1. Introduction

The deficiency hypothesis of ageing (Lehman 1953), which states that work capacities decline with age, has been refuted several times, but stereotypes about the performance of ageing workers remain an important barrier to sustainable labour market and social participation in later life (Taylor/Walker 1998; Vos et al. 2008). Age stereotyping and prejudice deprives older people from accessing work opportunities (O'Cinneide 2005) and age discrimination is an obstacle to labour market entry or re-entry at later age (Ghoseh Jr. et al. 2006).

Given the massive implications of population ageing, early exit strategies are no longer a viable alternative and ageing workers' lifelong learning needs to become a leading paradigm. The reality, however, is that participation in formal learning for ageing workers remains consistently below that of their younger colleagues (Descy 2006) and that employers do little to retain and retrain older workers (Henkens 2005). Somewhat paradoxically, employers recognise that population ageing will impact on their ability to attract well qualified personnel in the future, but fail to adapt their human resources policies and programs to reflect the new demographic reality (van Dalen et al. 2009).

Bohlinger and van Loo (2010) cited evidence for Germany that nuances this picture somewhat. Part of the lower participation for ageing people can be traced to the overrepresentation of the inactive among older people. Another issue is that most data on participation in learning focuses on formal training activities. Taking informal learning into account reduces the differences between younger and ageing workers in terms of learning.

Next to the attitudes employers have towards ageing workers (see van Dalen et al. 2009), the attitude individuals have towards work is one of the most important determinants of remaining in the workforce (Rothwell et al. 2008). But while both stereotyping by employers and the age patterns in lifelong learning are prominent in debates on active ageing, individual views and beliefs about age and the impact these have on working life and retirement have received less attention (Paloniemi 2006). Considering the impact of how people themselves think about age is important as active ageing policies and practices, both at national and at enterprise levels may create favourable conditions to prolong working life, but ultimately, the decision to remain active at advanced age is an individual one. There is also broad consensus at the political level that individual choice should be the basis for continuing working in old age. The UN second World Assembly on Ageing concluded that 'older workers must have the opportunity to

work for as long as *they wish* and are able [...]' (United Nations 2002, emphasis added).

In this paper, the question of what determines individual conceptions of age is investigated. Based on the 2006 European Social Survey, the contribution presents empirical analyses of how individual beliefs, experiences, own participation in training and health status impact on the views on the question at what age old age is reached. By increasing understanding on views and beliefs about ageing, the chapter sheds light on innovative features that might be considered in future active ageing policies. In the next section we provide a brief overview of the literature on views on age. The third section outlines our research set-up. Section 4 presents our results. The final section concludes and summarises.

2. Views on old age

Most of the literature on views and beliefs on age have focused on the perspectives of employers (Paloniemi 2006). Schalk (2010) puts forward that employers' views on age depend on whether they employ a conservation model, in which employees are seen as long-lasting organisational assets worthy of investment or a depreciation model, which emphasises the decline of workers' value to the organisation with age (Greller/Stroh 2004; Peterson/Spiker 2005; Yeats et al. 2000). Various studies have shown that employers

- view age as a factor inhibiting performance and learning ability (Aviolo/Barrett 1987; Rosen/Jerdee 1976);
- evaluate older workers more negatively than younger workers (Finkelstein et al. 1995) and
- believe older workers should retire in their mid 50s or early 60s (van Dalen et al. 2009).

Hassell and Perrewe (1995) found that the age of managers is an important determinant of the way ageing employees are viewed. Older supervisors were found to have more negative beliefs about older workers than younger supervisors. These negative ageing stereotypes affect older workers' behaviours and their self-image (Rothwell et al. 2008) and can lead to self-fulfilling prophecies, for instance when ageing workers retire earlier to conform to employer expectations (Hilton/von Hippel 1996).

Recent research suggests that employers perceive ageing employees (50+) to be different from younger employees (35 years or younger) in several respects. Evidence from four European countries suggests that

companies view ageing workers as performing better than younger employees in terms of social skills, reliability, commitment to the organisation, accuracy and customer-oriented skills. On the other hand, ageing workers are felt to have a disadvantage compared to younger workers regarding metal capacity, productivity, creativity, flexibility, willingness to be trained, physical capacity and new technology skills (van Dalen 2009: 52).

Thijssen and Rocco (2010) showed that certain age stereotypes related to productivity and flexibility are hard to overcome, despite the fact that research focusing on individuals has not come up with evidence for a consistent negative relationship between age and performance (McCann/Giles 2002; Warr 1994; OECD 2007; Warwick Institute for Employment Research 2006). In fact a classic study reviewing over 20 years of research on the relation between age and performance concluded that age and performance were generally unrelated (McEvoy/Cascio 1989). Rothwell et al. (2008: 31) found that age is not a reliable predictor for success and that most jobs can be performed by healthy, moderately educated adults regardless of age. Dworschak et al. (2006: 208) pointed out that while some physical work capacities may decline with age, mental capacities such as awareness and concentration are maintained and cognitive and social skills are enhanced. Other studies showed that ageing employees are not less motivated to acquire new skills than younger workers (de Lange et al. 2005) and that a strong motivation to learn may compensate for a decreasing in the speed of learning with age (Ilmarinen 2001). But all these results have to be interpreted with caution. A general problem with studies examining the relationship between age and performance is that they often do not take into account confounding factors, such as the reliability of performance criteria, self-selection of ageing workers into or out of specific jobs, cohort differences and individual differences in terms of health, cognitive ability or job experience (Hansson et al. 1997: 205).

Rothwell et al. (2008) observed that recent evidence suggests that employee attitudes (intrinsic values) are becoming increasingly important motivators to work after the age of 60. Research on general attitudes towards age indicates that individuals of all ages judge older people more negatively than younger people (Kite/Johnson 1988). Another strand of research has investigated how societal attitudes regarding ageing relate to affective reactions, beliefs and knowledge and behavioural responses (Hess 2006). Attitudes towards age and ageing people have been proposed to consist of three components (Eagly/Chaiken 1993): an affective component (feelings towards older individuals), a cognitive component (beliefs or stereotypes towards older people) and a behavioural component (behaviour or behavioural intentions towards older people). In one of the few qualitative studies investigating how employees view the meaning of age, Paloniemi (2006) found that workers are generally ambivalent

about age, while they note the positive meaning of age and experience for competence development in working life.

3. Research questions, method, data and measurement

Avramov and Maskova (2003: 87) noted that at the individual level, the choice to remain active in old age is determined by factors at three different levels: the individual level, the family level and the societal level, while Vickerstaff et al. (2008: 24-28) examined personal, structural and cultural factors as barriers to labour market participation at old age. At the individual level factors such as temperament, environment, social learning, personality and preference are important determinants of the choice to remain active (Avramov/Maskova 2003: 87). This chapter aims to contribute to the debates on active ageing by focusing on individual views and beliefs on age and by providing a preliminary empirical assessment of the factors that influence them. By including several individual psychosocial and cultural factors, it aims to complement research on negative stereotyping by employers by providing an empirical assessment of how Europeans view age and what factors impact on the ways they view age. Identifying factors that drive the decision to remain active at old age opens up new possibilities for active ageing policies that recognise the interaction between employers and individuals when it concerns the decision to remain active on the labour market longer.

Specifically, we address the following two research questions:

R1: At what age are men and women generally considered to be too old to be working and what are the differences between European countries?

R2: What factors have a significant impact on the age at which men and women are generally considered to be too old to be working?

We address the first research question by analysing the differences between men and women and different European countries. The second research question will be approached by multiple regression analysis, in which the age at what people are too old to work is explained by a number of factors. As we want to focus on working a significant amount of time at old age, we define working at old age as working at least 20 hours a week. We distinguish between three different types of factors: Personal, contextual, and factors that relate to personality and views people have on life. The objective of the multivariate regression analysis is exploratory. It is meant to give an initial indication of which factors have positive or negative impact on the age individuals think people become too old to work.

We use the European Social Survey (ESS) held in 2006 for our empirical analyses. The ESS is a large-scale, European cross-national, longitudinal survey, which aims to monitor and interpret changing public attitudes and values within Europe, to investigate how they interact with Europe's changing institutions, and to advance improved methods of cross-national survey measurement in Europe and beyond. The questionnaire includes two main sections, each consisting of approximately 120 items; a 'core' module which remains relatively constant from round to round, plus two or more 'rotating' modules, repeated at intervals. The 2006 rotating modules focused upon personal and social well-being and 'the timing of life', which included questions on work and old age. In 2006, 25 countries participated: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Latvia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine and the United Kingdom. The full dataset contains approximately 43,000 observations. In order to be able to take account of contextual (work) conditions, individuals not currently in paid work are not considered in the analysis.

In order to measure individual views and beliefs on old age, we use the following question from the European Social Survey:

In the same way as people are sometimes considered too young to do certain things, sometimes they are considered to be too old….

After what age would you say a woman/man is generally too old to be working 20 hours or more per week?

All respondents in the ESS were asked to answer this question, with half of them answering it for women and the other half for men. Along with those who did not want to answer the question, people answering that people should never work (age = 0) were recoded as system-missing. Answers exceeding 102 years were recoded 102. A factor that potentially complicates regression analysis is that most respondents tend to answer this core question to be analysed in round numbers, such as 55, 60, 75 or 80, making the distribution of age multi-modal and therefore non-normally distributed. Answers falling in between these round numbers were much scarcer.

A number of different factors are used in the explanatory regression analysis. We use gender, age, educational background, health status, marital status and the degree of preparation for old age as personal factors potentially impacting views on old age. Contextual factors include country, sector of employment, occupation, participation in training, discrimination encountered in the workplace and social network. Finally, we include a number of factors related to personality and views on life. These include happi-

ness, trust, optimism and positivism, taking part in social activities, satisfaction with various aspects of life. They also cover several qualitative assessments on the importance of: Safety, security and predictability; Self-determination, free choice and seeking enjoyment in life; Social equality, helping others, loyalty and modesty; and Money, recognition and success. Table 1 contains an overview of how all explanatory variables were measured.

Factors/components	Items	Measurement
Personal factors		
Gender	Gender	Dummy
Age	Age	In years
Education	Full time education completed	In years
Health	Subjective general health	1-5 scale
Marital status	Being married	Dummy
Preparation for old age	Saving or saved to live comfortably in old age	Dummy
Contextual factors		
Country	Country of residence	Dummy
Sector of industry	NACE sector (16 sectors)	Dummy
Occupation	ISCO occupation (11 occupations)	Dummy
Training	Training course in last 12 months	Dummy
Discrimination	Member of group that is discriminated against	Dummy
Social network	Someone to discuss intimate/personal matters	Dummy
Factors related to personality and views on life		
Happiness	General state of happiness	0-10 scale
Trust	Trust in parliament, police, politicians, political parties, European parliament, United Nations	0-10 scale (added)
Optimism and positivism	Optimism about future	1-5 scale

	Positivism about oneself	1-5 scale
Taking part in social activities	Socially meeting friends/relatives/colleagues	1-7 scale
	Taking part in social activities relative to others	1-5 scale
Satisfaction	Satisfaction with life	0-10 scale
	Satisfaction with economy	0-10 scale
	Satisfaction with government	0-10 scale
	Satisfaction with democracy	0-10 scale
safety, security, predictability	Live in secure and safe surroundings	1-6 scale
	Government is strong and ensures safety	1-6 scale
	Follow traditions and customs	1-6 scale
	To do what is told and follow rules	1-6 scale
Self-determination, free choice, seeking enjoyment in life	Think new ideas and be creative	1-6 scale
	Try new and different things in life	1-6 scale
	To have a good time	1-6 scale
	Make own decisions and be free	1-6 scale
	Seek adventures and have an exiting life	1-6 scale
	Seek fun and things that give pleasure	1-6 scale
Social equality, helping others, loyalty and modesty	People are treated equally and have equal opportunities	1-6 scale
	Understand different people	1-6 scale
	Be humble and modest, not draw attention	1-6 scale

	Help people and care for others well-being	1-6 scale
	Behave properly	1-6 scale
	Be loyal to friends and devote to people close	1-6 scale
	Care for nature and environment	1-6 scale
money, recognition, success	get respect from others	1-6 scale
	be rich, have money and expensive things	1-6 scale
	show abilities and be admired	1-6 scale
	be successful, people recognise achievements	1-6 scale

Table 1: Explanatory variables and their measurement.

In order to take account of the multi-modal distribution of the variable to be explained (the age at which someone is considered to be too old to work 20 hours a week or more), we use an econometric technique called *interval regression*. This is a technique which is similar to ordered probit with the cut points fixed and with the parameters and the variance estimated by maximum likelihood (Wooldridge 2002). An attractive feature of this method is that the estimated parameters can be interpreted in the same way as the parameters of an ordinary least squares regression.

4. Results

At what age are people too old to work 20 hours a week or more? Referring to this question, figure 1 displays the distribution of the core variable in our analysis, separate for the gender the question referred to and in 5-year age brackets. We find that although the distribution peaks at age 60-64 for both men and women, women are generally earlier considered too old to be working 20 hours a week or more than men. From more detailed analyses another factor having a significant impact emerged: educational attainment. The difference in terms of the age at which someone is considered to too old to work between those with 5-9 years of full time education and those with more than 25 years of education is more than five years (59.9 vs. 64.5).