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Are Retirement Norms Changing? – Cross-National Evidence from the European Social Survey

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This study is the first to investigate whether and how retirement norms have changed. A so-called happiness approach is followed, which involves comparing the happiness of retirees to the happiness of workers aged 60 to 70 years for 15 European countries. Retirement norms are expected to moderate the happiness effect of being retired or not, meaning that the difference in happiness between retirees and older workers depends on the retirement rate, which is used as proxy for the social norm. It was expected that (i) the happiness effect of retirement vis-à-vis employment has been decreasing over time and that (ii) the happiness effect of retirement vis-à-vis employment decreases, as the retirement rate decreases. Results do not render support for either hypothesis. Instead, results suggest that retirees value their spare time and freedom even more, when more of their peers are still working. Two important questions arise from these unexpected results: (i) What is the right way to measure social norms? And (ii) Does deviation from a social norm always result in disutility? Future research has to learn us more about social norms, in order to be able to predict the participation effects of pension reforms properly.

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CONTENTS

1. INTRODUCTION

Until the mid-1990s, participation rates of older workers were decreasing in many countries worldwide (Friedberg, 2007; García-Gómez, Jimenez-Martin, & Vall Castelló, 2018; van Dam, van der Vorst, & van der Heijden, 2009). Many European countries were characterized by an 'early retirement culture': retiring before the official retirement age was common for most older employees in the industrialized countries (Van Dalen & Henkens, 2002; van Dam et al., 2009). In other words, early retirement was the norm (van Erp, Vermeer, & van Vuuren, 2014). However, after the mid-1990s, there was a reversal in the long run decreasing trend: participation rates of older workers were rising again (Friedberg, 2007; García-Gómez et al., 2018; Gendell, 2008). The norm of early retirement seemed to disappear (van Erp et al., 2014). The goal of this study is to investigate whether the norms regarding to retirement indeed have changed. This is important to know, because rising elderly participation rates will increase the ability to finance the welfare state in the future. The financial sustainability of the pension system is, namely, at stake due to the consequences of ageing (OECD, 2005). As Figure 1 shows, the age group 60 to 70 is increasing over time. Especially the people of this age group have to deal with the decision to retire or not.

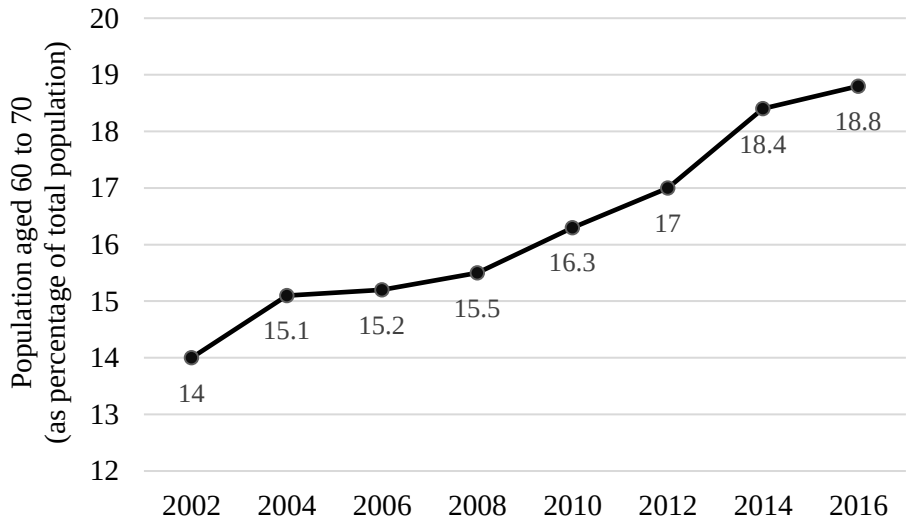

FIGURE 1. PEOPLE AGED 60 TO 70 AS PERCENTAGE OF TOTAL POPULATION

Notes: Numbers are calculated from the dataset retrieved from the ESS. The graph shows the age group 60 to 70 as percentage of the total population. Percentages are calculated for each ESS round and calculated as mean of the fifteen countries considered in this research.

The long-run early retirement trend was considered somewhat enigmatic, when taking into account that most jobs were becoming less physically demanding and that both the life expectancy and health of people was increasing (Friedberg, 2007). (Overly) generous early retirement schemes were argued to be important drivers of this decreasing trend in retirement age (see e.g. Van Dalen & Henkens, 2002). While these schemes were regarded as a blessing at the beginning because they helped to mitigate the amount of youth unemployment by enticing older workers from the labour market, later the early retirement schemes were considered as a policy hazard (Friedberg, 2007; Van Dalen & Henkens, 2002; van Dam et al., 2009). The early retirement trend increased the dependency on the younger generations and social security, which were already under great pressure because of both the increasing amount of older people, namely the 'baby boom generation', and the relatively decreasing younger generation. So, the policy makers had to change their goal. Instead of luring older employees from the labour market, policy makers implemented several reforms in order to stimulate the employment under older workers (Radl, 2012; Van Dalen & Henkens, 2002; van Dam et al., 2009; van Erp et al., 2014). Several studies acknowledge the important roles of the social security system and pension regulations in the retirement decisions of older workers, but economists and demographers face a puzzle: the participation rate of elderly was already increasing before policy makers had implemented their reforms (García-Gómez et al., 2018; Van Dalen & Henkens, 2002). So, there are apparently other factors which also influence the retirement decisions of older workers. Social norms are suggested to be one of these factors (Van Dalen & Henkens, 2002; van Dam et al., 2009).

As Clark (2003) describes: 'Economic models of social norms have generated a great deal of interest over the past 20 years and are often used to rationalize behaviors that seem difficult to explain with standard economic tools' (p. 324). Similarly, van Erp et al. (2014) state that the traditional neoclassical life cycle models cannot fully explain the retirement decisions of older workers and suggested two explanations for the deviations from the neoclassical model, namely, (i) bounded rationality and (ii) social norms. The evolution of social norms is argued to depend on behaviour of related people (Clark, 2003). Especially when considering retirement, social norms are expected to have a significant impact because of two reasons. First, because the decision about the perfect retirement age

is a complex process. Uncertainty makes the related costs and benefits of retirement for individuals hard to predict. Because of this, social norms and common retirement transition patterns have a great influence on the retirement decision (Radl, 2012). Second, since people only retire once in their life, they cannot learn from their own decisions. Therefore, older workers are interested in and want to learn from the experiences of others (van Erp et al., 2014).

So, several studies have emphasized the importance of social norms in the retirement decision process of older workers, and it is also suggested that the norms are changing (van Erp et al., 2014). However, to my best knowledge, no study has investigated yet whether the social norm is indeed changing. This is important to know for policy makers, because norms might influence the efficiency of policies which try to increase the participation rate of older workers (Radl, 2012). If the social norm is indeed changing from early retirement to working longer, those implemented policies might have much bigger participation effects now than they would have had in the 1990s (van Erp et al., 2014).

Due to the policy reforms, early retirement might be less attractive. Older people profit from several benefits if they keep working. First of all economic rewards, but also social contact, structure of time, status and being useful might increase their self-confidence (Feldman & Beehr, 2011). In the contrary, retirement also has positive implications for elderly. Retirees are able to spend more time with their friends and family, have lower stress and have more time for leisure and hobbies (Feldman & Beehr, 2011). The literature is inconsistent about the happiness effect of retirement (Dingemans & Henkens, 2014). Both negative and positive significant results have been found, but also insignificant results (van Solinge, 2013). In contrast to the happiness effect of retirement, the literature is consistent about the consequences of deviation from the norm. Norm deviation is argued to deliver disutility (Lindbeck, Nyberg, & Weibull, 1999). Well-being measures, such as happiness, can be used as proxy for utility (Clark, 2003). The retirement rate is used as proxy for the social norm. The happiness of retirees is compared to the happiness of older employees, and the influence of the retirement rate on this difference is studied by means of a repeated cross sectional analysis. Data is retrieved from the European Social Survey (ESS). People aged 60 to 70 years in fifteen European counties have been considered. The time period considered is from 2002 to 2016.

In all models retirees were found to be happier than their peers who were still working. First, it was expected that the happiness effect of retirement would decrease over time. However, no significant results for this hypothesis have been found. Only one robustness check, in which the sample was extended to people aged 55 to 70 years, showed a significant decrease in the happiness of retirees compared to older workers over time. Second, it was expected that when the retirement is lower, retirees would be relatively less happy, because they deviate from the norm. However, neither the baseline analysis nor the robustness checks supported this hypothesis. The opposite was found: retirees were even happier, compared to older workers, when the retirement rate was lower. So, it seems to be the case that retirees value their spare time and freedom even more, when more of their peers are still working. Perhaps deviation from a norm is not always accompanied with disutility.

The remainder of this thesis is organized as follows. Chapter 2 presents an overview of the existing literature related to happiness, retirement and social norms. The third chapter discusses the data and methodology. Subsequently, Chapter 4 presents the results of this study. Finally, Chapter 5 contains the discussion and Chapter 6 concludes.

2. BACKGROUND AND HYPOTHESES DEVELOPMENT

This chapter discusses the literature related to retirement, social norms and happiness. First, the behaviour of elderly concerning their decision to retire or keep working is discussed. Second, Section 2 describes the economics of (early) retirement. Third, Section 3 discusses the role of the social norm and subsequently, Section 4 shows how these topics are related to happiness. Finally, Section 5 presents the hypotheses.

2.1. Retirement and Labour Force Participation Rate of Elderly

Until the mid-1990s, countries worldwide were characterized by a long-run decreasing trend of the participation rates of the elderly (Friedberg, 2007; García-Gómez et al., 2018; van Dam et al., 2009). Retiring before the official retirement age was very popular in the industrialized countries (Van Dalen & Henkens, 2002; van Dam et al., 2009). The growth of early retirement varied between countries, probably because of differences in the pension regulations (van Dam et al., 2009). However, at that time practically all pension schemes were encouraging early retirement (Brugiavini, 2001; Van Dalen & Henkens, 2002; van Dam et al., 2009). The pension regulations made it for older workers financially unattractive to continue working (Van Dalen & Henkens, 2002). Special schemes were developed to stimulate early withdrawal of the labour force (Brugiavini, 2001). Replacement rates were very generous and increasing over time. Both the government and the firms supported those early retirement schemes because of two reasons: the high amount of youth unemployment and the relatively high labour costs of older workers (Brugiavini, 2001; Van Dalen & Henkens, 2002; van Dam et al., 2009). As Dalen & Henkens (p. 210) clearly describe: ‘With one stroke of the pen, youth unemployment could be reduced, older workers were offered an easy exit route, and the financial position of firms could be improved, as expensive seniors were substituted by cheap youngsters and the bill for early retirement was shifted to collectively-financed early-retirement schemes’.

However, as Figure 2 shows, after the mid-1990s there was a reversal in the long run decreasing trend. Participation rates of elderly were increasing again (Friedberg, 2007; Gendell, 2008; Verkooijen, 2017). This reversal in the trend was in accordance with the new policy objective of the governments.

While first early-retirement was encouraged, the objective later changed to increasing the participation rates of elderly. The early retirement schemes were, namely, now considered as a policy hazard, instead of a blessing (Friedberg, 2007; Van Dalen & Henkens, 2002; van Dam et al., 2009). The financial sustainability of the pension system was already at stake, due to the consequences of ageing (OECD, 2005). Moreover, the early retirement trend further increased the dependency on the younger generations and social security, due to (i) the increasing group of retirees, namely the 'baby boom generation', who are also expected to live longer and (ii) a decreasing younger population. Several reforms of the pension system have been implemented in order to increase the participation rates among elderly, think of (i) increasing the pension eligibility age, (ii) extra rewards for continuing work, (iii) new ways to calculate benefits, (iv) adjusting the valorisation of previous incomes, (v) linking pensions to the increasing life expectancy, (vi) implementing defined-contribution plans and (vii) new ways of indexing pensions (OECD, 2007). The process of those reforms of the pension systems can be described more as an evolution, than a revolution (OECD, 2009). For example, one of the most popular reforms, the increase of the pension eligibility age, is often implemented stepwise, sometimes adjusted again during the process of implementation and in some countries linked to the increased life expectancy (Radl, 2012; Verkooijen, 2017). Moreover, several countries have tried to decrease the intergenerational solidarity related to the old early retirement schemes by moving away from the pay-as-you-go financing method and increasing individual responsibility (OECD, 2011, 2013; Van Dalen & Henkens, 2002). So, several reforms have been implemented over time in order to stimulate the labour participation among elderly. Most studies acknowledge the important role of the social security system in the retirement decisions of older workers, but economists and demographers face a puzzle: the participation rate of elderly was already increasing before policy makers had implemented their reforms (García-Gómez et al., 2018; Van Dalen & Henkens, 2002). Not only financial (dis)incentives, but also other factors seem to play a role in the retirement decisions of elderly (Friedberg, 2007; García-Gómez et al., 2018; Van Dalen & Henkens, 2002; van Dam et al., 2009; van Erp et al., 2014).

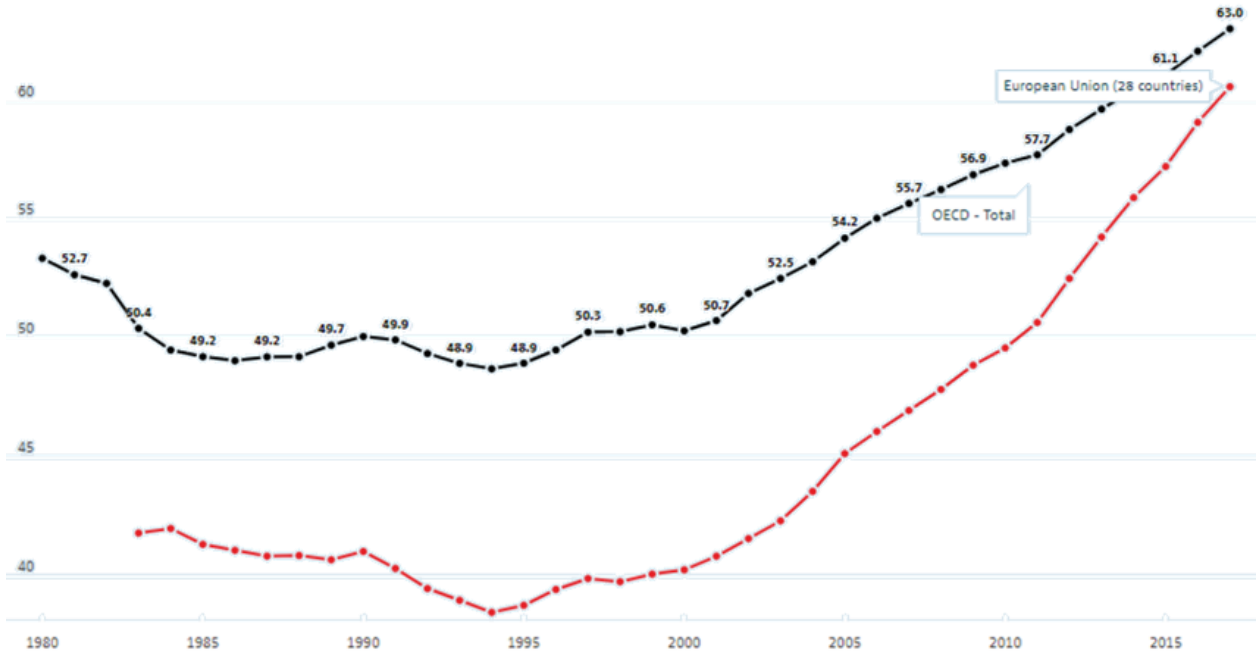

FIGURE 2. LABOUR FORCE PARTICIPATION RATE 55-64 YEARS

Notes: This graph is retrieved from the OECD (2019). The graph shows the participation rate of people aged 55 to 64 for the period 1980 to 2017. The participation rate is calculated as percentage of the same age group. The upper line reflects the average participation rate for the OECD countries and the bottom line the average participation rate of the European Union.

2.2. The Economics of (Early) Retirement

Work plays an important role in most people's life and is therefore assumed to affect the happiness of people. Working can generate stress, which has several negative consequences for the physical and mental health of people (Franklin-Johnson & Richomme-Huet, 2012). So, work can lower people's well-being. However, there are several reasons for older workers to keep working instead of to retire. First of all, people might keep working because of financial reasons, but people derive also other benefits from work. Working gives people a meaning in life, it gives them status and can increase their self-esteem (Feldman & Beehr, 2011; Franklin-Johnson & Richomme-Huet, 2012). Moreover, working gives people structure, social contact and helps them to stay healthy and active (Feldman & Beehr, 2011; Franklin-Johnson & Richomme-Huet, 2012). When people stop working and are going to retire, they experience a major economic, social, and psychological break with the way of living they were used to (Calvo, Haverstick, & Sass, 2009). This is reflected in lower income, reduced self-esteem, missing routine in life and loss of social contacts (Quine, Wells, De Vaus, & Kendig, 2007). In the contrary, Quine et al.

(2007) state that retirement lowers the stress of people and that retirement gives them more freedom, and flexibility. Due to this, retirees have more time to spend with their friends and family and more time to spend in hobbies (Feldman & Beehr, 2011). So, both working and retirement are associated with benefits as well as costs. Unfortunately, the retirement decision is not a simple cost-benefit calculation. Uncertainty is the main reason for this: it is hard for people to estimate the costs and benefits related to retirement (Radl, 2012).

One needs an interdisciplinary approach to fully understand the retirement decision (van Erp et al., 2014). Several theories try to explain the retirement decision. Feldman and Behr (2011) provide an extensive overview of the most prominent theories and describe how these theories explain the three different phases of the retirement decision, namely, (i) considering retirement, (ii) determining the retirement age and (iii) arranging the retirement. Table 1 provides an overview of the different theories and their main points. However, none of these theories consider the possible effects of bounded rationality. This while the financial literacy, the capability of individuals to understand the pension scheme and the effects of their pension plan, varies highly between individuals. Bounded rationality can play a role in the retirement decision through, at least, two ways (van Erp et al., 2014). First, behaviour of people is often influenced by the presence of default options, such as the official retirement age. Second, people are tended to stick to their original retirement plan, because of loss aversion. In addition, Van Erp et al. (2014) emphasize the importance of social norms. The next subsection elaborates on the role of social norms.

TABLE 1. THEORIES CONCERNING THE THREE PHASES OF RETIREMENT

Theory	**Key Aspects**
Phase 1: Considering Retirement	
Individual Differences	• The focus is on the role of personality. • Individual characteristics influence the possibility of retirement. Think of: optimism, wealth, health, risk version, age and self-esteem.

Image Theory & Continuity Theory	• Image Theory and Continuity Theory are quite similar. Both state that an individual tries to pursue positive self-images through life. • If retirement is not able to pursue these positive self-images, older workers are less likely to retire.
Social Identity Theory	• People's self-image is among others determined by the group they identify themselves with. • If older workers have negative perceptions about retirees as a group, they are less likely to retire early.
Phase 2: Determining the Retirement Age	
Stage Theories	• Retirement is seen as normal and as the last stage of someone's career. • A descriptive theory. Does not predict the retirement age.
Social Normative Theories	• Norms about the 'right' retirement age influence people's decision about when to retire.
Disengagement Theory	• Rather pessimistic view towards retirement. • People lose their place in society when they retire.
Approach-avoidance Motivation Theory	• Two types of motivation: approach motivation and avoidance motivation. • People with approach motivation are relatively optimistic and more likely to continue working. People with avoidance motivation are relatively pessimistic and more likely to retire.
Person-environment Fit Theory	• The degree of fit between older workers' capabilities and their job responsibilities plays an important role in the determination of their retirement age. • The degree of fit might decrease due to declines in health, and cognitive processing.
Phase 3: Arranging the Retirement	
Economic Theories	• Independently from older worker's wishes, they can only retire when this is financially possible. • Economic theories describe the importance of (i) expected future earnings during retirement, (ii) macro-economic

	conditions, such as: the real estate values, the inflation rate, and the interest rate, (iii) bridge employment and (iv) the health care costs.
Motivation Theories	• People compare the motivational force of retirement and work. The motivational force is determined by the instrumentality and value of the benefits derived from working or retiring. • If work fulfills more important needs than retirement, elderly will continue working.

Note: The information is retrieved from, and the categorization is based on the study of Feldman, and Behr (2011).

2.3. Social Norms and Economic Decisions

A commonly used definition of the social norm is the one provided by Fehr and Gächter (2000): 'It is: 1) a behavioral regularity; that is 2) based on a socially shared belief of how one ought to behave; which triggers 3) the enforcement of the prescribed behavior by informal social sanctions' (p. 166). The role of social norms have long been neglected in economics (Stutzer & Lalive, 2004), but eventually received a lot of attention of economists (Clark, 2003). Social norms are found to help explain social phenomena that cannot be explained by regular economic variables alone (Clark, 2003; Stutzer & Lalive, 2004). Moreover, Stutzer and Lalive (2004) argue that social norms particularly influence behaviour that involves externalities.

Social norms are believed to play an important role in the retirement decision, because of its complexity. This is plausible, since it is shown that financial incentives alone cannot explain the retirement age decisions of people (van Erp et al., 2014). Moreover, as van Erp et al. (2014) describe, people only retire once in their life. So, they cannot learn from their own decisions. Therefore, older workers are interested in and want to learn from the experiences of others. An additional reason why social norms are believed to play an important role in the retirement decision of people is because of uncertainty. Uncertainty makes it hard for people to estimate the costs and benefits related to retirement. Because of this, social norms and common retirement transition patterns have a great influence on the retirement decision (Radl, 2012). Social norms play an important role at both the supply and demand

side of the labour market. Older workers look at behaviour of others in order to determine their retirement age (Radl, 2012; van Erp et al., 2014). Similarly, Clark (2003) claimed that the evolution of the social norm can be explained by the behaviour of others. Van Erp et al. (2014) argued that financial illiteracy might even strengthen the influence of the social norm. Although behaviour is commonly used as indicator of the social norm, one might consider another indicator. Next to behaviour, beliefs are also argued to be a good indicator of the social norm (Stutzer & Lalive, 2004). First of all, own beliefs play an important role in the retirement decision. If an employee considers himself old compared to his colleagues, he is more likely to retire (Feldman & Beehr, 2011). Moreover, if an employee's self-image about his added value deteriorates, he is more likely to retire (Barnes-Farrel, 2003). However, beliefs of others may even play a more important role. Subjective norms held by others were, namely, found to be the most important predictors of the retirement age (van Dam et al., 2009). In particular, the subjective norm of the partner was found to have a strong effect on the retirement age decision (van Dam et al., 2009). Finally, negative age stereotypes are believed to increase the willingness to retire (Radl, 2012; van Dam et al., 2009). These negative age stereotypes are an indicator of the social norm at the demand side of the labour market. Employers might stimulate their employees to retire at certain 'norm ages' (van Erp et al., 2014). Generally, two ways employers look at older employees can be distinguished, namely conservation and depreciation (Claes & Heymans, 2008). The former considers older employees as assets and has a positive attitude towards investing in older employees. The latter emphasizes the declined added-value of older workers and has a negative attitude towards investing in those older employees. Several studies have shown negative preconceptions of employers towards older employees. Older workers are believed to be (i) barriers to changes in the organization, (ii) less healthy, (iii) less flexible, (iv) less motivated, (v) less productive and to have (vi) a lower willingness and capability to learn and develop (C.K. Chiu, Chan, Snape, & Redman, 2001; Gray & McGregor, 2003; Lee, Park, & Yang, 2018). As Feldman & Beehr (2011) describe, those negative beliefs can lead to age discrimination against older employees. As a consequence, older employees might be less motivated to continue to work.

2.4. Social Norms, Happiness, and (Early) Retirement

Several studies have stated that social norms differ across countries, regions, industries, and jobs (Feldman & Beehr, 2011; Radl, 2012; van Erp et al., 2014). The effect of social norms are the strongest in small societies in which people know each other well (Stutzer & Lalive, 2004). In addition, the effect of age norms is also argued to depend on social class and gender (Radl, 2012). Moreover, it is stated that social norms change over time and depend on behaviour of others (Clark, 2003). Social norms are also believed to be influenced by the regulatory environment, such as the pension system (Radl, 2012; van Erp et al., 2014). According to van Erp et al. (2014), there is a two way relationship between the regulatory environment and social norms. Pension regulations, such as the official retirement age, are believed to influence norms in the long run, and consequently social norms are argued to deliver feedback effects on implemented policies. It is, therefore, important for policy makers to know whether and how the social norm, with respect to the retirement age, has changed. However, the problem is that social norms are difficult to measure. Both the beliefs and the actual behaviour of people can be used as proxy for the social norm (Clark, 2003; Stutzer & Lalive, 2004). It is stated that a person's utility depends on the social norm (Clark, 2003). Deviation from the social norm is argued to cause disutility (Lindbeck et al., 1999). Not only norms, but also utility is hard to measure directly. Subjective well-being is often used as proxy for utility (Clark, 2003; Stutzer & Lalive, 2004). Questions like 'Taking all things together, how happy would you say you are?' are commonly used as measure for subjective well-being. Most researchers view subjective well-being and happiness as the same (Angner, 2010). Subjective well-being could be seen as the formal, more scientific term for what is meant by happiness (Seligman & Csikszentmihalyi, 2000). Happiness covers different dimensions: 'Happiness, or subjective well-being, is characterized by high levels of life satisfaction (cognitive evaluation) and positive affect and low levels of negative affect' (Franklin-Johnson & Richomme-Huet, 2012, p. 74). Research has shown that happiness yields benefits at both individual and societal level. Individuals who have relatively high levels of happiness are, namely, founded to be (i) more healthy, (ii) better able to react to undesired situations, (iii) better civilians, and to have (iv) more innovation and (v) more valuable relationships (Franklin-Johnson & Richomme-Huet, 2012).

Although some scholars believe that the well-being of people is constant over their life time and that changes only will affect happiness in the short run, others believe that major life changes, such as retirement, will have a long run effect on the well-being of people (Calvo et al., 2009; Dingemans & Henkens, 2014; Gorry, Gorry, & Slavov, 2018). Several studies have investigated the happiness effect of retirement. However, they found inconsistent results. Both significant and insignificant happiness effects of retirement have been found, in both positive and negative directions (van Solinge, 2013). A more recent study of Gorry et al. (2018), however, found a positive, long-run effect of retirement on the happiness of people. Rather similarly, Barret & Kecmanovic (2013) found that, on average, subjective well-being remains constant or increases when people retire. However, the variance in the change of subjective well-being was large across the retirees. This might be the case because of the fact that the happiness effect of retirement is influenced by a lot of factors. First of all, the reason of retirement is found to be a really important predictor of happiness of retirees (Bender, 2004; Calvo et al., 2009; Dingemans & Henkens, 2014; Hershey & Henkens, 2014; Quine et al., 2007; Rohwedder, 2006). Involuntary retirement due to, for example, pressure form the organization significantly lowers happiness of retirees. Twenty to thirty percent of the retirees perceived their retirement as involuntary (Hershey & Henkens, 2014). Health is another factor that significantly influences the happiness of retirees (Barrett & Kecmanovic, 2013; Bender, 2004; Calvo et al., 2009; Rohwedder, 2006; Schmitt, White, Coyle, & Rauschenberger, 1979). Thirdly, social relationships play an important role in explaining the happiness of retirees (Haslam et al., 2018). Older people who were married, had a larger social network or more social engagement, were found to be happier (Bierman, Fazio, & Milkie, 2006; Chan & Lee, 2006; Glass, De Leon, Bassuk, & Berkman, 2006). Similarly, social isolation was found to lower happiness (Rohwedder, 2006). The fourth factor that is argued to influence the happiness of retirees are the kind of activities. Retirees who did relatively a lot of active activities such as volunteering, sporting and socializing were found to be happier than retirees who mainly did passive activities such as watching television (Guo, Cheng, & Gibson, 2019). Finally, gender might explain the differences in the happiness effect of retirement across retirees (Hass, 2007).

After controlling for all these factors, no significant difference in happiness between retirees who retired gradually or cold-turkey was found (Calvo et al., 2009). The same holds for the influence of age (Calvo et al., 2009). However, Barret and Kecmanovic (2013) found that the longer elderly were retired, the happier they were. When considering several cross section and longitudinal studies, Calvo et al. (2009) stated that the influence of absolute income or wealth on the happiness effect of retirement is still inconclusive. In the contrary, a more recent study of Boodoo, Gomez & Gunderson (2014) found that absolute income had a small positive effect on the happiness of retirees. However, they stated that relative income influences the happiness of elderly more than absolute income.

2.5. Hypothesis Development

So, because of the inconsistent results that have been found, it is hard to tell whether retirement increases or decreases happiness (van Solinge, 2013). However, the most recent study of Gorry et al. (2018) found a long run lasting positive effect of retirement on happiness. Since the mid-1990s, the participation rates of elderly have been increasing after a long run decreasing trend. This reversal already started before policy reforms were implemented (García-Gómez et al., 2018; Van Dalen & Henkens, 2002). So, it might be the case that the social norm is changing from early retirement to working longer (van Erp et al., 2014). Deviation from the norm would deliver disutility, for which happiness can be used as proxy (Clark, 2003; Lindbeck et al., 1999; Stutzer & Lalive, 2004; van Erp et al., 2014). Therefore, the hypotheses are:

I. The happiness effect of retirement vis-à-vis employment has been decreasing over time.
II. As the retirement rate decreases, the happiness effect of retirement vis-à-vis employment also decreases.

3. DATA AND METHOD

The goal of this study is to investigate whether retirement norms are changing. Since it is not possible to measure retirement norms directly, a so-called happiness approach is followed. This happiness approach is inspired by the study of Clark (2003). The retirement rate is taken as proxy for the social norm. Deviation from the social norm is believed to cause disutility, for which happiness is used as proxy (Clark, 2003). The happiness of retirees and older employees is compared by means of a repeated cross sectional, multilevel analysis. As already mentioned in Section 2.4, it was expected that when the retirement rate is lower, the happiness of the retirees relative to older employees is lower. First, this chapter describes the data source, sample and variables used. Consequently, Section two presents the empirical model and estimations. Moreover, the robustness checks and extensions are mentioned.

3.1. Data

3.1.1. Main Data Source and Sample

The data used for the analysis is retrieved from the European Social Survey or the ESS (2018). Every two years, the ESS gathers cross-national data from a new, randomly selected sample. So, the data retrieved of the ESS is not 'true' penal data, but repeated cross-sectional data. Data is retrieved from the cumulative data wizard for the waves 1 to 8 which cover the years 2002, 2004, 2006, 2008, 2010, 2012, 2014 and 2016. Only countries who had data for all eight waves have been included, namely: Belgium, Finland, France, Germany, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom. Moreover, this research is focused on individuals aged 60 to 70 years, who either work or are retired. So, people who are for example in military service or permanently sick are excluded from the dataset. The same holds for the respondents who had missing data for the dependent variable. Finally, this resulted in a sample of 30,500 respondents.

As extension, the baseline analysis is conducted again, but with respondents aged 55 to 70 years, instead of 60 to 70 years. Results are shown in Section 4.3.1.

3.1.2. Variables and Measures

3.1.2.1. Key Dependent Variable

The dependent variable of this research is the *happiness* of the individual. This is measured by the following question: 'Taking all things together, how happy would you say you are?' (question number C1). Respondents could score their happiness on an eleven point scale, where 0 indicated extremely unhappy and 10 extremely happy.

3.1.2.2. Key Independent Variables

The first independent key variable is the *retirement dummy*, which becomes 0 when the respondent is still working and 1 when the individual is retired. It compares the happiness between retirees and older workers. The question used for this variable is question number F8 in rounds 1 to 4, and number F17 in rounds 5 to 8, namely: 'And which of these descriptions best describes your situation (in the last seven days)?'. Respondents with value 6, indicating the category retired, have been coded 1, and respondents with value 1, indicating the category paid work, have been coded 0.

The *retirement rate* is used as proxy for the social norm. The retirement rate is generated from the ESS database for every country and every year. The same question 'And which of these descriptions best describes your situation (in the last seven days)?' is used for this. It is calculated as the percentage retired of the age group 60-70.

Although often actual behaviour, such as for example the retirement rate, is used as proxy for the social norm, it is not necessarily the best proxy. As Stutzer and Lalive (2004, p. 699) state: 'This is problematic, because actual behavior does not necessarily capture a person's beliefs on how one ought to behave'. Therefore, as robustness check, another proxy is used for the social norms, namely beliefs about the ideal retirement age. In round 3 of the ESS, the following question (D30b) is asked: 'In your opinion, what is the ideal age for a man to retire permanently?'. Later, in round 5 of the ESS, the following question (G87) is asked: 'At what age would you like to/would you have liked to retire?'. Two analyses are executed, one for each question. The mean ideal retirement age of the total population is calculated per country and used as proxy for the social norm. For both rounds the following twenty

countries are considered: Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom. Results are shown in Section 4.3.2.

3.1.2.3. Control Variables at Individual Level

The control variables on individual level are: *age*, *partner*, *health*, *income*, *education* and *gender*. First of all, the variable *age* has been included. Although there is yet no consensus about the existence or form of the age-happiness relationship, it is believed that age does have some effect on happiness (Beja, 2018; Frijters & Beatton, 2012). Question F31 is used for this variable. In contrast to *age*, researchers generally agree about the positive effect of having a partner on an individual's happiness (Bierman et al., 2006). Data for the variable *partner* is also retrieved from the ESS (question number F33 in round 1, F35 in round 2 to 4, F44 in round 5 and F43 in round 6 to 8) . Respondents with a partner are coded 1 and respondents without a partner 0. Thirdly, *health* is included as control variable since it is generally believed that healthier people are happier (Graham, 2008). In question C15 for rounds 3 to 5, and question C7 for the other rounds respondents were asked the following: 'How is your health in general? Would you say it is ...'. Respondents could score their health on a five point scale, where 1 indicated very good and 5 very bad. Moreover, *income* is argued to have a positive effect on happiness. However, relative income seemed to have a more important effect, than absolute income (Clark, 2017). Question number F31 in round 1, F33 in round 2 to 4 and F42 in round 6 to 8 is used for this variable. On a four point scale, respondents could indicate whether they could live comfortably with their present income (value 1) or very difficult (value 4). In addition, *education* is found to affect the happiness of people. Both negative and positive happiness effects of education have been found (Nikolaev & Rusakov, 2016). The following question is used for this variable: 'About how many years of education have you completed, whether full-time or part-time? Please report these in full-time equivalents and include compulsory years of schooling' (question number F7 in rounds 1 to 4 and F16 in rounds 5 to 8). Finally, the *gender* of the respondent has been taken into account (question F21). Males have been coded 0, and females 1.

As robustness check, the baseline analysis is conducted again, but separately for men and women. Studies namely suggest that the effect of retirement and norms might differ between men and women (Clark, 2003; Feldman & Beehr, 2011; Radl, 2012). Results are shown in Section 4.3.3.

3.1.2.4. Control Variables at Country Level

GDP per capita and the *unemployment rate* have been included as control variables on country level. Although the effect of GDP on happiness is still quite puzzling, some believe that GDP might have a positive effect (Clark & Senik, 2011). Data for this variable is retrieved from Eurostat (2019) and measured at current prices in euro per capita. In contrary to GDP, unemployment is believed to negatively affect happiness (Blanchflower, Bell, Montagnoli, & Moro, 2014). The unemployment rate is generated from the ESS database for every country and every year. The question 'And which of these descriptions best describes your situation (in the last seven days)?' is used for this. It is calculated as percentage of the active population.

3.2. Empirical model and Estimation

As mentioned before, a repeated cross sectional, multilevel analysis is used to test both hypotheses. The regression models for each hypothesis are presented in the subsections below.

3.2.1. Hypothesis I

The first hypothesis is tested by means of the following model:

$$H_{ic} = \beta_0 + \beta_1 R_{ic} + \beta_2 TP + \beta_3 R_{ic} TP + \beta_4 \bar{X}_{ic} + \beta_5 D_{ct} + \varepsilon_{ic}$$

where H_{ic} is the happiness of individual i in country c. R_{ic} is the retirement dummy with a value of 0 when the invidual does paid work and 1 when the individual is with retirement. TP is a time period dummy indicating 0 for the period 2002 to 2008 and 1 for the period 2010 to 2016. The variable of interest is the interaction variable $R_{ic}TP$. $\bar{X}_{ic}$ and D_{ct} represent the control variables at respectively individual and country level.

3.2.2. Hypothesis II

The second hypothes is tested by means of the following baseline model:

$$H_{ic} = \beta_0 + \beta_1 R_{ic} + \beta_2 RR_{ct} + \beta_3 R_{ic} RR_{ct} + \beta_4 \bar{X}_{ic} + \beta_5 D_{ct} + \beta_6 TP + \varepsilon_{ic}$$

where H_{ic} is the happiness of individual *i* in country *c*. R_{ic} is the retirement dummy with a value of 0 when the invidual does paid work and 1 when the individual is with retirement. RR_{ct} is the retirement rate in country *c* at time *t*, and is used as proxy for the social norm. $\bar{X}_{ic}$ and D_{ct} represent the control variables at respectively individual and country level. TP is a time period dummy indicating 0 for the period 2002 to 2008 and 1 for the period 2010 to 2016.. The variable of interest is the interaction variable $R_{ic} RR_{ct}$.

As robustnesscheck, both Hypothesis I and Hypothesis II are tested by the same regression models, but with eight separate time dummies for each year, instead of one time period dummy. Results are shown in Section 4.3.4.

4. EMPIRICAL RESULTS

4.1. Descriptive Statistics

Table 2 shows the descriptive statistics of the variables considered in this study. The mean happiness score of people aged 60 to 70 years in the fifteen European countries is 7.435. Table 3 shows some descriptive statistics per country. People aged 60 to 70 are the unhappiest in Hungary, with a mean score of 6.019 and the happiest in Norway with a score of 8.173. Moreover, retirement rates vary considerable across countries. The mean retirement rate of the fifteen countries is 61.7% (Table 2). The retirement rate among people aged 60 to 70 is the highest in France, namely 79.8%, and the lowest in Norway with 42.8% (Table 3). So, people aged 60 to 70 seem to be the happiest in Norway, while only a relatively small percentage of this age group is retired.

TABLE 2. DESCRIPTIVE STATISTICS

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Individual Level Variables					
Happiness	30500	7.435	1.869	0	10
Retirement dummy	30500	.738	.440	0	1
Health	30481	2.432	.881	1	5
Gender	30495	.478	.4995085	0	1
Age	30500	64.952	3.134	60	70
Partner	30446	.696	.460	0	1
Years of Education	30276	11.530	4.374	0	56
Feeling About Income	29923	1.845	.771	1	4
Country Level Variables					
Retirement Rate of People Aged 60 to 70	30500	.617	.134	.370	.890
Unemployment Rate	30500	.101	.050	.021	.294
GDP per capita	30500	31914.72	14545.15	5400	79100

Note: This table presents the descriptive statistics of the variables considered in this study. Numbers are rounded to 3 decimal places.

TABLE 3. DESCRIPTIVE STATISTICS PER COUNTRY

Country	Mean Happiness Score of People Aged 60 to 70 (SD)	Mean Retirement Rate of People Aged 60 to 70 (SD)	Percentage Age Group 60 to 70 of Total Population in 2016
Belgium (N =1499)	7.778 (1.557)	61.9% (.496)	16.3%
Finland (N = 2710)	8.021 (1.391)	72.1% (.057)	19.4%
France (N = 2362)	7.030 (1.780)	79.8% (.028)	22.1 %
Germany (N = 3373)	7.463 (1.770)	65.4% (.051)	17.4%
Hungary (N = 1925	6.019 (2.329)	76.1% (.066)	20.8%
Ireland (N = 2025)	7.683 (1.778)	44.8% (.027)	17.3%
Netherlands (N = 1833)	7.876 (1.256)	47.8% (.037)	21.8%
Norway (N = 1554)	8.173 (1.348)	42.8% (.023)	16.1%
Poland (N = 1724)	6.635 (2.241)	77.9% (.044)	19.4%
Portugal (N = 2200)	6.350 (2.013)	60.7% (.047)	21.6%
Slovenia (N = 1341)	6.782 (2.068)	76.6% (.061)	17.8%
Spain (N = 1390)	7.450 (1.781)	43.1% (.031)	16%
Sweden (N = 2033)	8.090 (1.463)	45.3% (.038)	21.7%
Switzerland (N = 1837)	8.136 (1.401)	53.2% (.024)	16.3%
United Kingdom (N = 2694)	7.817 (1.761)	63.3% (.023)	20.3%

Note: This table presents the descriptive statistics of the countries considered in this study. The first column shows the mean happiness score of the people aged 60 to 70 per country on a scale from 1 to 10 over the period 2002 to 2016. The second column shows the mean retirement rate among people aged 60 to 70 per country over the period 2002 to 2016. Finally, the third column shows the people aged 60 to 70 as percentage from the total population per country for the year 2016. Numbers are rounded to 3 decimal places and percentages to 1 decimal.

4.2. Baseline Results

When considering the intra class correlation of 12.7% (see Table 10 in appendix 1), one could conclude that a multilevel approach is very suitable for this study. A random intercept, random slope multilevel model seemed to fit the data the best. Table 11 in appendix 1 shows the fitness of the different multilevel models.

Table 4 shows the baseline results. Although the literature is inconsistent about the question whether retirement increases happiness or not, in all regression models the retirement dummy is significant and positive. Meaning that, considering people aged 60 to 70 years, retirees are happier than

older workers. In regression model 2, 3 and 4 the time period dummy is also significant and positive. So, people aged 60 to 70 years were happier in the period 2010 to 2016, than in the period 2002 to 2008. Column (III) in Table 4 shows the results for Hypothesis I. As Figure 3 shows, in both time periods retirees are indeed relatively happier than older workers aged 60 to 70 years. Moreover, the difference in happiness between retirees and older workers is decreasing when comparing the time period 2002 to 2008 and 2010 to 2016. However, the graph shows no big difference between both time periods. This corresponds with the negative, but insignificant coefficient of the variable of interest, namely *Retired x Time Period*, in column (III) of Table 4. So, Hypothesis I is not supported.

When considering the retirement rate, no significant effect is found in any of the models. In contrast to the retirement rate, the variable of interest for Hypothesis II, namely *Retired x Retirement Rate*, is significant (see column (IV) of Table 4). However, its effect is not very strong when comparing its coefficient to the coefficients of the variables health and partner. Figure 4 indeed shows a difference in the moderating happiness effect of the retirement rate between older workers and retirees. Older workers seem to be hardly affected by a low or high retirement rate, while the retirees are affected: retirees are happier when the retirement rate is lower. This corresponds with the negative, significant coefficient of the variable *Retired x Retirement Rate*. However, the expectation was that retirees would be unhappier when the retirement rate is low, because they deviate from the norm. So, Hypothesis II is not supported. This result might indicate that retirees value their spare time and freedom even more, when they see their peers still working.

TABLE 4. BASELINE RESULTS

Variables	(I)	(II)	(III)	(IV)
Retired	.088***	.103***	.121***	.095***
(0 = no, 1 = yes)	(.025)	(.024)	(.038)	(.023)
Time Period	.085	.140**	.164***	.139**
(0 = 2002 to 2008, 1 = 2010 to 2016)	(.064)	(.060)	(.0623)	(.060)
Retired x Time Period			-.031	
			(.041)	

Retirement Rate | Z		-.081	-.083	-.043
		(.050)	(.051)	(.057)
Retired x Retirement Rate | Z				-.049**
				(.022)
Constant	6.810***	6.761***	6.746***	6.770***
	(.132)	(.127)	(.133)	(.130)
Health | Z	-.427***	-.426***	-0.426***	-0.426***
(1 = good, 5 = bad)	(.026)	(.026)	(.026)	(.026)
Years of Education | Z	.003	.003	.004	.003
	(.016)	(.016)	(.016)	(.016)
Feeling about Income | Z	-.396***	-.390***	-.390***	-.390***
(1 = comfortable, 4 = very difficult)	(.040)	(.038)	(.038)	(.038)
Partner	.632***	.633***	.633***	.632***
(0 = no, 1 = yes)	(.032)	(.032)	(.032)	(.032)
Gender	.134***	.134***	.134***	.135***
(0 = male, 1 = female)	(.033)	(.032)	(.032)	(.032)
Age | Z	.412	.432	.430	.446
	(.542)	(.539)	(.539)	(.534)
Age squared | Z	-.377	-.397	-.395	-.412
	(.542)	(.540)	(.539)	(.534)
Unemployment Rate | Z		-.120***	-.120***	-.120***
		(.033)	(.033)	(.033)
GDP per capita | Z		-.051	-.054*	-.051
		(.333)	(.032)	(.033)
Log Pseudolikelihood	-56120.975	-56071.491	-56071.244	-56070.179
Residual Variance	2.575	2.567	2.567	2.567
[95% Confidence Interval]	[2.175 - 3.049]	[2.171 - 3.034]	[2.171 - 3.034]	[2.171 - 3.035]
Intercept Variance	.123	.107	.109	.118
[95% Confidence Interval]	[.072 - .209]	[.046 - .250]	[.047 - .252]	[.052 - .266]
Slope Variance	.010	.006	.006	.002
[95% Confidence Interval]	[.002 - .046]	[.001 - .046]	[.001 - .046]	[.000 - .036]

Note: Column (I) shows the results of the model with only the control variables at individual level. Column (II) shows the results of the model with control variables at both individual and country level. Column (III) shows the results for Hypothesis I. The variable of interest is Retired x Time Period. Column (IV) shows the results for Hypothesis II. The variable of interest is Retired x Retirement Rate. Variables followed with ' | Z' have been

standardized in the analysis. Robust standard errors are in parentheses. Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1

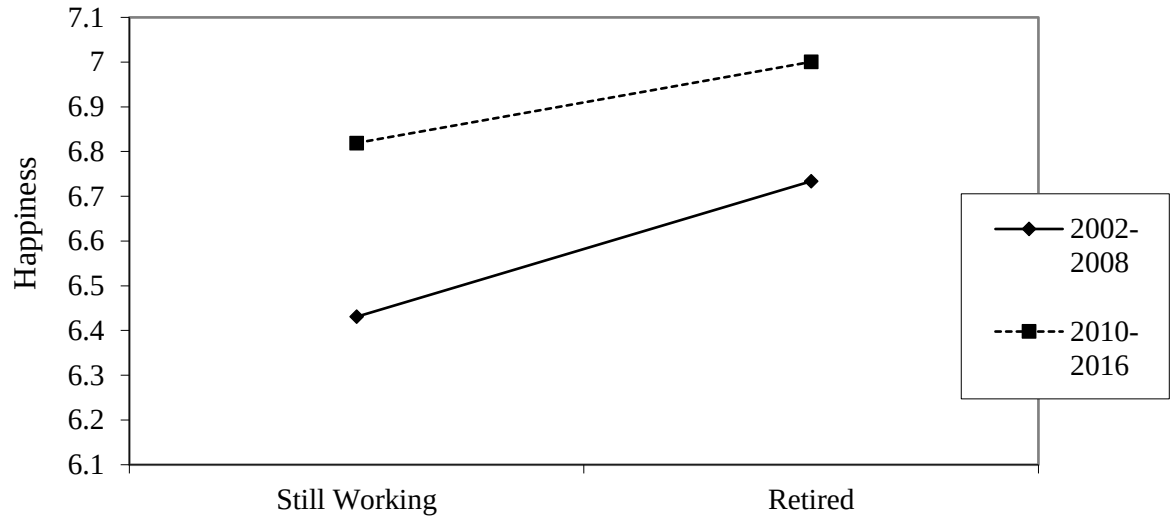

FIGURE 3. RESULT HYPOTHESIS I

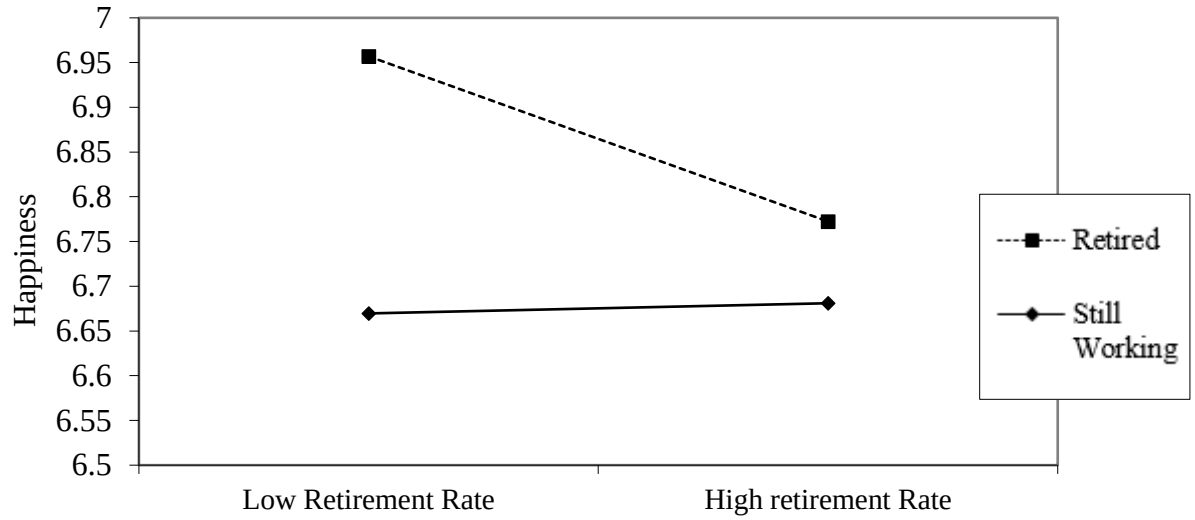

FIGURE 4. RESULT HYPOTHESIS II

4.3. Robustness Checks and Extensions

4.3.1. Sample 55 to 70 years

As extension, the baseline analysis is conducted again, but now for people aged 55 to 70 years instead of 60 to 70 years. Similarly, the retirement rate is now calculated for people aged 55 to 70. Results are shown in Table 5. Just like in the baseline analysis, retirees are significantly happier than older workers,

and the people considered are happier in the period 2010 to 2016, than in the period 2002 to 2008. An important difference is that Hypothesis I is supported for this sample. The variables of interest, namely *Retired x Time Period*, has a significant negative coefficient, indicating that the difference in happiness between retirees and older workers aged 55 to 70 is smaller in the time period 2010 to 2016. So, the happiness effect of retirement is declining over time.

When considering Hypothesis II, the conclusion is still the same as in the baseline analysis. The significant, but negative coefficient of *Retired x Retirement Rate* does not support Hypothesis II. It indicates that retirees are relatively happier when the retirement rate is low.

TABLE 5. SAMPLE 55 TO 70 YEARS

Variables	(I)	(II)	(III)	(IV)
Retired	.092***	.109***	.144***	.107***
	(.015)	(.015)	(.014)	(.020)
Time Period	.101*	.136***	.172***	.133***
	(.062)	(.046)	(.044)	(.045)
Retired x Time Period			-.062**	
			(.028)	
Retirement Rate 55 - 70 | Z		-.162***	-.166***	-.135***
		(.031)	(.031)	(.029)
Retired x Retirement Rate 55 - 70 | Z				-.046**
				(.020)
Constant	6.814***	6.778***	6.757***	6.783***
	(.128)	(.103)	(.103)	(.105)
Health | Z	YES	YES	YES	YES
Years of Education | Z	YES	YES	YES	YES
Feeling about Income | Z	YES	YES	YES	YES
Partner	YES	YES	YES	YES
Gender	YES	YES	YES	YES
Age | Z	YES	YES	YES	YES
Age squared | Z	YES	YES	YES	YES
Unemployment Rate | Z		YES	YES	YES

GDP per capita | Z		YES	YES	YES
Log Pseudolikelihood	-81640.876	-81554.237	-81552.285	-81552.826
Residual Variance	2.500	2.491	2.491	2.491
[95% Confidence Interval]	[2.100 - 2.977]	[2.095 - 2.961]	[2.095 - 2.961]	[2.095 - 2.962]
Intercept Variance	.115	.076	.077	.079
[95% Confidence Interval]	[.059 - .222]	[.027 .212]	[.028 - .216]	[.029 - .217]
Slope Variance	.012	.010	.010	.006
[95% Confidence Interval]	[.006 - .028]	[.004 - .025]	[.004 - .025]	[.002 - .022]

Note: Column (I) shows the results of the model with only the control variables at individual level. Column (II) shows the results of the model with control variables at both individual and country level. Column (III) shows the results for Hypothesis I. The variable of interest is Retired x Time Period . Column (IV) shows the results for Hypothesis II. The variable of interest is Retired x Retirement Rate 55 - 70. Variables followed with ' | Z' have been standardized in the analysis. Robust standard errors are in parentheses. Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1

4.3.2. Beliefs as proxy for the social norm

As robustness check, beliefs about the ideal retirement age are used as proxy for the social norm, instead of the retirement rate. First, Table 6 shows the mean of the ideal retirement age per country for both rounds. For most countries the mean ideal retirement age increased from 2006 (round 3) to 2010 (round 5). Considering all twenty countries, the mean ideal retirement age increased on average by 1.05 years. So, this might indicate that norms are changing, providing that beliefs are a good proxy for the social norm.

TABLE 6. MEAN IDEAL RETIREMENT AGE ROUND 3 AND 5

Country	Mean Ideal Retirement Age Round 3 (2006)	Mean Ideal Retirement Age Round 5 (2010)	Difference Round 3 and Round 5
Belgium	58.17	60.59	2.42
Bulgaria	58.14	57.86	-.28
Cyprus	60.53	62.56	2.03
Denmark	62.33	63.33	1.00
Estonia	59.66	58.07	-1.59
Finland	61.32	61.60	.28

France	57.45	59.78	2.33
Germany	59.40	61.69	2.29
Hungary	57.45	57.95	.50
Ireland	61.82	63.01	1.19
Netherlands	60.80	62.46	1.66
Norway	63.68	64.85	1.17
Poland	56.31	59.18	2.87
Portugal	60.09	61.00	0.91
Slovakia	57.86	57.73	-0.13
Slovenia	57.41	56.71	-0.70
Spain	59.63	61.8	2.17
Sweden	62.56	63.29	0.73
Switzerland	60.69	62.65	1.96
United Kingdom	60.93	61.09	0.16
Mean	59.82	60.86	1.04

Note: The statistics are calculated from the dataset retrieved from the ESS. Numbers are rounded to 2 decimal places.

Table 7 shows the results for both analyses. In all models the retirees are still significantly happier than the older workers. Column (II) and (IV) show the results for Hypothesis II for, respectively, round 3 and 5. The coefficient of the variable of interest, namely *Retired x Mean Belief*, is positive in round 3, but negative in round 5. However, in both rounds no significant effect for the moderating role of the social norm was found. So, Hypothesis II is not supported, and it is questionable whether beliefs about the ideal retirement age are a better proxy for the social norm than actual behaviour.

TABLE 7. BELIEFS AS PROXY FOR THE SOCIAL NORM

Variables	(I)	(II)	(III)	(IV)
Retired	.197***	.181**	.199***	.204***
	(.075)	(.087)	(.051)	(.047)
Mean Belief | Z	-.019	-.063	.195**	.212**
	(.109)	(.150)	(.099)	(.086)

Retired x Mean Belief | Z		.053 (.086)		-.023 (.057)
Constant	6.528*** (.106)	6.546*** (.105)	6.432*** (.124)	6.427*** (.122)
Health | Z	YES	YES	YES	YES
Years of Education | Z	YES	YES	YES	YES
Feeling about Income | Z	YES	YES	YES	YES
Partner	YES	YES	YES	YES
Gender	YES	YES	YES	YES
Age | Z	YES	YES	YES	YES
Age squared | Z	YES	YES	YES	YES
Unemployment Rate | Z	YES	YES	YES	YES
GDP per capita | Z	YES	YES	YES	YES
Log Pseudolikelihood	-8560.0779	-8559.7618	-10277.086	-10277.023
Residual Variance	2.822	2.821	2.824	2.824
[95% Confidence Interval]	[2.345 - 3.395]	[2.344 - 3.395]	[2.389 - 3.337]	[2.389 - 3.337]
Intercept Variance	.062	.061	.041	.041
[95% Confidence Interval]	[.030 - .129]	[.030 - .125]	[.016 - .103]	[.016 - .100]
Slope Variance	$3.44e^{-15}$	$1.04e^{-16}$	.018	.019
[95% Confidence Interval]	[$3.0e^{-120}$ - $.98e^{+90}$]	[$8.51e^{-36}$ - 1271.841]	[.003 - .129]	[.003 - .127]

Note: Column (I) and (II) show the results for round 3, column (III) and (IV) for round 5. Column (I) and (III) show the results of the models with only the control variables at individual and country level. Column (II) and (IV) show the results for Hypothesis II. The variable of interest is Retired x Mean Belief. Variables followed with ' | Z' have been standardized in the analysis. Robust standard errors are in parentheses. Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1

4.3.3. Men versus Women

As robustness check, the analysis is executed again, but now differently for men and women. So, retirement rates have been calculated as percentage retired among women aged 60 to 70 years old or as percentage retired among men aged 60 to 70 years. Results are shown in Table 8. Column (I) and (III) show the results for Hypothesis I for, respectively, men and women. For neither men nor women, Hypothesis I is supported. No significant results have been found for the variable of interest *Retired x*

Time Period. When considering Hypothesis II, thus the variable of interest *Retired x Retirement Rate,* results differ between men and women. Column (II) shows a significant, but negative coefficient for *Retired x Retirement Rate,* but column (IV) shows no significant coefficient. However, both models do not support Hypothesis II.

TABLE 8. MEN VERSUS WOMEN

Variables	(I)	(II)	(III)	(IV)
Retired	.075**	.053*	.174***	.134***
	(.038)	(.028)	(.059)	(.036)
Time Period	.100*	.078*	.199**	0.155**
	(.056)	(0.044)	(.079)	(.079)
Retired x Time Period	-.026		-.053	
	(.048)		(.054)	
Retirement Rate | Z	-.131***	-.085**		
Men aged 60-70	(.038)	(.041)		
Retired x Retirement Rate | Z		-.060**		
Men aged 60-70		(.029)		
Retirement Rate | Z			-.000	.026
Women aged 60-70			(.068)	(.068)
Retired x Retirement Rate | Z				-.033
Women aged 60-70				(.034)
Constant	6.805***	6.828***	6.808***	6.844***
	(.128)	(.123)	(.140)	(.135)
Health | Z	YES	YES	YES	YES
Years of Education | Z	YES	YES	YES	YES
Feeling about Income | Z	YES	YES	YES	YES
Partner	YES	YES	YES	YES
Gender	YES	YES	YES	YES
Age | Z	YES	YES	YES	YES
Age squared | Z	YES	YES	YES	YES
Unemployment Rate | Z	YES	YES	YES	YES
GDP per capita | Z	YES	YES	YES	YES
Log Pseudolikelihood	-28634.026	-28632.983	-27374.284	-27374.239
Residual Variance	2.362	2.362	2.776	2.777
[95% Confidence Interval]	[2.011 - 2.774]	[2.012 - 2.774]	[2.341 - 3.293]	[2.341 - 3.293]
Intercept Variance	.095	.107	.111	.112
[95% Confidence Interval]	[.034 - .264]	[.039 - .296]	[.038 - .323]	[.040 - .316]

Slope Variance	.010	.003	.006	.004
[95% Confidence Interval]	[.002 - .052]	[.000 - .070]	[.000 - 3.334]	[.000 - 8.423]

Note: Column (I) and (II) show the results for men, and column (III) and (IV) for women. Column (I) and (III) show the results for Hypothesis I. The variable of interest is Retired x Time Period. Column (II) and (IV) show the results for Hypothesis II. The variable of interest is Retired x Retirement Rate. Variables followed with ' | Z' have been standardized in the analysis. Robust standard errors are in parentheses. Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1

4.3.4. Separate Time Dummies

The baseline analysis captured the period from 2002 to 2016 by one time period dummy, representing 0 for the period 2002 to 2008 and 1 for the period 2010 to 2016. As a robustness check, the same analysis is executed, but now with eight separate time dummies for each year. Table 9 shows the results. When comparing the log pseudolikelihood of the models of Table 9 with the models of Table 4, one could conclude that the eight separate time dummies fit the data better than one time period dummy. Hypothesis I is still not supported. No convincing significant results have been found. The same holds for Hypothesis II. Just like in the baseline analysis, a significant, but negative effect is found for the variable of interest, namely *Retired x Retirement Rate*. So, the results do not really change when using eight separate time dummies instead of one time period dummy.

TABLE 9. SEPARATE TIME DUMMIES

Variables	(I)	(II)	(III)	(IV)
Retired	.094***	.105***	.076	.096***
	(.024)	(.023)	(.059)	(.023)
Retirement Rate | Z		-.042	-.048	-.001
		(.048)	(.050)	(.054)
Retired x Retirement Rate | Z				-.052**
				(.022)
Seperate Time Dummies	YES	YES	YES	YES
Retired x Year 2002			-.017	
			(.087)	
Retired x Year 2004			.048	
			(.111)	

Retired x Year 2006			.170*	
			(.093)	
Retired x Year 2008			-.016	
			(.070)	
Retired x Year 2010			.074	
			(.080)	
Retired x Year 2012			.013	
			(.098)	
Retired x Year 2014			-.009	
			(.075)	
Constant	7.013***	6.999***	7.019***	7.009***
	(.105)	(.134)	(.142)	(.138)
Health | Z	YES	YES	YES	YES
Years of Education | Z	YES	YES	YES	YES
Feeling about Income | Z	YES	YES	YES	YES
Partner	YES	YES	YES	YES
Gender	YES	YES	YES	YES
Age | Z	YES	YES	YES	YES
Age squared | Z	YES	YES	YES	YES
Unemployment Rate | Z		YES	YES	YES
GDP per capita | Z		YES	YES	YES
Log Pseudolikelihood	-56097.465	-56050.523	-56046.773	-56048.925
Residual Variance	2.571	2.563	2.562	2.563
[95% Confidence Interval]	[2.172 - 3.043]	[2.168 - 3.030]	[2.168 - 3.028]	[2.168 - 3.030]
Intercept Variance	.127	.153	.155	.170
[95% Confidence Interval]	[.0741 - .216]	[.0715 - .328]	[.072 - .333]	[.078 - .367]
Slope Variance	.009	.006	.005	.001
[95% Confidence Interval]	[.002 - .042]	[.001 - .040]	[.001 - .040]	[.000 - .038]

Note: Column (I) shows the results of the model with only the control variables at individual level. Column (II) shows the results of the model with control variables at both individual and country level. Column (III) shows the results for Hypothesis I. The variables of interest are Retired x Year. The reference year is 2016. Column (IV) shows the results for Hypothesis II. The variable of interest is Retired x Retirement Rate. Variables followed with ' | Z' have been standardized in the analysis. Robust standard errors are in parentheses. Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1

5. DISCUSSION

5.1. Happiness, Social Norms and Elderly Participation Rates

Since it is difficult to measure retirement norms directly, a so-called happiness approach is followed. This happiness approach is inspired by the study of Clark (2003). He used the unemployment rate as proxy for the social norm and found a moderating role of the unemployment rate in the happiness effect of unemployment: the negative happiness effect of unemployment declined when the unemployment rate was higher. Similarly, this research used the retirement rate as proxy for the social norm.

First, in all models retirees are found to be happier than their peers who are still working. This is remarkable, since the literature is rather inconsistent about the happiness effect of retirement (van Solinge, 2013). This result might be explained by a selection effect: those who can afford (early) retirement, might be wealthier and therefore happier. This corresponds to the economic theories described in Table 1, which state that a person's financial position plays an important role in the retirement decision. However, when using income as an (imperfect) proxy for wealth and correcting for this selection effect, the conclusion is still the same: retirees are happier than older workers (see column II of Table 12 in appendix 2).

Second, it was expected that the happiness effect of retirement vis-à-vis employment has been decreasing over time. Participation rates of elderly are, namely, increasing since the mid 1990's (Friedberg, 2007; Gendell, 2008; Verkooijen, 2017), which suggests a change of the norm from early retirement to working longer (van Erp et al., 2014). However, only one robustness check, in which the sample was extended to people aged 55 to 77 years, showed a significant decrease in the happiness of retirees compared to older workers over time. So, it might be the case that the happiness of retirees, compared to older workers, is not that much affected by the increasing participation rates, or it might be the case that other factors also influenced the difference in happiness between retirees and older workers over time.

Third, in accordance with the result of Clark (2003), it was expected that the happiness effect of retirement vis-à-vis employment decreases, as the retirement rate decreases. However, both the baseline

analysis and the robustness checks found the contrary: the happiness of retirees compared to older workers increased when the retirement rate was lower. So, it seems to be the case that retirees value their spare time and freedom even more when more of their peers are still working. This unexpected result raises an important question: Does deviation from a social norm always result in disutility? Maybe deviation from a social norm simply does not have much effect on people's experienced utility. It might also be the case that we are (yet) unable to measure social norms accurately. After Clark (2003), Stutzer and Lalive (2004) also investigated the role of the social norm. They claimed that not actual behaviour, but beliefs should be used as proxy for the social norm. Therefore, this study also considered beliefs as proxy for the social norm as robustness check. However, this did not deliver any significant results. This raises another important question: What is the right way to measure social norms?

5.2. Limitations and Future Research

This study relied on several assumptions. First, it was assumed that deviation from the norm would cause disutility. Second, it was assumed that happiness could be used as proxy for utility. Finally, it was assumed that the retirement rate or beliefs about the ideal retirement rate, could be used as proxy for the social norm. Although these assumptions were based on earlier studies of respected researchers, it is not self-evident that these assumptions are right. The puzzle that elderly participation rates were increasing before most pension regulation reforms were implemented could indicate a change in the social norm. Moreover, the complexity of the retirement decision makes a role for the social norm in this decision plausibile. However, this does not have to mean that people are unhappier when they deviate from the norm. Especially when retirement is considered as something desirabele. In some countries the norm is that you care for your parents and let your parents live at your home when they are not able to care for themselves anymore. Adhering to this norm will not necessarily make you happier. In addition, some countries or population groups still have the strong norm that you may only have a relationship with the other sex. However, having a relationship with the same sex, thus deviate from the norm, might make some people happier. Similarly, if elderly are retired while their peers still have to work, they might be happier. At least, that is what the negative coefficient of the variable of interest, Retired x Retirement Rate, seems to indicate. Perhaps, deviation from the norm is not always accompanied with disutility.

Because there is yet no consensus about the best way to measure norms, this study also used beliefs as proxy for the social norm. However, this did not deliver significant results. It might be the case that the pure effect of the social norm is not measured. For example, welfare state generosity might influence the retirement decision and thus also the retirement rate. Income or GDP per capita could be used as an (imperfect) proxy for welfare state generosity, but this does not really change the results of the baseline analysis (see Table 12 in appendix 2 for the results). Hypothesis II is still not supported.

Practically all data is retrieved from the ESS. Even the unemployment and retirement rates are calculated from the dataset. One could argue that is is better to retrieve such statistics from sources such as the OECD or Eurostat. However, an advantage from calculating the statistics from the dataset was that retirement rates could be calculated for any target group. A drawback from the data of the ESS is that it has no panel data structure. Every two years, different individuals are questioned. Moreover, questions related to beliefs about the ideal retirement age were not repeatedly asked. So, for future research the most ideal case would be that a database is used in which the same individuals are followed over time, and are asked repeatedly about, for example, (i) their ideal retirement age, but also (ii) the amount of age discrimination in the labour market. This in order to get an idea of the norms held by both the supply and demand side of the labour market. Elderly might, namely, be less willing to continue work if there is age discrimination resulting from negative beliefs about older workers (Feldman & Beehr, 2011).

Finally, we need to know more about social norms. According to van Erp et al. (2014), there is a two way relationship between the regulatory environment and social norms: pension regulations, such as the official retirement age, are believed to influence social norms in the long run and consequently, social norms are argued to deliver feedback effects on implemented policies. It is therefore important for policy makers to know whether and how te social norm, with respect to the retirement age, has changed. If the norm is indeed changing from early retirement to working longer, then the implemented policy reforms to stimulate employment under older workers will have much bigger participation effects (Radl, 2012; van Erp et al., 2014). However, more research is needed about social norms. What is the

right way to measure norms? Actual behaviour or beliefs? Or maybe social norms should be measured in a complete different way? And maybe deviation from the norm does not always result in disutility?

6. CONCLUSION

This study is the first to investigate whether retirement norms are changing. A so-called happiness approach is followed. For 15 European countries, the happiness of retirees is compared to the happiness of workers aged 60 to 70 years. While taking the retirement rate as proxy for the social norm, the moderating role of the social norm is investigated. It was expected that (i) the happiness effect of retirement vis-à-vis employment has been decreasing over time, and that (ii) the happiness effect of retirement vis-à-vis employment decreases. Both hypotheses are not supported. In the contrary, it is found that retirees are relatively happier when the retirement rate is low. So, retirees seem to value their spare time and freedom even more, when more of their peers are still working. These unexpected results might be the consequence of a selection effect or the limitations of the data, as described in Chapter 5. In addition, it is questioned whether the assumptions made are correct. Is happiness the right proxy for utility? Is actual behaviour or are beliefs the right proxy for the social norm? Moreover, does deviation from the norm always result in disutility? Future research is needed to help us answer these questions. It is important to learn more about social norms. Policy makers should know whether and how the social norm, with respect to the retirement age, has changed in order to be able to predict the participation effects of pension reforms properly.

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APPENDIX 1: Intraclass Correlation and Model Choice

TABLE 10. INTRACLASS CORRELATION

Level	ICC	Standard Error	[95% Confidence Interval]
Country	.127	.028	[.081 - .194]

Note: Calculated after running the random intercept model. See table 11 for more details. Numbers are rounded to 3 decimal places.

TABLE 11. MODEL CHOICE

Variables	Fixed Intercept	Random Intercept	Random Intercept Fixed Slope	Random Intercept Random Slope
Retired			-.114**	-.148**
(Robust Standard Error)			(.047)	(.060)
Constant	7.435***	7.420***	7.504***	7.546***
(Robust Standard Error)	(.174)	(.179)	(.154)	(.145)
Observations	30,500	30,500	30,500	30,500
Number of Groups		15	15	15
Log Pseudolikelihood	-62357.486	-60404.675	-60393.025	- 60376.974
Residual Variance	3.494	3.066	3.063	3.058
[95% Confidence Interval]	[2.827 - 4.320]	[2.561 - 3.669]	[2.561 - 3.664]	[2.558 - 3.656]
Intercept Variance		.448	.435	.309
[95% Confidence Interval]		[.250 - .801]	[.241 - .783]	[.181 - .529]
Slope Variance				.045
[95% Confidence Interval]				[.016 - .125]

Note: Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX 2: Correction Selection Effect and Welfare State Generosity

TABLE 12. CORRECTION FOR SELECTION EFFECT AND WELFARE STATE GENEROSITY

Variables	(I)	(II)	(III)
Retired	.095***	.090***	.093***
	(.023)	(.022)	(.023)
Time Period	.139**	.139**	.137**
	(.060)	(.059)	(.060)
Retirement Rate | Z	-.043	-.049	-.065
	(.057)	(.056)	(.0534)
Retired x Retirement Rate | Z	-.049**	-.042**	-.018
	(.022)	(.021)	(.0216)
Retired x Feeling about Income | Z		-.043*	
		(.024)	
Retired x GDP | Z			.060***
			(.022)
Constant	6.770***	6.776***	6.773***
	(.130)	(.132)	(.134)
Health | Z	YES	YES	YES
Years of Education | Z	YES	YES	YES
Feeling about Income | Z	YES	YES	YES
Partner	YES	YES	YES
Gender	YES	YES	YES
Age | Z	YES	YES	YES
Age squared | Z	YES	YES	YES
Unemployment Rate | Z	YES	YES	YES
GDP per capita | Z	YES	YES	YES
Log Pseudolikelihood	-56070.179	-56068.57	-56067.621
Residual Variance	2.567	2.567	2.567
[95% Confidence Interval]	[2.171 - 3.035]	[2.171 - 3.035]	[2.171 - 3.034]
Intercept Variance	.118	.122	.1210
[95% Confidence Interval]	[.052 - .266]	[.054 - .278]	[.052 - .283]
Slope Variance	.002	.001	$7.17e^{-11}$
[95% Confidence Interval]	[.000 - .036]	[.000 - .083]	[$1.0e^{-137}$ - $4.9e^{+116}$]

Note: Column (I) shows the results for Hypothesis II of the baseline analysis. Column (II) shows the results for Hypothesis II with the interaction variable Retired x Feeling about Income added to the baseline analysis. Column (III) shows the results for Hypothesis II with the interaction variable Retired x GDP per capita added to the baseline analysis. The variable of interest for Hypothesis II is Retired x Retirement Rate. Variables followed with ' | Z' have been standardized in the analysis. Robust standard errors are in parentheses. Numbers are rounded to 3 decimal places. *** p<0.01, ** p<0.05, * p<0.1