Centre d'Estudis Demogràfics

WORKING BEYOND AGE 55 IN SPAIN, 1976-2012

Madelín GÓMEZ-LEÓN
Pau MIRET

430

PAPERS DE DEMOGRAFIA

2013

UNIVERSITAT AUTÒNOMA DE BARCELONA
08193 Bellaterra (Barcelona)

Centre d'Estudis Demogràfics

WORKING BEYOND AGE 55 IN SPAIN, 1976-2012

Madelín GÓMEZ-LEÓN
Pau MIRET

430

La recerca es va presentar, en format pòster,
en el Congrés Internacional "Health, Education and
Retirement over the Prolonged Life Cycle",
celebrat a Viena (Àustria), del 27 al 29 de novembre de 2013.

Centre d'Estudis Demogràfics

2013

Resum.- *Treballar més enllà dels 55 anys a Espanya, 1976-2012*

A l'igual que en la majoria de les societats desenvolupades, el fet que les generacions espanyoles nascudes durant l'explosió de naixements estiguin arribant a l'edat de jubilació provoca una gran incertesa en relació a la sostenibilitat del seu sistema de Seguretat Social. Espanya és ensems una de les poblacions més envellides d'Europa y ha experimentat durant les darreres dècades un increment dels abandonaments del mercat de treball més primerencs. Aquest article apunta a aquesta direcció mitjançant la investigació de la relació entre l'envelliment i la participació laboral. Es busca caracteritzar les sortides des del mercat de treball cap a la inactivitat laboral definitiva entre les edats properes a l'edat oficial de jubilació (55-64 anys). S'utilitzarà la Enquesta de Població Activa des de 1999 fins 2012, una panel de llars trimestral que inclou variables sobre el nivell d'instrucció i les pautes de convivència. Controlem per edat, sexe i període d'observació. En primer lloc, es troba que a major nivell d'instrucció, jubilació més tardana. En segon lloc, observem una clar efecte de gènere en aquest fenomen en relació a les pautes de convivència.

Paraules clau.- Mercat de treball, jubilació, Espanya, Educació, Gènere.

Resumen.- *Trabajar más allá de los 55 años en España, 1976-2012*

Al igual que en la mayoría de sociedades desarrolladas, el hecho que las generaciones españolas nacidas durante la explosión de nacimientos estén llegando a la edad de jubilación provoca una gran incerteza en relación a la sostenibilidad de su sistema de Seguridad Social. España es a la vez una de las poblaciones más envejecidas de Europa y ha experimentado durante las últimas décadas un incremento de los abandonos del mercado de trabajo más tempranos. Este artículo apunta en esta dirección mediante la investigación de la relación entre el envejecimiento y la participación laboral. Se busca caracterizar las salidas desde el mercado de trabajo hacia la inactividad laboral definitiva en las edades próximas a la edad oficial de jubilación (55-64 años). Se utilizará la Encuesta de Población Activa desde 1999 hasta 2012, un panel de hogares trimestral que incluye variables sobre el nivel de instrucción y las pautas de convivencia. Controlamos por edad, sexo y período de observación. En primer lugar, se encuentra que a mayor nivel de instrucción, jubilación más tardía. En segundo lugar, observamos un claro efecto del género en este fenómeno en relación a las pautas de convivencia.

Palabras clave.- Mercado de trabajo, jubilación, España, Educación, Género.

Abstract.- *Working beyond age 55 in Spain, 1976-2012*

Like in most of the developed societies, the fact that Spain's baby boom cohort is entering retirement age causes great uncertainty about the economic sustainability of its Social Security System. Spain is both one of the most aged population in Europe, and has experienced during the last decades an increase in the earlier retirements from the labour market. This article addresses this by investigating the relationship between ageing and labour participation. It aims to characterize the exits from the labour market towards permanent labour inactivity of adults with ages near the official retirement age in Spain (55-64 years). We use the Spanish Labour Force Survey from 1999 to 2012, a quarterly household panel that includes variables on educational attainment and living arrangements. We control for age, sex and observational period. Firstly, we found that the higher the individual's education, the later their retirement. Secondly, we observed a clear gender effect in this phenomenon according to living arrangements.

Key words.- Labour Market, Retirement, Spain, Education, Gender.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

WORKING BEYOND AGE 55 IN SPAIN, 1976-2012[1]

Madelín GOMEZ-LEÓN
M.Gomez-Leon@southampton.ac.uk

Pau MIRET-GAMUNDI
pmiret@ced.uab.cat

1.- Introduction

Since the end of the XX century, scholars and policy makers in general have been increasingly concerned about the demographic, social, and economic consequences of population ageing (Oeppen & Vaupel, 2002; Christensen *et al.*, 2009; Bloom *et al.*, 2011). In this regard, much attention has focused on the relationship between demographic ageing and the labour market. The declining workforce, due to both factors, the decline of entries at younger ages but especially to the retirement of the baby boom cohorts (Díez, 1999; Auer & Fortuny, 2000; Díaz & Llorente, 2005), causes great uncertainty about the economic sustainability of the European Welfare System, particularly its pension systems.

Spain, in particular, is facing this demographic and economic situation. Spain is among the most aged population structures in Europe (Gómez, 1995) and, together with most European countries, has shown a pattern of earlier a transition towards labour exits of adults at ages increasingly lower (Quinn, 1999; Gendell, 2001; Garrido & Chuliá, 2005; Christensen *et al.*, 2009).

This paper examines the relationship between ageing and labour participation, paying special attention to the permanent exits of older adults. For adults approaching the State

[1] The research was part of the PhD thesis of Madelín Gómez and was also supported by the Research Project 2011-13 "Labour market dynamic and family formation in Spain during the turn of the Century"(CS02010-21028/SOCI), in which Pau Miret is Principal Investigator and Madelín Gómez is Co-Investigator.

Pension Age (SPA)[2] in Spain, this paper aims to characterize the nature of labour market exits towards permanent inactivity. Specifically, the paper will:

- Describe the employment patterns of individuals close to the official age of retirement in Spain.
- Analyse the socio-demographic determinants that influence the transition to permanent labour inactivity of older adults in Spain.

The descriptive analysis illustrates the evolution of employment and labour market exits in Spain, highlighting the historical and economic contexts during the period of study. The employment patterns will be based in panel data information on employment status and the individual's age at exit, which is taken as permanent exit after age of 55 years old, given the difficulties that people faced to re-enter to employment at this stage of their lives. The second analysis studies the determinants of exits from the labour market from two sides, those who experience an early transition into inactivity, as well as for those workers who continue working after 65 years old.

The phenomena of the transition to inactivity of adult population can be analysed from a variety of areas and with a multiplicity of determinant factors. Using a demographic approach, this paper investigates the changes observed in the age of exit from employment and the factors that influence the exit, such as gender, educational attainment and living arrangements.

2.- Contextual and individual background

The recent European political agenda has been characterized by a growing concern with regards to the decline of the population that contributes and, therefore, sustains the dependent population out of the labour market. As a result, they have advocated for extending those years in employment with regulations that limit early retirement (strongly promoted in the eighties and nineties, but still used in many countries), and extend the

[2] State Pension Age (SPA) is 65 for both sexes in Spain. Refers to the age at which an individual can apply for 100% of a retirement pension, given the years of working experience and contributions made to the pension pot.

retirement age beyond the SPA. However, these efforts are happening in a context where the employment rates for 55-64 year-olds have considerably declined in the last decades in most European countries, resulting in a decline in the mean actual retirement age in most OECD countries (Auer & Fortuny, 2000; López, 2004; Antón *et al.*, 2007; Bloom *et al.*, 2011) like in the case of Spain, where the SPA is set at age 65 but, the mean age of exit was 62 in 2011.

Withdrawal from the labour market is basically determined by three interrelated dimensions: the institutional or legal context (macro level); the structural or economic context (macro level); and finally individual characteristics (micro level).

The first dimension is the institutional or legal context, which is determined primarily by the legal framework. This framework limits and conditions the duration of an individual's years in employment, by regulating the age for possible entrance into the labour market, and age for withdrawal or retirement with a regulated source of income (pension or other benefits). Furthermore, in this dimension the conditions to perceive an economic benefit are established. For those individuals who have worked for a period of time, they can have access to a retirement pension after fulfilling the requirements. In cases of a temporary exit or unmet retirement requirements, individuals can apply for other types of benefits, including unemployment benefit, a widely-used pathway of early labour market exit for older adults, as discussed below.

During the 1970's and 1980's, governments and companies promoted mechanisms and regulations favouring the early labour market exit (before age 65). However, there are efforts to reverse this tendency since, in the 1990's and 2000's.

The second dimension corresponds to the structural or economical context, and refers to the labour market conditions which affect the supply and demand of the workforce. According to this, lower employment rates would be related to economic depression or changes in the economic system. Several studies have found that the labour inactivity of the elderly adults was higher in those countries that widely promoted early retirement programs (Blöndal y Scarpetta, 1998; Gruber y Wise, 1999) which were a response to the economic recessions, but later on used a permanent mechanisms of labour force regulation.

In Spain, the economic crisis of the 1970s, along with the political transition (after Franco´s death in 1975) and the economic and social changes aggravated the employment crisis, affecting all ages. The early retirement schemes were mainly used to mitigate the effects of the industrial re-conversion of the 1980s, although the agriculture sector, a major sector of the Spanish economy, was also affected (Díez, 1999). Nevertheless, during the subsequent economic crisis, this mechanism was used again under the legal permissibility of the authorities and the interest of the companies, becoming a norm used in all sectors.

The third dimension refers to the individual context, which influences both the entrance to and permanence in the labour market. The effect of gender (Kalleberg & Sorensen, 1979; Garrido, 2004), health (Christensen *et al.*, 2009), educational attainment (Sicherman & Galor, 1990; Garrido & Chuliá, 2005; Dittrich *et al.*, 2011) and living arrangements (Even & MacPherson, 1994; Ruhm, 1996; Ortiz, 2004) are among the main individual determinants affecting the transition to the permanent exit from the labour force.

During the last century, vital events such as family formation, educational achievement and the entrance to the labour market underwent important transformations, both in the moment of experience as well as the duration throughout the life cycle. The delaying of these events, together with a higher population survival induces to think that other events such as exit from employment should also be delayed. However, improvements in health and higher life expectancy have not been translated into a lengthier working life. Instead, the proportion of the population leaving the labour market in their early 50s has been increasing over time. This represents a premature exit of nearly 15 years in relation to the defined SPA (age of 65), which is the same for most of European countries and in Spain, which is the country that will be analysed in this research.

3.- Data and method

Data

Given this paper’s objective of analysing the permanent exit from employment of adults, it targets males and females between 50 and 75 years old.

Of overall interest is the 1976-2012 period, however, each of the three sections handle time in a different way: the first analyses the employment status of adult population for the entire period; the second section focuses on the 1990-2012 period and divides this into two sub-periods, one of economic crisis and the other of economic expansion; finally, the third section is dedicated to the recent 1999-2012 period, given that is when we have access to data on living arrangement situation of our target population.

We use data from the Spanish Labour Force Survey (LFS) conducted by Spain's National Institute of Statistics. With coverage across the entire national territory, the LFS covers the entire national territory, and it is a continuous quarterly survey (one-sixth of the sample is changed in each round). As a result, each household could be followed up to six waves (for a total of a year and a half); this information will be used to conduct panel data analysis in the last part of the paper. LFS collects cross-sectional information (the reference is the week previous to the day of interview) regarding all members of the household[3] such as sex, marital status, educational attainment and their labour activity.

Individuals who were between 50 and 74 years old in any year from 1976 to 2012 were selected, producing a final sample of 7,301,454 individuals, 53% female, and 66% have between 50 to 64 years old. For the panel data analysis, we reduced the period of interest to 1999-2012, given that is the period where the relationship of the individuals within the household can be analysed, regarding the presence of children, parents and partners. As a result, that subsample was 361,422 individuals with 1,109,101 observations.

The variable recording the educational attainment has change over time, following the subsequent reforms of the Spanish Education System in the last fifty years, with 5 main changes in the classification; therefore, the standardization of the variable takes into account these changes having as a result the following categories:

- Illiterate
- Primary level or non-schooled
- Compulsory secondary education
- Non-compulsory secondary education
- Vocational training
- University (Up to 3 years)
- University (More than 3 years)

In relation with household arrangements, from 1999 the relationships of all household members is elicited, where the following categories were chosen:

[3] Secondary or stage households are excluded, as well as collective households, hospitals and military lodging.

With others: non parents/ partners/ children	Only with father
Alone	Only with mother
With the partner	With parents
With children	With father and partner
With mother and children	With mother and partner
With father, partner and children	With mother, partner and children
With parents and partner	With parents, partner and children

Methods

Each section uses different methods. For the first section, we use descriptive analysis to compare the age of exit from employment for different European countries, as well as the remaining life expectancy at age 60 in Spain, according to the years in employment from this age onwards.

The second section analyses employment trends (employed /unemployed/inactive) for 50-64 year-olds in Spain between 1976 and 2012 periods, by sex. Moreover, the paper analyzes the factors which influence permanence in the labour market. Multivariate analysis is used to estimate the effect of different variables on the probability of being employed or not. Given that our dependent variable is dichotomous, logistic regression is used for different periods, level of education and sex.

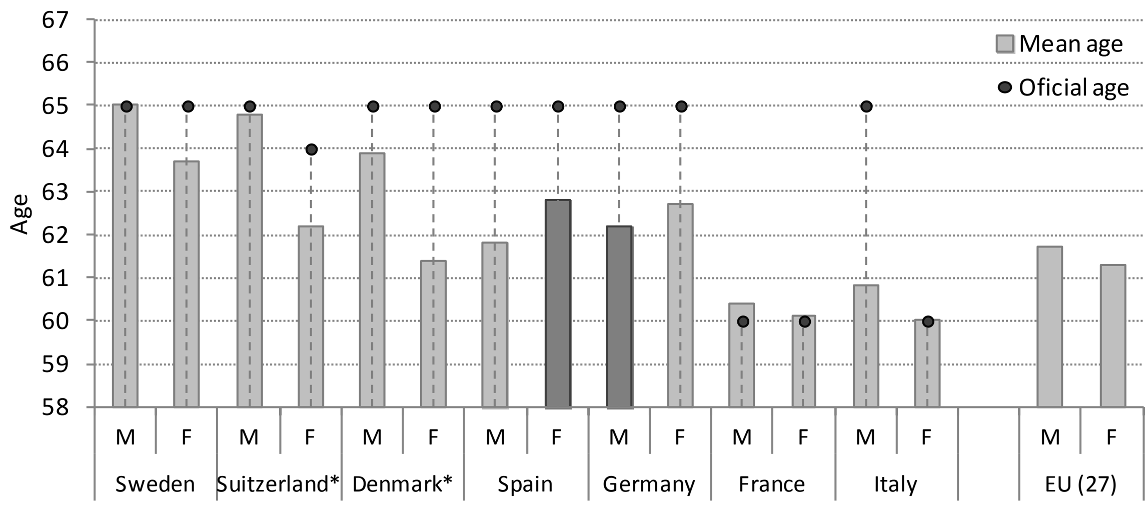
In the third section's panel data analysis of the 1999-2012 period, hierarchical logistic regressions with random effects are used to take into account that each individual can have more than one observation over time, up to six in our case (Diggle *et al.*, 2002).

4.- Demographic potential of the workforce

Nowadays, the political and social debate regarding labour force participation focuses on delaying the permanent exit from employment beyond SPA. However, a large proportion of individuals do not even reach this age still active in the labour market; this has been observed in the declining mean age of labour market exit in most European countries, in particular in Spain.

As shown in Figure 1, several European countries have a mean age of exit below the SPA (65 years), and it differs by gender. In 2010, the mean age for the European Union (UE-27) was around 61, higher for males, and lower for females. Sweden, Switzerland and Denmark show the highest age of retirement and are greater for males (65 or 64), while Spain and Germany, which are closer to the UE-27 levels, have higher ages of exit for females (almost 63) while males are about age 62.

Figure 1.- Mean age of labour market exit by sex, European Union and selected countries (2010)



Source.- Data from Eurostat (http://epp.eurostat.ec.europa.eu) consulted on 24/06/2013.

Note.- Mean age of exit has been weighted by the probability of exit from age 40 onwards, more details at OECD, 2009. (*) Corresponds to data from 2009.

This early pattern of exit from employment has taken place since the 1970's and 1980's, when most OECD countries used early retirement programs to respond to economic crisis and restructuration. In Spain, early labour market exits started to reduce significantly the total years in employment in the 1980s, which has contrasted with the evolution of the life expectancy, continuously increasing over time.

These two opposing phenomena are depicted in Figure 2, which shows the life expectancy at birth (light grey bars) and the years in employment (dark grey bars) according to the age of exit from the labour market.

Figure 2.- Life expectancy at birth, by years in employment or not, Spain

Source.- Data for life expectancy from INE (www.ine.es); data for mean age of exit from labour market, from Eurostat (http://epp.eurostat.ec.europa.eu) consulted on 24/06/2013.

Note.- Years in employment are calculated using the Mean age of labour market exit; Years out of labour market corresponds with life expectancy at birth.

As can be seen from the graph, life expectancy at birth has increased over time, 79.1 and 85.1 years for over-60 males and females respectively in 2010, which represents 2.1 and 4.9 more years than in 1970. However, during the same period, years in employment have decreased, since people leave earlier and earlier the labour market.

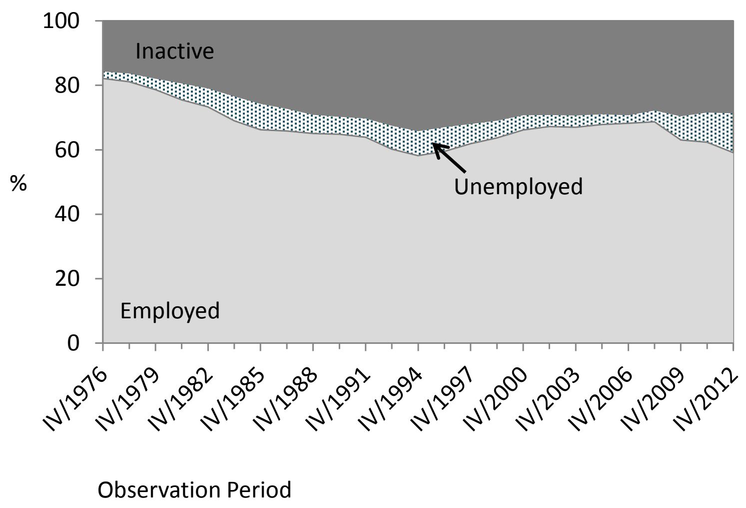
Noteworthy is the fact that in 1970, the average exit from employment happened after 65, especially for females in the labor market who, on average, worked beyond 70. By 1990, an important reduction of the working years had already taken place, with the labor force exiting before age 65, with earlier exits for males. In 2010, the reduction of the working years continues, with 3.2 and 2.2 years below 65 for males and females respectively.

Figure 2 shows that the effective mean age of retirement, and hence, an individual's average years in the labour market, have decreased over the last 40 years, despite political efforts to increase the mean age of retirement even to 67 as proposed in countries such as Spain, Germany among others.

5.- Labour market differences by sex for the Spanish adult population

After having documented a decrease in the mean age of labor market exit, we now examine the labour market relationship of those individuals younger than 65. Figure 3 shows the proportions of Spanish males aged 50 to 64 who are employed, unemployed or inactive, for the period 1976-2012. The highest level of employment was observed at the beginning of the period, in the mid-1970s, when around 80% worked. This level dropped markedly by the end of the seventies and beginning of the eighties, stabilizing in 1985 at 65%, but then fell even lower during the 1990-1994 economic crises to 58%. Afterwards, during the 1995-2008 period of economic growth, employment levels increased, but only to 69%, far from the maximum of the 1970s. The economic crisis of 2008 disrupted the evolution, with employment falling to 1996 levels, about 60%.

Figure 3.- Male population aged 50-64, by relationship to labour market, Spain (1976-2012)



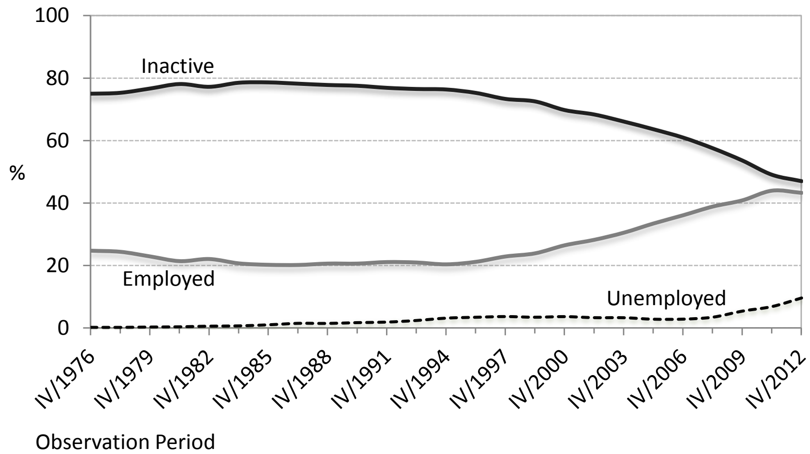
Source.- Spanish Labour Force Survey (LFS).

Given the fall of employment levels for the first half of the period, unemployment proportions should had experienced a higher increase, as compared with what actually occurred. Percentages of the unemployed 50-64 year olds increased only from 2% (in 2007) to 8% (in 2012), therefore, a vast amount of those leaving the labour market were into inactivity, therefore a permanent exit.

Proportion of inactive 50-64 year old men was around 15% in 1976, doubled by 1994, and then remained around 25% until 2012. Even during times of economic growth, the level of inactive 50 to 64 year old men remained steady. This trend likely results from the intensive use of early retirement programs generated during the Spanish restructuration process that took place in the eighties, but that continue during the following decades.

Figure 4 shows the labour market trend for 50-64 year old women from 1976-2012. Significant differences are seen with respect to Figure 3, with higher proportions of females are out of the labour market for the entire period of analysis. From 1976 to 1994, between 75% and 77% of females between 50 and 64 were inactive. The percentage of inactive women steadily decreased to 47% by 2012, almost equaling the percentage working. This trend shows the changes in the Spanish society started in the eighties with an increasing presence of females in most socio-economic and political areas. However, for the adult population of ages near retirement, it took place later in time by mid-nineties.

Figure 4.- Female population aged 50-64, by relationship to labour market, Spain (1976-2012)



Source.- Spanish Labour Force Survey (LFS).

Contrary to what was observed for males, female labour market participation doesn’t seem to have been affected by the economic crisis in the 1970’s or the 1990’s. However, since 2008, the current economic crisis appears to have impacted their labour participation, albeit with a certain delay. For instance, the percentage in employment had stagnated for 2009-2010, with a slightly fall by 2012. This decline has affected the unemployment rates of females. Unemployed females for the first part of the analysis show a very low level, denoting the lower prevalence of females at this ages that were actively looking for job. This situation started to change in the nineties, but still with low presence, of around 5%.

What is remarkable is the significant increase in unemployed proportions since the start of the crisis in 2008, up to 10% (more than doubling the proportion) of females looking for job. This trend is particularly interesting, given that so far this was one of the population groups that seems to be protected from the crisis (usually work for public sector with permanent contract), but also because it could be a response to the higher unemployment and inactivity rates that males show in this first crisis of the XXI century.

During the entire period of study (1976-2012), there are clear sex differences in labour participation, with male trends following the ups and downs of the economic cycles and females' participation not. The next section will analyze sex-specific employment trends for different periods of time and different levels of educational attainment.

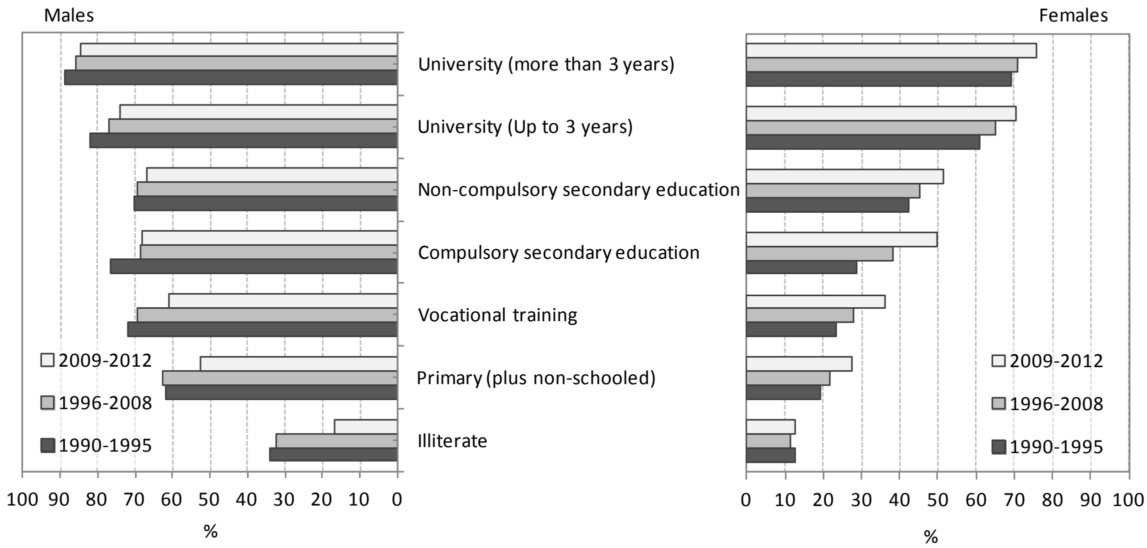
6.- Educational Attainment effects on remaining in the labour market

The following section introduces the effect of the education level on the probability of being in employment. During the 1980's and 1990's, Spanish population underwent an important expansion of the education system. As for the adult population who were not within schooling ages, they were not favoured by these improvements; however it stands out the decline of the Illiterates and Non-schooling or Primary levels. Here, we examine how education affected the employment status of 50-64 year olds, from 1990 to 2012 and takes into account two periods of economic crisis (1990-1995 and 2009-2012) and one long period of economic expansion (1996-2008). To do so, the analysis differentiates by sex and age group (50-64 and 65-74). Logistic regression is used to obtain the probability of being employed by education level, controlling by age (simple ages within each age-group) and time (one trimester every six waves within each period of observation).

Figure 5 confirms previous findings, at higher levels of education, the higher the probability of remaining in the labour market. This is true for both sexes; nonetheless, males present higher probabilities of being working than females in every category. Among the illiterate group, 30% of males and 10% of females are working, while nearly 90% of males and about 70% of females of those with more than three years of university education are working.

However, it is important to notice that the effect between periods is different for males and females. For females, the probability of being in employment increases with each subsequent period (even during the recent economic crisis) except in the case of the illiterate group, whose permanence in employment falls. The largest increases are observed for the middle categories of education: Compulsory education and Vocational Training. Females with no schooling show the lowest probability of employment at around 10% and do not show a significant change over time. Those in Compulsory education exhibit important increments from 30% to 50% in the last period, reaching the level of those with Secondary (2nd Level).

Figure 5.- Risk of being employed by sex, education level, and selected periods (population aged 50 to 64), Spain



Source.- Spanish Labour Force Survey (LFS).

Females with a university education are most likely to be employed (more than 20 percentage points higher than the other categories): reaching 70% and almost 80% in the last period (up to 3 years or more of higher education), although much lower than in the case of men.

For males, there is a large difference between the Illiterate individuals and the other education-related categories in all periods (Figure 5). They had the lowest probabilities of being employed and experienced the sharpest decline in the recent economic crisis, from 34% to 18% in 2009-2012. The group of men with a Primary school education only experienced a slight increase in the risk of being working for the expansion period, and then a fall of almost 10 percentage points. The subsequent educational categories range from 70% to almost 90% of probability of being employed in the first period and fall down in the following two periods, even the highest level University.

It is clear that females are not affected by the economic cycles in their employment status, while males are affected, showing the different economic participation of males and females (females were more likely to remain at home). Males behaviour goes beyond educational attainment in the individual level and economic forces in the macro level, with other forces pushing them out of the labour market (even in the period of economic growth), like the institutional context and the permissibility of early exits (before the SPA).

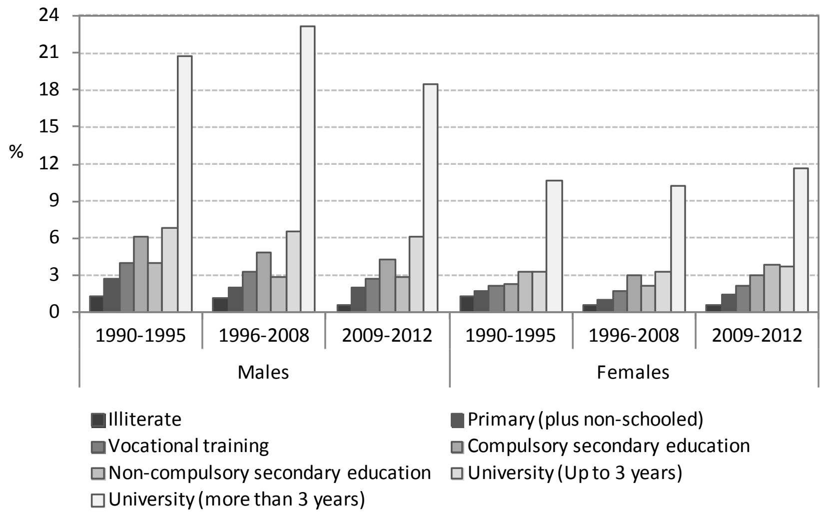
Until now we have focused on the 50-64 year old age group, our study confirms that beyond 65, labour market activity drops strongly. Figure 6 displays the sex-specific effects of education on employment for 65 to 74 years old in the three periods of study: 1990-1995, 1996-2008, and 2009-2012. In summary, employment trends for individuals 65 or older include:

- There is a lower employment probability of 65-74 year workers of both sexes, on average less than 8% of 65-74 year olds work during all the periods (except for the highest level of university where more than 18% of males and 10% of females do);
- Higher proportions of males than females work for all educational categories and periods of study;
- Period effects of the 65-74 year old population appear to differ from that of the 50- 64 years old population.

Similarities with the younger adults (ages 50 to 64) were found, in the sense that as higher the education level, higher the probability of being in employment, except for Non-compulsory secondary education for males, and for females in the period 1996-2008.

For both sexes, only individuals with more than three years of university education (more than 3 years) are significantly different from the rest of the educational categories. Such highly educated males show an increase up to 23% in the second period to fall in the last one to 18%; while females, with much lower percentage stays below 12% of risk of being in employment.

Figure 6.- Risk of being employed by education level, sex and selected periods (population aged 65-74), Spain



Source.- Spanish Labour Force Survey (LFS).

Similarities with the younger adults (ages 50 to 64) were found, in the sense that as higher the education level, higher the probability of being in employment, except for Non-compulsory secondary education for males, and for females in the period 1996-2008.

For both sexes, only individuals with more than three years of university education (more than 3 years) are significantly different from the rest of the educational categories. Such highly educated males show an increase up to 23% in the second period to fall in the last one to 18%; while females, with much lower percentage stays below 12% of risk of being in employment.

As a result, we can affirm that only the most educated remains in the labour market after 65, especially in the Spanish context where the rules until 2013 forced most workers to leave employment, with exception of the University professors and others high skill occupations.

7.- Effect of the household family structure

This similar educational model for both sexes leads us to the hypothesis that the lower occupation for women is not due to the differences in access to education between sexes, but to others factors related to gender differences such as family household structure. In this sense, we propose to check whether living arrangements affect the probability of being working? The first part of the analysis on different household combinations includes: living with the father (or father-in-law), the mother (o mother-in-law), the partner, children or with other people (not include in the former categories). Finally, in the model we consider 11 categories for men (Table 1) and 10 for women (Table 2), excluding three categories (marked in grey) for not having enough cases.

Table 1 and 2 show the distribution of the 50-74 year-old population into categories of living arrangements during the 1999-2012 period. “Overall” offers the total number of observations, summarising results in terms of person-quarter. “Between individuals” reports the number of individuals who have reported being in a specific category at least once; this can be over 100%, as an individual can report several categories over time. “Within individuals” is the fraction of the time an individual reports in the specified category.

Table 1 reports the living arrangements among males. For a total of 140,490 men in the sample, there were 533,327 observations (each individual can be interview up to 6 times). 80.3% of males reported living only with their partner. It is also the most stable living arrangement, with 98.53% of men remaining in that situation during the entire participation in the survey waves (6 waves in a year and a half), meaning that just 1.47% of men change to living alone or with other people.

For women, there are a total of 220,932 individuals, for which, we have 575,774 observations (Table 2). Their living arrangement pattern is similar to men, with a large majority (77%, three percentage points less than men) living with their partner.) This is also the most stable living arrangement, since nearly 99% continue to live with their partner during the entire study period.

Table 1.- Living arrangements, males aged between 55 and 65 years (1999-2012)

	Overall		**Between individual**		**Within individuals**
Males (N=140,490)	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Percentage**
With others: neither parents, nor partner, nor children	24,989	4.69	8,048	5.73	90.53
Alone	32,379	6.07	10,209	7.27	93.64
Only with father	1,464	0.27	456	0.32	88.79
Only with mother	9,972	1.87	2,914	2.07	93.23
Both parents	1,881	0.35	593	0.42	91.29
Only with partner	427,238	80.11	112,814	80.30	98.53
Only children	1,021	0.19	402	0.29	82.67
Father & partner	5,422	1.02	1,592	1.13	82.09
Father, partner & children	5	0.00	4	0.00	20.83
Mother & partner	25,783	4.83	7,421	5.28	85.93
Mother & children	1	0.00	1	0.00	16.67
Mother, partner & children	43	0.01	18	0.,01	67.59
Both parents & children	3,112	0.58	922	0.66	86.02
Parents, partner & children	17	0.00	5	0.00	93.33
Total	**533,327**	**100.00**	**145,399**	**103.49**	

Source.- Data from the Spanish Panel Labour Force Survey.

Table 2.- Living arrangements, females aged between 55 and 65 years (1999-2012)

	Overall		**Between individual**		**Within individuals**
Females (N=220,932)	**Frequency**	**Percentage**	**Frequency**	**Frequency**	**Percentage**
With others: neither parents, nor partner, nor children	69810	12,12	24596	11,13	92,71
Alone	47384	8,23	16028	7,25	92,47
Only with father	2234	0,39	697	0,32	88,9
Only with mother	12862	2,23	3897	1,76	91,12
Both parents	1895	0,33	613	0,28	89,17
Only with partner	413153	71,76	169944	76,92	98,85
Only children	78	0,01	53	0,02	61,6
Father & partner	4108	0,71	1786	0,81	86,39
Mother & children	22268	3,87	9425	4,27	88,61
Both parents & children	1982	0,34	784	0,35	86,42
Total	**575774**	**100**	**227823**	**103,12**	

Source.- Data from the Spanish Panel Labour Force Survey.

Table 3 presents the likelihood of men and women to be employed from 1999-2012, according to type of living arrangement. For both the 1999-2007 and 2008-2012 periods, we confirm the gender pattern shown in previous studies. We found a greater employment probability for men who live with their partner (regardless of other co-residents like parents or in-laws); while women who live with their partner display the lowest probability of being employed.

Table 3.- Probability of being employed (55-64) according to the household structure for periods and sex, Spain (1999-2012)

	Males		**Females**	
	1999-07	**2008-12**	**1999-02**	**2003-12**
Reference category: with others (neither parents, nor partner, nor children)				
Living alone	0.54*	1.46	-3.14*	-1.26
Just Father	-0.76*	1.04	-3.08	-1.69
Just Mother	-0.02*	-3.12*	-2.50*	-0.46*
Both parents	0.73	-3.15*	-1.27*	-0.33*
Just Children	3.13*	1.01*	-62.34	-2.99
Just Partner	3.07*	1.30*	-5.87*	-3.49*
Father and partner	3.39*	0.85*	-5.43*	-2.95*
Mother and partner	3.31*	1.89*	-5.15*	-2.77*
Both parents and partner	3.74*	2.21*	-4.63*	n.o.
Mother, Children and Parents	1.58	1.52	n.o.	n.o.

Source.- Data from the Spanish Panel Labour Force Survey.

Notes.- Coefficients from logistic regression with hierarchical data, controlling by age, observational year and educational level. (n.o.) no observations within the category. (*) 99% of confidence level.

At the same time, living with children was also significantly associated with a higher employment rate among men, while no significant effects for women were found. Moreover, for both men and women, living with a partner and living with one or both parents were associated with a greater probability of being employed (increases log-odds coefficients for men and reducing the negative odds for women).

For men, lower employment probabilities were found for those who lived with only their father or only with their mother. This result could be interpreted as how households protect individuals from disadvantageous labour market conditions, such as being made redundant and the difficulties to find a new job. It could also be interpreted differently: males who remaining longer in the parental home (without a partner) are those with greater difficulties of finding and remaining in a job. We consider more plausible the first explanation: disadvantageous conditions such as being fired may lead single males to seek shelter in the parental home.

On the contrary, women living only their mother or with both parents are more likely to be employed (living just with the father was not significant in either periods). From that, we infer that women who live with their parents offer economic means towards the household subsistence (and not only as caregiver).

Finally, living alone is in an intermediate position for each sex. For men, living alone have a higher probability of being employed than when they are living with other people, but lower than when they are living with close relatives. For women living alone employment rates are lower than for lonely men, but as well in a medium position among women.

These patterns are applicable for both analysed time periods. Since the beginning of the current economic crisis in 2008, men who live with their parents and their partner have higher employment rates, although it has dropped with respect to the previous period. Moreover, the lower employment of those living with only with their mother has decreased even more during the crises, dropping far more than those living in other living arrangements. Living in other types of arrangements during the crisis period has smaller or insignificant effects.

During the period of working expansion for females (2003-2012), it was registered an increasing in employment rate for all living arrangement categories, maintaining the former pattern, except for living alone, that is non-significant for the period, and for living with parents and with a partner, because there was no cases for this period.

8.- Summary and discussion

In the XXI century, the Spanish labour market for the adult population is marked by a significant gender division. This situation should change for future generations arriving to the SPA (which is already shift from 65 to 67 in Spain), and whose childhood and adult life have developed in a different social context, where more women engage actively in the social, political and economical spheres.

Regarding this paper's first objective to analyze descriptively the labour market participation of adults between 50 and 75, participation has been higher for males than for females during the entire period. Men's continued labour participation was directly related to macro-economic variation, decreasing during times of economic depression and increasing in periods of economic expansion. On the contrary, women's employment follows a steady increasing trend and does not appear to be subject to economic cycles and labour policies that promoted a contraction in the workforce.

Other measures must be considered responsible for the fall of employment for individuals under 65 years of age, with the strongest drop for individuals between 60 to 64. Early retirement schemes played a main role and could be applied from age 50 on and affected those between 55-59 years old to a higher degree. However, the current crises that began in 2008 has mostly affected the youngest group analyzed (50-54 years old) with a sharp fall in employment in just four years. It is disturbing that not even during times of economic growth has male occupation approached the levels of the 1970's, and that in only four years of the current crisis it has fallen to the lowest levels throughout the period of analysis (1976-2012).

Furthermore, the end of the 1970s and the entire 1980s were characterized by the consolidation of an almost absolute withdrawal of individuals over 65 years old. Further economic expansions have not led to any additional labour re-engagement of this age group. Although the policy of pension benefits was a step forward in the well-being of the elderly and a necessary support for them in their old age, it also involved a withdrawal from the labour market for individuals 65 or older, given the benefits or advantages offered by the transition to inactivity, or the forced dismissal that has been applied since 1980 that allowed companies to compulsorily lay off all such employees.

While female labour market participation at any age beyond fifty years old did not involve even a third of the population until the late 1980s, the 1990s reveal a growing permanence of women in economic activity, showing half of women between 50-54 employed by the mid 2000's. For the 1976-2012 period in Spain, female employment patterns appeared to be strongly related to cohort effects, and did not appear to be very sensitive to macro-economic conditions.

Regarding the second research objective of analyzing the socio-demographic determinants of transition to permanent labour inactivity of the elderly adults in Spain, results show that the employment patterns are influenced by individual educational attainment and family arrangements.

A significant determinant for the permanence of older adults in the labour market is the level of education. While educational growth in the 20th century barely affect the 50-74 year old population in study, as the subsequent generations, it did lead to a significant increase in schooling was observes (primary and secondary education levels). There are educational differences in employment regardless of the economic cycle, with higher educated men and women having greater probabilities of working.

Notwithstanding, differences between men and women exist. The employment rates of 50-74 year old men are greater than women at all levels of education (except upper university level where rates are very similar). However, not even the most highly educated men increased their labour market permanence in the period of economic expansion, instead the likelihood to be working has fallen with time, a clear sign that more and more men retire earlier from employment despite economic cycle and educational level.

This suggests that the idea of higher education as a protective element should be refined, because the highly-educated are also expelled from the Spanish labour market prior to age 65.

Regarding women, it has been noted that their chances to stay in employment increased during the entire period as a result of educational expansion. In general, economic cycles did not affect their employment, as the employment probability at all levels of education (except for the illiterate women who maintain constant employment) continued to increase. On the other hand, for individuals with similar levels of education, women continue to be employed at lower rates than men (except those with an upper university level).

This paper confirms that the population approaching retirement age has increasing levels of educational. The most plausible future scenario is that this will have a direct effect on the increase in employment, and therefore, a delay in the retirement age, regardless of legislative reforms.

As for family arrangements, living with a partner remains an important determinant of employment during the early twenty-first century. Females are less likely to be employed, while in males it appears to force or give them incentives to continue working. This appears to signal the traditional male breadwinner model of families, where the important condition to be out of work for a woman was the condition of living with a partner, while the crucial incentive for a man to find work was to provide income for his partner.

Further evidence of the gender division in Spanish society is that men who live with only their parents are less likely to be in employment (protective effect of parents on males) while in women it increases their propensity to be occupied (protective effect by females on their parents). Little or no effect was found from living with the children, understandable for the ages that were studied here, as offspring has likely left the parental home to start their own family.

These results support the traditional scheme observed in previous studies, where the male role is of economic support (although in case of incapacity, returns with parents) and females as a caregiver, living with a partner decreases their employment probability, but living only with parents, increases it.

Finally, the analysis showed that rates of employment of men and women show no tendency towards convergence, at least during the economic expansion. While there has been a decline in the employment sex gap since 2008, this is not due to women gaining, but because men's employment levels have fallen considerably during this period of crisis.

References:

ANTÓN, J.; BRAÑA, F.; MUÑÓZ, R. (2007). "Edad efectiva de jubilación en España: un análisis a partir de la explotación de la Muestra Continua de Vidas Laborales de la Seguridad Social". *Jornadas de Usuarios de la Muestra Continua de Vidas Laborales*. Madrid: Ministerio de Trabajo y Asuntos Sociales y FEDEA.

AUER, P.; FORTUNY, M. (2000). "Ageing of the Labour Force". OECD. *Countries: Economic and Social Consequences*. Vol. 2000/2.

BLÖNDAL, S.; SCARPETTA, S. (1998). "The retirement decision in OCDE countries". *OECD-Working Papers*, 202.

BLOOM, D. E.; CANNING, D.; FINK, G. (2011). "Implications of Population Aging for Economic Growth". *The WDA-HSG Discussion Paper Series on Demographic Issues,* 2011/2, WDA Forum.

CHRISTENSEN, K.; DOBLHAMMER, G.; RAU, R.; VAUPEL, J. (2009). "Ageing populations: the challenges ahead". *The Lancet*, 374 (9696): 1196-1208.

DÍAZ, M.; LLORENTE, M. D. M. (2005). "Población y empleo. El futuro del mercado de trabajo". *Papeles de Economía Española. Transformación Demográfica: Raíces y consecuencias*, 104: 227-238.

DÍEZ, J. (1999). "Envejecimiento y políticas hacia los mayores en la Unión Europea". MUÑÓZ, S.; GARCÍA, J.L.; GONZÁLEZ, L. (Eds.). *Las estructuras del Bienestar en Europa*. Madrid: Escuela Libre Editorial/ Fundación ONCE y Civitas: 779-793.

DIGGLE, P. J.; HEAGERTY, P.; LIANG, K.-Y.; Z., S. L. (2002). "Analysis of Longitudinal Data". Second Edition. Oxford: Oxford University Press.

DITTRICH, D.; BÜSCH, V.; MICHEEL, F. (2011). "Working beyond retirement age in Germany: The employee's perspective". ENNALS, R.; SALOMON, R.H. (Eds.). *Older Workers in a Sustainable Society*. Peter Lang.

EVEN, W.; MACPHERSON, D. (1994). "Gender differences in pensions". *The Journal of Human Resources*, 29: 555-587.

GARRIDO, L. (2004), "Demografía longitudinal de la ocupación". *Información Comercial Española, ICE ("Consecuencias de la evolución demográfica en la economía"),* 815.

GARRIDO, L.; CHULIÁ, E. (2005). "Ocupación, formación y el futuro de la jubilación en España". Colección Estudios, 173. Madrid: Consejo Económico y Social.

GENDELL, M. (2001). "Retirement age declines again in 1990s". *Monthly Labor Review Online*, 124 (10).

GÓMEZ, R. (1995). "Vejez prolongada y juventud menguada en España, 1970-1990". *REIS, Revista Española de Investigaciones Sociológicas* (71-72): 79-108.

GRUBER, J.; WISE, D. (Eds.) (1999). *Social Security and Retirement around the World*. University of Chicago Press, International Social Security, 488 pp.

KALLEBERG, A.; SORENSEN, A. (1979). "The Sociology of Labor Markets". *Annual Review of Sociology*, 5: 351-379.

LÓPEZ, L. (2004). “Aumentar el empleo de los trabajadores de más edad y retrasar su salida del mercado de trabajo”. *Revista del Ministerio de Trabajo e Inmigración*. Documentación e Informes, 52: 189-210.

OEPPEN, J.; VAUPEL, J. (2002). “Broken Limits to Life Expectancy”. *Science*, 296 (5570): 1029-1031.

ORTIZ, L. (2004). “Leaving the Labour Market: Event-History Analysis of the Male and Female Transitions to Inactivity In Denmark, Germany, Great Britain and Spain”. *2d. ESPAnet Conference,* University of Oxford. Department of Political & Social Sciences.

QUINN, J. (1999). *Has the early retirement trend reversed?.* Department of Economics, Boston College, vol. 424.

RUHM, C. (1996). “Gender differences in employment behaviour during late middle life”. *The Journal of Geronotology*, 51 (B).

SICHERMAN, N.; GALOR, O. (1990). “A Theory of Career Mobility”. *Journal of Political Economy*, 98 (1): 169-192.