 2: downward pointing black and light grey slopes, and widening gaps in the retirement probability between main and secondary vs. equal earners). This is in line with the theoretical idea that compensatory behaviour more strongly occurs among those who deviate from the norms (which applies to women who are the main

earner themselves but may not apply to equal earners). Hypothesis H4a, based on the idea of “doing gender” is thus partially supported by our data, but this holds true for both indicators of gender norms. Again, the effect is only salient when looking at those individuals close to the statutory retirement age (which are presented in Figure 2), as also indicated by the significant interaction terms for those individuals who are more than two years away from statutory retirement presented in Table A2 (0.001\* resp. 0.001\*\*, meaning that this effect is offset for individuals who are more than two years below statutory retirement age).

[Insert Figure 2 here]

[Insert Table 3 here]

## ***6. Discussion***

The aim of the present article was to investigate the effect of relative earnings differences between partners in a couple on the timing of men’s and women’s retirement transition, and, secondly, to examine whether and why this differs between countries. We find that women’s likelihood of retiring is increased if they are the main earner, which confirms our assumption based on the theoretical idea of “doing gender”, i.e. women seem to compensate for their non-traditional income constellation by retiring earlier. It also shows that the concept of “linked lives”, which is here represented by the influence of one’s partner’s income on the likelihood to retire, seems to be more relevant for female than for male retirement decisions. Based on EU-SILC data, we find that women – other than men - make their retirement decisions dependent on their partner’s income.

Our article contributes in several ways to the current literature. First, it provides insights into how relative income distribution at the level of couples influences men’s and women’s retirement decisions. Second, we expand our understanding of the role of economic factors on retirement by looking at the effect for groups which differ with regard to their proximity to statutory retirement age. We find that the compensatory behaviour of women is only true for those women who are at most two years away from statutory retirement age. This is important to note because it could also contribute to explaining previous mixed results on this question. Third, by comparing 26 countries in terms of their pension replacement rate and gender norms, our article goes beyond descriptive accounts of country differences in average retirement rates of men and women in different income constellations. We explicitly relate the effect of relative income on men’s and women’s retirement decisions to this societal context. As our findings suggest, the effect of relative income differs indeed by both policy and cultural context. With regard to policy characteristics, both male and female equal earners seem to benefit most from generous replacement rates in terms of being able to retire early. The argument of earlier research (Ebbinghaus, 2006; Piekkola, 2008) that pension policies with generous wage replacement rates make it easier for older workers to determine their retirement timing can thus only be confirmed for individuals living in equal-earning couples. With regard to gender norms, female main earners are more likely to retire than female equal earners, and this effect is stronger in more gender-traditional contexts. Male secondary earners are less likely to retire in contexts with traditional gender norms as compared to contexts with less traditional gender norms. As expected, traditional gender norms thus seem to reinforce “doing gender” and make specialisation patterns with a gender-typical division of labour more likely, even when it is economically unprofitable. In

theoretical terms, this can be explained by men's and women's wish to adhere to the traditional male breadwinner model. This finding confirms that the specialisation of couples in the division of labour is not something that is restricted to young couples with small children but also applies to retirement decisions.

Such an understanding can provide policy makers with valuable information on how couples' bargaining processes differ according to their access to pension replacement or the prevalence of traditional gender norms. First, our results show how important it is to observe the effects of policies not only at the individual level but also at the couple level. Since our lives are linked to others, not least our partners, with whom we negotiate how to spend our time and money, it is not only the absolute pension replacement rate for each individual that policy makers should keep in mind but also the relative rate within couples, which plays an important role in retirement decisions. Even though there are substantial institutional differences with regard to how lifetime incomes translate into individual pension income, relative income pre-retirement can be seen as an indicator for how a person will contribute to the couple's retirement income. Second, our results show how important it is to be aware of gendered policy effects. Our findings with regard to the overall effects of the two contextual indicators, as well as with regard to the moderating role of contextual characteristics on the relationship between relative income and probability of retirement indicate that women may be more sensitive in their retirement decisions to country characteristics in pension policies and gender norms than men. Thus, it can be expected that potential changes or reforms in a country's pension replacement rate will have a stronger effect on women's retirement decisions as compared to men's. Traditional gender norms seem moreover to increase gender inequality in the sense that female main earners leave the labour market earlier than female equal earners. Policies that weaken traditional gender norms, such as parental leave policies encouraging fathers to participate in childcare, policies that encourage young people to make non-gender-specific occupational choices and reductions of gender discrimination in the labour market might create a climate that weakens the pressure for female main earners to leave the labour market earlier to "live up" to traditional gender norms. Third, we show that policy characteristics only affect the retirement behaviour for those who are close to statutory retirement age. This is important to note in a period in which policy initiatives are tending to aim at an increasing retirement age. It is up to further research to examine whether, with an increase in statutory retirement age, the mentioned effects of policy measures will be postponed to the age group approaching the (new) statutory retirement age.

We are aware that our study comes with a number of limitations. Firstly, since we are interested in the effect of the relative market income, we focus on couples (for a comparison of spouses and singles, see Radl and Himmelreicher, 2015), where both partners are employed. This leads to potential selection issues, such that we can assume that women in our sample have a higher labour market attachment than the average group of all women (Möhring, 2015). However, in a time of rising female employment and increasing numbers of dual-earner couples among the elderly population (Dotti Sani, 2017), this has become a relevant sub-population for analysis. However, when interpreting our results, we have to keep in mind that we cannot draw conclusions about the entire population but only about the sub-group of dual-earner couples. Second, since our macro indicator for gender norms is not available annually, we have to extrapolate it to several years. Since gender norms in a society cannot be expected to change rapidly, we think however that this should not bias our results too much.

Despite these limitations, we believe that this article enhances our understanding of how spouses' relative resources influence men's and women's retirement decisions in various European contexts which differ substantially with regard to pension policies and gender norms.

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## References

- Allison PD (2014) *Event history and survival analysis*. Los Angeles: Sage.
- An MY, Christensen BJ and Gupta ND (1999) A bivariate duration model of the joint retirement decisions of married couples. Working Papers 99-10. Aarhus, Denmark: Centre for Labour Market and Social Research.
- Becker GS (1993) *A treatise on the family*. Cambridge, Mass.: Harvard University Press.
- Bennett J and Möhring K (2015) Cumulative (dis)advantage? The impact of labour market policies on late career employment from a life course perspective. *Journal of Social Policy* 44(2): 213-233.
- Bhatt V (2017) Cohort Differences in Joint Retirement: Evidence from the Health and Retirement Survey. *Journal of Labor Research* 38(4): 475-495.
- Bittman M, England P, Sayer L, et al. (2003) When does gender trump money? Bargaining and time in household work. *American Journal of Sociology* 109(1): 186-214.
- Blau DM and Riphahn RT (1999) Labor force transitions of older married couples in Germany. *Labour Economics* 6(2): 229-251.
- Börsch-Supan A and Nisticò S (2007) European Welfare State Regimes and Their Generosity toward the Elderly. In: D.B. P (ed) *Government Spending on the Elderly*. London: Palgrave Macmillan.
- Bryan ML and Jenkins SP (2016) Multilevel Modelling of Country Effects: A Cautionary Tale. *European Sociological Review* 32(1): 3-22.
- Dahl S-Å, Nilsen ØA and Vaage K (2003) Gender Differences in Early Retirement Behaviour. *European Sociological Review* 19(2): 179-198.
- Danø AM, Ejrnæs M and Leif H (2005) Do single women value early retirement more than single men? *Labour Economics* 12(1): 47-71.
- De Preter H, Van Looy D and Mortelmans D (2015) Retirement Timing of Dual-Earner Couples in 11 European Countries? A Comparison of Cox and Shared Frailty Models. *Journal of Family Economic Issues* 36(3): 396-407.
- Denaeghel K, Mortelmans D and Borghgraef A (2011) Spousal influence on the retirement decisions of single-earner and dual-earner couples. *Advances in Life Course Research* 16(3): 112-123.
- Dotti Sani GM (2017) The economic crisis and changes in work–family arrangements in six European countries. *Journal of European Social Policy* 28(2): 177-193.
- Drobnič S (2002) Retirement Timing in Germany: The Impact of Household Characteristics. *International Journal of Sociology* 32(2): 75-102.
- Ebbinghaus B (2006) *Reforming Early Retirement in Europe, Japan and the USA*. Oxford: Oxford University Press.
- Eismann M, Henkens K and Kalmijn M (2019) Origins and Mechanisms of Social Influences in Couples: The Case of Retirement Decisions. *European Sociological Review* 35(6): 790–806.
- Elder GH (1998) The Life Course as Developmental Theory. *Child Development* 69(1): 1-12.
- Engelhardt H (2012) Late careers in Europe: Effects of individual and institutional factors. *European Sociological Review* 28(4): 550-563.
- ESS (2008) *European Social Survey Round 4 Data*. Data file edition 4.5 ed.: NSD - Norwegian Centre for Research Data, Norway. Data Archive and distributor of ESS data for ESS ERIC.

- ESS (2010) *European Social Survey Round 5 Data*. Data file edition 3.4 ed.: NSD - Norwegian Centre for Research Data, Norway. Data Archive and distributor of ESS data for ESS ERIC.
- Eurostat (2019) *Aggregate replacement ratio (excluding other social benefits)*. Employment and Social Inclusion Indicators. Retrieved from: <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tespn070>
- Finch N (2013) Why are women more likely than men to extend paid work? The impact of work-family life history. *European Journal of Ageing* 11(1): 31-39.
- Frericks P, Knijn T and Maier R (2009) Pension reforms, working patterns and gender pension gaps in Europe. *Gender, Work & Organization* 16(6): 710-730.
- Frommert D and Strauss S (2013) Biografische Einflussfaktoren auf den Gender Pension Gap – Ein Kohortenvergleich für Westdeutschland. *Journal for Labour Market Research* 46: 145–166.
- Fuwa M (2004) Macro-level Gender Inequality and the Division of Household Labor in 22 Countries. *American Sociological Review* 69(6): 751–767.
- Gustafson P (2017) Spousal age differences and synchronised retirement. *Ageing & Society* 37(4): 777-803.
- Gustman AL and Steinmeier TL (2000) Retirement in Dual-Career Families: A Structural Model. *Journal of Labor Economics* 18(3): 503-545.
- Haberkern K, Schmid T and Szydlik M (2015) Gender differences in intergenerational care in European welfare states. *Ageing and Society* 35(2): 298-320.
- Haggqvist E, Gådin KG and Nordenmark M (2017) Work-Family Conflict and Well-Being Across Europe: The Role of Gender Context. *Social Indicators Research* 132(2): 785-797.
- Hairault J-O, Sopraseuth T and Langot F (2010) Distance to retirement and older workers' employment: The case for delaying the retirement age. *Journal of the European Economic Association* 8(5): 1034-1076.
- Hank K (2004) Effects of Early Life Family Events on Women's Late Life Labour Market Behaviour: An Analysis of the Relationship between Childbearing and Retirement in Western Germany. *European Sociological Review* 20(3): 189-198.
- Hank K and Jürges H (2007) Gender and the division of household labor in older couples. A European perspective. *Journal of Family Issues* 28(3): 399-421.
- Heisig JP and Schaeffer M (2018) Why You Should Always Include a Random Slope for the Lower-Level Variable Involved in a Cross-Level Interaction. *European Sociological Review* 35(2): 258–279.
- Henkens K (1999) Retirement intentions and spousal support: A multi-actor approach. *Journal of Gerontology: Social Sciences* 54B(2): 63-S73.
- Jackson J (2017) His way, her way: Retirement timing among dual-earner couples. *Advances in Life Course Research* 33: 23-37.
- Jansen A (2018) Work–retirement cultures: A further piece of the puzzle to explain differences in the labour market participation of older people in Europe? *Ageing & Society* 38(8): 1527-1555.
- Komp-Leukkunen K (2019) Breadwinner Models Revisited: How a Couple's Combined Work Histories Influence the Retirement Transition. *Social Politics: International Studies in Gender, State & Society*, online first: <https://doi.org/10.1093/sp/jxz008>

- Lalive R and Parrotta P (2017) How does pension eligibility affect labor supply in couples? *Labor Economics* 46: 177-188.
- Landes SD and Settersten RA (2019) The inseparability of human agency and linked lives. *Advances in Life Course Research* 42. <https://doi.org/10.1016/j.alcr.2019.100306>
- Langner LA (2015) Within-couple specialisation in paid work: A long-term pattern? A dual trajectory approach to linking lives. *Advances in Life Course Research* 24: 47-65.
- Legendre B, Pedrant A-C and Sabatier M (2018) Should I stay or should I go? An econometric analysis of retirement decisions by couples. *Applied Economics* 50(53): 5814-5829.
- Leopold T and Skopek J (2014) Gender and the Division of Labor in Older Couples: How European Grandparents Share Market Work and Childcare. *Social Forces* 93(1): 63-91.
- Micheel F, Roloff J and Wickenheiser I (2010) The Impact of Socioeconomic Characteristics on Older Employees' Willingness to Continue Working in Retirement Age. *Comparative Population Studies* 35(4): 869-902.
- Moen P (1996) A Life Course Perspective on Retirement, Gender, and Well-Being. *Journal of Occupational Health Psychology* 1(2): 131-144.
- Moen P (2001) The gendered life course. In: Binstock RH and George LK (eds) *Handbook of aging and the social sciences*. San Diego/San Francisco: Academic Press, pp.179-196.
- Moen P, Huang Q, Plassmann V, et al. (2006) Deciding the future. Do dual-earner couples plan together for retirement? *American Behavioral Scientist* 49(10): 1422-1443.
- Moen P, Sweet S and Swisher R (2005) Embedded Career Clocks: The Case of Retirement Planning. *Advances in Life Course Research* 9: 237-265.
- Möhring K (2015) Employment histories and pension incomes in Europe. A multilevel analysis of the role of institutional factors. *European Societies* 17(1): 3-26.
- OECD (2017) *Pensions at a glance 2017. OECD and G20 indicators*. Paris: OECD, [https://doi.org/10.1787/pension\\_glance-2017-en](https://doi.org/10.1787/pension_glance-2017-en).
- Pfau-Effinger B (2005) Development paths of care arrangements in the framework of family values and welfare values. In: Pfau-Effinger B and Geissler B (eds) *Care and social integration in European societies*. Bristol: Bristol University Press, pp.21-45.
- Piekkola H (2008) Flexible pension systems. Postponed retirement and distributional fairness. European Network of Economic Policy Research Institutes (ENEPRI) Research Report No. 61. Brussels: CEPS. <https://www.ceps.eu/ceps-publications/flexible-pension-systems-postponed-retirement-and-distributional-fairness/>
- Pienta AM (2003) Partners in marriage: An analysis of husbands' and wives' retirement behavior. *Journal of Applied Gerontology* 22(3): 340-358.
- Pienta AM and Hayward MD (2002) Who expects to continue working after age 62? The retirement plans of couples. *Journal of Gerontology: Social Sciences* 57B(4): S199-S208.
- Pozzoli D and Ranzani M (2009) *Old European couples' retirement decisions: The role of love and money*. Working Paper 09-2. Aarhus: Department of Economics, Aarhus School of Business.
- Radl J (2012) Too old to work, or too young to retire? The pervasiveness of age norms in Western Europe. *Work, Employment and Society* 26(5): 755-771.
- Radl J and Himmelreicher RK (2015) The Influence of Marital Status and Spousal Employment on Retirement Behavior in Germany and Spain. *Research on Aging* 37(4): 361-387.

- Schils T (2008) Early retirement in Germany, the Netherlands, and the United Kingdom: A longitudinal analysis of individual factors and institutional regimes. *European Sociological Review* 24(3): 315-329.
- Settersten RA (2015) Relationships in Time and the Life Course: The Significance of Linked Lives. *Research in Human Development* 12(3-4): 217-223.
- Soede A and Vrooman C (2008) A comparative typology of pension regimes. Reportno. Report Number |, Date. Place Published |: Institution |.
- Stoller MA and Stoller EP (2003) Perceived income adequacy among elderly retirees. *Journal of Applied Gerontology* 22(2): 230-251.
- Szinovacz ME (2002) Couple retirement patterns and retirement age: A comparison of Austria and the United States. *International Journal of Sociology* 32(2): 30-54.
- Thévenon O and Horko K (2009) Increased Women's Labour Force Participation in Europe: Progress in the Work-Life Balance or Polarization of Behaviours. *Population* 64(2): 235-272.
- Visser M and Fasang AE (2018) Educational assortative mating and couples' linked late-life employment trajectories. *Advances in Life Course Research* 37: 79-90.
- Vlasblom JD and Schippers JJ (2004) Increases in female labour force participation in Europe: Similarities and differences. *European Journal of Population/Revue Européenne de Démographie* 20(4): 375-392.
- West C and Zimmerman DH (1987) Doing gender. *Gender & Society* 1(2): 125-151.
- Winkler AE, McBride TD and Andrews C (2005) Wives who outearn their husbands: A transitory or persistent phenomenon for couples? *Demography* 42(3): 523-535.
- Yabiku ST (2000) Family history and pensions: The relationships between marriage, divorce, children and private pension coverage. *Journal of Aging Studies* 14(3): 293-312.
- Young M and Schieman S (2018) Scaling Back and Finding Flexibility: Gender Differences in Parents' Strategies to Manage Work-Family Conflict: Scaling Back and Finding Flexibility. *Journal of Marriage and Family* 80(1): 99-118.

## Tables

**Table 1: Individual-level determinants of labour market exit**

	Men				Women			
	Null	Bivariate	Multivariate	Multivariate Interacted	Null	Bivariate	Multivariate	Multivariate Interacted
Share in couple income: Man higher (ref.)								
Equal earners		0.001	-0.002	-0.001		0.002	0.002	-0.009
Woman higher		0.018***	-0.002	0.003		0.006**	0.002	0.020**
Distance to statutory retirement: max. 2 years (ref.)								
> 2 years below statutory retirement			-0.110***	-0.107***			-0.100***	-0.097***
> 2 years above official retirement			0.039***	0.000			0.036***	0.028*
>2 years below*Both equal				-0.002				0.011
>2 years below*Woman higher				-0.009				-0.020**
>2 years above*Both equal				0.035				0.070***
>2 years above*Woman higher				0.071***				-0.014
Low-income household			0.002	0.002			0.009	0.001
Age			0.009***	0.009***			0.008***	0.008***
Age difference between spouses			-0.001	-0.001			0.000	0.000
Works full-time			-0.051***	-0.051***			-0.011***	-0.011***
Longitudinal file 2016			-0.014***	-0.014***			0.012***	-0.012***
ICC country	0.004	0.003	0.005	0.005	0.006	0.004	0.018	0.018
n (observations)	40,298	37,354	35,839	35,839	40,262	37,319	36,126	36,126
n (countries)	26	26	26	26	26	26	26	26

Source: EU-SILC, Release 2016, longitudinal scientific use files 2013 (2010–2013) and 2016 (2013–2016), pooled, non-overlapping. Couples aged 50–75 years, both spouses in the labour market. Dependent variable: retired (0/1) in the following wave. Multilevel linear probability models. +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

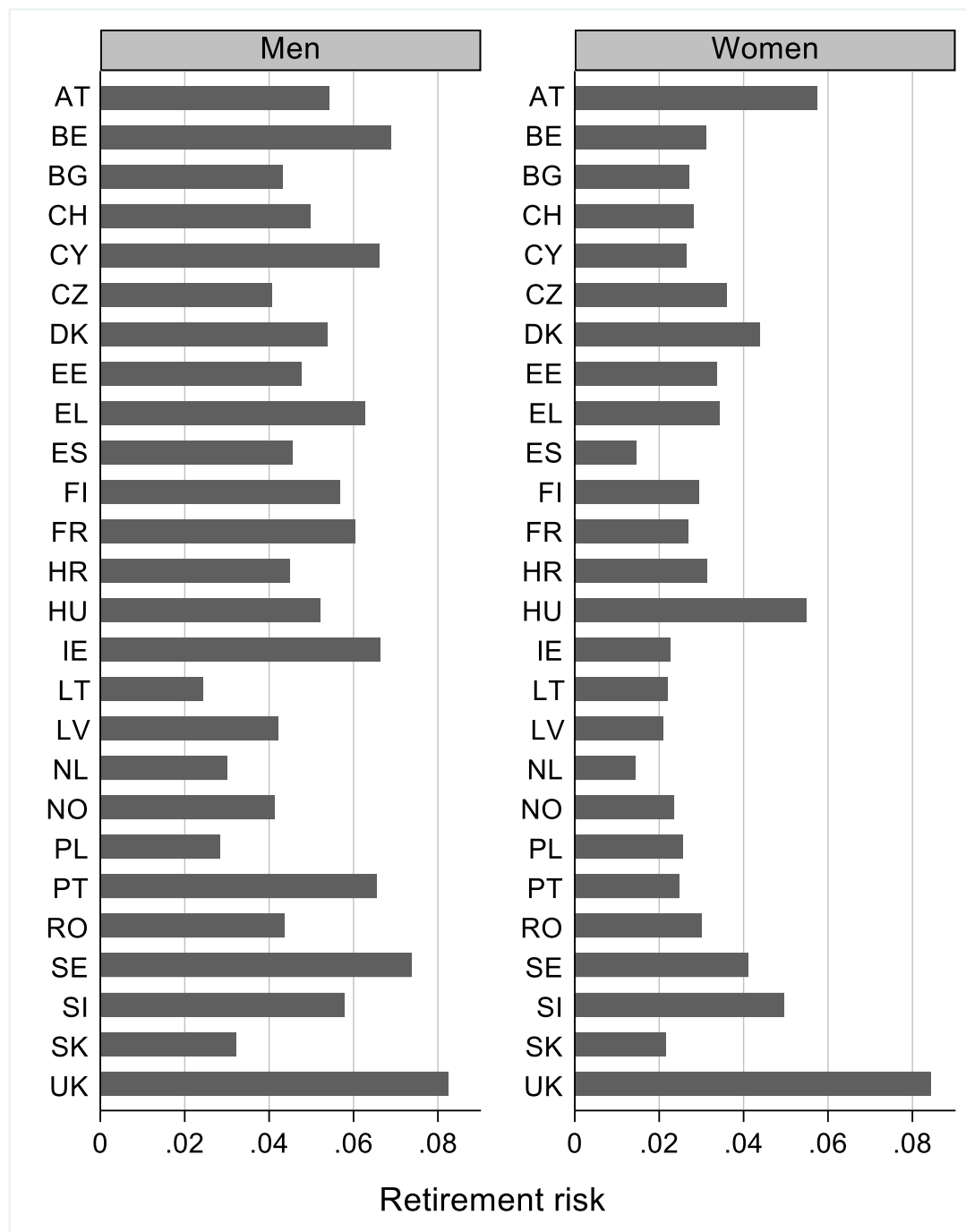
**Table 2: Effects of contextual characteristics and their cross-level-interaction terms**

	Both genders			Men			Women		
	Cut down	Right to job	Pensions	Cut down	Right to job	Pensions	Cut down	Right to job	Pensions
Share in couple income: Man higher (ref.)									
Equal earners	0.002	0.002	0.001	-0.003	-0.003	-0.002	0.004	0.003	0.004
Woman higher	0.002	0.002	0.002	-0.007*	-0.007*	-0.003	0.001	0.001	0.002 <sup>+</sup>
Man	-0.001	-0.002	0.001						
Gender norm: Women should cut down (% agree)	-0.001***								
Men*Women should cut down	-0.000								
Gender norm: Men should have right to job		0.000							
Men*Men should have right to job (% agree)		-0.000**							
Aggregate pension replacement rate (%)			0.001***						
Men*Replacement rate			0.000						
Gender norm: Women should cut down				-0.000			-0.001***		
Equal earners*Women should cut down				-0.000			0.000		
Woman higher* Women should cut down				-0.001***			-0.000		
Gender norm: Men should have right to job					0.000			0.000	
Equal earners*Men should have right to job					-0.000			0.000	
Woman higher* Men should have right to job					-0.001***			-0.000	
Aggregate pension replacement rate						0.001***			0.000
Equal earners*Replacement rate						0.001 <sup>+</sup>			0.001**
Woman higher*Replacement rate						-0.000			-0.000
ICC country	0.017	0.009	0.009	0.008	0.006	0.008	0.018	0.012	0.012
n (person-years)	72,236	72,236	81,261	35,839	35,839	35,572	36,126	36,126	35,850
n (countries)	26	26	30	26	26	26	26	26	26

Source: EU-SILC, Release 2016, longitudinal scientific use files 2013 (2010–2013) and 2016 (2013–2016), pooled non-overlapping. Couples aged 50–75 years, both spouses in the labour market. Dependent variable: retired (0/1) in the following wave. Aggregate pension replacement rate (Eurostat, 2019), gender norm indicators (ESS rounds 4 and 5). Multilevel linear probability models including control variables from Table 1. Separate models for each macro indicator and interaction. +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

## Figures

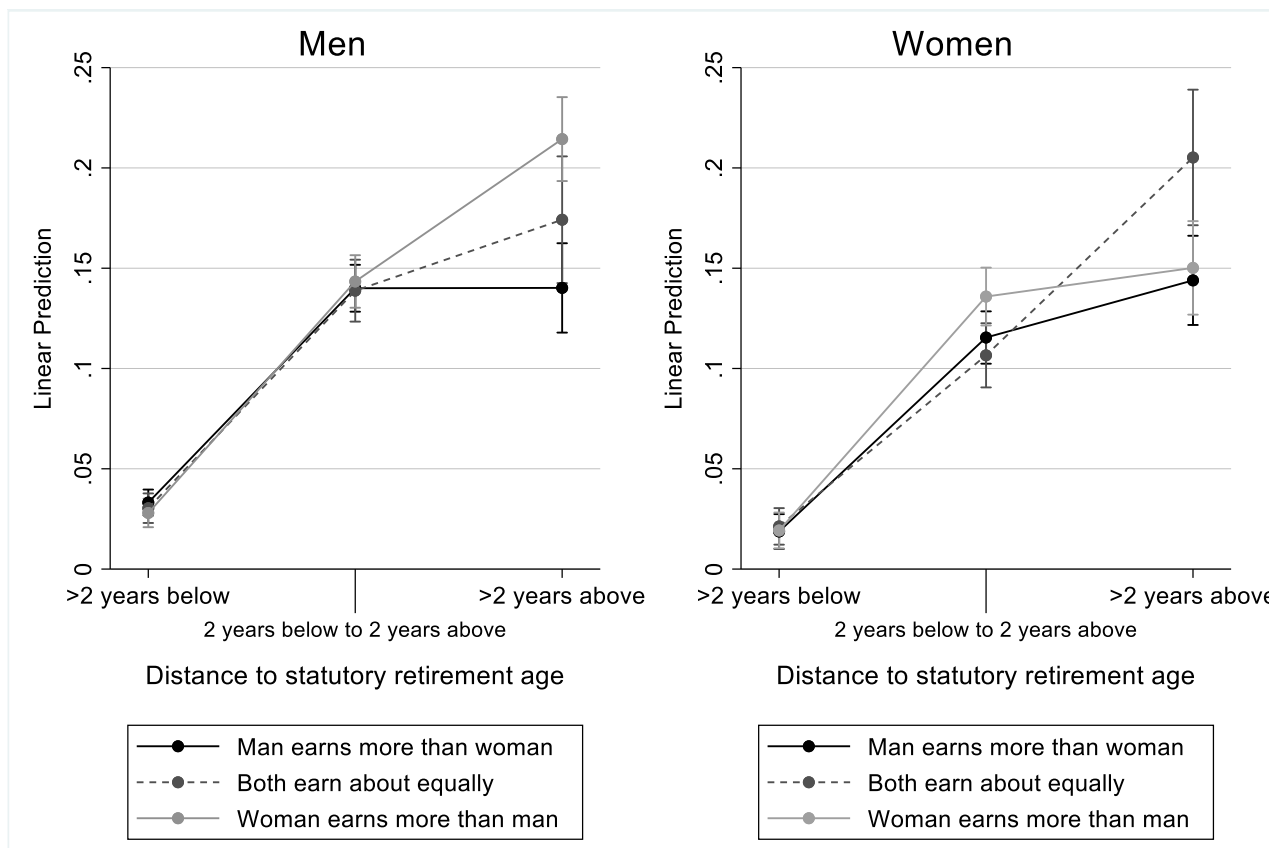
**Figure 1: Annual likelihood of retirement, by country**



Source: EU-SILC, Release 2016, longitudinal scientific use files 2013 (2010–2013) and 2016 (2013–2016), pooled non-overlapping. Individuals aged 50–75 living in a couple with both spouses in the labour market at  $t$ . Reduced sample: only countries available in ESS. x-axis: likelihood of retirement in the following wave. Weighted results.  $n=46,245$  (men),  $n=46,213$  (women). For country abbreviations, see Table A2 in the Appendix.

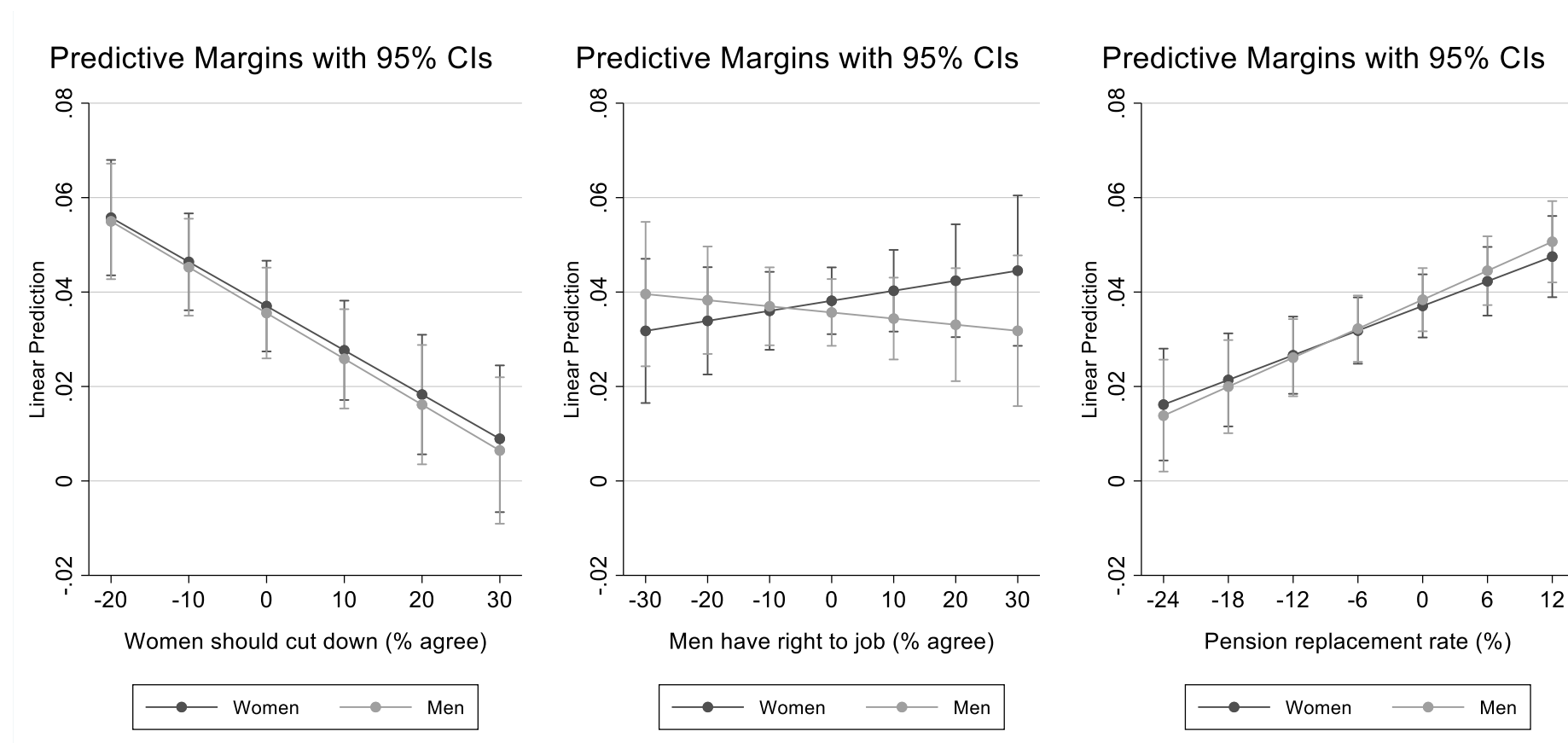


**Figure 2: Effect of relative income over distance to retirement age**



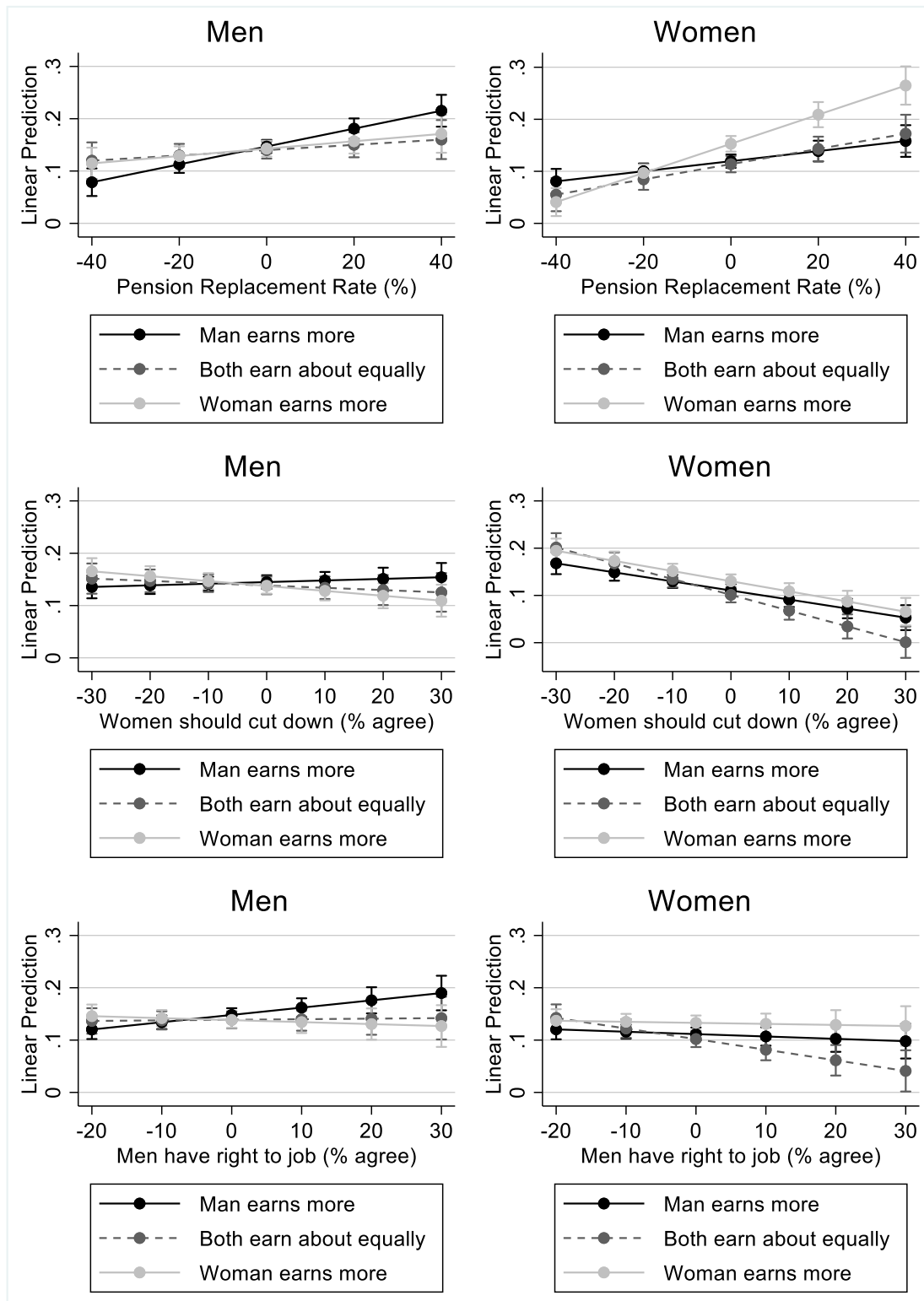
Source: EU-SILC, Release 2016, longitudinal scientific use files 2013 (2010–2013) and 2016 (2013–2016), pooled non-overlapping. Couples aged 50–75 years, both spouses in the labour market. Dependent variable: retired (0/1) in the following wave. Predictive margins with 95% confidence intervals, derived from multilevel linear probability models in Table 1.

**Figure 3: Predicted probabilities of retiring for men and women over contextual characteristics**



Source: EU-SILC, Release 2016, longitudinal files 2013 (2010–2013) and 2016 (2013–2016), pooled, non-overlapping. Couples aged 50–75 years, both spouses in the labour market. Dependent variable: retired (0/1) in the following wave. Country-level data: Eurostat (2019) for aggregate pension replacement rate, ESS rounds 4 and 5 for aggregate gender norms. Predictive margins with 95% confidence intervals, derived from multilevel linear probability models. Separate models for each interaction. For coefficients see Table 2, first column (both genders).

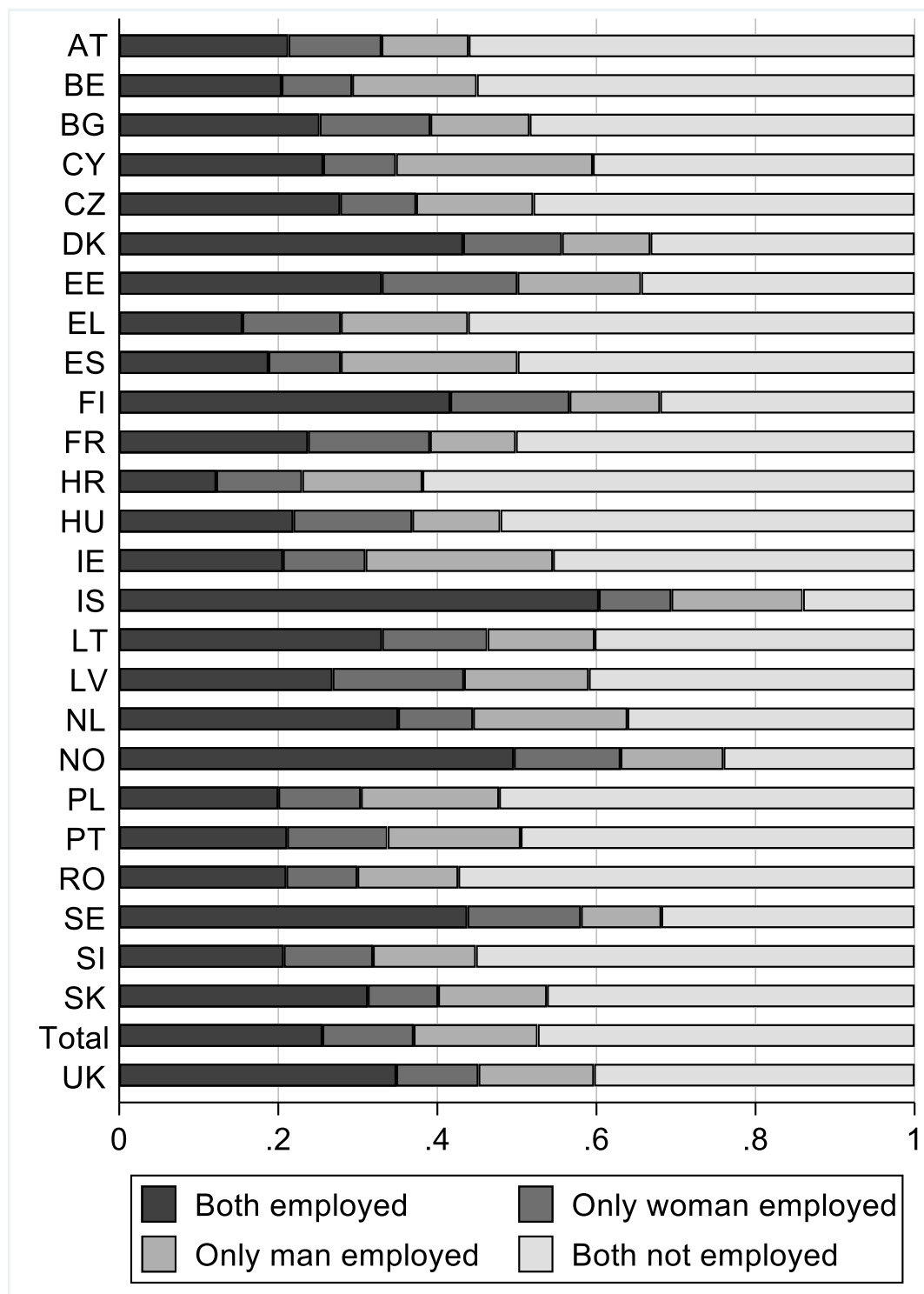
**Figure 4: Predictive margins of relative income over contextual characteristics**



Source: EU-SILC, Release 2016, longitudinal files 2013 (2010–2013) and 2016 (2013–2016), pooled, non-overlapping. Couples aged 50–75 years, both spouses in the labour market, around 2 years prior to 2 years after statutory retirement age. Dependent variable: retired (0/1) in the following wave. Country-level data: Eurostat (2019) for aggregate pension replacement rate, ESS rounds 4 and 5 for aggregate gender norms. Predictive margins with 95% confidence intervals, derived from multilevel linear probability models. Separate models for each interaction. For coefficients see Table A4 in the Appendix.

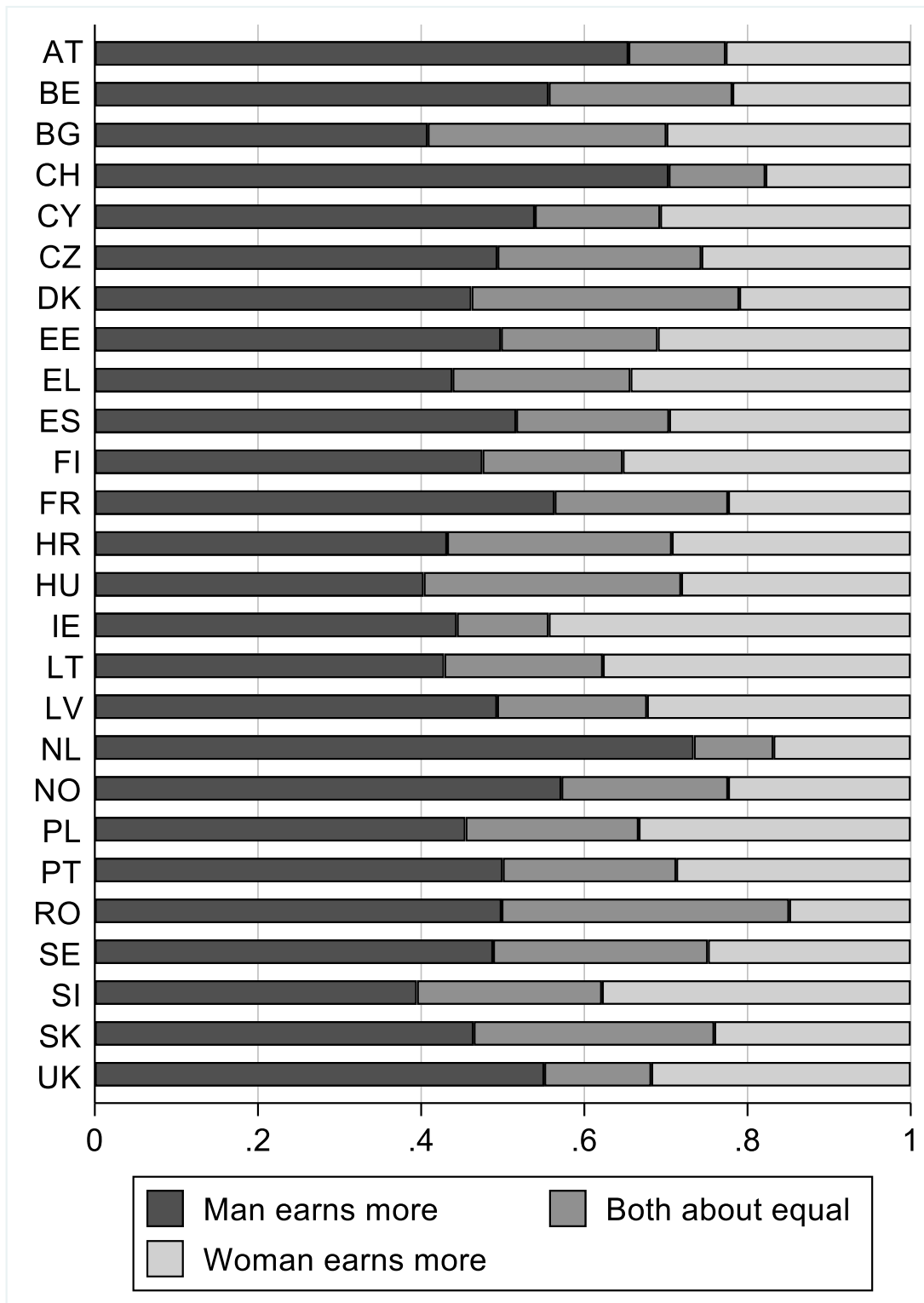
## Appendix

**Figure A1: Couples' labour market status in Europe**



Source: EU-SILC, Release 2016, longitudinal files 2013 (2010–2013) and 2016 (2013–2016), pooled non-overlapping. Individuals aged 50–75 living in a couple relationship. n=584,507. Reduced sample: only countries available in ESS. Working: full-time or part-time employed. Not working: retired, unemployed or inactive.

**Figure A2: Woman's relative contribution to couples' income, by country**



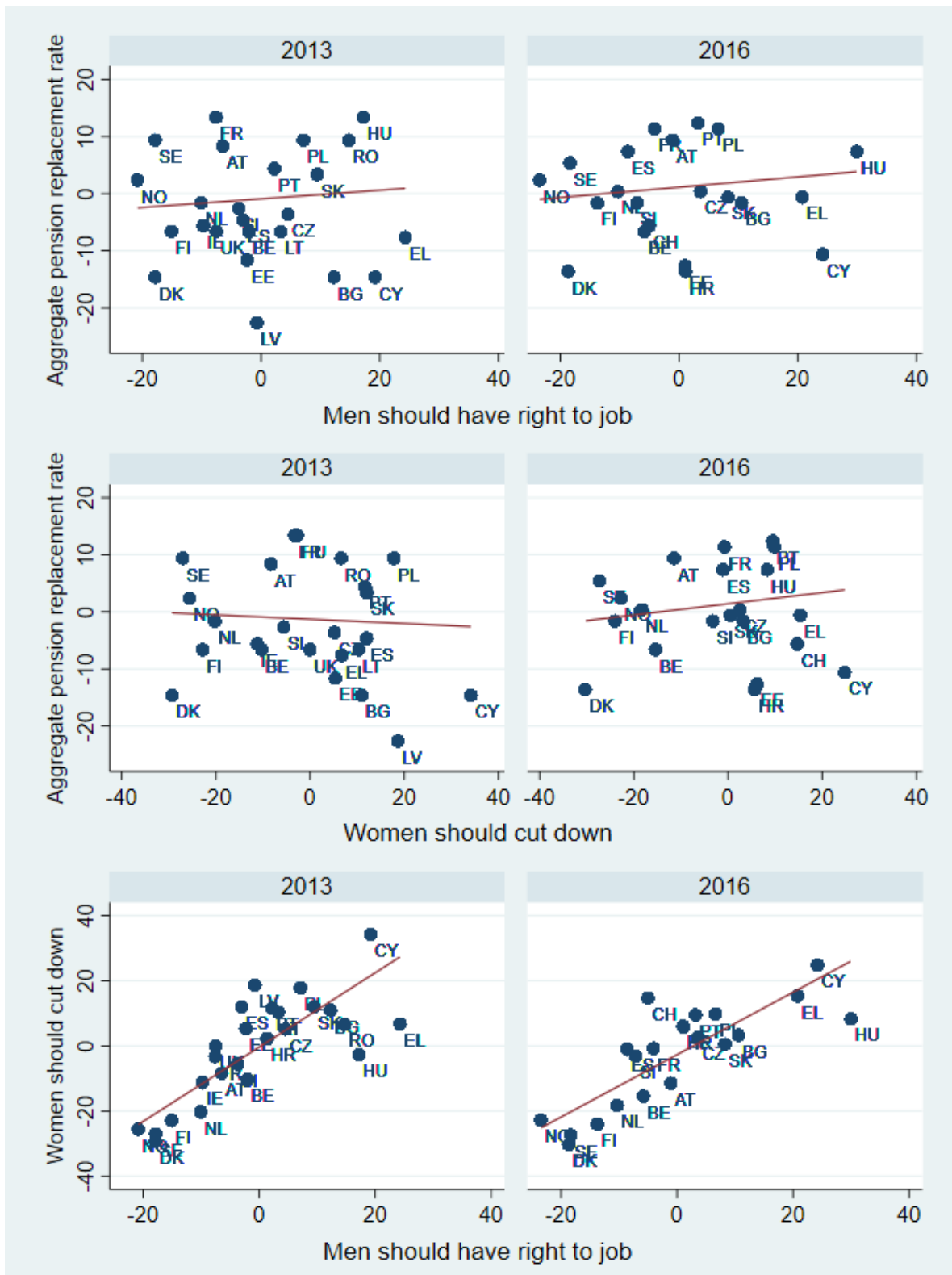
Source: EU-SILC, Release 2016, longitudinal files 2013 (2010–2013) and 2016 (2013–2016), pooled non-overlapping. Couples aged 50–75 with both spouses in the labour market. n=144,165. Reduced sample: only countries available in ESS.

**Figure A3: Transition to retirement and inactivity, by country**



Source: EU-SILC, Release 2016, longitudinal files 2013 (2010–2013) and 2016 (2013–2016), pooled, non-overlapping. Individuals with partner aged 50–75 with both spouses in the labour market. Reduced sample: only countries available in ESS. Individuals with at least two observations. Retirement risk and risk of transition to retirement/inactivity in per cent. Transition to inactivity includes retirement. n= 92,458.

**Figure A4: Correlation of gender norms and pension replacement**



Source: Eurostat (2019, aggregate pension replacement rate for men), ESS rounds 4 and 5 (aggregated gender norms).  $n = 136,078$  individuals,  $n = 52$  country-years. Bivariate findings, unweighted. Correlation coefficients, upper panel:  $r = 0.095^{***}$  (2013),  $r = 0.152^{***}$  (2016). Correlation coefficient, middle panel:  $r = -0.067^{***}$  (2013),  $r = 0.193^{***}$  (2016). Correlation coefficients, lower panel:  $r = 0.809^{***}$  (2013),  $r = 0.820^{***}$  (2016). All country-level variables centred at grand mean, percentages.

**Table A1: Description of the individual-level variables**

	<b>Men</b>				<b>Women</b>			
	N	%	Mean	StD	N	%	Mean	StD
<i>Dependent variable</i>								
Retired the following wave	2,013	4.98			1,280	3.16		
<i>Independent variables</i>								
Man higher	32,655	51.66			32,638	51.66		
Equal earners	13,326	21.8			13,324	21.09		
Woman higher	17,234	25.32			17,218	27.25		
Low-income household	24,789	40.11			24,789	40.11		
Age			57.14	4.31			55.08	3.95
Age difference			2.06	3.22			-2.06	3.22
Works full-time	62,880	92.39			50,647	74.46		
Distance to statutory retirement age: >2 years below	55,907	82.14			59,653	90.59		
2 years below until 2 years above	7,176	11.00			4,753	6.99		
>2 years above	2,186	3.34			11,444	2.19		
Longitudinal file 2013	34,552	50.77			34,531	50.77		
Longitudinal file 2016	33,509	49.23			33,485	49.23		
n (person-years)			68,061				68,061	
n (persons)			30,329				30,345	

Source: EU-SILC, Release 2016, longitudinal files 2013 (2010–2013) and 2016 (2013–2016), pooled, non-overlapping. Individuals with partner aged 50–75 with both spouses in the labour market. Reduced sample: only countries available in ESS.



**Table A2: Country characteristics: Macro indicators and yearly retirement risk**

			Macro indicators					Dependent variable		
		n	Right to job 2008	Cut down 2008	Pensions 2009	Right to job 2010	Cut down 2010	Pensions 2012	Retirement men	Retirement women
Austria	AT	2,722	13.75	32.96	62	21.37	32.55	63	5.44	5.78
Belgium	BE	2,741	18.76	31.15	47	17.69	30.32	47	6.81	3.13
Bulgaria	BG	4,724	33.17	52.34	39	34.07	48.99	52	4.27	2.72
Switzerland	CH	2,536	18.60	56.69	--	18.48	60.42	48	5.00	2.83
Czech Republic	CZ	5,566	25.38	46.61	50	27.11	48.26	54	4.07	3.59
Cyprus	CY	2,578	40.06	75.61	39	47.69	70.49	43	6.62	2.65
Denmark	DK	6,263	2.99	12.09	39	4.79	15.39	40	5.41	4.35
Estonia	EE	4,277	18.53	46.78	42	24.50	51.83	41	4.78	3.40
Greece	EL	2,880	45.15	48.14	46	44.26	61.05	53	6.09	3.32
Spain	ES	6,140	17.84	53.44	49	14.88	44.67	61	4.57	1.46
Finland	FI	11,902	5.76	18.61	47	9.73	21.67	52	5.68	2.93
France	FR	9,178	13.28	38.16	67	19.40	44.96	65	6.05	2.67
Croatia	HR	2,272	22.23	43.70	--	24.59	51.41	40	4.51	3.14
Hungary	HU	5,104	38.07	38.73	67	53.47	54.02	61	5.11	5.41
Ireland	IE	718	11.13	30.20	48	10.84	32.10	--	6.64	2.25
Iceland	IS	1,872	--	--	42	--	--	--	1.64	2.79
Italy	IT	8,374	--	--	57	--	--	63	5.46	2.10
Lithuania	LT	2,596	23.54	51.62	47	28.18	77.88	--	2.43	2.20
Luxemburg	LU	1,494	--	--	64	--	--	67	11.05	2.56
Latvia	LV	3,226	19.51	59.97	31	--	--	49	3.80	2.04
Malta	MT	1,426	--	--	44	--	--	47	6.96	1.27
Netherlands	NL	10,488	10.81	21.21	52	13.18	27.4	54	2.97	1.43
Norway	NO	6,790	3.62	15.74	56	7.30	22.25	56	4.10	2.32
Poland	PL	7,016	27.98	59.22	63	30.13	55.54	65	2.76	2.54
Portugal	PT	3,760	23.10	53.11	58	26.68	55.21	66	6.51	2.49
Romania	RO	4,032	35.00	47.87	63	--	--	76	3.61	2.33
Serbia	RS	1,340	--	--	--	--	--	--	7.82	4.65
Sweden	SE	5,436	3.02	14.36	63	5.12	18.35	59	7.38	4.13
Slovenia	SI	5,322	17.14	35.84	51	16.39	42.48	52	5.73	4.87
Slovakia	SK	4,256	30.32	53.47	57	31.73	46.23	53	3.16	2.08
United Kingdom	UK	3,302	12.68	36.98	47	16.12	40.07	--	8.25	8.44
Mean		4,526	20.24	41.31		22.47	44.01		5.02	3.04
n (country)		31	27	27	29	25	25	28		
n (person-years)		140,331							46,245	46,213

Source: EU-SILC 2010–2016, persons aged 50-75 living with spouse, both spouses in the labour market, only individuals with at least 2 observations (retirement risk %), Eurostat 2019 (aggregate pension replacement rate for men), ESS rounds 4 and 5 (aggregate gender norms). "--" Data not available

**Table A3: Transition to inactivity**

	<b>Men</b>				<b>Women</b>			
	Relative Income	Right to job	Cut down	Pensions	Relative Income	Right to job	Cut down	Pensions
Share in couple income: Man higher (ref.)								
Equal earners	0.013	0.000	0.001	0.002	-0.021	-0.025***	-0.026***	-0.020***
Woman higher	0.010	0.015***	0.015***	0.017***	0.008	-0.019***	-0.019***	-0.017***
>2 years below statutory retirement age	-0.090***	-0.090***	-0.090***	-0.092***	-0.079***	-0.088***	-0.088***	-0.089***
>2 years above statutory retirement age	-0.014	0.010	0.010	0.011	0.001	0.005	0.005	0.006
Equal earners*>2 years below	-0.012				-0.004			
Equal earners*>2 years above	0.005				0.054			
Woman higher*>2 years below	0.007				-0.028*			
Woman higher*>2 years above	0.059**				-0.014			
Men should have right to job (% agree)		0.000				0.001***		
Equal earners*Right to job		-0.000				-0.000		
Woman higher*Right to job		-0.001*				-0.000		
Women should cut down (% agree)			0.000				0.001	
Equal earners*Cut down			-0.000				-0.000	
Woman higher*Cut down			-0.001*				-0.000	
Aggregate pension replacement rate				0.001				-0.000
Equal earners*Replacement rate				0.000				0.001**
Woman higher*Replacement rate				-0.000				0.000
ICC	0.008	0.008	0.008	0.010	0.013	0.009	0.011	0.012
n (countries)	26	26	26	26	26	26	26	26
n (observations)	35839	35839	35839	35572	36126	36126	36126	35850

Source: EU-SILC, longitudinal files 2013 (2010–2013) and 2016 (2013–2016). Couples aged 50–75 years, both spouses in the labour market. Dependent variable: retired (0/1) in the following wave. Multilevel linear probability models with lagged macro indicators and cross-level interactions, all models with control variables. Separate models for each macro indicator and interaction. Models include control variables from Table 1. +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

**Table A4: Conditional effects of relative income and country-level characteristics (three-way interaction terms)**

	Men			Women		
	Pension	Right to job	Cut down	Pension	Right to job	Cut down
Share in couple income: Man higher (ref.)						
Equal earners	-0.007	-0.009	-0.007	-0.006	-0.010	-0.009
Woman higher	-0.004	-0.010	-0.007	0.033***	0.022**	0.020*
>2 years below statutory retirement age	-0.114***	-0.113***	-0.110***	-0.101***	-0.092***	-0.091***
>2 years above statutory retirement age	-0.003	-0.033*	-0.025*	0.036**	0.006	0.027*
Equal earners*>2 years below	0.003	0.005	0.002	0.009	0.013	0.013
Equal earners*>2 years over	0.035	0.071**	0.052*	0.048*	0.095***	0.074***
Woman higher*>2 years below	-0.005	0.001	-0.002	-0.034***	-0.022**	-0.019*
Woman higher*>2 years over	0.050**	0.034	0.052**	-0.024	-0.011	-0.014
Aggregate pension replacement rate	0.002***			0.001**		
Equal earners*Pension replacement	-0.001*			0.000		
Woman higher*Pension replacement	-0.001*			0.002***		
>2 years below*Pension replacement	-0.001***			-0.000		
>2 years over*Pension replacement	-0.001			0.001		
Equal earners*>2 years below*Pension	0.001*			-0.000		
Equal earners*>2 years over*Pension	0.001			-0.003*		
Woman higher*>2 years below*Pension	0.001*			-0.002***		
Woman higher*>2 years over*Pension	-0.002*			-0.002*		
Men should have right to job (% agree)		0.001**			-0.000	
Equal earners*Right to job		-0.001*			-0.002*	
Woman higher*Right to job		-0.002**			0.000	
>2 years below*Right to job		-0.001**			0.001*	
>2 years over*Right to job		-0.005***			-0.006***	
Equal earners*>2 years below*Right to job		0.001			0.002**	
Equal earners*>2 years over*Right to job		0.006***			0.008***	
Woman higher*>2 years below*Right to job		0.001*			-0.000	
Woman higher*>2 years over*Right to job		-0.004**			0.002	
Women should cut down (% agree)			0.000			-0.002***
Equal earners*Cut down			-0.001			-0.001**

Woman higher*Cut down							-0.001**	-0.000
>2 years below*Cut down							-0.001	0.001***
>2 years over*Cut down							-0.004***	-0.004***
Equal earners*>2 years below*Cut down							0.001	0.002**
Equal earners*>2 years over*Cut down							0.003**	0.007***
Woman higher*>2 years below*Cut down							0.001*	0.000
Woman higher*>2 years over*Cut down							-0.001	0.002
n (person-years)	35,460	35,839	35,839	35,736	36,126	36,126		
n (countries)	26	26	26	26	26	26		
ICC	0.008	0.006	0.008	0.013	0.011	0.017		