Retirement preferences and policy implications across Europe

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Abstract

Increasing life expectancy coupled with declining birth rates is prompting European countries to revise their current pension schemes. The key elements of pension reforms are 1) introducing funded schemes as a means to supplement the current pay-as-you-go system, and 2) a lengthening of the working careers of European citizens. The policy reforms needed constitutes perhaps the biggest challenge facing European policy makers since the introduction of the welfare state after the Second World War. The urgency of the policy reforms are reflected by the European Council Summits of Stockholm (2001) and Barcelona (2002), where the attending policy makers agreed to both increase the labour force participation among older workers and to delay the retirement period. Notwithstanding the efforts, recent changes in the employment rates and the retirement age indicate that the great majority of countries are way off the targets set for 2010. On the backdrop of the policy challenges lying ahead, we consider in this paper individuals' preferences for work and retirement in 23 European countries. A deeper understanding of these preferences helps policy makers, not only informing them about the potential success of the planned pension reforms, but also to make adjustments to its design that may lead to efficiency gains in welfare provision. Using results from 23 countries in the European Social Survey, we find that on average individuals prefer to retire at a younger age that the current mean retirement age. However, there is huge variation in these preferences both at the individual and country levels. We find rather robust evidence to suggest that individuals are willing to work longer as the average life expectancy is increasing.

1. Introduction

The ageing of European societies – caused by the combination of increasing life expectancy and low fertility rates – constitutes an enormous challenge for policy makers. As ageing makes the proportion of elders larger, thereby increasing the dependency ratio, most European countries have become in need to revising their pension systems. Pension reforms come in many shades, but all of them have two key elements to them: 1) the current pay-as-you-go system needs supplementing by a funded scheme, and 2) workers will be required to extend their working careers. Neither is particularly popular, and policy makers are facing a rather tall order selling the policy reforms to the electorate, not least because in many countries an important welfare goal has been to lower the pensionable age. That is, retirement schemes that enable workers to retire earlier have progressively increased in numbers over recent years, partly leading to the fact that actual retirement age is now lower than the mandatory retirement age in most countries. Whereas early-retirement was encouraged during the nineties – in part motivated on welfare grounds, in part as a means to curb raising unemployment figures, the current challenge lies in reversing these trends.

A key aspect of ensuring successful policy reforms would be to gain a better understanding of citizens' preferences for retirement. Not much is known about the age at which individuals would prefer to end their working career and at present "well known" facts prevail in the policy debates. However, their factual existence is not clearly verified. Is it for instance the case that everyone would prefer a reduction in the retirement age? Moreover, is it the case that a fixed retirement age fits everyone? All European countries operate today with a preset retirement age, and in very few instances is there flexibility in the age at which individuals can retire. To what extent is there heterogeneity in desired retirement age? What are the characteristics of those willing to work longer, and to what extent is there differences across countries?

Our paper answers these questions directly by using information from the European Social Survey. A rather unique feature of the third round of this survey contains a module that refers to individuals' preferences towards life timing, and in particular questions regarding important markers for individuals' life course. Four questions are considered, all of which related to the age at which individuals think it is too late to still be working and when they would like to retire. The analysis comprises 23 countries, and by taking a multilevel approach, we are able to discern drivers behind heterogeneity at both individual and country levels.

Our findings indicate strong individual differences. Those suffering from long-term illness, unemployed or out of the labour force, or being a member of a labour union all have preferences for

lower retirement. Those with higher education and economic wellbeing are willing to work longer. At the country level we find that economic prosperity (here measured by GDP per capita) is associated with a stronger willingness to work longer. Likewise, though with weaker effect, life expectancy is also positively associated with desired age of retirement.

The paper is organized as follows. Section 2 outlines the policy issue and existing literature. Section 3 describes the European Social Survey while in Section 4 presents the variables used in our study. In Section 5 we explain the methodology and our results, whereas section 6 concludes.

2. Background

The key drivers behind ageing in the western world are low fertility rates and increasing life expectancy. The full impact of ageing varies by countries, just as different countries differ in their fertility rates and life-expectancy. Demographers have long raised the issue of fertility decline. The countries most affected are the Mediterranean ones, where Total Fertility rates (TFR) are around 1.3, the East European countries, where TFR estimates are even lower, and Japan and South-Korea which currently holds the World records for low fertility with TFR less than 1.1. At the same time, all of these countries have witnessed tremendous increases in life expectancy. As such, Japan is probably the country where ageing will hit hardest. In contrast the Scandinavian (together with France) and the Anglo-Saxon countries are faring much better, though also here will ageing impose serious strain to the social security systems through increased dependency ratios. As ageing makes the proportion of elders larger, thereby increasing the dependency ratio, most European countries have become in need to revising their pension systems. Developments in the demographic and economic contexts have indeed dramatically altered the background on which traditional pension schemes were built, thus pushing for an urgent renewal (Auer & Fortuny, 2000). The key lies in the inconvenient shift in the population structure of the majority of European countries. At the time of its diffusion, social welfare was engineered to suit populations characterized by a considerable growth and hence by a consistent number of active workers financing, through their contributions, the retirement income of elders. The figures were largely sufficient to guarantee a balance between the number of contributors and beneficiaries – a necessary condition for the sustainability of any pension scheme (Holzmann, 2004). Recently, the increasing life expectancy accompanied by the drop in the fertility rate caused the ageing of societies, hence the rise of the number of elders constituting the populations of developed and developing nations (Fuchs et Al., 2006). As a result,

the number of individuals entitled to pension benefits increased as well as the number of years elders would require a retirement income.

The seriousness of ageing is becoming acknowledged world-wide (see The Economist for an overview). At the European level, the importance of the issue was marked by European Council summits, the first in Stockholm in 2001 and the second in Barcelona in 2002. In the building up to these meetings, the European Union expressly asked the Member States for an effective implementation of adequate solutions during the two summits. In particular, in the European Council of Stockholm, attending governments agreed to favour the employment of workers aged 55-64 with no gender discrimination. States committed to increase the average EU employment rate among this age category to 50% by 2010[1]. During the Council held in Barcelona, governments further agreed upon the lengthening of the working life of European citizens. By 2010, Member States should act to gradually raise the effective age of retirement of 5 years for both women and men[2]. Recommendations arisen from the two Councils have produced positive but marginal effects that hardly match the objectives originally set. Within the EU-25 area the rate of elder employment rose 5 percentage points, from 37,5% in 2001 to 42,5% in 2005. As for delaying the exit from the labour market, the situation is even worse: between 2001 and 2005, the average increase in the retirement age was 8 months for women and men, a figure that is far below the set benchmark (Kasneci, 2007). The trends are shown in Figures 1 and 2. Whereas significant improvements have taken place, at least in terms of employment of the elderly, the trends are way off the set targets for 2010. Needless to say, unless there is a dramatic acceleration, the targets will not be met.

[1] European Council, March 2001, Stockholm. Presidency Conclusions, pp.2.
[2] European Council, March 2002, Barcelona. Presidency Conclusions, pp.12.

Figure 1 – Comparison among average elder employment (2001 and 2005) and average rate established by Stockholm target

Source: Vogler-Ludwig K. & Düll N. (2007) and own computations.

Figure 2– Comparison among average exit age (2001 and 2005) and average exit age established by Barcelona target
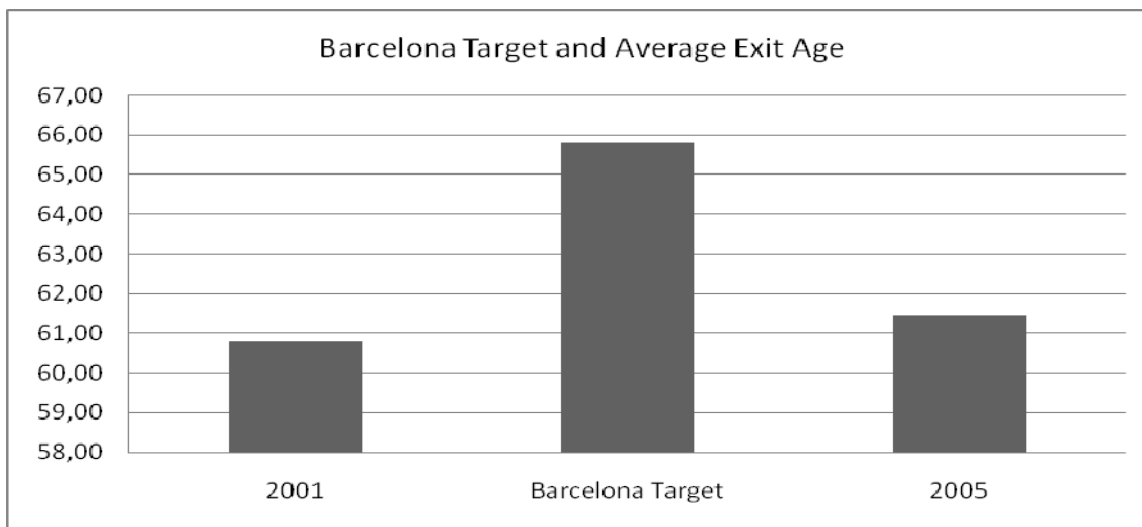
Source: Vogler-Ludwig K. & Düll N. (2007) and own computations.

Decomposing the aggregate figures shows however (Table 1) a rather heterogeneous picture of the European countries. First, it is clear that many countries have in fact reached the targets of 50% employment rates among the elderly (i.e. the targets set at the Stockholm summit). Switzerland, Denmark, Norway and Sweden are clearly ahead, whereas the European countries of the east are holding down the EU averages. In particular, we find very low employment rates among Poland, Slovenia, Hungary, Cech Republic and Slovenia. However, the employment rates are also low for the more traditional European countries such as Austria and Belgium, but also France. The

Barcelona targets are by definition more difficult to reach. Bearing in mind that here the aim is to increase the average exit age by 5 years, we see that none of cthe countries have actually reached the set targets. However, comparing the 2001 figures with that of 2005, we see that many countries have made rather significant progress. Examples include Belgium, Germany, Hungary and Poland. On the other hand, in some countries the average exit age has in fact decreased, such as Bulgaria, Switzerland, Cyprus and Slovenia.

Table 1 - Stockholm and Barcelona Targets, Country Data

| Country	2001	2005	Stockholm Target	2001	2005	Barcelona Target
AT	28,9	31,8	50	59,5	60,13	64,5
BE	25,1	31,8	50	57,04	60,84	62,04
BG	24	34,7	50	61,57	60,33	66,57
CH	67,1	65,1	50	64,25	62,69	69,25
CY	49,1	50,6	50	62,3	58,67	67,3
DE	37,9	45,4	50	60,62	62,92	65,62
DK	58	59,5	50	61,28	61,14	66,28
EE	48,5	56,1	50	61,07	61,67	66,07
ES	39,2	43,1	50	61,75	62,68	66,75
FI	45,7	52,7	50	61,49	61,76	66,49
FR	31,9	38,7	50	58,12	58,84	63,12
GB	52,2	56,8	50	62,05	62,51	67,05
HU	23,5	33	50	57,67	60,13	62,67
IE	46,8	51,6	50	63,29	64,38	68,29
LV	36,9	49,5	50	62,43	62,1	67,43
NL	39,6	46,1	50	61,03	61,66	66,03
NO	65,9	65,5	50	63,75	63,41	68,75
PL	27,4	27,2	50	56,51	59,54	61,51
PT	50,2	50,5	50	61,79	63,06	66,79
RO	48,2	39,4	50	59,32	62,33	64,32
SE	66,7	69,4	50	61,85	63,9	66,85
SI	25,5	30,7	50	61,47	58,54	66,47
SK	22,4	30,3	50	57,94	59,68	62,94

The striking discrepancy between policy prescription and actual trends questions of course the feasibility of pension reforms, since the majority of the reforms will imply a prolongation of individuals' working careers. Certainly, judging from the actual trends, European citizens do not

appear to be in line with the desired policy changes promoted by the EU. However, to better understand whether this is indeed the case, one must consider citizens' preferences. Existing studies of this kind are limited, though there are some exceptions. Boeri et al. (2002) exploited information about citizens' awareness about the problems affecting pension system in Europe to understand which category of individuals was more in favour of certain typologies of reforms. They further explored the factors driving citizens' attitudes towards the issue and in particular, whether they were pushed by self-interest in their decision-making process. Devroye (2003) also analyzed opinions about pension reforms and focused on the reasons why income gap was the cause of difference in individuals' preferences. As he points out, exploiting various surveys conducted in the US concerning citizens' attitudes towards Social Security, significant heterogeneity exist. Non academic studies confirm the heterogeneity (HSBS: The future of retirement: What the World Wants".

The third round of the European Social Survey (ESS) provides an excellent addition to this line of research. In particular, the unique module on Life-timing poses direct questions about individuals' retirement and preferences for work. In particular, four of the questions proposed are important to understand what European citizens expect about retirement and old age. The first question asks about the ideal age of a person to retire permanently. The second question of interest, respondents are asked about their opinion on the maximum age for a person to be working 20 hours a week or more. Thirdly, respondents assessed the age at whom a person is considered to reach old age, whereas the last question of interests, asks respondents about what age is considered to be too young to retire. Whereas we deal with various difficulties of interpretation in section 3, it is of interest to compare the aggregate of some of these questions and compare them with both the Barcelona target and actual patterns of retirement. Figure 3 compares the mean exit age in 2001 and 2005, the Barcelona benchmark and the average values of the three first variables drawn from the ESS dataset. Here the "ideal age" refers to what respondents consider to be the ideal age of retirement, "upper age limit" refers to the mean of what respondents consider to be the upper age limit for working 20 hours or more per week, whereas "Age reach old age" is the age in which the respondents consider to reach what they would consider old age. The first three bars in Figure 3 are the same as those reported in Figure 2, whereas the last three bars gives the mean of the questions just outlined. There are two important reflections to be made from these figures. First, there is a clear contrast between policy targets and respondents preferences. The mean of reaching old age, is only slightly higher than the Barcelona target, whereas the ideal age of retirement is considerably lower. In fact, the ideal age is lower than the actual age of retirement, and what individuals consider

to be the upper age of working more than 20 hours per week, is only slightly higher than actual retirement age in 2005. In other words, individuals' expectations or preferences deviate significantly from the policy targets. The second point of interest concerns the difference between the last three bars – i.e. the mean of the three ESS questions. Here the mean age of reaching old age is around six years higher than the ideal age of retirement. This is a clear indication that the majority of individuals prefers and probably expects to spend a good proportion of their retirement whilst in being in good health. These figures are consistent with the trend that individuals currently spend a considerable time of their life as retirees. This is of course interesting, bearing in mind that whilst the current pension schemes were initiated several decades ago, individuals were expected to spend only a few years in retirement. As of today, in several countries, individual can expect to stay retired for as long as 25 years, whereby a good part is spent in good health. [check further figures and source4s in the The Economist].

Figure 3 – Comparison among average exit age (2001 and 2005), average exit age to accomplish Barcelona target, mean ideal age of retirement, mean upper age limit and mean age to reach seniority
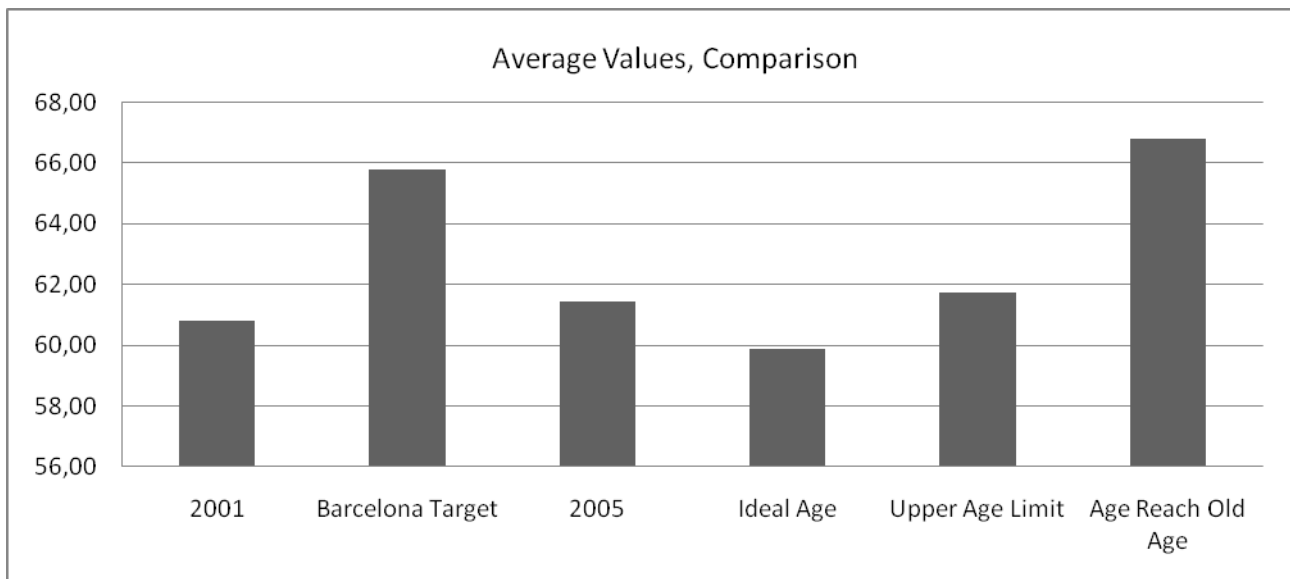
Source: Vogler-Ludwig K. & Düll N. (2007) and own computations.

3. Individual level analysis

3.1. The third round of the European Social Survey

The third round of the European Social Survey (ESS), accomplished in 2006 and released in 2008, is addressed to European and Eurasian countries. In 2006, 25 countries accepted to finance the survey and already 22 states arranged to be part of the fourth round that will take place in 2008 as data collection occurs every two years. The survey is aimed at portraying the attitudes of the different regions towards religion, politics, and moral issues, while also depicting their social habits and how they are changing over time. The dataset represents also a fundamental source of information for governments and policy makers as it outlines the current social trends coming about in the countries involved. Three main directions have been pursued: 1) individuals' value and ideological orientations, 2) individuals' cultural/national orientations and 3) the underlying social structure of society. The first topic is aimed to identify individuals' opinions, behavior and actions and hence, the sources of the social, political and economic changes within their respective societies. The second section is intended to monitor the attitude to a "Supranational" political and economic organization. Given the currently ongoing process of European unification, the monitoring process is fundamental to assess the success of the EU. The third main area focuses on the identification of the factors modeling the frame of the social climate of the different populations thus the level of education, occupation etc. The three areas listed above complete the Core module, thus the part holding over the rounds.

Of particular interest for our analysis is the so-called Rotating module in round 3 of the ESS. This module contains a battery of questions regarding life course timing. That is, individuals are asked about their attitudes towards key life course events such as becoming an adult, at what age constitutes middle age, at what age do you consider to be old age and so on. Four questions are particularly relevant for the purpose of understanding individuals' preferences towards retirement. They questions are depicted in Table 2:

Table 2 – Dependent Variables Description

Variable	Question
IAGRTR	"In your opinion, what is the ideal age for a man (and a woman) to retire permanently?"
TOWKTH	"After what age would you say a man (and a woman) is generally too old to be working 20 hours or more per week?"

| AGEOAGE | "At what age, approximately, would you say men (and women) reach old age?" |
| TOWKYNG | "At what age to do you think it is too early to retire?" |

The first question is the most direct one as far as retirement is concerned. Here individuals are asked directly what they consider to be the ideal age of retirement. Of course, the responses are subjective and do not ask about when they themselves actually retired nor when they expect to retire, though this will (as we will see) affect their subjective assessment of the ideal age in this case. The second question is closely related, but asks instead about when someone is "too old to work fulltime". The third question differs in that it does not ask directly about work nor retirement, but instead about the respondents assessment of what constitutes old age. Here one would expect the respondent to consider different aspects, such as how health is connected to the progression of age. As we have seen from the averages of these questions (Figure 2) old age is considerably higher than both ideal age of retirement and the age when considered too old to work fulltime. The last question supplements the first and serves and is useful as a quality and consistency check. As we discuss below, the question regarding the ideal age of retirement is subjective to variations in interpretation. In particular, when asked to consider the ideal age, and possible answers are left open, not being encouraged to consider what is "too old" or "too young". Fortunately, our analysis of the fourth question is consistent with the analysis of the first.

Whereas these questions are rather unique, especially because they are asked in the same way to citizens in 23 different countries, caution is nevertheless called for in their interpretation. Partly due to the fact that these questions ask about subjective assessments, we do find outliers at both ends of the distribution. As an example, some individuals answer that the ideal age of retirement is at age 20, which raises several concerns. First, one might question how seriously the respondent is considering the question. That is, some might answer the question without much regard for their actual life situation. In other words, they might argue that age 20 is the ideal age of retirement disregarding that they would – for instance – have to work equivalent of 40 years to obtain the resources needed to actually make the retirement at that age. The outliers in the left hand tail of the distribution, also raises the question of whether they think about the question as if it asked about their *personal* retirement desires as opposed to what they would consider ideal for the society. As is clear from the wording of the question in Table 2, the question is rather neutral in this respect. On one hand, there is no reference to their personal situation, but neither is there a clear reference to society at large. We would therefore expect respondents to interpret the question differently, despite

there not being any reference to their own retirement plans. There are similar concerns for the other questions. However, there are much less outliers for the question asking about what respondents consider as old age. This is also the case when asked about when it one is too old to work fulltime. There are also fewer outliers for the last question. However, here there is a sizeable group that answers that one is never too young to retire. We exclude these outliers from our analysis. The lower limit for the ideal age of retirement is set to age 30 on the basis that we can be sure that by this age the vast majority of our sample has completed their education. The upper age is truncated at age 90 assuming that for most people continuing a working career beyond this age is impossible. Those observations whereby respondents did not suggest an age, answers that men and women should never be in a paid work or should never retire permanently, are also excluded.

Our resulting dataset consists of 19.090 respondents from 23 countries. Russian Federation and Ukraine were excluded from the analysis as these two countries are rather different from the others with effective exit age being very low (although close to their statutory thresholds). In both countries, individuals retire on average at 56,3 years of age as opposed to the legal bar that is set at 57,5 on average between men and women (Sinyavskaya, 2005 and Fortuny et Al., 2003). Despite sharing the same demographic ageing problems of other countries, they are characterized by a low actual and legal retirement, and it is unlikely that they will fulfil the objectives set at the Stockholm and Barcelona summits. Consequently, they cannot be compared to countries that effectively committed to reach the thresholds established. Our decision to include two Non-Members (Norway and Switzerland) relies on the similarities that they share with EU Member States in terms of development, age of retirement (both effective and statutory) and on the higher probability they will operate as to increase both the exit age and the rate of elder employment.

Individuals' preferences for retirement differ for a variety of reasons. Young respondents may have different preferences than older ones. For younger ones the period of retirement may seem far away, and they might be more optimistic compared to those having worked for several years, perceiving old age being closer. We control for both age and age squared – the latter a means to control for nonlinearities in the effects. Those suffering from sickness and bad health may desire retirement earlier than students or those working. Similarly, those in gainful employment might prefer to stay longer in the labour market compared to those prone to unemployment. These different groups are controlled for through a asset of dummy variables – students being the reference group. There might also be differences across educational groups. Those with higher education will have spent a shorter time in the labour market (all else equal) compared to those ending their education early, hence they might as a result want to work longer. It is also likely that

those with higher education are more satisfied in their job situation, and obviously, they have higher earnings – all of which might make them to prefer a later age for retirement. Education is controlled for by using the number of years of schooling. It is likely that those expressing a higher level of life satisfaction are willing to retire later. As a result, we include a variable measuring individuals' subjective level of happiness. The variable corresponds to the question "How happy are you?" and ranges from 0 (very unhappy) to 10 (very happy). Another factor concerns whether the individual is member of a labour union or not. Generally, we would expect members of such unions to desire earlier retirement, possibly due to harder working conditions or from political pressure exercised by those unions. We also attempt to capture individuals' awareness with respect to political and internal affairs. In line with Boeri et al (2002) we would expect those being better informed, also to have a better understanding of the looming ageing crisis and hence the need for pension reforms. If this is the case, we would expect these individuals to report a higher ideal age of retirement. The control variable is based on the question "how much of the time dedicated to newspaper reading is spent for politics and current affairs articles?" and is recoded ranging from 0 (no time spent, hence not aware) to 4 (more than three hours, hence highly aware). Although the ESS offers similar questions with respect to television and radio, we consider newspaper reading as the better proxy for the knowledge of the issues of interest.

The ESS also contains interesting questions which reflect individuals' economic assessment relevant for their retirement plans. The first refers to worries that the respondent might have in terms of not being able to save sufficiently to live comfortably during the retirement period, whereas the second refers to worries about not being able to live comfortably with the expected retirement income. The ESS also includes a range of questions regarding trust to institutions and other individuals. Admittedly, it is not necessarily clear how these factors should affect individuals' assessment of retirement. Trust towards the country's institutions is to a large extent a measure of quality. Possibly higher levels of trust mean a stronger belief that the responsible institutions will cope and take care of the citizens during old age, and as such might encourage individuals to work longer. As the ESS contains a battery of questions regarding trust, we perform a factor analysis. Two factors are derived – the first being interpreted as trust towards institutions. The second factor is interpreted as trust towards individuals and we take this as a measure of "social capital" meaning the degree of participation and sympathy about country's issues that urge actions of cooperation among individuals for the mutual well-being (Rostilla, 2007).

As will be better explained in the next section, we implement here a multi-level (or random effect) analysis. This means that in addition to individual level variables we can also safely include country level variables. These are listed in Table 3.

Table 3 - Country-Level Variablles

Country	Life Expectancy at 65 (2005)	GDP per Capita (2006)	Unemployment Rate (2007)	Average Number of Years of Education	Retired Individual as % of total Respondents
AT	18,70	35611	4.04	12.732	1,31528
BE	18,40	33527	7.05	12.251	1,38333
BG	14,60	10281	6.09	11.956	1,75347
CH	19,90	38314	3.06	13.647	1,38472
CY	17,95	25791	3.09	11.579	0,13264
DE	18,50	31950	8.04	13.407	0,17500
DK	17,60	35202	3.08	13.51	0,15556
EE	15,55	19134	4.07	12.702	1,43125
ES	19,30	29382	8.03	12.138	0,07569
FI	19,05	32734	6.09	12.604	1,86250
FR	19,85	31316	8.03	12.536	1,85208
GB	18,45	33011	5.03	13.635	1,77153
HU	15,25	18184	7.04	12.188	0,19375
IE	18,45	40719	4.06	12.941	0,11319
LV	14,90	15027	6	11.959	1,41319
NL	18,35	36548	3.02	13.272	1,33125
NO	19,05	52190	2.06	13.649	0,98403
PL	16,40	14673	9.06	11.839	1,31875
PT	17,75	20877	8.01	8.018	1,41458
RO	14,80	10901	6.04	11.22	1,77569
SE	19,05	34870	6.01	12.955	1,05278
SK	15,20	17835	11.01	12.06	1,18542
SL	17,25	24581	4.09	11.944	0,15764

Source: UNECE Statistics (UN Statistics Division) and own computations.

Predicting the expected signs of these variables is rather straight forward for the most part. The first variable concerns the average Life Expectancy at age 65 for the respective country. Our hypothesis is that on average, individuals are willing to work longer, and thus should report a higher ideal age of retirement, as Life Expectancy increases. A higher GDP per capita implies higher income and also better health. The variable has a strong correlation with Life Expectancy, and we expect again a positive relationship with average age of retirement. The effect of the unemployment rate is somewhat less clear. On one hand this would imply lower income and higher uncertainty, and

individuals might as a result desire to retire earlier. On the other hand, if individuals have lower income and experience higher uncertainty in their working careers, they might have to accept that they need to work longer to live comfortably during old age, and hence wanting to work longer to ensure a sufficient retirement income. GDP and the unemployment rate are derived from the UNECE Statistical Division Database and refer to 2005, 2006 and 2007 respectively (GDP is expressed in US$, at prices and PPPs of 2006. As for the average level of education, we expect a higher age of retirement, whereas we are again uncertain by the possible effect of the percentage of retired individuals with respect to the total population. Essentially this is a proxy for the dependency ratio. A high dependency ratio would imply a stronger strain on the social security system, and in so far this is perceived by the individuals they should expect to work longer, thereby reporting a higher age for retirement.

3.2. Methodological Framework

As already mentioned we implement here a multi-level analysis in order to accommodate macro variables and hence better understand to what extent country differences explains variations in the outcomes – as opposed to the individual differences. The two levels are hence defined at the individual and the country levels, where the former is embedded within the latter. Besides belonging to a certain social context and hence shaping it, norms and the institutions will necessarily affect individuals' attitudes and behaviour. In particular, citizens of the same country share both observed and unobserved macro-contexts. The multi-level statistical model facilitates such hierarchical structure through a decomposition of the error term, one being individual specific the other country specific (Goldstein, 2003; Hox, 1995). The model can be written as follows:

$$y_{ij} = x'_{ij}\beta + x'_j\alpha + u_j + \varepsilon_{ij}$$

where y_{ij} represents the response variable for the individual i in the country j and $x'_{ij}\beta$ is the vector of covariates together with the corresponding coefficients. u_j is the country specific error term and ε_{ij} is the error term specific to the individual. Both error terms are assumed independent also with regard to the covariates, normally distributed with zero mean and variances denoted $\sigma_w 2$ and $\sigma_b 2$. The decomposition of the error term is useful in understanding the extent to which retirement preferences are explained by country differences as opposed to individual differences. We start by considering a "null" model, whereby no covariates are included, and consider the estimates of σ_w^2 and σ_b^2. By adding the explanatory variables, measured both at the country level and the individual

level, will reduce the variance of the error terms, and therefore inform us about the importance of country level variables in explaining the variation in the outcome variable. An alternative approach to assess the importance of country level variables we can compute the intra − class correlation expressed as:

$$\rho = \sigma_b{}^2 / (\sigma_b{}^2 + \sigma_w{}^2)$$

The value of the intra-class correlation decrease as the part of the variance explained by the between-country component is large. We report both the intra-class correlation and the estimated coefficients of both country and individual level variables. However, the fact that we only have 23 countries in the analysis means that we cannot include a large number of macro variables. Besides, many of the macro variables are correlated (e.g. GDP per capita and Life Expectancy). As a result, we include the macro variables one by one and compare to what extent they are able to explain (hence reduce) the variance of the country level error term. The multi-level model assumes that none of the covariates are correlated with the error terms. As a result we also estimate a fixed effect version whereby we compare the sign and magnitude of the estimated coefficients with those produced by the Multi-level model. The comparison allows testing correctness of the hypothesis implicit in the Random Effect models, thus the non-correlation among all the random effects and the covariates. If present, the correlation would bias the estimation of the coefficients leading to not reliable results. The estimates of the multi-level model and the fixed effect model are very similar, and the null hypothesis of no correlation between the random effect is not rejected.

3.3. Results and Discussion

Estimates of linear multi-level regressions are reported in Table 4, 5, 6 and 7. As already mentioned, we investigate four different response variables, all of which reflects slightly different dimensions of retirement. We focus on the ideal age of retirement before discussing the other three other outcome variables. Different versions of the multi-level models are presented. Our starting point is the null-model where no covariates are included. As mentioned in previous paragraph, the null model serves as a benchmark to test the explanatory power of the covariates when added in the analysis. Progressively, we include individual-level and macro-covariates to assess how they affect the variation in the outcome variable. For each of the specifications we report the estimated variances of the country specific error term and the intra-class correlation coefficient (ICCC). The estimated variances give us an idea to what extent country differences are explained by the macro

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variables. Naturally, a sizeable reduction in the variance means that the macro variable is important in explaining the country differences. In addition the ICCC gives us an idea on how the variances for the country level error term compares with the individual level ones. In general adding the macro variables, which will explain country differences, the ICCC goes down.

The first thing to notice about the coefficients of the individual level variables is that they remain rather similar for the different specification, also in cases where the country level variables are added. The estimates show that younger individuals have a higher ideal age of retirement, though the effect is clearly nonlinear. Women and those with higher education have a higher ideal age of retirement, whereas those being member of labour union have a considerable lower ideal age. Compared to students, we find that those working, currently unemployed, retirees, home makers and in particular those suffering from long terms sickness have a much lower ideal age of retirement. Interesting, those being currently unemployed are not very different than those working in their views on retirement. As for the level of happiness, which we consider as a proxy for general life satisfaction, we find no significant effects. Nor do we find any significance on the coefficient referring to individuals' assessment towards being able to save sufficiently for their retirement. This is in contrast to their assessment of whether they are able to live comfortable during retirement age. In other words, those who are worried about being able to live comfortable during their retirement period have a preference for earlier retirement. In one sense, this estimate is counter-intuitive since we would expect these individuals wanting to work longer to ensure a more comfortable life during the retirement period (i.e. through accumulating more savings). But the way individuals interpret this question is more in the direction that pensions should be more generous, both in terms of payments being made, but also the age when retirement can be made. In line with our predictions, ehe last three individual level variables have positive coefficients that are highly significant. Thus having a higher trust in institutions, exposed to stronger social capital and a higher level of awareness, all predicts a higher ideal age of retirement.

We move next to consider country differences. The estimated variance of the country specific error term is 3.51 for the null model, but goes down to 2.59 once we include the individual level variables. The ICCC follows accordingly, dropping from 0.133 to 0.105 (comparing model RE1 with RE2). Thus, the individual level differences do explain some of the country differences. However, as we add the country level variables in models RE3 to RE6 we see a much stronger reduction in the ICCC. Model RE3 includes the country specific life expectancies and we see that this has a strong impact on the ideal age of retirement. Thus, the higher the life expectancy of a country, the longer are individuals willing to work. However, the result must be interpreted with

caution in the sense that this variable is correlated with other macro variables – one of them being the GDP per capita. In model RE4 we exclude Life Expectancy but bring in instead the country level GDP per capita. Again, the coefficient is positive and highly significant. Obviously, the ICCC drops substantially. In general, this means that the differences across countries are able to explain the largest part of the total variance. The greatest reduction is achieved when per capita GDP is included in the specification as it brings the ICCC down to 0,05213 and to 0,0466 respectively when included alone and with the other macro-covariates. Furthermore, the across-country variance diminishes from 2,604 to 1,092 meaning that this component is able to explain 58% of the between country variation. High level of GDP also implies higher Life Expectancy, and with 23 countries only it is difficult to separate the two effects. Thus, we are not able to estimate safely the effect of Life Expectancy over higher levels of GDP. Still, the policy implication of these estimates are important since they clearly suggest that as countries develop further, individuals are generally willing to work longer.

As for the other macro variables, we do find a negative relationship between ideal age retirement and the unemployment rate, whereas the average education level does not have any significant impact on retirement preference. Thus, the effect of education works primarily at the individual level. We also find a negative effect of the proportion of retired individuals (over the total), but this effect washes out once we include GDP per capita as control.

Table 5 presents a highly interesting comparison to the ideal age (as reported in table 4). Her individuals are asked about the age when they reach old age – without any indication what defines old age. Are these estimates consistent with those of the ideal age of retirement? As we can see there are several differences. First, the older the respondent, the higher is the reported age constituting old age and again we find a non-linearity in the responses. Women report a much higher age, which is consistent with women on average living longer than men. The longer education, the higher is the assessment of old age – which we assume is related to health status in the sense that the two variables are positively correlated. Interestingly, subjective levels of happiness have a strong and positive impact of what constitutes old age. In contrast to the ideal age results, we find no effect of activity status. Thus, students tend to have similar assessment of what constitutes old age as those working or being unemployment. Even those currently suffering from long-term sickness are not different in their assessment of what constitutes old age. However, those respondents being member of a trade union do report a significantly lower age. Consistent with the ideal age estimates, we find that those with higher level of trust, stronger social capital and generally more aware, report that old age enters at a later stage in life. As for the macro variables,

Life Expectancy and GDP per capita delivers the same positive effects as in the estimates of ideal age. One distinctive feature is that the average years of education are now positive even when GDP per capita is included. Unfortunately, the effect is negative which would be the opposite of what we would expect. As in the estimation of ideal age, the country-level variables account for the largest part of the total variance. Life expectancy and per capita GDP account for a reduction of the between-country variability of 48,5% and 54,7% respectively (compared to the null model).

The differences of these estimates of those estimating the ideal age, suggest that though certain characteristics make individuals willing to work longer, they also prefer to spend a significant part of their retirement being healthy, thus enjoying leisure. The comparison is particularly interesting for those pertaining to activity status. Whereas we found that compared to students, all groups report a significantly lower ideal age of retirement, non of them differed in terms of what constitutes old age. Similarly, those reporting a high level of happiness (i.e. a proxy of life satisfaction) reports old stage to take place at a later stage in the life course, but there is not significant difference when considering the ideal age of retirement.

Table 4 – Multi-Level Analysis on Ideal Age of Retirement

Variables	FE coeff	FE std err	RE 1 (null model) coeff	RE 1 std err	RE 2 (individual only) coeff	RE 2 std err	RE 3 (ind + lexp65) coeff	RE 3 std err	RE 4 (ind + GDP) coeff	RE 4 std err	RE 5 (ind + lexp65 &others) coeff	RE 5 std err	RE 6 (ind + GDP &others) coeff	RE 6 std err
age	-0.0290024**	.0133819			-.0292315**	.0133806	-.029259	.0133802**	-.0290889**	.0133795	-.0292313**	.0133803	-.0292091**	.01338
age2	0.0007044***	.000139			.0007074***	.000139	.000707	.000139***	.000705***	.0001389	.0007064***	.000139	.0007063***	.000139
female	0.5969667***	.0733568			.5961903***	.0733497	.5977231	.0733499***	.5979789***	.073344	.5979359***	.0733476	.5982128***	.0733444
eduyrs	0.1325454***	.0105363			.1324119***	.0105332	.1322953	.0105322***	.1319419***	.0105301	.1321536***	.0105346	.1322054***	.0105345
happy	-0.0306747	.0214584			-.0294179	.0214518	-.0303866	.0214549	-.0306143	.0214508	-.0307871	.0214538	-.0308143	.0214503
mbu	-0.3949319***	.0818829			-.388384***	.0818123	-.3846552	.0817907***	-.3855138***	.081741	-.3840424***	.0817731	-.3841203***	.081742
work	-1.143242***	.1620267			-1.141935***	.1620195	-1.142351	.1620173***	-1.140939***	.1620117	-1.142675***	.1620147	-1.142178***	.1620121
retired	-1.508911***	.2085438			-1.515302***	.2085324	-1.514666	.2085306***	-1.512884***	.2085283	-1.512223***	.2085306	-1.511821***	.2085289
sick	-1.816759***	.3008394			-1.813454***	.3008261	-1.813741	.3008217***	-1.815486***	.3008134	-1.815959***	.300818	-1.815574***	.3008142
unempl	-1.116939***	.2331743			-1.114347***	.233169	-1.116727	.2331698***	-1.117194***	.2331659	-1.115386***	.2331681	-1.115521***	.2331659
home	-1.524755***	.2027653			-1.523116***	.2027459	-1.525269	.2027414***	-1.527987***	.2027294	-1.529473***	.2027326	-1.530524***	.2027266
ablesave	-0.1011196	.0783296			-.0985975	.0782947	-.1011471	.0782919	-.1054805	.078281	-.1028362	.0782887	-.1044438	.0782849
ablelive	-0.1249434***	.0348028			-.1284428***	.0347886	-.1282676	.0347869***	-.1273038***	.0347873	-.126928***	.0347909	-.1266039***	.0347906
trust	0.327664***	.0385787			.3319761***	.0385496	.3308327	.0385502***	.3298424***	.0385424	.3295675***	.0385453	.3292922***	.0385402
socialk	0.3430102***	.0408082			.3500382***	.0407608	.3484249	.0407681***	.3462573***	.040774	.3478145***	.0407723	.3471164***	.0407752
awareness	0.3261883***	.0717915			.3278264***	.0717841	.3288714	.0717817***	.3300543***	.0717761	.3285589***	.0717826	.3286598***	.0717808
lexp65							.5008585	.1736355***			.2898237*	.1575444		
GDP									.0001122***	.0000226			.0000825***	.0000308
propret											-11.16688*	5.749398	-8.166025	5.548326
meanedyr											.0778461	.230664	-.1262773	.2360812
unemplrt											-32.91933***	12.20683	-22.69891*	12.23353
cons	59.46608***	.3951432	59.90558***	0.3924	59.13002***	.4785448	50.33227	3.082611***	55.99958***	.7542702	57.43829***	4.174988	61.50146***	3.091988
Variance Across Country			3.507453***	1.0663	2.586815***	.7912963	1.933537***	.6074067	1.230821***	.3906305	1.287974***	.4401131	1.089832***	.3740246
ICCC			0.13257		0.10489		0.08053		0.05281		0.05513		0.04705	
n° obs	18017		18077		18017		18017		18017		18017		18017	

Table 5 – Multi-Level Analysis on Age Reaching Old Age

Variables	FE coeff	FE std err	RE 1 (null model) coeff	RE 1 std err	RE 2 (individual only) coeff	RE 2 std err	RE 3 (ind + lexp65) coeff	RE 3 std err	RE 4 (ind + GDP) coeff	RE 4 std err	RE 5 (ind + lexp65 &others) coeff	RE 5 std err	RE 6 (ind + GDP &others) coeff	RE 6 std err
age	.2382945***	.0205015			.2380789***	.0204997	.238014***	.0204981	.2384237***	.0204979	.2378654***	.0204992	.2379978***	.0204988
age2	-.0013466***	.0002128			-.0013428***	.0002128	-.0013433***	.0002128	-.0013471***	.0002128	-.0013418***	.0002128	-.0013424***	.0002128
female	2.462934***	.1124118			2.461262***	.112401	2.464783***	.1123973	2.463471***	.1123919	2.465265***	.1123973	2.464825***	.1123931
eduyrs	.0577187***	.0161573			.0574095***	.0161528	.0569561***	.0161489	.0565687***	.016148	.0573577***	.0161547	.0575532***	.0161547
happy	.2564608***	.0328374			.258353***	.0328274	.2561295***	.0328303	.2564656***	.032826	.2555798***	.0328304	.2560718***	.0328255
mbu	-.2478688**	.1254173			-.24811**	.1253131	-.2441251*	.1252281	-.2548105**	.1252044	-.2449122*	.1252488	-.2509565**	.1252108
work	.1607223	.2484366			.1647436	.2484256	.1659468	.2484166	.1686404	.2484132	.1645777	.2484178	.1665452	.2484146
retired	.1761234	.3197218			.1698064	.3197048	.1719166	.3196947	.1769988	.3196982	.1745839	.3197012	.1763405	.3196994
sick	.1647043	.4604336			.1688501	.4604135	.168297	.460397	.1645242	.4603941	.1676736	.4604014	.1686965	.4603969
unempl	-.2463613	.3565168			-.2398045	.3565089	-.2430371	.3565076	-.2408877	.3565037	-.2407799	.3565078	-.2390912	.3565044
home	-.2752065	.3108225			-.2685906	.3107934	-.2702982	.310773	-.2714969	.3107677	-.2733505	.3107722	-.2727953	.3107653
ablesave	.1920409	.1200548			.2004169*	.1200029	.1983191*	.1199766	.1949394	.1199809	.2000971*	.1199912	.1990297*	.1199883
ablelive	-.1071675**	.0532824			-.110545**	.0532616	-.1098035**	.0532501	-.1067796**	.0532594	-.107827**	.0532644	-.106569**	.0532647
trust	.1851931***	.0590393			.1908266***	.058996	.1885935***	.0589804	.1866677***	.0589842	.1868891***	.0589873	.1865147***	.0589822
socialk	.2025757***	.0624208			.2110079***	.0623512	.2074467***	.0623388	.2029287***	.06237	.2068448***	.0623663	.2049941***	.0623731
awareness	.2711697**	.110009			.2729483**	.109998	.2758666**	.1099889	.2757044**	.1099857	.2737238**	.1099953	.2730366**	.1099931
lexp65							1.022242***	.2300807			.8983305***	.2414103		
GDP									.0001765***	.0000351			.0002038***	.0000483
propret											-9.154942	8.809452	-3.427267	8.703971
meanedyr											-.3216956	.3534658	-.7628781**	.3703237
unemplrt											-36.58521*	18.70391	-13.52286	19.19014
cons	56.32542***	.6042649	66.95976***	.5984374	55.23535***	.739987	37.27731***	4.091848	50.3017***	1.165301	47.61302***	6.397234	60.54881***	4.848762
Variance Across Country			8.152005***	2.479983	6.307343***	1.926323	3.370059***	1.064002	2.953099***	.9344906	3.024034***	1.034187	2.685561***	.9191989
ICCC			0.12390		0.10786		0.06068		0.05357		0.05479		0.04896	
n° obs	18147		18209		18147		18147		18147		18147		18147	

The estimates pertaining to the upper age limit for working fulltime and lower limit for retirement are reported in Tables 6 and 7. The questions are in the same spirit of the ideal age estimates, and serves therefore as a robustness check. Looking at Table 6 and comparing those estimates of those reported in Table 4 (ideal age) we find a high level of consistency. A key difference appears for the effect of age, however. The higher the age, the higher is the reported upper age limit for working fulltime. As for the individual level variables, the only other significant difference is found among the activity statuses: those working or being unemployment do not report a different age than those classified as student. The macro variables do differ somewhat. For instance, Life expectancy does not distinguish differences in a significant way. GDP per capita does, but the effect washes away once other macro variables are included. The lack of explanatory power of these macro variables are also reflected in the reported ICCC. It is 0.085 for the null model, and goes down to 0.053 once all macro variables are included. The estimates for the lower age limit of retirement shows a very similar picture. These estimates are shown in Table 7, and the question regards which age individuals consider too young to retire. Bearing in mind that The upper age limit in Table 6 refers to working full time, we see easily that the estimates consistent. The key differences are found for the activity statuses working and unemployment, which are agin significant, and therefore consistent with the estimates in Table 4. The other difference concerns being member of a trade union and awareness, none of which have statistical significant coefficients.

Table 6 – Multi-Level Analysis on Upper age limit

Variables	FE coeff	std err	RE 1 (null model) coeff	std err	RE 2 (individual only) coeff	std err	RE 3 (ind + lexp65) coeff	std err	RE 4 (ind + GDP) coeff	std err	RE 5 (ind + lexp65 &others) coeff	std err	RE 6 (ind + GDP &others) coeff	std err
age	.1236153***	.0195589			.1233506***	.0195556	.1233685***	.0195554	.1235475***	.0195553	.1234059***	.0195566	.1234302***	.0195565
age2	-.0007485***	.0002031			-.0007453***	.0002031	-.0007463***	.0002031	-.0007483***	.0002031	-.0007468***	.0002031	-.000747***	.0002031
female	.7940407***	.1071881			.7938878***	.1071698	.7954867***	.1071739	.795564***	.1071692	.795632***	.1071748	.7957425***	.1071725
eduyrs	.2508316***	.0153989			.2501727***	.0153907	.250073***	.0153903	.2498419***	.0153895	.2502072***	.0153964	.2502563***	.0153966
happy	-.0008591	.0313916			.0007315	.0313737	-.0004694	.0313841	-.0007075	.0313799	-.0009036	.0313847	-.0009164	.031381
mbu	-.377913***	.1196148			-.3662237***	.1194306	-.3640724***	.1194236	-.3668223***	.1194034	-.3660057***	.1194562	-.3667089***	.1194363
work	-.0826455	.2370316			-.0797805	.2370118	-.0803582	.2370111	-.0794946	.2370081	-.0814123	.2370133	-.0811328	.2370122
retired	-.8202021***	.3049365			-.8293755***	.3049063	-.8274595***	.3049086	-.824993***	.3049126	-.8241727***	.3049166	-.8237431***	.3049168
sick	-1.74891***	.439936			-1.748562***	.4398995	-1.750016***	.4398983	-1.752498***	.4398963	-1.752164***	.4399046	-1.752089***	.4399037
unempl	-.4494022	.340012			-.4461043	.3399971	-.448983	.3400021	-.4493029	.3399984	-.447748	.3400025	-.4479204	.3400007
home	-1.265483***	.2965756			-1.268213***	.2965241	-1.270839***	.2965254	-1.273149***	.2965213	-1.274267***	.296528	-1.274621***	.2965262
ablesave	.0406239	.1145162			.0419074	.1144242	.0388801	.1144368	.0357357	.114443	.0383863	.1144564	.0375775	.1144592
ablelive	-.3011323***	.0508378			-.3062702***	.0508011	-.3053654***	.0508052	-.3039814***	.0508148	-.3034125***	.0508206	-.3031121***	.0508223
trust	.4757054***	.0564238			.481665***	.0563475	.4796594***	.0563642	.4782386***	.0563695	.4777935***	.056375	.4775017***	.0563747
socialk	.5275163***	.0596465			.5386069***	.0595228	.5356283***	.0595634	.5330598***	.0595961	.5340411***	.0595949	.5333651***	.0596051
awareness	.2236269**	.1050556			.2267555**	.105036	.2274056**	.1050353	.2276613**	.1050325	.2258838**	.1050428	.2257738**	.105042
lexp65							.3236517	.2127247			.1795595	.2311022		
GDP									.0000733**	.0000327			.0000518	.0000483
propret											-9.052811	8.432956	-7.141575	8.702225
meanedyr											-.0736076	.3383109	-.2028588	.3700601
unemplrt											-27.35265	17.9039	-20.90612	19.18175
cons	55.93045***	.5759563	61.74089***	.451468	55.39267***	.6174473	49.7101***	3.784826	53.35019***	1.092514	56.73153***	6.123584	59.24475***	4.843213
Variance Across Country			4.614821***	1.410426	3.04947***	.9411721	2.874953***	.9087052	2.569798***	.8143421	2.771396***	.9450876	2.690273***	.9180018
ICCC			0.08553		0.06072		0.05744		0.05166		0.05549		0.05395	
n° obs	18033		18095		18033		18033		18033		18033		18033	

Table 7 – Multi-Level Analysis on Lower age limit

Variables	FE coeff	FE std err	RE 1 (null model) coeff	RE 1 std err	RE 2 (individual only) coeff	RE 2 std err	RE 3 (ind + lexp65) coeff	RE 3 std err	RE 4 (ind + GDP) coeff	RE 4 std err	RE 5 (ind + lexp65 &others) coeff	RE 5 std err	RE 6 (ind + GDP &others) coeff	RE 6 std err
age	.1554652***	.0209311			.1546212***	.0209282	.1546555***	.0209282	.1546914***	.0209277	.1548984***	.0209288	.1548673***	.0209287
age2	-.0006561***	.0002169			-.000647***	.0002168	-.0006478***	.0002168	-.000649***	.0002168	-.0006508***	.0002169	-.0006509***	.0002169
female	-.1776497	.1145496			-.1746894	.1145334	-.1740139	.1145379	-.1718437	.1145314	-.1740935	.1145362	-.1729707	.114534
eduyrs	.1679823***	.0164197			.1681097***	.0164126	.1680762***	.0164128	.1678771***	.0164108	.1673402***	.0164174	.1674172***	.0164176
happy	-.0403242	.033509			-.0398784	.033494	-.0404699	.0335033	-.0418001	.0334985	-.0409649	.0335025	-.0416596	.0334991
mbu	.0695789	.1277722			.0888296	.1276079	.0891052	.1276141	.0909393	.1275671	.08581	.1276084	.0872255	.1275908
work	-.5963206**	.2542544			-.5990014**	.2542387	-.5992469**	.2542394	-.5998285**	.2542345	-.5987242**	.2542381	-.5990728**	.2542376
retired	-.794697**	.326497			-.8077345**	.3264711	-.8062532**	.3264757	-.8036807**	.3264768	-.802395**	.3264792	-.8015972**	.32648
sick	-1.074482**	.4723681			-1.07096**	.4723375	-1.071513**	.4723386	-1.074073**	.4723316	-1.078204**	.4723376	-1.077869**	.4723375
unempl	-.7984837**	.3667158			-.7976575**	.3667042	-.7990275**	.3667089	-.8017177**	.3667047	-.798504**	.366708	-.8004029**	.3667066
home	-1.271113***	.317327			-1.27466***	.317284	-1.275653***	.3172881	-1.280658***	.3172775	-1.280463***	.3172811	-1.281517***	.3172801
ablesave	-.0506895	.1224899			-.0433208	.1224078	-.0449068	.1224246	-.0490694	.1224192	-.0483203	.1224293	-.049919	.1224328
ablelive	-.2429637***	.0543433			-.2482239***	.0543107	-.2475551***	.0543165	-.2457662***	.0543213	-.2450637***	.0543261	-.2445798***	.054328
trust	.3992228***	.0603015			.404279***	.0602341	.4030826***	.0602532	.4002194***	.0602497	.4006109***	.0602528	.3994333***	.060253
socialk	.5049597***	.0637399			.5173904***	.0636294	.5154742***	.0636706	.5117133***	.0636903	.512301***	.0636871	.5104404***	.0636979
awareness	.1790359	.1117532			.1796872	.1117361	.179895	.1117368	.1802893	.1117314	.1803901	.1117406	.180591	.11174
lexp65							.1944987	.259413			-.1067443	.2536391		
GDP									.000099***	.0000368			.0000368	.0000533
propret											-7.58741	9.258979	-4.055157	9.609238
meanedyr											.6548557*	.3713144	.4808453	.4084649
unemplrt											-30.77023	19.65411	-23.41464	21.17533
cons	44.91913***	.6228826	51.31117***	.5247499	45.09898***	.6848147	41.68263***	4.607732	42.34121***	1.217252	42.34073***	6.720854	40.40789***	5.344613
Variance Across Country			6.249401***	1.908637	4.220359***	1.302382	4.307015***	1.360077	3.26235***	1.038828	3.34423***	1.147491	3.284441***	1.128872
ICCC			0.10087		0.07395		0.07536		0.05814		0.05951		0.05851	
n° obs	17698		17759		17698		17698		17698		17698		17698	

4. Model predictions

To be done

5. Conclusions

Different to the mainstream analysis of retirement behaviour, we analyse here the individuals' preferences for retirement. Given the current landscape of ageing and pension reform, such information is important for the policy makers, not only because these policy reforms are necessarily hard to sell to the general electorate, but also because preferences varies widely across individuals in a given country and also across countries. In depth knowledge of the heterogeneity of preferences facilitates a better design of the planned reforms. Our analysis is facilitated by a rather unique set of questions included in the third round of the European Social Survey. In particular, questions are asked about individuals' assessment of ideal age of retirement, assessment of what age constitutes "old age", the highest age for working full time, and the minimum age acceptable for retiring. Given that the questions are highly harmonised and therefore comparable, we are able to compare preferences in 23 European countries and hold differences against the set policy targets defined in the Stockholm and Barcelona targets.

Our estimates confirm indeed that there are large variations in the ideal age of retirement. This is the case both between individuals in any given country and across countries. Interestingly, the estimates for old age deviate from those of ideal age, suggesting that individuals have a strong preference for spending their retirement in good health, and hence enjoying leisure. Our study shows that key macro variables, in particular Life Expectancy and GDP per capita, explains a rather large proportion of the observed country variation. This evidence suggests that countries characterized by higher standard of living are much better suited in introducing pension reforms that imply a lengthening of individuals' working careers. On the contrary, difficulties may be encountered in less rich nations. The fact that life expectancy is positively related to the response variables suggests that there might be an acknowledgment of the demographic ageing by citizens that may progressively understand that they will be able to work even when elder due to the delayed maturation.

More (later)

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Appendix

Country	Code
Austria	AT
Belgium	BE
Bulgaria	BG
Switzerland	CH
Cyprus	CY
Germany	DE
Denmark	DK
Estonia	EE
Spain	ES
Finland	FI
France	FR
United Kingdom	GB
Hungary	HU
Ireland	IE
Latvia	LV
Netherlands	NL
Norway	NO
Poland	PL
Portugal	PT
Romania	RO
Sweden	SE
Slovenia	SI
Slovakia	SK