

## **Becoming a Grandparent and Early Retirement in Europe**

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## **ABSTRACT**

Between now and 2030, the post-war baby boom generations will be entering the retirement ages and this will speed up the secular trend of population ageing. In many countries, a large number of baby boomers has already retired before the standard age. Given that the funding of pensions is at issue, governments across Europe now try to discourage early and encourage later retirement. Yet, international research about the determinants of early retirement based on appropriate micro-data is scarce. In addition, studies have tended to look at the retiring generation in an isolated way, ignoring the intergenerational ties that may play a role in their retirement decision. This paper uses a high quality international database with relevant micro-data, covering 22 countries from all regions of Europe, to try to start correcting such a view. More particularly, it investigates to what extent becoming a grandparent affects early retirement in European countries. We apply multilevel event history modelling to data from the third round of the European Social Survey and from the Multilinks database on intergenerational policy indicators.

# Becoming a Grandparent and Early Retirement in Europe

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## BACKGROUND

Since more than a decade, the employment rate in the ageing populations of Europe has been high on the political agenda. During its meeting in Lisbon, May 2000, the European Council declared that the EU should raise its overall employment rate to 70% and the female employment rate to more than 60% by 2010. This aim was considered an important strategy to face the challenges posed by ageing. Ageing is argued to potentially undermine economic growth, while at the same time such economic growth is much needed to finance social security, notably pensions and health care, for the elderly population (High Level Group chaired by Wim Kok 2004). Major tools to reach higher employment rates are the stimulation of female labour force participation and the raising of the average actual retirement ages. As put by the European Commission's Green Paper on "Confronting demographic change: a new solidarity between the generations": "The fact is that the demographic dependency ratio will rise from 49% in 2005 to 66% in 2030. We will have to not only reach but to exceed the objective in the Lisbon Strategy – an employment rate of 70% – to compensate for the expected drop in the working age population: employment participation will have to increase, and the retirement age will have to continue to rise" (European Commission 2005: 4). Finally, in 2010, the EU published a Green Paper devoted especially to retirement and pension systems, reinforcing the earlier message in the wake of the global financial crisis (European Commission 2010).

In this debate about ageing, employment and retirement, there is a tendency to take a somewhat one-sided look at retirement as a primarily negative status, i.e. as a status of no longer being active. This negative perspective to retirement may be related to the fact that it has long been assumed that life after leaving the workforce would be characterized by disability and decline. Indeed, disability and decline during old age were a justification for retirement in the first place. Yet, in the more recent social scientific literature about ageing, there has been a trend towards making a more positive assessment of the "the third age" as a period of new opportunities for activity rather than as a time of inevitable decline and dependency only. Leaving the workforce is no longer automatically equated with dependency in physical and financial terms (Higgs et al. 2003). Important preconditions for this more positive perspective to "the third age" have been

increases in life expectancy and improvements in the health of the older population (see Christensen et al. 2009).

Apart from having more spare time to enjoy life, retired people often provide unpaid help and care to family and friends, both older and younger than themselves. Younger retired people who are in good shape often look after older generations who are suffering from illness, impediments, and disabilities. Or they provide care and help to younger generations, for example by stepping in for child care. Some (early) retired people are facing demands for help from both older and younger generations at the same time.

Next to their social value, these unpaid services also represent an economic asset that is often neglected in the debate about early retirement. To a large extent, the help they provide is essential so that it would have to be substituted with paid services. In addition, in the case of childcare, the help provided often facilitates the labour force participation of mothers with young children. The rising labour force participation of women is an essential factor in the intended increase of the employment rate, aimed at by the Lisbon Strategy and other international and national policies. So, if European countries succeed in postponing retirement, there are not only economic benefits but also costs. These costs have largely been neglected.

It is clear that the age at retirement will be an important factor in the challenge posed by ageing to social policy in Europe. This paper will contribute to the literature about the determinants of the timing of retirement. To date, most published studies are one of two types (see Fischer and Sousa-Poza 2006 for an overview): or they use international data but only at the aggregate country level, with all well-known inherent problems for drawing conclusions about individual-level processes, or they use micro-data from one country only. Very few studies have combined an international perspective with analysis based on micro-data (Fischer and Sousa-Poza 2006, based on SHARE, is an exception). This paper will be one of the first to use micro-data for a large number of European countries. In contrast to earlier studies, this paper also includes the post-communist countries from Eastern Europe.

Also, most of the existing literature is in line with the older perspective of retirement as exit from activity into inactivity, with a large emphasis on early retirement for health reasons and late retirement out of economic necessity. There is also a literature about forced retirement after economy measures and company restructuring pushing people out of the labour force. Much less research has been done about more active, positive factors pulling people into retirement. This paper addresses the role of such a potential, positive pulling factor: to our knowledge, this paper is the first that tries to empirically assess the effect of becoming a grandparent on the timing of retirement across Europe. We know that retired people often provide childcare to their grandchildren. Can we find evidence that entry into grandparenthood accelerates exit from the labour force into retirement?

The next paragraph first reviews findings from earlier work on the determinants of early versus late retirement. We then describe patterns of

childcare provision by grandparents across Europe. Subsequently, we introduce our data and methods and explain our empirical results.

## **THE TIMING OF RETIREMENT**

People retire for different kinds of reasons. One set of reasons can be called institutional, the other set relates to individual level characteristics (Schils 2008; Debrand & Sirven 2009).

### **Institutional factors**

A basic institutional factor is the legal retirement age: in most European countries, retirement requires a certain legal standard retirement age, and in some cases also a minimum contribution period. The standard retirement age represents the age at which a person may or must retire in order to be entitled to receive a full pension benefit. In 2004, in the majority of European countries, the standard age for men was 65 (see Figure 1), with Norway being the only country with a higher standard age, namely 67 years. In the majority of countries, the standard age was below 65 for women, with Norway again being the exception with age 67 as the standard retirement age for women as well. Typically, the standard retirement age is between 60 and 65 years for women. However, most countries appear to be moving towards a universal standard pensionable age of at least 65 years. A number of countries, like Denmark, the UK, and Germany, have recently taken legislative measures to further increase the standard age in the future (European Commission 2010). In most European countries, people may continue working in the paid labour market even after reaching the standard retirement age, but not always unlimited and sometimes with exceptions. For example, in Ireland, deferred retirement is allowed until age 66; in Belgium, civil servants are not allowed to defer retirement (Keck et al. 2009).

Yet, in most countries many people retire before reaching the standard retirement age. This pattern is so distinctive that the actual mean retirement age lies below the standard age in all countries (see Figure 1). There clearly is a connection between the standard and the actual mean age, both for men and for women: the average actual age tends to be higher in countries with a higher standard age at retirement. Looking at the figures for 2004 displayed in Figure 1, 33% of the between-country variance in average ages at retirement for men can be explained by the between-country variance in standard ages. For women, 31% can be explained. Yet, other institutional factors also play a role.

Early retirement is made possible institutionally by a range of social security arrangements. Sometimes, institutional arrangements have even given explicit or implicit incentives to retire earlier (Schils 2005, 2008). In the past decades, many European countries have encouraged various forms of early exit from the labour force, partially or fully, with main tools being unemployment insurance, extended access to sickness or disability benefits, or the development of specific pre-retirement schemes (Blanchet, Brugiavini and Rainato 2005). The availability of these pathways to early retirement differs strongly. Schils (2005,

2008) differentiates between four clusters of early retirement systems, depending on the generosity of the benefits paid to early retirees and on the flexibility of the pathways out of the labour market. She found that the generosity and the flexibility strongly stimulate early retirement, at least in the investigated Western European countries. Countries with high flexibility and generosity, like Austria, Belgium, Germany, and the Netherlands, have high early retirement rates, i.e. they have low actual ages at retirement as compared to the standard age. Using data from the 2005 round of SHARE, Fischer and Sousa-Poza (2006) confirmed that generous early retirement options encourage early exit from the labour market. More specifically, they found that the level of pension wealth accrual, i.e. the opportunity cost of retiring early rather than late, exerts a stronger influence on early retirement decision: if the amount of pension benefit foregone in case of early rather than late retirement is high, people are less inclined to take the early option.

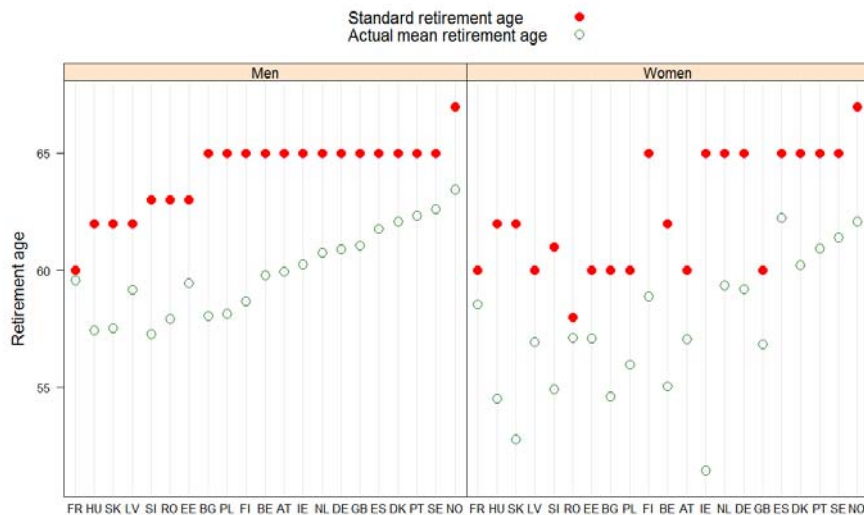


Figure 1. Standard retirement age (situation in 2004) and actual mean retirement age for men and women in European countries

Source: multilinks database on intergenerational policy indicators (Keck, Hessel & Saraceno 2009) for the standard retirement age; own calculations based on the 3<sup>rd</sup> round of the European Social Survey for the actual mean age at retirement, calculated for respondents who are at least 65 years old.

The generosity of early retirement schemes not only affects the age at exit from the labour market but also the selectivity in terms of individual characteristics. In countries with a generous system, early exit is less selective, for example because most people can afford, financially, to stop working for pay.

In ungenerous systems, early retirement is not only less widespread in quantitative terms but also less selective in qualitative terms: only the better off who earned a high wage or salary during their careers can afford an early exit. Consequently, in such countries, early retirement will be more widespread among the highly educated (Schils 2008).

In recent years, most European countries have tried to encourage more people to work longer, for example by increasing pensionable ages, by financially rewarding later and penalizing earlier retirement, and by closing early exit pathways. The success of such measures to raise actual retirement ages varies (European Commission 2010). Recent German evidence, based on a natural experiment created by recent pension reforms, shows that benefit reduction for early retirees has caused a postponement of retirement in Germany (Hanel 2010). Overall, the ongoing tendency is that labour market activity rates at older ages as well as average retirement ages have been going up across Europe. At the same time, pension reforms are giving greater responsibility to individuals who consider leaving the labour market or not (European Commission 2010).

### **Individual level factors**

Even if country-specific pension systems strongly affect early retirement by making it more or less attractive, individuals in most cases still have the freedom to decide between continuing to work or exit from the labour market (Blanchet, Brugiavini and Rainato 2005). Research on personal motivations behind retirement decisions has predominantly focused on push factors, i.e. factors pushing people out of the labour market. Often these factors have a negative connotation, like bad health, impairments, or company restructuring.

Dorn and Sousa-Poza (2004) investigated reasons for early retirement between 1996 and 2002 in Switzerland. The most important motivations given by retirees were company restructuring (22%), no desire and no need to work (18%), and injury or illness (13%). Family duties were mentioned as a motive only in 4% of all cases. However, the motives for retirement do change considerably over the years and are strongly influenced by contextual factors. For example, in periods of increasing unemployment, company restructuring is more often declared to be the main reason for early retirement.

The financial affordability of early retirement clearly plays a role in the decision to stop working for pay or not (Higgs et al. 2003). Financial affordability (i.e. no need to continue working) was more often cited as a reason for early retirement by the highly educated in the Swiss study of Dorn and Sousa-Poza (2004). It has been found that those who are well-off at work tend to be well-off in retirement as well.

Early retirement motivated by the considerations that one can afford it represents one of the two models of early retirement that emerged in the literature during the 1980s, namely the one pertaining mainly to white collar professional and managerial workers. In the other model, more associated with manual occupations, the central motivation for early retirement is adjustment to a

decline of physical health. Later on, during the 1990s, stress-related early retirement became increasingly common among white collar occupations (Higgs et al. 2003).

Research has found clear differences between men and women. This can be related to the fact that men and women usually have different working careers, typically with more interruptions and a higher prevalence of part-time work for women (Schils 2005). The average age of retirement is lower for women than for men, but this may be entirely due to the fact that the legal retirement age is lower for women in many countries. After taking the legal age into account, Fischer and Souza-Poza (2006) found with SHARE data that female workers have a lower probability to retire early than men. A similar finding was done in a Swiss study that pointed to health reasons to explain earlier retirement for men: health was more often a reason for early retirement for men than for women. The authors link this to the fact that men tend to do more physically demanding work (Dorn & Sousa-Poza 2004).

In a British qualitative study about motives behind early or late retirement decisions, apart from the classic "negative" motives for early retirement (like the lack of financial need to continue working, bad health, and dissatisfaction with the job held), there clearly emerged a more positive conglomerate of motivations, called the "Third Age exit" by the authors, where early retirement is a choice for a new stage in life with new, emerging opportunities. This perspective does not look at retirement anymore as a residual category but as a positive option, enabling a newly engaged lifestyle. The wish to spend more time with grandchildren is explicitly cited by some as a motivation for early retirement (Higgs et al. 2003).

## **GRANDPARENTS AND CHILDCARE**

Over the past few decades, female labour market participation has grown strongly, also for women with young, dependent children. As a result, childcare has become a major issue in the combination of paid work with family life. In this debate, a basic distinction is made between formal and informal childcare. Formal childcare is for pay and provided in crèches, nurseries, kindergarten and the like. The bill can be paid by the parents or by government subsidies. Usually, there is a mixture of both private payments and public funding, with countries and regions differing in the extent of public intervention. Informal childcare is not for pay and provided by friends, neighbours and especially by the family. Grandparents typically play an important role in childcare provision to young parents, be it to varying degrees across the regions of Europe (Attias-Donfut, Ogg and Wolff 2005; Hank and Buber 2009; Saraceno 2011). As research from Wheelock and Jones (2002) in England indicates, many parents actually piece together a 'jigsaw' mix of formal and informal childcare, the last mostly provided by the children's grandparents.

Many grandparents provide some kind of care for their grandchildren when the parents are unable to do it their selves and most do it for free. When a 50+

European devotes on average 1,5 hours per day to work in the market and 0,3 hours to help relatives, friends or neighbours, he or she spends 0,5 hours to look after grandchildren (Croda & Gonzalez-Chapela 2005). This may reflect the willingness of grandparents to help their children and participate in the lives of their grandchildren, as well as the preference among some parents for this type of care. Some parents prefer to rely on grandparents for childcare because they perceive them as the most trustworthy, providing a safe and emotionally nurturing environment that benefits their children. Some parents choose grandparental childcare because it is the most convenient. For others, however, using grandparental childcare may represent the only affordable and/or available option given its flexibility (Guzman 2004; Wheelock & Jones 2002; Fergusson et al. 2008).

In social contexts where the provision of publicly subsidized, formal childcare is limited, the preparedness of grandparents to step in may be an important factor in the fertility decisions made by working women, as well as in the decision about labour force participation of young mothers. In turn, the preparedness of grandparents to provide childcare on a regular basis is a function of their own labour force participation. In countries where grandparents, more particularly grandmothers, are mostly not in paid employment, the rates of regular grandchild care are higher. Also, if alternative childcare providers are less available in a country, grandchild care is more widespread (Attia-Donfut, Ogg and Wolff 2005). In some countries, the role of grandparents in childcare is even stimulated by the government, for example by opening up parental leave entitlements to grandparents (as in the case of Bulgaria and Hungary, Saraceno 2011: 80).

Grandmothers more often care for their grandchildren than grandfathers do. Data from the 2004/05 Survey of Health, Ageing and Retirement in Europe show that 49% of Western European grandfathers and 58% of grandmothers with grandchildren aged 15 or younger, provide some kind of care for a grandchild. Around 30% do so almost weekly or more often (Hank & Buber 2007).

So, many grandparents seem to be prepared to take care of their grandchildren, especially if needed because of the lack of other forms of childcare, and depending on their own availability. If routes of early retirement are present, grandchild care may therefore be a motivation for grandparents to retire earlier. Given that grandmother more often provide childcare than grandfathers, reflecting the gender pattern also common among parents, it may be expected that the effect of becoming a grandparent on retirement, if any, is stronger for women than for men. In addition, there is evidence that people who become a grandparent at an early age, tend to feel older than peers of the same age who don't have any grandchildren yet (Kaufman and Elder 2003). Such feeling may provide an additional stimulus for early retirement.

Our research questions may be summarized as follows. First, does becoming a grandparent speed up retirement, i.e. does the rate of retirement before reaching the standard age increase upon becoming a grandparent? Second, is the effect of grandparenthood on early retirement, if there is any, stronger for women than for

men? Third, is the effect of grandparenthood, if there is any, on early retirement stronger in countries where the family is supposed to be the provider of childcare and where formal childcare facilities are highly developed?

## **DATA AND METHODS**

We use micro-data from the 3rd round of the European Social Survey (ESS3) to try to answer these questions. Our motivation to use this database is threefold. First, this round asked respondents both about the year of retirement, if retired already, as well as about the year when their first grandchildren were born, if any. This retrospective information allows event history analysis taking the chronology into account, which is better suited for the identification of cause and effect (Blossfeld and Rohwer 1995). Second, the ESS3 does cover a wide range of European countries, from North to South as well as from East to West. This represents an added value for the literature since earlier research has tended to neglect post-communist countries in the Eastern part of Europe. Third, the data quality of the ESS3 is recognized to be high, as the international ESS team is very keen on monitoring standard procedures of sampling, minimizing non-response, and data cleaning (Jowell et al. 2007; Stoop et al. 2010).

Since we are focusing on the effect of becoming a grandparent on retirement, we have selected from the ESS3 only respondents aged 50 years and older who have at least one own child. Also, people who were never active in the paid labour market for more than three months as well as women who declared to be housewives were removed from the sample. We dropped Ukraine and Switzerland from the sample because comparable data on standard pensioning ages were unavailable for these countries. Cyprus was removed from the ESS3 sample because comparable data on level of education were lacking for this country (see ESS3 - 2006 documentation report, item 46). In the end, 11.299 people aged 50 and above were used in the analysis. Figure 2 shows how they are distributed across 22 countries. Table 1 gives basic descriptive statistics.

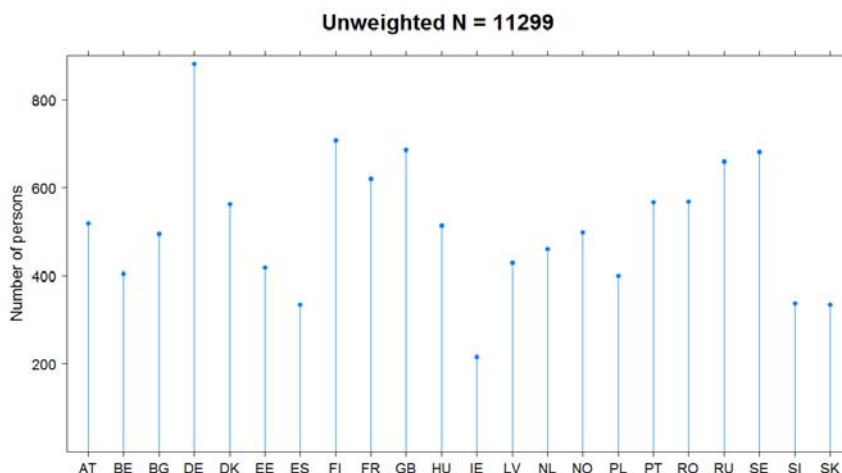


Figure 2. Number of people aged 50 and above selected by country

Source: Third round of the European Social Survey

We employ discrete time event history analysis (Blossfeld & Rohwer 1995; Mills 2011) to investigate the relation between grandparenthood and early retirement, following all people from age 50 onwards until their current age at the time of the survey. First, we will present the results of a purely descriptive life table approach. Next, we turn to multivariate regression analysis. More specifically, we fit multilevel hazard models, using a logistic specification of the rate of entry into retirement, with a random effect added on the country level. For the country level variables, we draw on the Multilinks database on intergenerational policy indicators (Keck, Hessel and Saraceno 2009).

The basic set-up of our models looks like this:

$$\ln \frac{h_{ic}(t, t+1)}{1 - h_{ic}(t, t+1)} = \alpha_t + \beta_{0c} + \beta_1 G_{ict} + \beta_2 X_{ic}$$

where  $h_{ic}$  is the discrete time hazard rate of retirement at age  $t$ ,  $\alpha_t$  is the intercept at age  $t$  (with  $t=0$  corresponding to age 50 in all cases).  $\beta_{0c}$  is the country effect on the rate of retirement, assumed to be a random variable drawn from a normal distribution and with mean and variance to be estimated from the data.  $\beta_2$  is the main parameter of interest, i.e. the effect of being a grandparent on the rate of retirement, with  $G_{ict}$  a time-varying dummy variable indicating for person  $i$  in country  $c$  whether he or she has already become a grandparent at age  $t$ . Finally,  $\beta_2$  represents the effect of the time-constant control variables.

The major drawback about the ESS for the current research is that it is a cross-sectional survey with no retrospective information about health and wealth. Respondents are asked about their current health and wealth, but not about the

situation prior to retirement. As a result, the effects of health related factors and of the financial affordability on the retirement rate cannot be estimated, even if these are well-known determinants of exit from the paid labour market. Yet, to the extent that the correlation between health and wealth on the one hand and the rate of grandparenthood on the other hand is limited, the omission of health and income from the regression analysis will not bias the estimates for the effect of becoming a grandparent.

### DESCRIPTIVE FINDINGS

Figure 3 plots life table discrete time hazard rates along with the implied survivor function for the pooled sample with all countries combined, with separate lines for those who have made the transition to grandparenthood and those who have not yet made the transition. These descriptive data suggest a tendency for people to retire earlier once they have at least one grandchild. The survivor function indicates that, at age 59, 31% of the people who have not yet had any grandchildren were already retired, while this was 43% for people with at least one grandchild. At age 64, 65% of men and women without grandchildren were retired, while this was 73% of the people with at least one grandchild. Inspection of the age-specific hazard function strongly suggests that the difference between grandparents and people without grandchildren is largely made in the peak years of early retirement, i.e. the "round" ages of 55 and 60 years. At other ages, the difference between the two groups is small at most.

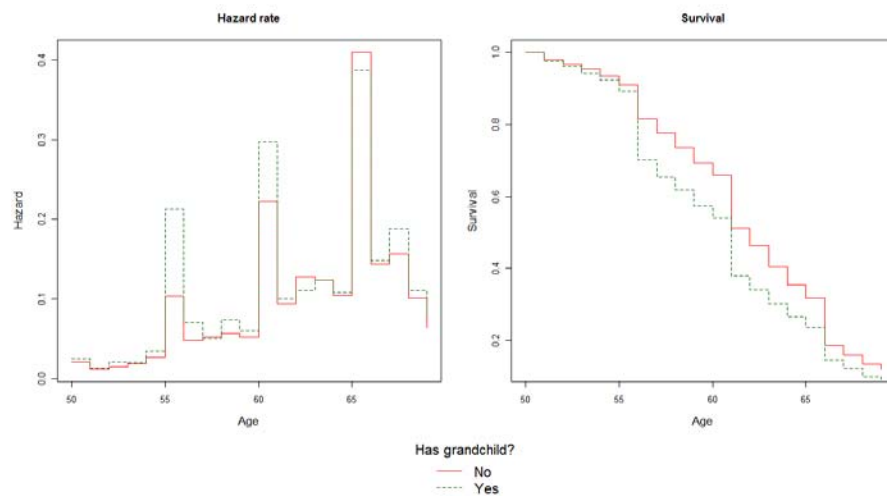


Figure 3. Life table hazard rate and survivor function for entry into retirement, all 22 countries pooled, by grandparenthood status

Source: own calculations based on ESS3

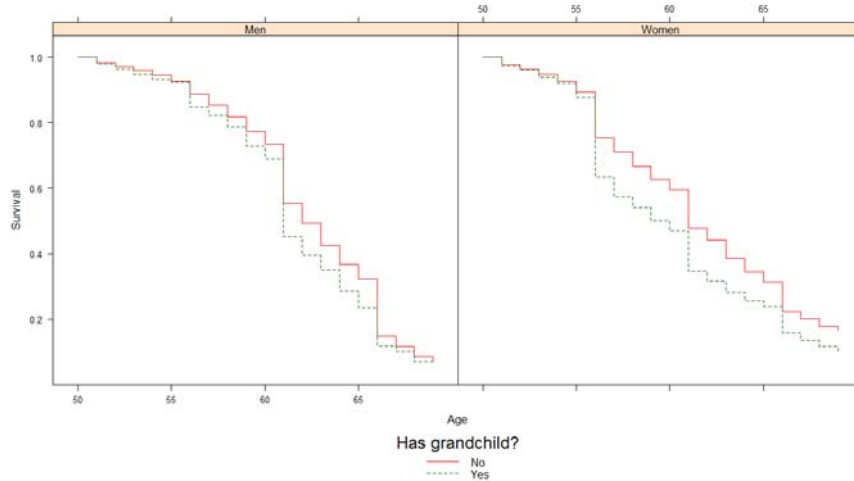


Figure 4. Life table survivor function for entry into retirement, all 22 countries pooled, by gender and grandparenthood status

Source: own calculations based on ESS3

Figure 4 gives the life table survival curves separately for men and women. This plot suggests that the effect of grandparenthood on early retirement was small for men but markedly larger for women, as expected given the greater role played by grandmothers in childcare. In the pooled sample, just over 50% of the grandmothers who were previously active on the labour market are retired before reaching age 60, as compared to 37% of the women without any grandchildren - a difference of 13%. Among men, the difference between grandfathers and men without any grandchildren is much smaller: before reaching age 60, 27% of the grandfathers have retired already, while this is 23% of the men without grandchildren - a difference of 4% only.

Figure 5 plots the survival curves separately for each country. Given the fact that the number of observations in each cell of the plot is limited, the curves are more erratic. Still, the general pattern emerging is that, if anything, entry into retirement is somewhat earlier for those who already have at least one grandchild. This seems to be particularly the case in Austria, Estonia, Hungary, Latvia, Slovenia, and Slovakia. Again, in many cases there is a noticeable jump into retirement by grandparents at the round ages of 55 and 60. In the Scandinavian countries (Norway, Sweden, Denmark), there is no visible effect of grandparenthood on exit from the labour market. Also in Western European countries like the Netherlands, Belgium and France, there is hardly any noticeable difference between the curves for grandparents and those without any grandchildren.

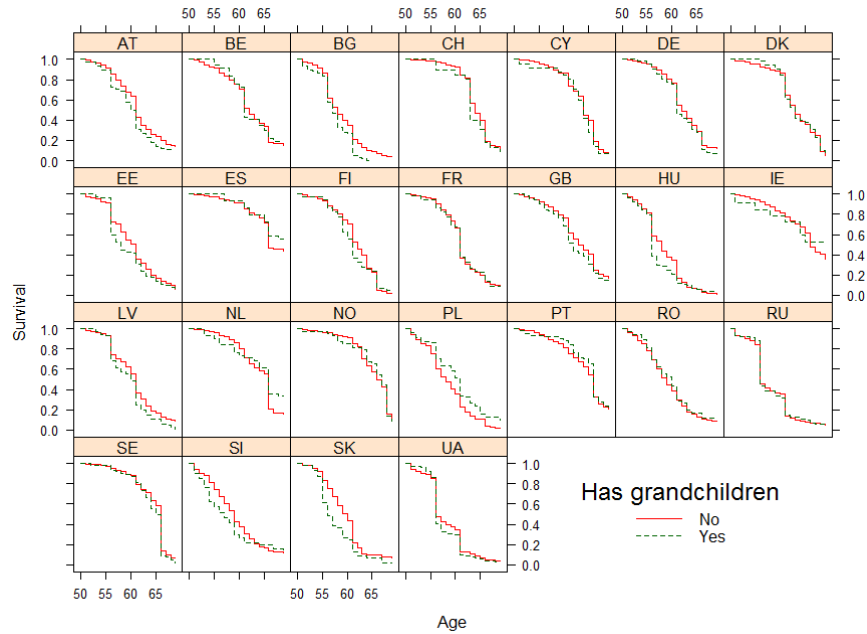


Figure 5 Life table survivor curves for entry into retirement by country and grandparenthood status,

Source: Own calculations based on ESS3.

### REGRESSION ANALYSIS

Table 2 gives the results from the multilevel discrete time hazard models of entry into retirement, with random intercepts on the country level. Model (1) is for all selected respondents aged 50 and above and includes, like all subsequent models, a significantly positive age effect on entry into retirement: the older the people become, the higher the likelihood that they retire this year, if they have not already done so. The estimated effect is monotonous but not linear, given the logistic specification. Adding a second order polynomial effect does not alter the conclusions to be drawn from this model or the subsequent ones.

There is a positive effect of becoming a grandparent on the speed of exit from the labour market before reaching the standard retirement age: once people have at least one grandchild, the likelihood that they retire early increases significantly. The odds of retirement are estimated to increase with 14% upon becoming a grandparent (i.e. the odds ratio associated with the effect of grandparenthood can be calculated  $\exp(0.128) = 1.14$ ). This effect of grandparenthood applies as long as people have not yet reached the standard age of retirement applicable to their gender. If grandparents have not retired before

reaching that age, their odds of subsequent retirement are significantly lower than for peer without grandchildren. Indeed, there is a statistically significant interaction effect between the status of grandparenthood and having reached the standard age: for elderly people without grandchildren, the effect of reaching the standard age on the retirement rate is positive, but this is not the case for grandparents. So, in sum, the overall picture across Europe is that, for grandparents, the highest retirement rates are observed before the standard age, while for people without grandchildren, the highest retirement ages are observed upon reaching the standard age.

Apart from that, there are equally statistically significant, positive effects of having a "round" age on the retirement age: unsurprisingly, people are more likely to retire at ages 55, 60, and 65. The length of the working career also has a statistically significant effect: people who started to work in their first job at a later age, are less likely to retire early. Even after controlling for this variable, the level of education has a statistically significant effect running in the same direction: the higher the level of education, the lower the rate of exit from the labour market. The finding that lower educated people have higher early retirement rates is very robust: it persists in all model specifications. The same holds for the gender difference: men have significantly lower retirement rates than women, even after controlling for whether or not they have reached the standard retirement age applicable in their country and for their gender. This finding is in line with the observed, lower retirement age for women but contradicts the finding reported by Fischer and Souza-Poza (2006) based on the SHARE data.

From the descriptive analysis, it appeared that the jumps towards earlier retirement were particularly made by grandparents at the round ages of 55 and 60 years. Therefore, models (2), (3), and (4) include the interaction between these round ages and grandparenthood, i.e. to check whether these ages of retirement are peaking stronger for grandparents than for the others. In addition, given the expected difference between men and women, confirmed by the descriptive analysis, the models were run separately for women and men.

The results indicate that the effect of grandparenthood on early retirement is limited to the peak ages of 55 and 60 years: after inclusion of their interaction with grandparenthood, the effect of grandparenthood for the other ages vanishes and is no longer statistically significant, for women nor for men. For grandmothers at age 55, the odds of retiring are 67% higher than for women of equal age but without a grandchild (i.e.  $\exp(0.51) = 1.67$ ). At age 60, the odds for grandmothers are estimated to be 35% higher than for peers without a grandchild, all else equal ( $\exp(0.298) = 1.35$ ), but this difference can be considered statistically significant only at the level of  $\alpha=0.10$ .

With men of age 55, the odds ratio for grandfathers as compared to men of equal age without grandchildren is  $\exp(0.396) = 1.49$ , but due to the high standard error, this effect is not statistically significant. Probably, this is due to the low overall frequency of male retirement at age 55. At age 60, the effect of grandparenthood is estimated to be smaller than at age 55, but the standard error

is lower. As a result, the difference in exit rates between grandfathers and men without grandchildren is statistically significant at the level of  $\alpha=0.10$  at age 60: the odds of retirement for the former are estimated to be 34% higher than for the latter. The other effects tend to be similar for men and women and consistent with the findings from model (1).

We also ran a model equal to that first model (1) but with an interaction between gender and grandparenthood added (not shown in the table). The estimates from that model indicated that the positive effect of grandparenthood on early retirement is significant for women but not for men, but that the difference between men and women as such is statistically not significant, not even at the level of  $\alpha=0.10$ .

A drawback of ESS3 is that it does not include retrospective information about health and wealth, while we know that these factors play an important role at the time when the decision to retire or not is made. This will not invalidate the estimated effect of becoming a grandparent to the extent that grandparenthood is not strongly correlated with health and wealth. Still, as a further robustness check for the effect of grandparenthood, we estimated model (4), using data only from respondents who declared (a) that their health generally was fair, good, or very good; and that they could cope, or even live comfortably, from their current income. Both subjective indicators refer to the situation at the time of the interview rather than at the time of the retirement decision. Therefore, it is not a good idea to include them as covariates in the models: the income situation will at least partly be determined by the retirement decision (i.e. our dependent variable), and since health declines with age, even if the current health situation of, say, a 80 year old women is bad, this will often not have been the case at age 55, when she was considering early retirement. Therefore, we reasoned the other way around: since income goes down upon retirement and since health problems become more frequent with age, then if we select only the ones who still feel healthy and wealthy, then their health and wealth situation at a younger than the current age will also have been relatively good.

In sum, in model (4), we have tried to keep health and wealth constant at a positive value as good as we could with the available data, and then re-estimated the model. The results confirm our earlier conclusion about the positive effect of grandparenthood, but only at the round age of 55 years. At this age, the effect of becoming a grandparent on the rate of exit from the labour force is estimated to be stronger than in the earlier models, even than in the women model (2). Grandparents who currently feel to be in good health and who declare to have no serious financial worries are estimated to be 124% more likely to retire at age 55 ( $\exp(0.804)=2.24$ ).

The models discussed so far estimate one overall effect of grandparenthood, i.e. for all countries combined. Yet, we expect that the effect of grandparenthood on the timing of retirement will vary by country. Therefore, model (5) in Table 3 includes random slopes for grandparenthood: the model explicitly includes a parameter accounting for country-level variety in the effect of having grandchildren.

The inclusion of country level variability in the effect of grandparenthood still leaves a strong overall average effect of grandparenthood on early retirement, but it is again limited to the "round" retirement ages of 55 and 60 years. On average across countries, we estimate the likelihood of entry into retirement for a 55 year old grandparent to be 88% stronger than for a 55 year old without any grandchildren. The other fixed effects in model (5) are consistent with our earlier estimates.

Figure 6 plots the best linear unbiased predictors (BLUPs) for the country effect (empirical bayes estimates). Consistent with evidence from other sources, retirement is earlier than average in the post-communist countries Poland, Bulgaria, Hungary, Slovenia, Russia, Romania, and Slovakia. Retirement is late in Denmark, the Netherland, Spain, and especially in Portugal, Sweden, Norway, Great Britain and Ireland. The large prediction intervals around the BLUPs for the country-specific deviation from the average slope for grandparenthood indicate large uncertainty about how things are exactly in each country. In some countries, the effect of grandparenthood is clearly smaller than average: in Poland, Slovenia, and Romania. In many countries, the point estimate for the country difference is positive but, usually, uncertainty about the exact value is too large to allow much interpretation.

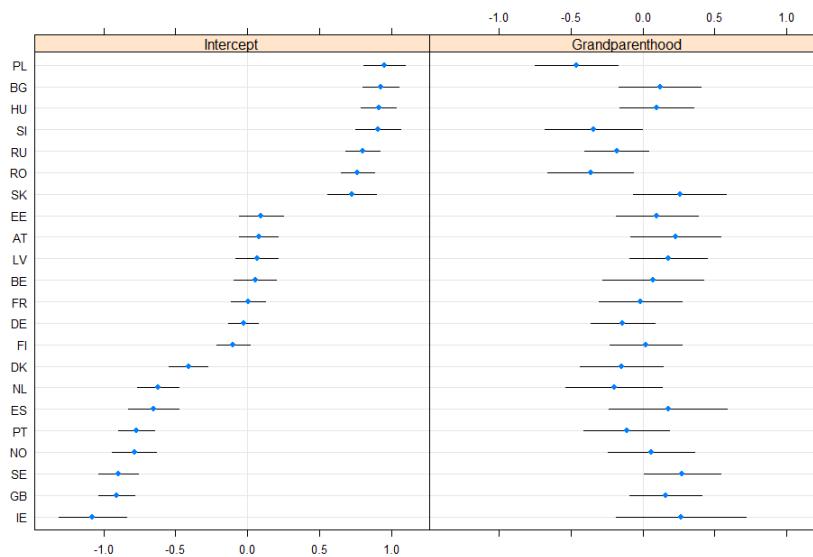


Figure 6 Random country effects (BLUPs): intercept and slopes for grandparenthood (model 5)

Source: Own calculations based on ESS3

Finally, model (6) includes childcare coverage rates as a country level variable. The coverage rate included is the average of the rate for 0 to 2 and the rate for 3 to 5 year olds, as reported in the Multilinks policy database (Keck, Hessel and Saraceno 2009). They are on a per cent scale and refer to the situation around the year 2004 but are used here as a proxy for the situation around the time when retirement decisions were made - so we work on the assumption that countries with relatively high rates in 2004 tended to have relatively high rates in other years as well.

The results indicate that people aged 50 and more tend to retire later in countries with higher childcare coverage rates: a 10% increase in formal childcare coverage is associated with a decrease in the retirement rate of about 23%. Yet, the parameter for the interaction with the status indicator for grandparenthood is very small and not significant, indicating that the effect of childcare coverage is not typical for those who have already become a grandparent.

## **CONCLUSION**

In the past years, the timing of retirement has become a very important policy topic in the context of ageing Europe. Yet, international research about the determinants of early retirement based on appropriate micro-data is scarce. In addition, it has tended to look at the retiring population in a one-sided way, ignoring the intergenerational ties that may play a role in the retirement decision. This paper has used a high quality international database with relevant micro-data, covering 22 countries from all regions of Europe, to try to start correcting such a view. Indeed, we have argued that having grandchildren may be one motivation for older people to retire earlier than at the standard age. It is a well-known fact that many grandparents, to varying degrees in different parts of Europe, provide unpaid services to young fathers and mothers. This fact is largely neglected in the debate about retirement and pensions. Still, the services provided by early retirees in good health represent a very important condition for the labour market participation of many parents, more specifically of many young mothers. Especially in countries and regions where public involvement in childcare provision is very limited, and where childcare is considered to be the duty of the family (see Saraceno 2011), the role of grandparents may be crucial. Labour market participation by grandparents may hinder their involvement in childcare, and this may, conversely, stimulate people who have become a grandparent to retire earlier than otherwise would have been the case.

We used the third round of the European Social Survey to estimate the effect of becoming a grandparent on the timing of retirement. Our results generally reveal that grandparenthood tends to stimulate earlier retirement. Typically, grandparents, if they retire early, exit the labour market at the round ages of 55 and 60 years. The effects are stronger for women than for men, and they also hold when we limit the analysis to people with at least fair health and wealth conditions.

In line with previous research, retirement tends to be clearly earlier in the post-communist countries of Eastern Europe and later in the Scandinavian countries as well as Great Britain and Ireland. The country differences in the effect of grandparenthood on the timing of retirement, however, are much less clear. The availability of formal childcare provision does play a role: in countries with higher childcare coverage rates, retirement tends to be later. However, this effect is not specific to people who have already become a grandparent. Therefore, it remains uncertain whether it picks up the pathway that we had in mind here, namely the trade-off between retiring early by grandparents in regions where public childcare provision is low on the one hand, and the later retiring by grandparents in regions with abundant public childcare. Yet, we think our results are clear enough to stimulate further research about the connection between becoming a grandparent and the retirement decision in Europe.

A clear drawback of the data used in this paper is that they do not allow for proper controls for the health and income situation just before exit from the labour market. Maybe this can to some extent explain that we do not replicate the effects of gender and of level of education reported by Fischer & Sousa-Poza (2006) based on the SHARE data. Another explanation for the difference with the findings based on SHARE is that the ESS does include the post-communist countries from Eastern Europe.

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*Table 1*      *Descriptive statistics for the sample used*

<i>Periods</i>	<i>Mean</i>	<i>S.D.</i>	<i>N</i>	<i>%</i>
Current age	64.8	20.1	11299	
Age at first job	18.8	6.1	11299	
Gender				
- male			5635	49.9
- female			5664	50.1
Level of education				
- low			5014	44.4
- medium			3983	35.2
- high			2302	20.4
Total			11299	100.0

*Source:* own calculations based on ESS3.

Table 2 *Multilevel discrete time logistic hazard models of entry into retirement: (1) all people aged 50 and more, (2) women versus (3) men, and (4) those who state to have at least a fair health and not finding it difficult to cope on present income*

	(1) All			(2) Women			(3) Men			(4) Fair health and income		
	b	s.e.	p	b	s.e.	p	b	s.e.	p	b	s.e.	p
intercept	-3.374	0.154	0.000 ***	-3.445	0.197	0.000 ***	-3.855	0.150	0.000 ***	-3.478	0.156	0.000 ***
Age - 50	0.166	0.004	0.000 ***	0.159	0.006	0.000 ***	0.191	0.006	0.000 ***	0.169	0.005	0.000 ***
Grandparent? (ref = no)	0.128	0.046	0.005 **	0.007	0.071	0.922	-0.004	0.087	0.963	0.075	0.078	0.339
Age=55	1.075	0.041	0.000 ***	1.379	0.057	0.000 ***	0.274	0.087	0.002 **	0.565	0.069	0.000 ***
... x Grandparent				0.510	0.127	0.000 ***	0.396	0.248	0.110	0.804	0.173	0.000 ***
Age=60	1.527	0.041	0.000 ***	1.539	0.071	0.000 ***	1.435	0.058	0.000 ***	1.500	0.053	0.000 ***
... x Grandparent				0.298	0.153	0.052 °	0.296	0.165	0.073 °	0.042	0.155	0.788
Age=65	1.838	0.069	0.000 ***	1.875	0.102	0.000 ***	1.888	0.095	0.000 ***	1.890	0.082	0.000 ***
Age when starting first job	-0.026	0.002	0.000 ***	-0.024	0.003	0.000 ***	-0.024	0.004	0.000 ***	-0.027	0.003	0.000 ***
Standard retirement age reached	0.463	0.055	0.000 ***	0.479	0.077	0.000 ***	0.180	0.087	0.038 *	0.372	0.071	0.000 ***
... x Grandparent	-0.519	0.086	0.000 ***	-0.513	0.111	0.000 ***	-0.272	0.149	0.069 °	-0.344	0.126	0.006 **
Level of education (ref=low)												
- medium	-0.193	0.034	0.000 ***	-0.194	0.047	0.000 ***	-0.218	0.050	0.000 ***	-0.186	0.046	0.000 ***
- high	-0.368	0.043	0.000 ***	-0.434	0.063	0.000 ***	-0.390	0.061	0.000 ***	-0.294	0.052	0.000 ***
Gender = male (ref=female)	-0.371	0.029	0.000 ***							-0.225	0.038	0.000 ***
Variance of country effect	0.450			0.740			0.315			0.407		
N person years	98806			46365			52441			67242		
N countries	22			22			22			22		

Source: own calculations based on ESS3

Table 3 Multilevel discrete time logistic hazard models of entry into retirement, people aged 50 and more, with (5) random slopes for grandparenthood on the country level plus (6) fixed effect of formal childcare coverage \*

	Model (5)				Model (6)			
	b	s.e.	p		b	s.e.	p	
Intercept	-3.367	0.157	0.000	***	-2.045	0.604	0.001	***
Age - 50	0.168	0.004	0.000	***	0.169	0.004	0.000	***
Grandparent? (ref = no)	-0.016	0.081	0.843		-0.139	0.311	0.654	
Age=55	0.976	0.046	0.000	***	1.020	0.047	0.000	***
... x Grandparent	0.634	0.109	0.000	***	0.621	0.111	0.000	***
Age=60	1.488	0.045	0.000	***	1.521	0.046	0.000	***
... x Grandparent	0.254	0.111	0.022	*	0.224	0.113	0.048	*
Age=65	1.838	0.069	0.000	***	1.815	0.070	0.000	***
Age when starting first job	-0.026	0.002	0.000	***	-0.026	0.003	0.000	***
Standard retirement age reached	0.441	0.056	0.000	***	0.523	0.058	0.000	***
... x Grandparent	-0.399	0.093	0.000	***	-0.425	0.095	0.000	***
Medium education	-0.190	0.034	0.000	***	-0.205	0.036	0.000	***
High education	-0.363	0.043	0.000	***	-0.352	0.045	0.000	***
Gender = male (ref=female)	-0.374	0.029	0.000	***	-0.369	0.030	0.000	***
COUNTRY CHARACTERISTICS								
Childcare coverage rate 0-5					-0.026	0.011	0.017	*
... x Grandparent					0.003	0.006	0.614	
Variance of country effect								
- intercept	0.470				0.3692			
- slope for Grandparent	0.262				0.2476			
N person years	98806				94648			
N countries	22				21			

Source: own calculations based on ESS3

Note:

\* Childcare coverage is the mean of the coverage rates for 0 to 2 year olds and the rates for the 3 to 5 year olds around the year 2004; both rates taken from the Multilinks database (Keck, Hessel, and Saraceno 2009)