

## **Title: Demographics of adult employees of age 55-70 in Europe.**

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### **Extended Abstract**

#### **Introduction**

One of the main focuses of attention since the end of the XX century is the relationship between the demographic ageing and the labour market participation. The decrease of the workforce, particularly affected by the approach to retirement ages of the baby boom cohort (Díez, 1999; Auer y Fortuny, 2000; Díaz y Llorente, 2005), is reason of great uncertainty about the economic sustainability of the pension systems and the European Welfare System.

The European political agenda of the last years has been characterized by a growing concern with regards to the reduction of the population that contributes and, therefore, sustains the dependent population. To this effect, it has been advocated to extend the period of employment, with regulations such as limiting the anticipated retirement (before promoted), and extending the working life beyond 65 years old. However, this contrasts with the fact that for most of the European countries the employment rates for the population between 55 and 64 years old have considerably decreased in the last decades, with a decline in the mean age of retirement taking place in most of the OECD countries (Auer y Fortuny, 2000; López, 2004b; Antón *et al.*, 2007; Bloom *et al.*, 2011). In this sense, data from OECD organization shows that for 2006-2011 period most countries show mean age at retirement below the statutory one of 65 years: Denmark (63 males/ 61 females); Germany (62 males/ 61 females); Netherlands (63 males/62 females); Spain (62 males/63 females), and France with a legal age at retirement of 60 (59.1 males/59.5 females). There are few exceptions that are close to the legal age like Sweden (66 males/ 64 females) and Portugal (66 males/ 65 females).

Paradoxically, public pension schemes fix normatively (or compulsory) retirement age at 65 years old, and nowadays shifting even further until ages 67 or 68 depending on the country. These patterns of early withdraw suggest a mismatch between individual behaviour and social and political context.

Different factors are related to this trend. For instance, disability or illness are strongly related to withdraw from the labour market (Christensen, Doblhammer *et al.*, 2009). In addition, the interplay between income, savings and retirement benefits and financial incentives to retire have been also found as important determinants of exits from employment (Gordon and Blinder 1980; Couch 1998).

Regarding gender, several studies have found that women's participation in the labour market differs from men's participation (Reitzes, Mutran *et al.* 1998; Garrido, 2004). The first ones have less participation, lower wages, less job security and benefits; and are more likely to leave the labour market to family care, and thus decreasing their opportunities to fulfill the

requirements for a full retirement pension (Even y Macpherson, 1994; Flippen & Tienda, 2000; Baizán et. al., 2001; Stahlberg et. al., 2005).

### **Objectives and research questions**

The objective of this paper is to identify socio-demographic determinants that influence exits from employment of adult population in Europe, with a comparative perspective that takes into account the different context within each country. For that purpose, the employment patterns of adult between ages 55 to 70 is measured depending on age, sex, education, family composition and income. The paper is also focused on how the support that the elderly give/receive affects the transition from employment to retirement, especially in the case of females. The questions that this paper aims to answer are namely:

1. *Which changes have occurred in the employment patterns of adult population at ages near to the official age of retirement in Europe over the past decade?*
2. *Which factors are related to the decision of an early/late exit from the labour market?*
3. *Is there a convergence in cross-country differences?*

The objective of the first question is to describe the evolution of employment and exits from the labour market of adult population in Europe based on the age and time of exit, emphasizing the historical and economical context during this period. The second question states the study of the determinants of the early transition to inactivity, as well as the socio-demographic factors of those workers who continue working after 65 years old. Finally, the third question refers to the cross-country similarities or differences that could be observed in the patterns of employment as well as the effect of contextual and family characteristics of these societies.

### **Data and Methods**

This analysis draws on data that come from the Survey of Health, Ageing and Retirement in Europe (SHARE). Although SHARE has a larger sample of countries for the last wave, in this study we have selected those countries that have participated in the fourth waves of the survey (between 2004 and 2011). This survey records retrospective information about diverse aspects of elderly life careers as work, income, family, health or residential features, which is sorted in thematic modules allowing linkages among life spheres.

We have used information for only one interviewed for each household with ages between 55 and 70 years old. Ten countries will be analyzed: Sweden, Switzerland, The Netherlands, Belgium, Denmark, Spain, Italy, Germany, Austria and France.

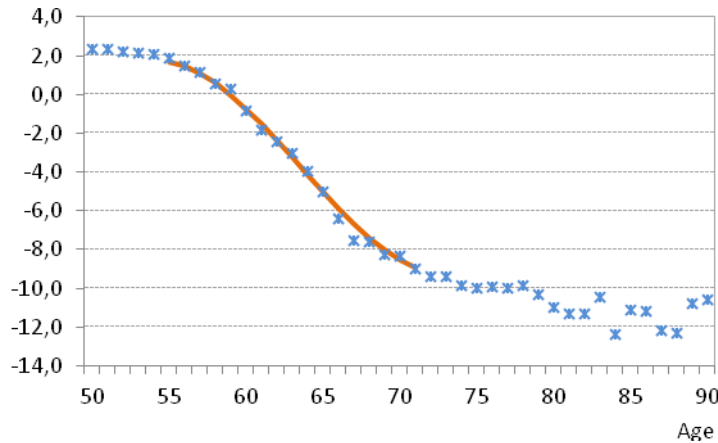
The empirical model used is a Cox non-proportional hazard model with time-invariant and time-variant covariates used to analyse the ageing-in-place behaviour of older Europeans. This discrete time hazard model is very useful to approximate continuous time decisions.

Proportion of employment within each wave will be analyzed for each country and changes in the individual characteristics and of the household. Logistic regression for Panel Data will be used to draw the employment patterns of adult population.

### **Initial Results**

The figure above illustrates the employment age-pattern for the ten countries under study. As shown, there is an important drop of employment at age 55, reducing substantially until the age of 70, when it seems to level off. Given this trend, we will focus in the phenomenon between these ages 55-70. The next step was to check the differences in gender participation and whether there is an interaction or not with age.

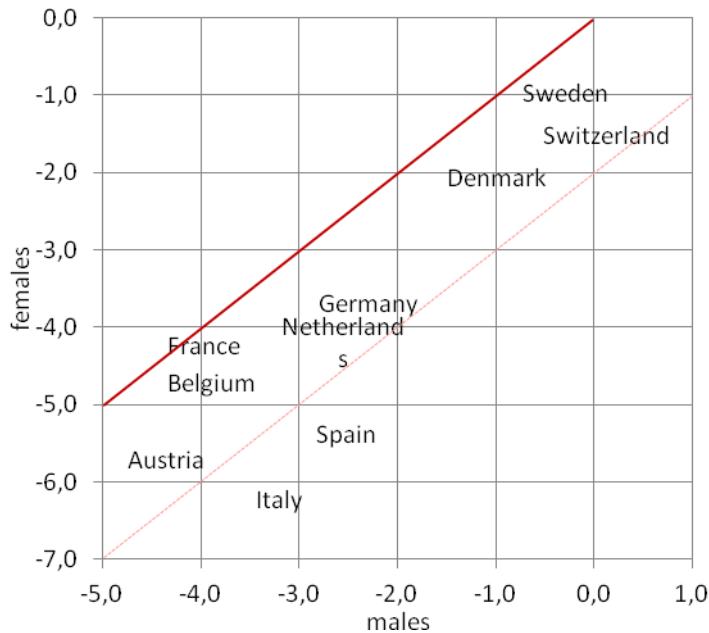
**Figure 1. Labour participation of adult population in Europe by age (Selected countries\*).**



Source: Data from \* Sweden, Switzerland, The Netherlands, Belgium, Denmark, Spain, Italy, Germany, Austria and France (SHARE).

Looking at the coefficients of employment by sex for the countries in study (Figure 2), it can be observed clear sex differences. Firstly, the gender effect is observed for all countries, lying all of them above the red line, which reflects the lower employment of females compare to that of males.

**Figure 2. Employment of population (55-79) by sex and country (coefficients).**



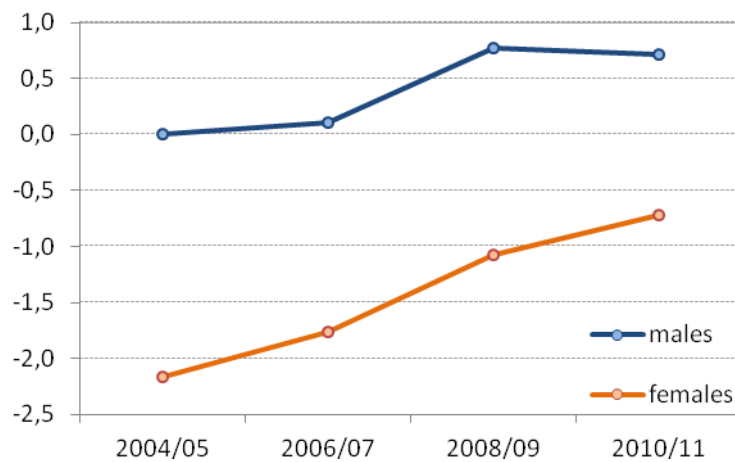
Source: Data from SHARE.

Secondly, at least three groups of countries stand out. Sweden, Switzerland and Denmark show higher coefficients, representing the best equilibrium in the region among sexes. Then,

Spain and Italy are the ones with the higher disparities, almost doubling the effect of the decrease of employment for females respect to males. And the rest of the countries have also less employment than the first group, but with less disparity among sexes than Spain and Italy.

Then the analysis of period was introduced in the model, after check for interaction of age with country and sex. As Figure 4 shows, females are not affected by period or economic effect (taking into account that in the last two waves are affected by the economic crisis started in 2008). In the case of males, from the first waves, slightly increments were observed, but for the last waves, even a small decline is shown. Further steps take into account the effect of education, income (salary of pension benefits) and family arrangements in the probability of working in these countries.

**Figure 4. employment of adult population in different periods by sex (Selected countries\*).**



Note: Coefficients from logistic regressions controlling by age and country.

Source: Data from Sweden, Switzerland, The Netherlands, Belgium, Denmark, Spain, Italy, Germany, Austria and France (SHARE).