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ABSTRACT

Bridge Jobs in Europe

We study the transitions from career to bridge jobs and to permanent retirement by European males aged 55 to 70 at the time of the interview in the late 2000s. We find that only 10.54 percent of the workers in our sample who were in a career job at age 50 have moved to a bridge job by the time of the interview, much less than what usually found in the United States. We also show that the exogenous increases in minimum retirement age that occurred during the past twenty years have had different effects in Central / Northern Europe (Austria, Switzerland, The Netherlands and Sweden) and in Mediterranean Europe (Italy and Spain). In the North, transitions into bridge jobs have increased, with no significant effect on transitions into retirement. In the South, transitions into permanent retirement have decreased, with no significant effect on transitions into bridge jobs.

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Introduction

The traditional view on the transition from work to retirement of older men has been that continuous work is followed by abrupt permanent retirement. The empirical evidence, however, suggests that this transition is often more gradual, and involves either a reduction of working hours in the same job or the transition from a “career job” to one or more transitional jobs - or “bridge jobs” - as a preliminary step to ultimate withdrawal from the labour force. By and large, this evidence is based on US data, and much less is known on the labour force dynamics of older men in Europe (one notable exception being Kantarci and Van Soest, 2008).

This paper contributes to the literature in two directions. First, we use European data from the Survey on Health, Ageing and Retirement in Europe (SHARE) to present new evidence on the diffusion of bridge jobs in Continental Europe. We also add complementary evidence both from the European Labour Force Survey and from two European countries, Italy and Germany, where relatively long longitudinal data can be used to study the labour market transitions of older workers. Second, we investigate whether the probability of transiting from a career to a bridge job in Europe has been affected by the changes in minimum retirement age and employment protection which have occurred in several European countries during the 1990s and the 2000s.

We start by documenting the increase in the share of employment taken by short-term jobs, defined as jobs lasting less than 10 years, among older Europeans during the period 1992 to 2010. Some of these short-term jobs follow unemployment spells or other short-term jobs, and some follow from career jobs. This increase has occurred during a period characterized by a positive trend in the employment rate of older workers, which has only been interrupted by the recent recession.

Next, we use the retrospective information provided by the third wave of SHARE – the Survey on Health, Age and Retirement in Europe - to reconstruct the labour market transitions from age 50 onwards experienced by males aged 55 to 70, who held a career job (defined as a job lasting more than 10 years) at age 50. We find that 10.54 percent of our sample has transited from a career to a bridge job and eventually to retirement, 37.40 has transited directly

from a career job to permanent retirement and the remaining 52.07 percent is still in the career job. These results suggest that partial retirement – or the transition from a career to a bridge job – is much less frequent in Continental Europe than in the US or Japan, where it involves the majority of older workers¹. We also highlight that the traditional patterns of retirement – from a career job to permanent withdrawal from the labour force – is much more frequent in Mediterranean Europe (Italy, France and Spain) than in Northern and Central Europe (Germany, Austria, Switzerland, Netherlands, Belgium, Denmark and Sweden).

We expect transition patterns from career jobs to retirement to be affected not only by individual characteristics, such as education and age, but also by policy changes, which influence labour market institutions, retirement age and the diffusion of temporary and short term jobs in the economy. In this paper, we focus on two such changes: the progressive increase in minimum retirement age and the broad decline in employment protection that occurred in Europe during the past twenty years.

We estimate a multinomial logit model with two hazards from a career job – a bridge job or permanent retirement – and find no evidence that changes in employment protection has affected either hazard. On the other hand, we find that exogenous increases in minimum retirement age have reduced the hazard into retirement in Mediterranean Europe and increased the hazard into bridge jobs in Central and Northern Europe. These results suggest that individuals in these two areas have reacted differently to delayed retirement, by staying longer in career jobs in Southern Europe and by moving to bridge jobs, which are typically less demanding in terms of working hours, in Northern Europe. A candidate reason for this difference is the availability of part-time jobs for older workers, which is higher, on average, in Northern Europe.

We start by reviewing the relevant literature (Section 1), and discuss in Section 2 the recent trends in short term employment in Europe. Section 3 presents descriptive evidence on bridge jobs in Europe based both on SHARE data and on national data for Italy and Germany. Section 4 is devoted to our estimates of the effects of changes in minimum retirement age and employment protection on the hazards from career to bridge jobs or retirement. Conclusions follow.

¹ In Japan the prevalence of bridge jobs is due to mandatory retirement.

1. Previous Literature

The decreasing trend in the average retirement age observed during the last decades and the contextual increase in life expectancy in almost all industrialised countries (Gruber and Wise, 1997), have motivated the economic analysis of individual behaviour during the last years of a labour market history. The traditional view of retirement is that employed individuals move directly from their career employment to complete retirement (Kantarci, Van Soest, 2008). Yet this needs not be a direct transition, but could involve less traditional pathways, such as the reduction of working hours in the same job or moving to a different and often less demanding job before retirement.

In the US, these less traditional patterns are by no means an exception. Gustman and Steinmeier (1984) use the Retirement History Study (RHS) to estimate that at least one third of white employees in the US move from employment to partial retirement. Honig and Hanoch (1985) confirm the importance of gradual retirement among older American workers. Using the US Social Security Administration Retirement History Longitudinal Survey, Ruhm (1990) shows that the vast majority of US workers leaving their career job before age 55 remains in the labour force for at least one additional decade. He defines the jobs held after a career job and before retirement as bridge jobs, or jobs that act as bridges from career work to full time retirement. While career and bridge jobs are typically in a different industry or occupation, older workers engaged in bridge jobs show a high degree of job stability.

Blau (1994) looks at the dynamics of labour force participation for older men in the US and models their transitions using a discrete time hazard model. He confirms that labour market transitions after age 50 are more frequent than usually thought and finds that they are affected by social security benefits. Quinn (1996) reports that individual characteristics such as age, health and marital status affects the choice of the exit path from the labour force. Cahill, Giandrea, and Quinn (2005, 2006) show that a key factor affecting the pattern of labour market withdrawal is the type of job done. For instance, the self-employed are more likely to leave their career job for a bridge job. Peracchi and Welch (1994) document the presence of substantial gender differences in the probability of doing a bridge job. They also suggest that those engaged in these jobs belong to two broad groups, those who look for a more satisfying career and those forced to work by their financial hardships.

There is much less empirical evidence on the importance of bridge jobs in Europe. Kantarci and Van Soest (2008) is the only paper we are aware of in this area of research. They show that the take up of gradual retirement is rather low in most European countries, at least when compared to the US.

2. The Importance of Short Term Jobs for Older Workers. Europe 1992-2010

Following Ruhm (1990) and Cahill et al (2006), we define a career job as a job that started before age 50 and lasted at least 10 years, and a bridge job as a job that started around age 50 after a career job and lasted less than 10 years. Using the convention that jobs that have lasted less than 10 years are short-term jobs, bridge jobs are short-term jobs and career jobs are long-term jobs. Clearly, not all short-term jobs held at age 55 to 64 originate from a career job. Some of these jobs have started from another short-term job when the individual moves across a sequence on non-career jobs, or from unemployment and out of the labour force. To identify whether a short-term job is a bridge job, additional information is required on the duration of the previous job.

The analysis of short-term jobs, which include both bridge jobs and other short-term jobs, is less demanding in terms of statistical information because we only need to know when the current job was started. In this case, a good source of data for Europe is the European Labour Force Survey (EULFS), which covers the period 1992 to 2010. Since individual age is not available in these data, we adjust our definition of a career job as a job that started before age 48 to 52 and lasted at least 10 years². Following Cahill et al., (2006), we define as short-term job a job that started after age 48 to 52 and lasted less than 10 years at the time of the survey.

We consider only males aged between 55 and 64 and resident in one of the following 15 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom. Our sample consists of individuals who are currently working or have been working at least once in their lifetime, and excludes individuals who are "conscript on compulsory military or community service". Since the EULFS series have several breaks during the relevant period, either because

² We use the interval 48 to 52 because age in EULFS data is reported only in 5 – year age ranges to preserve privacy.

of changes in the definition of the key variables or because of changes in the sampling rules, we adjust the original series as described in Appendix A.

Figure 1 shows the average share of short-term jobs in total employment for the 15 European countries during the period 1992-2010. There is a clear upward trend, particularly pronounced in the 1990s. After a temporary decline in the early 2000s, the share increased again until the outbreak of the current recession. If we ignore this downturn, the share has increased from slightly above 24 percent in 1992 to above 29 percent in 2008. At the outbreak of the crisis, more than one European male out of four in the age group 55 to 64 was on a short-term job.

Figure A1 in the Appendix presents the same information by country. The share of short-term jobs is highest in Denmark and the UK and lowest in Italy, Belgium and Austria. The increase over time in the share has been particularly sharp in Denmark (from 26 to close to 40 percent), Sweden (from 26 to 32 percent) and Ireland (from 15 to 28 percent). Spain is the only country in our sample where the share of short term jobs is lower than in 1992, due to the plunge that occurred in 2010. The upward trend in the share of short-term jobs is even sharper when measured as percentage of the population in the relevant age group, because the employment / population ratio has increased from close to 0.52 percent in 1992 to close to 0.58 percent in 2010 (see Figures 2 and A2 in the Appendix).

The characteristics of short-term jobs held by workers aged 55 to 64 differ from those of career jobs. As shown in Table 1, short-term jobs typically have shorter hours, are more likely to be part-time and temporary and less likely to be in self-employment. Since bridge jobs are a sub-set of short-term jobs, this indicates that on average taking up a bridge job reduces hours worked and is equivalent to partial retirement from the labour force.

3. Bridge Jobs in Europe

In this section, we present evidence on transitions from career to bridge jobs using two alternative data sources: a) the Survey of Health, Ageing and Retirement in Europe (SHARE); b) national longitudinal data from Italy and Germany. The Italian data are from the Italian Longitudinal Survey of Households (ILFI) and the German data from the German Socio-Economic Panel (GSOEP).

3a. Evidence from SHARE

SHARE is a multidisciplinary and cross-national European dataset which contains current and retrospective information on labour market activity, retirement, health and socioeconomic status for more than 25,000 individuals aged 50 or older. The design of the survey and its questionnaires are similar to those employed by the Health and Retirement Study (HRS) in the US and the English Longitudinal Survey of Adults (ELSA).

A distinctive advantage of these data is that they cover a significant number of countries in Continental Europe. We use the third wave of the survey, which includes detailed data on the entire working life of interviewed individuals. This is valuable but comes at the price that it is based on retrospective information. However, as discussed in detail by Brunello, Weber and Weiss (2012), existing validation studies find that recall bias is not so severe, arguably because of the state-of-the-art elicitation methods used: respondents are helped to locate events along the time line, starting from domains that are more easily remembered, and then asked progressively more details about them.

We consider individuals who, at the time of the survey (2008-09), were aged between 55 and 70 and reconstruct their working life from age 50 to the time of the interview, using the retrospective information on all job changes that occurred since labour market entry. Our sample consists of 5162 males from 10 countries (Austria, Germany, Sweden, the Netherlands, Spain, Italy, France, Denmark, Switzerland and Belgium) and has the following characteristics: 84.4 percent of the males in the sample were holding a career job at age 50 – a job which started before age 50, was not finished before that age, and had lasted at least 10 years³ – 9.6 percent had instead a short-term job or were in an unemployment spell leading to a short-term job, defined as a job shorter than 10 years, and the remaining 6.0 percent were either retired or in an unemployment spell leading to retirement.

Table 2 shows that 10.54 percent of the individuals who were in a career job at age 50 have experienced at least one bridge job in the following years⁴, that 52.07 percent have moved

³ Following Cahill et al (2006), when a career job is followed by another job longer than 10 years, we consider the last job as the relevant career job.

⁴ 5 to 20 years depending on age at the time of the interview.

directly from a career job to permanent retirement, and that the remaining 37.4 percent was still in the career job at the time of the interview. The percentage of individuals experiencing one or more bridge jobs turns out to be sensibly lower - 7.22 percent - in Mediterranean Europe (France, Italy and Spain) than in the rest of the sample (12.18 percent), which includes Central and Northern European countries. On the other hand, direct transitions from a career job to retirement are much more frequent in Mediterranean Europe (58.92 versus 48.68 percent). When we break down the 55 to 70 age group into two sub-groups (55 to 64 and 65 to 70) we find that the percentage of individuals who have experienced at least one bridge job is higher in the younger age group (11.5 versus 9.2 percent).

It is useful to compare these results with similar analysis for the United States. Quinn et al. (2006) use data from the Health and Retirement Study (HRS) and a definition of bridge jobs very similar to ours. They show that close to 60 percent of the Americans aged 51 to 61 in 1992 who exited a career job moved to a bridge job⁵. In sharp contrast, the corresponding percentage for Europeans aged 55 to 64 in 2008/9 was 25.3 percent ($11.46/(11.46+33.76)$ in Table 2), and as low as 15.9 percent in Mediterranean Europe. While these percentages may be affected by cohort and macroeconomic conditions, the key message is clear enough: older Europeans who leave a career job move directly into retirement to a much higher extent than older Americans.

Table 3 considers labour market transitions by level of education (at most 12 year or higher than 12 years). We find that both in Northern and in Mediterranean Europe better educated individuals are less likely to move directly from a career job to retirement and more likely to take up a bridge job than less educated individuals. Table 4 shows the self-reported reasons why individuals aged 55 to 70 left a career job and moved to a bridge job. We organize these reasons into four categories: a) resigned or mutual agreement; b) layoff, plant closure or end of temporary job; c) retirement; d) else. Broadly speaking, category a) includes mainly voluntary separations and category b) is for involuntary separations. The table suggests that close to one third of the transitions to a bridge job or to retirement in Europe occur because of layoffs, plant closures and terminations of temporary jobs. This percentage increases to 44.7 percent for the Mediterranean countries in our sample.

⁵ See also Ruhm, (1990), and Quinn and Burkhauser, (1990).

Most individuals aged between 55 and 70 who changed from a career to a bridge job have had a single new job (80.9%), and only slightly less than 5 percent have had three or more new jobs (see Table 5). Among the individuals who have experienced a bridge job, 41 percent did not change both industry and occupation, 30 percent changed either occupation or industry and 29 percent changed both. These percentages suggest that changes of industry or occupation are less frequent in Europe than in the US. In his study of bridge jobs, Ruhm, (1990), found that only 24 percent of older Americans remained in the same occupation and industry, and 51 percent changed either occupation or industry.

We study how the transitions from a career job to either a bridge job or to retirement vary with individual characteristics by estimating a multinomial logit model, where the dependent variable T is equal to 0 if the individual aged 55 to 70 who was in a career job at about age 50 is still in a career job at the time of the interview, to 1 if he has experienced at least a transition to a bridge job (and then eventually to retirement) and to 2 if he has moved directly into retirement. Table 6 presents the summary statistics for the key variables and a sample of 10 countries, separately for Northern (Austria, The Netherlands, Germany, Denmark, Switzerland and Sweden) and Mediterranean countries (France, Italy and Spain)⁶. As expected, Northern Europeans are better educated than Southern Europeans, are less likely to live in rural areas at age 50 and work to a larger extent in the services sector.

Table 7 shows the estimated marginal effects of changes in individual characteristics on the probability of moving from a career job to a bridge job or to retirement. Older age has a negative effect on the transition to bridge jobs and a positive effect on the transition to retirement. The opposite holds for education, with more schooling favoring transitions to bridge jobs and reducing transitions to retirement. Having had a civil servant job at age 50 reduces the probability of moving to a bridge job and increases the transition to retirement. Losing a career job because of a layoff or a plant closure increases both transitions by similar amounts. On the other hand, living in a rural area at age 50 only affects negatively the transition to a bridge job.

The transition from a career job to retirement is higher among those who have experienced poor health or stress at age 50, had higher experience at age 50, or had few books

⁶ The distribution of T in the full sample and by group of countries is in Table 2.

in the house at age 10, and lower among those who were self-employed at age 50. Compared to Germany (the country in the baseline), the probability of moving from a career to a bridge job is significantly higher in Sweden, Denmark and Switzerland and significantly lower in Italy, Spain and Austria.

3b. Evidence from Italian longitudinal data

We use the longitudinal data from ILFI (Longitudinal Survey of Italian Households),⁷ which consists of five waves, one every two years, starting in 1997 and ending in 2005, and contains information on mobility, education, occupation, training and family resources of a representative sample of Italian households.⁸ Since the survey includes also retrospective questions on relevant events occurring from age 18 onwards, it is possible to recover the adult working history for each sampled individual.⁹ Compared to our data from SHARE, which are based exclusively on retrospective data, we use both retrospective and current information to reconstruct the working history of three cohorts of individuals: those aged 48 to 52 in 1980, whom we follow until 1994; those aged 48 to 52 in 1985, whom we follow until 1999; those aged 48 to 52 in 1990, whom we follow until 2004. While data for the oldest cohort are entirely based on retrospective information, data on the remaining two cohorts include also information collected in each of the five waves of the survey.

For each cohort, we only consider those individuals who at the beginning of their spell in the sample were in a career job, that is, a job lasting at least 10 years. Our final sample consists of 696 males, whom we follow for 15 years. For each individual, we distinguish between three possible transitions: a transition from the career job to a bridge job (and eventually to other jobs and retirement); a direct transition from the career job to retirement; no transition, so that the individual is still in the career job at the end of the observation period.

⁷ This dataset has been used extensively in recent years both by sociologists (see for instance Pisati and Schizzerotto, 2004) and by economists (see Gagliarducci, 2005, Silva, 2007, and Bison, Rettore and Schizzerotto, 2009).

⁸ Respondents to the survey who left home and formed new households were followed by ILFI across the five waves, and their spouses were interviewed as well.

⁹ In the first interview, individuals are asked both current and retrospective information. Later interviews refresh this information by adding new events.

Table 8 shows that the percentage of individuals who have had a bridge job is close to 8 percent, while the percentage who have moved directly from a career job to retirement is 69.8%. It is useful to compare these percentages with those based on SHARE data. When we consider Italian workers aged 55 to 70, we find that the estimated percentage of those who have experienced a bridge job or had a direct transition into retirement is about 5 and 67 percent respectively. Taking into account that we are comparing individuals in slightly different age ranges (48 to 67 in ILFI and 55 to 70 in SHARE), we consider these differences in average transition rates between the two datasets as small.

3c. Evidence from German longitudinal data

In this sub-section, we compare our results for Germany based on retrospective data from SHARE with those obtained using a longitudinal dataset, the German SOEP (Socio-Economic Panel). This panel started in 1984 and contains monthly information on job spells (module *ARTKALEN*) as well as self-reported information on the timing of retirement. We restrict our sample to men aged 55 to 70 who were at least 50 years old at the time of their first interview. We only use data from 1992 onwards in order to include Eastern Germans. Our final sample consists 1440 males. For each male in the sample, we have information on three types of transitions: from a career job to a bridge job, from a career job to retirement and finally no transition at all for those who at the end of the observation period were still in a career job.

Table 8 presents the average transition rates during the period 1992-2009. For comparison, we also report the estimated transition rates using the survey SHARE. We find that the percentage of males aged 55 to 70 who transitioned from a career job to a bridge job during the sample period is equal 12.15, very close to the 11.26 percent estimated using retrospective SHARE data. We also find that the percentage who transitioned from a career job directly into retirement is 44.58 percent using SOEP data and 51.26 percent using SHARE data. As in the case of Italian data, we conclude that the differences in the transition rates between the two datasets are small.

3d. Summary

A potential drawback of using retrospective data to measure labor market transitions is that individuals may fail to accurately recall their entire labor market history. Yet the comparison of the estimates based on these data with those obtained from panel data suggests that the bias associated to the use of retrospective data is small.

4. The Effects of Changes in Minimum Retirement Age and Employment Protection on the Probability of Having a Bridge Job

Several European countries have experienced during the 1990s and the 2000s important changes in their labour market institutions. On the one hand, with the exception of Switzerland and France, employment protection legislation has become less restrictive (see Table B.1 in the Appendix). On the other hand, the progressive ageing of European societies and the increased weight of social public expenditures on GDP has induced several countries to increase the minimum age required for access to early retirement, in an effort to curb these expenditures (see Table B.2 in the Appendix). These institutional changes have the potential of influencing the labour market transitions of older workers. Less restrictive employment protection can affect the hazard into bridge jobs and retirement because it increases the availability of short-term contracts with shorter working hours, and reduces at the same time the costs of terminating permanent (career) jobs. Higher minimum retirement age which delays retirement can induce individuals who wish to consume additional leisure and cannot permanently retire to switch from more demanding career jobs to bridge jobs.

In order to study the effects of exogenous changes in employment protection and early retirement age on the labour market behaviour of older workers who were in a career job at age 50, we use retrospective data from SHARE to reconstruct for each individual aged 55 to 70 at the time of the interview the annual records of his labour market status, starting from age 50. We pool data from several countries over the period 1992-2008 and use a discrete survival data approach. In this approach, career employment at age 50 is treated as the initial (survival) status and the transitions from career employment to a bridge job or to retirement are treated as

the competing risks or hazards. We estimate a multinomial logit model of competing risks, where the baseline category is the censored event (still in a career job).¹⁰

Define W_{it} as a variable taking the value 0 if the individual i is in a career job at time t , 1 if he is in a bridge job and 2 if he has permanently retired. Since having a bridge job and retiring are both absorbing states in our specification, individuals attaining either state at time t are dropped from the sample from time $t+1$ onwards. We estimate the following regression model

$$W_{it} = \beta_0 + \beta_1 Age_{it} + \beta_2 Age_{it}^2 + \alpha \Omega_{ct} + \gamma G_{ct} + \delta X_i + \theta_c + \theta_t + \varepsilon_{it} \quad (1)$$

where age is the running variable in the panel – to be distinguished from the time invariant age at the time of the interview - Ω_{ct} includes minimum early retirement age and employment protection legislation, G_{ct} is a vector of country by time effects – which includes the log real GDP per capita, the national unemployment rate and life expectancy at age 50, X_i is a vector of individual time invariant effects – which includes personal as well as job characteristics at age 50, θ_c and θ_t are country and year dummies, ε_{ict} is the error term, c is for the country, i for the individual and t for time. Since individuals in the sample attain age 50 at different points in time, the inclusion of age and year dummies allows us to control for cohort effects.

We measure employment protection with the index produced by the OECD, which varies by country and over time. We capture the effects of minimum retirement age RA on the decisions to retire by defining the variable Z as equal to zero if RA is lower than or equal to individual age A in year t and to $RA-A$ if RA is higher than A . This variable indicates that individuals older than or as old as the minimum retirement age are not constrained by RA in their retirement decisions. On the other hand, individuals younger than RA are affected by it because they can retire only after reaching minimum retirement age. An increase in RA given age A increases the distance to retirement age.

In our data, the variable RA ranges from 0 to 13. Minimum early retirement age in Europe has varied between the early 50s and the early 60s during the past twenty years. Therefore,

¹⁰ Jenkins, 2005, shows that the multinomial logit model can be used to estimate competing risks when time is intrinsically discrete.

because we use data for individuals aged 55 to 70 at the time of the interview, our sample includes for each country both constrained ($Z > 0$) and unconstrained individuals ($Z = 0$). Since we intend to study the effects of changes in minimum retirement age on the hazards from a career job, we restrict our sample to the six countries where minimum early retirement age RA has changed during the sample period (Austria, Switzerland, The Netherlands, Sweden, Italy and Spain). We therefore exclude from our estimates Belgium, Denmark, Germany, and France.

Table C.1 in the Appendix shows the mean values of minimum early retirement age, employment protection and other country specific macroeconomic variables for the sample of six countries and the two sub-samples of Northern and Mediterranean countries. It turns out that minimum early retirement age during the period under study was on average three years higher in Northern Europe than in the Mediterranean area. This fact may help explain why transitions to bridge jobs are higher in the former group of countries. With higher minimum retirement age, Northern Europeans could try to consume additional leisure before retirement by moving to a bridge job. Southern Europeans, on the other hand, could enjoy additional leisure by retiring earlier. The table also shows that employment protection is higher in the Mediterranean area, that real GDP per capita is higher in the North, and that both unemployment and life expectancy are higher near the Mediterranean sea.

Table 9 presents the estimates of Equation (1) for the full sample and separately for Northern and Southern European countries. For the sake of brevity, the table reports the estimated marginal effects for the two key variables, employment protection (EPL) and Z ¹¹. In the full sample, we estimate that a one – year increase in Z reduces the hazard into retirement by 19.59 percent ($-0.0096/0.049$)¹², a sizeable and precisely estimated effect¹³. We also find that the effect of an increase in Z on the hazard to bridge jobs is positive, small and statistically insignificant. On the other hand, changes in employment protection legislation have no statistically significant effect on either hazard.

When we estimate (1) separately for the two sub-samples of countries, we find that changes in minimum retirement age affects mainly the hazard to retirement in Mediterranean

¹¹ The additional covariates are those shown in Table 7. The estimates of the coefficients associated to these covariates are available from the authors upon request.

¹² 0.049 is the predicted transition probability from a career job to retirement.

¹³ The relevant coefficient is statistically significant at the 1 percent level of confidence.

Europe and the hazard into bridge jobs in Northern Europe. In the former group of countries (Italy and Spain), a one-year increase in Z reduces the probability of retiring from a career job by 12.23% (-0.0073/0.0597), a statistically significant effect, but has a statistically insignificant negative and small effect on the probability of taking up a bridge job. In Northern European countries (Austria, Switzerland, The Netherlands and Sweden), on the other hand, a one-year increase in early retirement age increases the probability of having a bridge job by as much as 44.4% (0.0052/0.0117), a precisely estimated effect, and has a negative but statistically insignificant effect on the retirement hazard. Table C.2 in the Appendix replicates these estimates on the larger sample of 10 countries, which include also France and Germany, and shows that our qualitative results are unaffected.

Conclusions

We have used European data from the Survey on Health, Ageing and Retirement in Europe (SHARE) to present new evidence on the diffusion of bridge jobs in Continental Europe. We have shown that 10.54 percent of our sample of European males aged 55 to 70 at the time of the interview (2008/09) have moved from a career to a bridge job on their way to (eventual) retirement, 37.40 percent have moved directly from a career job to permanent retirement, and the remaining 52 percent was still in the career job at the time of the interview. We have also shown that the traditional patterns of retirement – a move from a career job to permanent withdrawal from the labour force – is much more frequent in Mediterranean Europe (Italy, France and Spain) than in Northern and Central Europe (Germany, Austria, Switzerland, Netherlands, Belgium, Denmark and Sweden).

These percentages suggest that partial retirement – or the transition from a career to a bridge job – is much less frequent in Continental Europe than in the US or in Japan, where it involves the majority of older workers. To dissipate the doubts that the relatively low share of bridge jobs is due to the use of retrospective data, we have used complementary evidence from longitudinal data for Germany and Italy, and found that the average transition rates computed in these data are quite similar to those estimated using SHARE data.

We have studied the effects of changes in minimum retirement age and in employment protection – which have occurred in several European countries during the 1990s and the 2000s - by estimating a discrete competing hazard model where the alternative hazards out of a career job are exit to permanent retirement and transition to a bridge job. Our evidence suggests that changes in employment protection have small and statistically insignificant effects on either hazard. On the other hand, we have found that reforms which have increased the distance between minimum retirement age and current age have reduced the hazard into retirement in Mediterranean Europe and increased the hazard into bridge jobs in Central and Northern Europe.

These cross country differences could be due to several reasons. For instance, older workers may find it difficult in some countries to obtain bridge jobs because employers in these countries prefer to hire younger workers. Therefore, when minimum retirement age increases, they stick to their career jobs. Kantarci and van Soest (2008) use data from the European Community Household Panel to compute the share of part-time work on total employment for males aged 51 to 65 and show that this share in 2001 was 10.4 percent in the Netherlands, 5.8 percent in Austria and 4.6 percent in Sweden. In comparison, only 2.9 and 4.1 percent of older male workers were in part-time jobs in Italy and Spain. Conen et al, (2012), report the results of an employer survey on the attitudes towards older workers and show that the percentage of employers willing to hire older workers is much lower in Italy than in Northern European countries. Finally, older workers in Mediterranean Europe are less likely to be trained than in Northern Europe (see OECD, 2011), which may reduce their ability to find new jobs.

Alternatively, bridge jobs may be available, but only at conditions not particularly attractive to older workers in Mediterranean countries, who might prefer to stay on in their career job or to permanently retire rather than to move to less desirable jobs. We believe that exploring these alternative explanations is important for the design of policies aimed at stimulating the employment of older workers. This task, however, must be left to future research.

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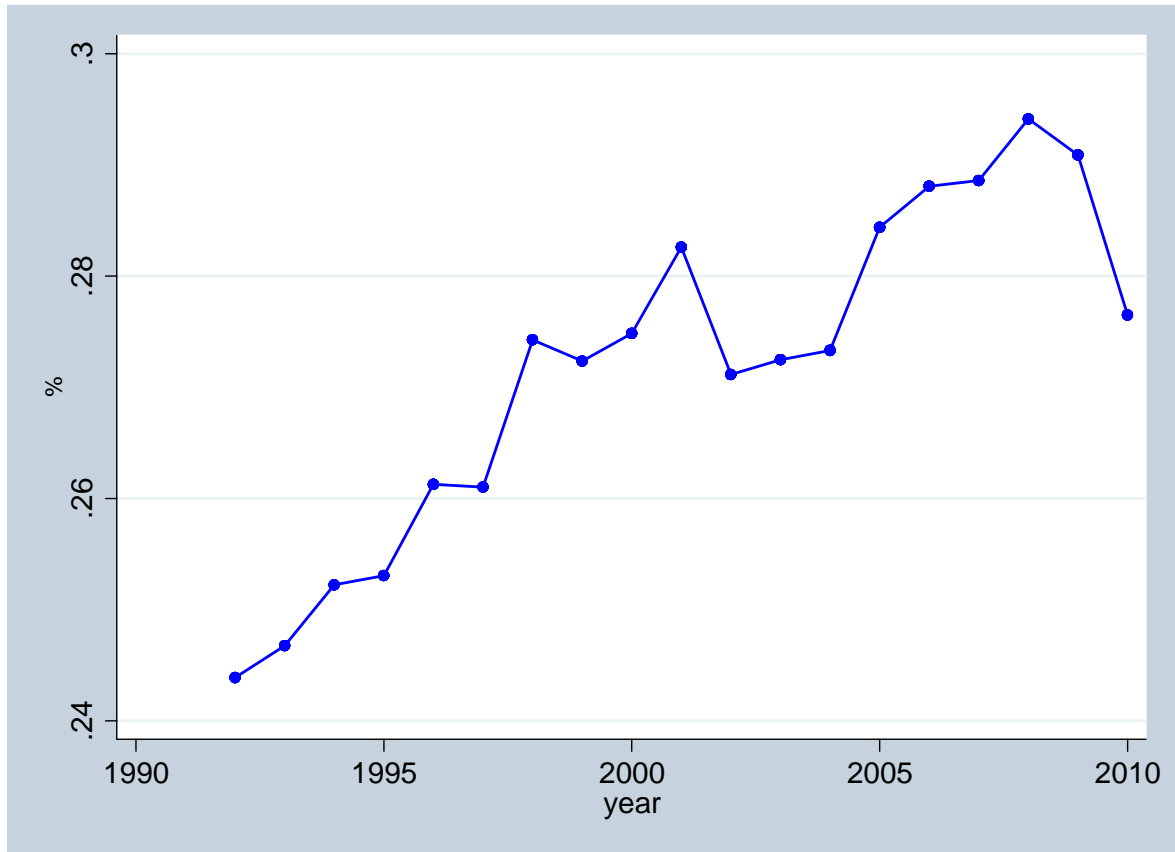
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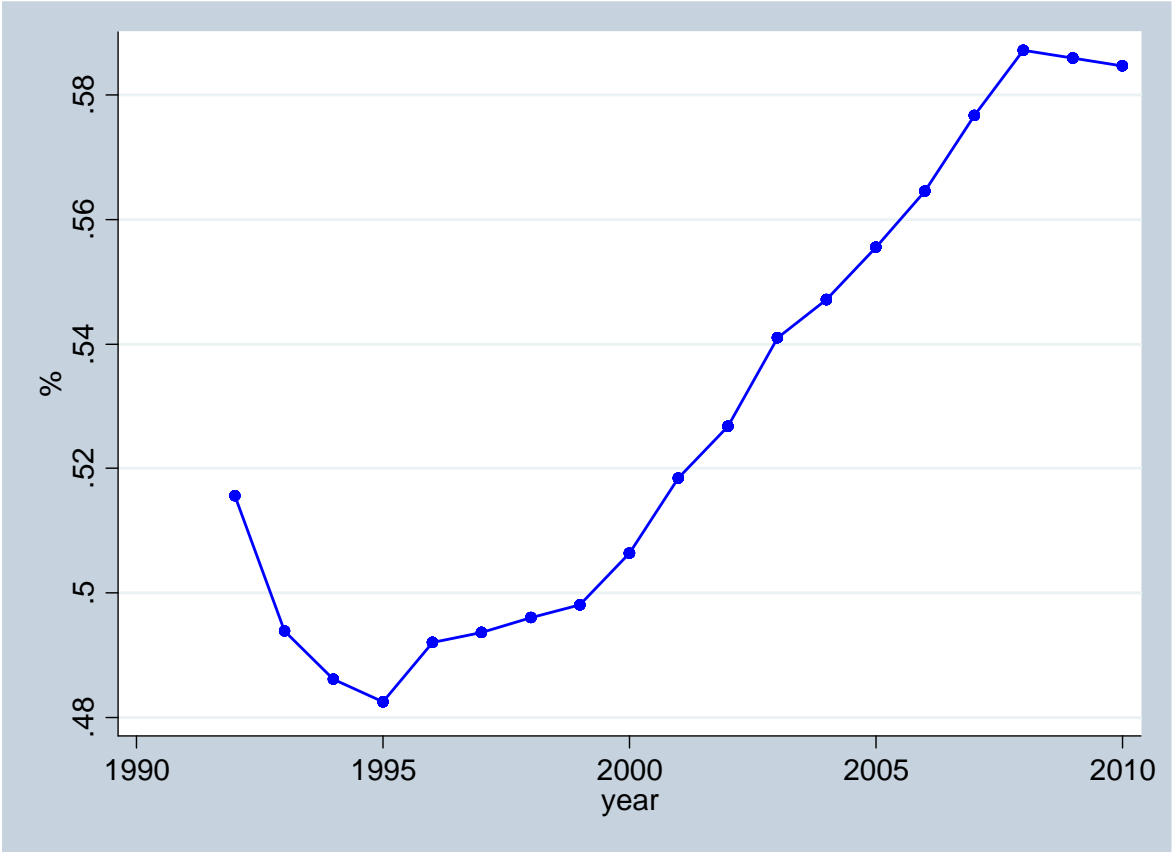
Figures and Tables

Figure 1. Short-term jobs as share of total employment. Males aged 55 to 64. 1992-2010. 15 European countries.



Source: European Labour Force Survey

Figure 2. Employment rate. Males aged 55 to 64. 1992-2010. 15 European countries.



Source: European Labour Force Survey

Table 1. Characteristics of short – term jobs and career jobs. Sample period: 1992-2010

Country	Average hours		Self employed		Part time		Temporary	
	Career Job	Short-term job	Career Job	Short-term job	Career Job	Short-term job	Career Job	Short-term job
Austria	43.22	38.32	23.30	17.39	6.77	22.07	1.26	6.07
Belgium	36.08	33.81	32.41	20.97	8.38	17.36	0.42	6.97
Denmark	40.48	35.96	25.20	9.85	5.97	14.90	0.77	7.54
Finland	39.14	36.74	29.46	17.86	13.87	17.46	0.36	14.47
France	37.37	34.20	27.57	20.99	6.37	21.07	0.94	13.39
Germany	42.19	36.68	20.14	16.39	4.28	23.23	1.07	11.15
Ireland	36.71	32.21	45.66	24.34	3.56	19.88	0.26	8.51
Italy	41.27	38.82	45.71	30.48	2.91	13.61	1.04	12.20
The Netherlands	39.81	32.89	23.52	21.13	18.74	37.74	0.55	11.73
Norway	38.92	36.76	17.44	11.21	9.46	17.79	0.40	6.85
Portugal	43.51	40.05	44.48	44.07	5.63	20.04	0.87	11.34
Spain	42.22	40.77	38.18	20.88	2.02	5.35	0.69	30.26
Sweden	39.31	37.31	20.82	17.90	12.82	19.09	0.87	15.06
Switzerland	41.73	37.63	26.47	21.23	8.14	21.31	2.52	5.73
United Kingdom	43.16	38.14	30.22	17.99	6.60	22.44	0.98	7.32

Source: European Labour Force Survey

Table 2. Transitions from a career job. Age groups: 55-70, 55-64 and 65-70

	Still in a career job	Moved to a bridge job	Moved directly into retirement
<i>Age group 55-70</i>			
Full sample	37.40	10.54	52.07
Northern Europe	39.14	12.18	48.68
Southern Europe	33.87	7.22	58.92
<i>Age group 55-64</i>			
Full sample	54.77	11.46	33.76
Northern Europe	57.62	13.18	29.20
Mediterranean Europe	49.18	8.11	42.72
<i>Age group 65-70</i>			
Full sample	8.96	9.02	82.02
Northern Europe	9.70	10.59	79.72
Mediterranean Europe	7.39	5.68	86.93

Source: our computations from the third wave of the survey SHARE.

Table 3. Transitions from a career job. By education. Age: 55-70

	Still in a career job	Moved to a bridge job	Moved directly into retirement
<i>All countries</i>			
At most 12 years of schooling	32.10	8.81	59.09
More than 12 years of schooling	44.82	12.95	42.23
<i>Northern Europe</i>			
At most 12 years of schooling	33.84	10.62	55.54
More than 12 years of schooling	44.82	13.85	41.34
<i>Mediterranean Europe</i>			
At most 12 years of schooling	29.57	6.18	64.35
More than 12 years of schooling	33.84	10.62	55.54

Source: our computations from the third wave of the survey SHARE.

Table 4: Reasons to move to a bridge job. Men aged 55-70. All European and Mediterranean countries

Reason why CJ was stopped	All countries	Mediterranean countries
Resigned or mutual consent	40.13	29.13
Laid off, plant closure or end of temporary job	30.92	44.66
Else	28.95	26.21

Source: see Table 2.

Table 5. Number and types of job changes. Individuals aged 55 to 70

	Number of changes			
	0	1	2	3+
Number of bridge jobs after a career job	-	80.91	14.32	4.77
Changes in occupation after a career job	55.68	38.18	5.23	0.91
Changes of job industry after a career job	57.73	35.23	5.81	1.23

Source: see Table 2

Table 6. Summary statistics. Individuals aged 55 to 70 with a career job at age 50.

Variable	Means	Means (Northern countries)	Means (Mediterranean countries)
Years of schooling	11.93	12.85	10.14
Married dummy	0.89	0.88	0.91
Has children	0.87	0.87	0.89
Dummy: stressed at 50	0.16	0.17	0.15
Dummy: poor health at 50	0.07	0.05	0.06
Dummy: financial hardship at 50	0.05	0.04	0.07
Dummy: living in a rural area at 50	0.35	0.36	0.34
Job at 50: full time	0.97	0.97	0.98
Job at 50: in the 3 rd industry	0.57	0.57	0.56
Job at 50: blue collar	0.41	0.36	0.51
Job at 50: in the public sector	0.19	0.21	0.14
Job at 50: self employed	0.16	0.13	0.21
Job at 50 lost because of layoff or plant closure	0.07	0.07	0.07
Years of working experience at 50	31.78	31.31	32.74
Dummy: few books when child	0.61	0.52	0.78

Source: SHARE wave 3.

Table 7. Multinomial logit. Males aged 55 to 70 at the time of the interview, who had a career job at age 50. Dependent variable: Transitions (T). Marginal effects

Variable	From a career to a bridge job	From a career job to retirement
Age	-0.002 (0.001)**	0.054 (0.001)***
Years of schooling	0.004 (0.002)**	-0.006 (0.002)**
Married	0.035 (0.017)**	-0.016 (0.022)
Has Children	0.028 (0.017)*	-0.011 (0.020)
Dummy: stressed at 50	-0.010 (0.012)	0.067 (0.016)***
Dummy: poor health at 50	-0.008 (0.018)	0.056 (0.023)**
Dummy: financial hardship at 50	0.019 (0.018)	-0.000 (0.026)
Dummy: living in a rural area at 50	-0.044 (0.010)***	0.015 (0.013)
Job at 50: full time	0.037 (0.040)	0.079 (0.045)*
Job at 50: in the service sector	-0.014 (0.010)	0.016 (0.013)
Job at 50: blue collar	-0.021 (0.011)*	0.021 (0.014)
Job at 50: civil servant	-0.044 (0.013)***	0.069 (0.016)***
Job at 50: self employed	-0.001 (0.009)	-0.183 (0.018)***
Job at 50 lost because of layoff or plant closure	0.215 (0.013)***	0.194 (0.038)***
Years of working experience at 50	0.002 (0.002)	0.004 (0.002)**
Dummy: few books when child	-0.014 (0.010)	0.024 (0.013)*
Austria	-0.065 (0.039)*	0.170 (0.040)***
Sweden	0.063 (0.018)***	-0.160 (0.027)***
Netherlands	0.000 (0.018)	0.008 (0.024)
Spain	-0.044 (0.023)*	0.038 (0.029)
Italy	-0.048 (0.022)**	0.141 (0.027)***
France	-0.018 (0.020)	0.113 (0.025)***
Denmark	0.044 (0.018)**	-0.048 (0.026)*
Switzerland	0.043 (0.021)**	-0.043 (0.028)
Belgium	-0.020 (0.019)	0.150 (0.024)***
Number of observations	4145	4145

Source: SHARE wave 3. Robust standard errors within parentheses. One, two and three stars for statistical significance at the 10, 5 and 1 percent level.

Table 8. Transitions from career jobs. Italy and Germany.

	Still in a career job	Moved to a bridge job	Moved directly into retirement
<i>Italy. Three Italian cohorts</i>			
ILFI data	22.12	8.04	69.82
SHARE data	27.75	4.82	67.44
<i>Germany</i>			
SOEP data	43.27	12.15	44.58
SHARE data	37.47	11.26	51.26

Source: our computations from ILFI, SOEP and SHARE data.

Table 9: Multinomial logit for discrete survival data. 6 European Countries. Individuals aged 55-70. Marginal Effects

	Full sample		North Europe		Mediterranean Europe	
	Hazard into a bridge job	Hazard into retirement	Hazard into a bridge job	Hazard into retirement	Hazard into a bridge job	Hazard into retirement
Z ⁺	0.019 [0.10]	-0.96*** [0.15]	0.52** [0.25]	-0.55 [0.40]	-0.05 [0.09]	-0.73** [0.25]
EPL ⁺	0.46 [0.32]	-0.69 [0.87]	-0.37 [0.68]	-0.31 [1.57]	-1.33 [0.61]	-3.83 [2.81]
Economic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Personal characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Job at 50 characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Childhood dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,084	19,084	11,665	11,665	7,419	7,419

Standard errors in brackets. *p<0.1, **p<0.05, ***p<0.001. ⁺ All coefficients are multiplied by 100 to enhance readability.

Appendix

A. Adjusting raw EULFS series

The EULFS dataset contains several breaks in the 1992 – 2010 series. In the following table we report these breaks by country¹⁴.

Table A.1. Breaks in the EULFS series

Country	Due to transition to a quarterly continuous survey	Due to census revisions and implementation of new concepts
BE	1999	-
DK	-	2007: new survey structure (including significant increase of sample size) with impact e.g. on education data
DE	2005	-
ES	-	2005: significant changes in the questionnaire with impact on employment and unemployment data 2001: revised unemployment definition
FR	2003	2003: revised unemployment definition
IT	2004	-
AT	2004	-
PT	-	1998: re-design of the survey
FI	2000	-
SE	2001	2005: revised unemployment definition
UK	-	1999Q2: break due to census revisions

To adjust the raw data, we use as benchmark the adjusted series for the employment rate of males aged 55 to 64 provided by Eurostat¹⁵. Define $EMPL^{ELFS}$, SJ^{ELFS} and CJ^{ELFS} as the un-adjusted data,

¹⁴ Source: Eurostat, <http://circa.europa.eu>

¹⁵ See http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

and $EMP^{adjELFS}$, $SJ^{adjELFS}$ and $CJ^{adjELFS}$ as the adjusted data. We assume that the following conditions hold

$$\frac{SJ^{adjELFS}}{EMPL^{adjELFS}} = \frac{SJ^{ELFS}}{EMPL^{ELFS}}$$

$$\frac{CJ^{adjELFS}}{EMPL^{adjELFS}} = \frac{CJ^{ELFS}}{EMPL^{ELFS}}$$

From this we obtain

$$SJ^{adjELFS} = \frac{SJ^{ELFS}}{EMPL^{ELFS}} * EMPL^{eur}$$

$$CJ^{adjELFS} = \frac{CJ^{ELFS}}{EMPL^{ELFS}} * EMPL^{eur}$$

For Norway, the information on the year in which the current job started is missing for the year 2005. To correct for this problem, we linearly interpolate the Norwegian series.

Figure A1. Short - term jobs as share of total employment. Males aged 55 to 64. 1992-2010. By country.

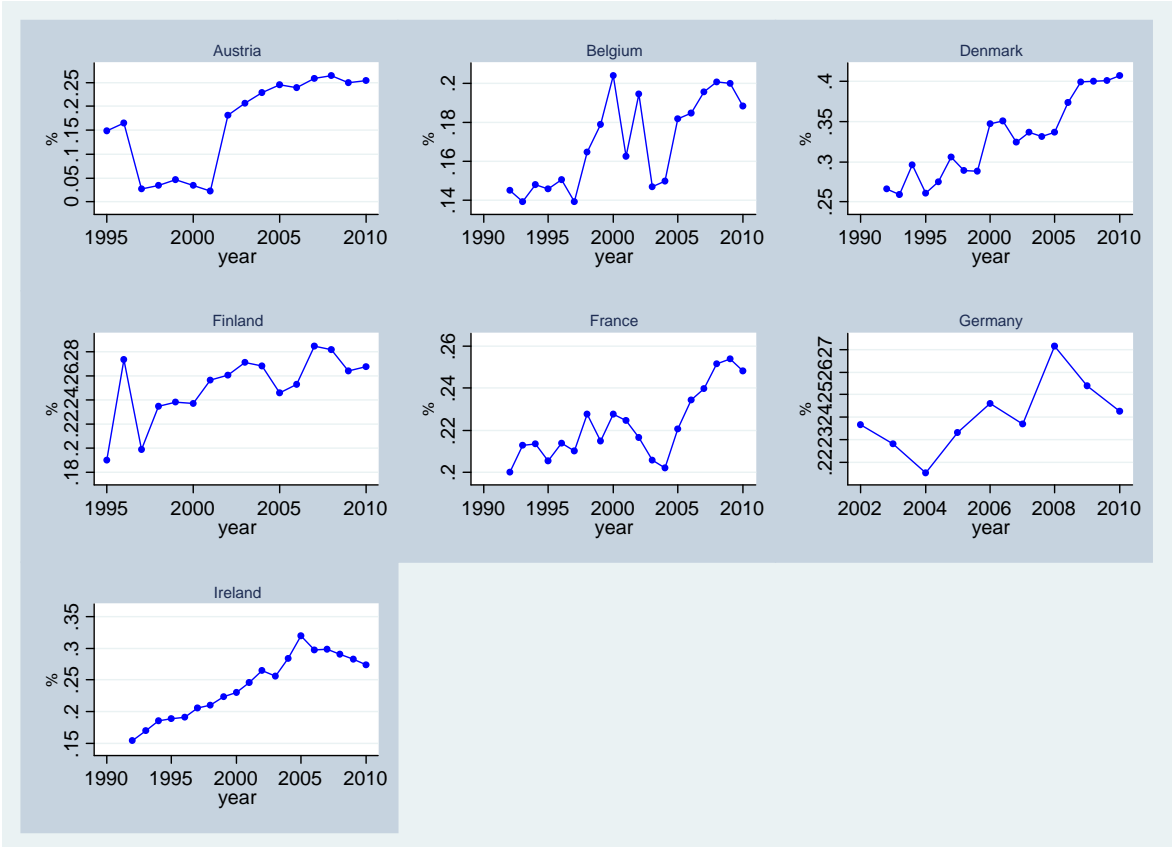


Figure A1 (continued). Short-term jobs as share of total employment. Males aged 55 to 64. 1992-2010. By country.

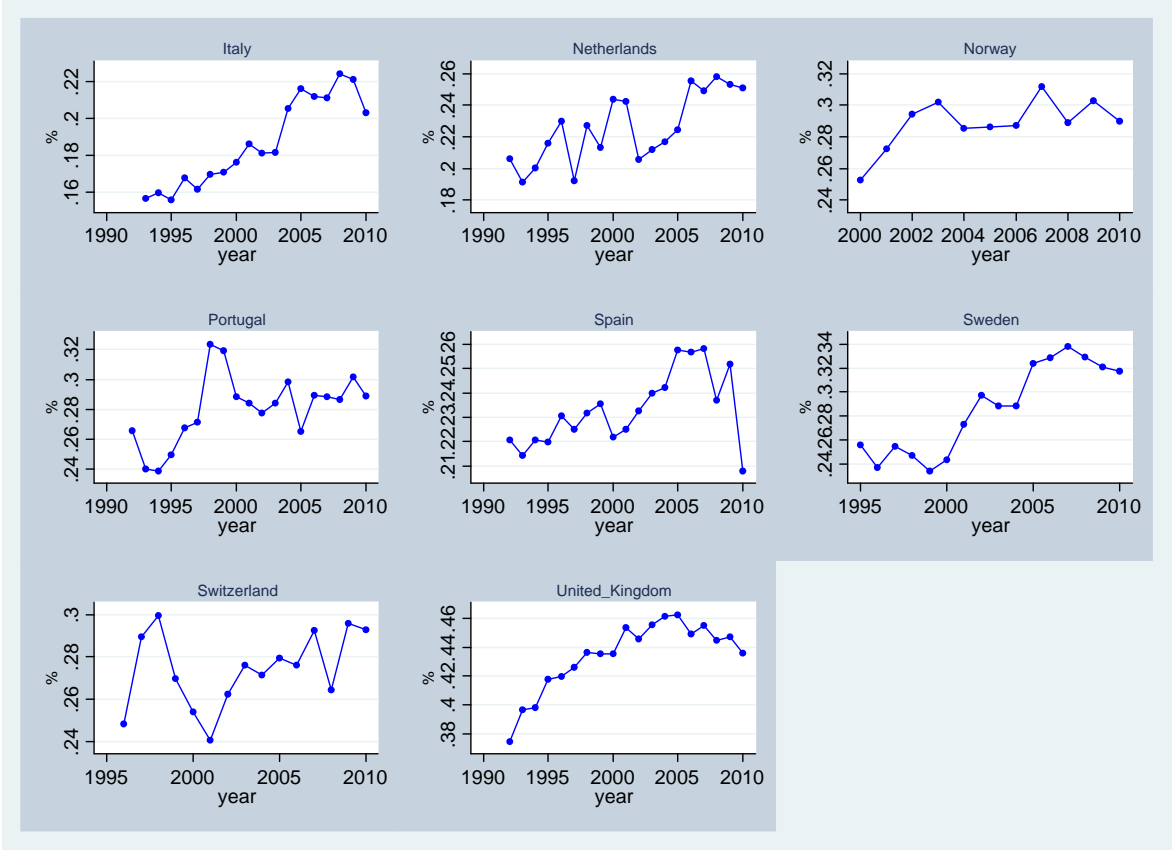


Figure A2. Employment rate. Males aged 55 to 64. 1992-2010. By country.

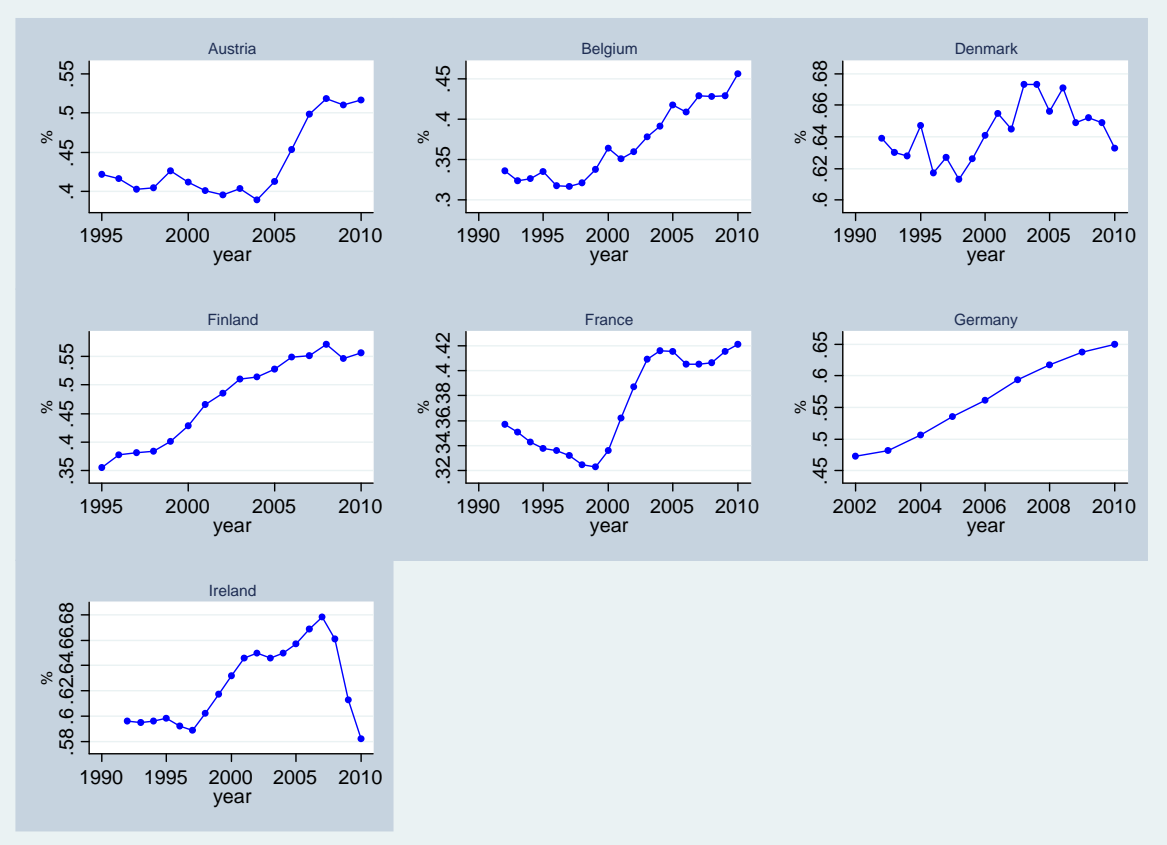
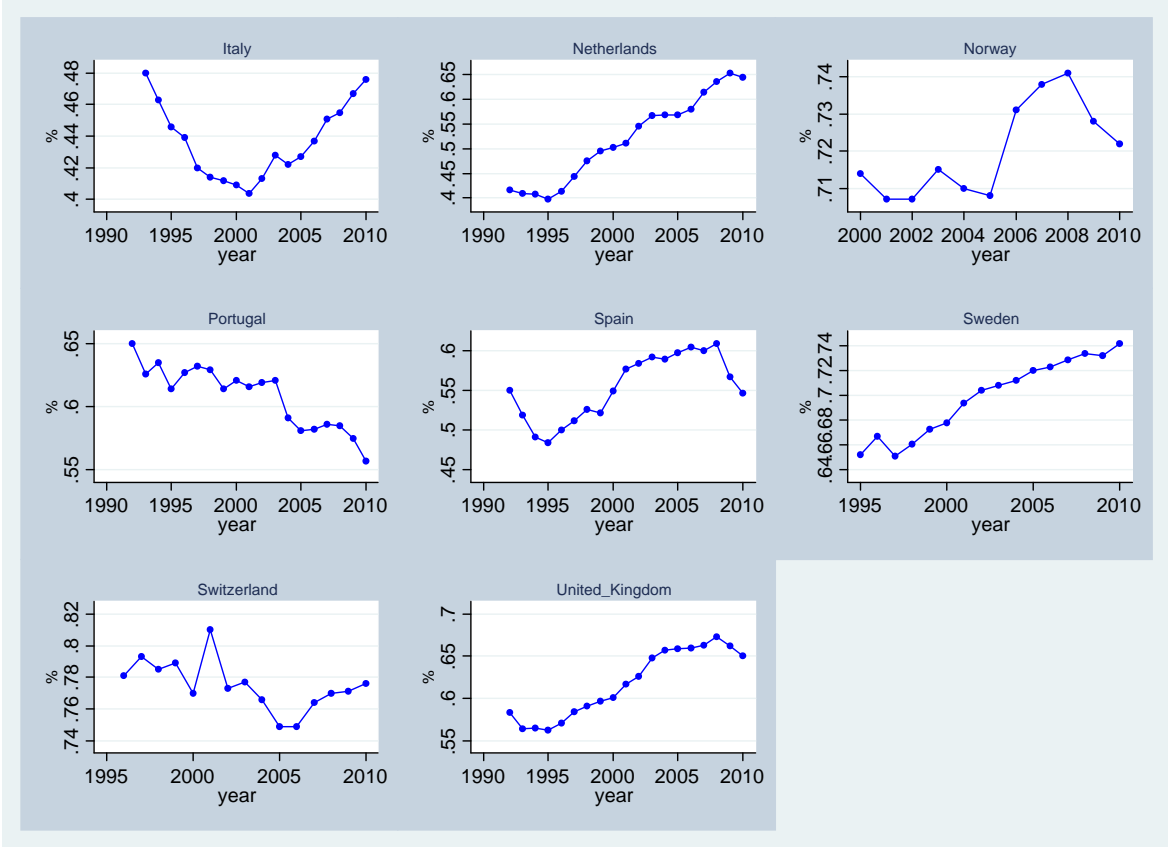


Figure A2 (continued). Employment rate. Males aged 55 to 64. 1992-2010. By country.



B. Changes in employment protection and minimum early retirement age

We collect data on changes in minimum early retirement age from several data sources, which include Fondazione Rodolfo Debenedetti (www.frdb.org), the OECD (2011), Angelini, Brugiavini, and Weber (2009) and Battistin, Brunello, Comi and Sonedda (2012). As reported in Table B.1, in four countries out of the ten included in our data there are no exogenous changes in minimum retirement age (Denmark, Belgium, France and Germany). In the remaining countries, minimum retirement age was increased. In Italy, the increase was very gradual in the private sector and less gradual in the public sector, where the abolition of the so-called baby pensions in 1998 generated a 13 years jump in minimum retirement age.

Table B.2 reports the values of the employment protection legislation indicator in our sample of countries. The source of the data is the OECD¹⁶. This indicator ranges between 0 (low) and 6 (high) and summarizes several items affecting the protection of regular workers against individual dismissal, the regulation of temporary jobs, the and requirements for collective dismissals¹⁷.

Table B.1 Minimum Early Retirement Age from 1992 to 2008

Country	Period	Early retirement age
Austria	1992-2001	60
	2002-2004	61
	2005-2008	62
Belgium	1992-2008	60
Denmark	1992-2008	60
France	1992-2008	60
Germany	1992-2008	63
Italy	1992-1995	50 for the private sector and 40 for the public sector (the requirement was 35 and 25 years of contributions respectively and minimum age to start working was 15)
	1996-1997	40 for the public sector, 52 for the private sector, 56 for the self employed
	1998-2000	57 for self employed 54 in 1998 and 55 in 1999 and 2000 for the private sector, 53 in 1998 and 1999 and 54 in 2000 for the public sector
	2001	58 for self-employed 56 for the private sector and 55 for the public sector
	2002-2007	58 for self-employed 57 for the private sector 55 in 2002, 56 in 2003 and 57 in 2004 in the public sector
	2008	60
	The Netherlands	1992-1994
	1995-2008	62
Spain	1992-1993	60
	1994-2008	62
Sweden	1992-1997	60
	1998-2008	61
Switzerland	1992-2006	62
	2007-2008	63

Sources: Angelini, Brugiavini, and Weber (2008); "Pensions at a glance 2011" OECD (2011); Fondazione Rodolfo De Benedetti; Battistin et al. (2012)

¹⁶ Available at <http://stats.oecd.org>. Data available for OECD countries from 1985 to 2008.

¹⁷ See www.oecd.org/employment/protection

Table B.2 EPL (employment protection legislation) by country, from 1992 to 2008

Country	Period	EPL	Country	Period	EPL
Austria	1992-2002	2.21	The Netherlands	1992-1998	2.73
	2003-2008	1.93		1999-2006	2.12
Belgium	1992-1996	3.15		2007	2.04
	1997-1999	2.15		2008	1.87
	2000-2008	2.18	Spain	1992-1993	3.82
Denmark	1992-1994	2.4		1994-1996	3.01
	1995-2008	1.5		1997-2000	2.93
France	1992-2000	2.98		2001-2002	3.05
	2001-2008	3.05		2003-2008	2.98
Germany	1992	3.17	Sweden	1992	3.49
	1993	3.21		1993-1996	2.47
	1994-1996	3.09		1997-2007	2.24
	1997-2001	2.34		2008	1.87
	2002-2003	2.09	Switzerland	1992-2008	1.14
2004-2008	2.12				
Italy	1992-1996	3.57			
	1997	3.26			
	1998-1999	2.7			
	2000	2.51			
	2001-2002	2.01			
	2003-2007	1.82			
	2008	1.89			

Source: OECD.

C. Sources of data for the covariates used in the multinomial and the aggregate analysis

- *unemployment rate*: unemployment rate calculated for the population aged 15 to 64, by country and year. Source: Eurostat, the Statistic Database (lfsa_urgaed series)
- *life expectancy at the age of 50*. Source: Eurostat, the Statistic Database (demo_mlexpec series)
- *logarithm of per capita GDP*. Source: OECD.
- *years of schooling*. Calculated as the difference between the age when full-time education ends (from SHARE) and the age at which compulsory school starts (Source: United Nations¹⁸ and Eurydice¹⁹)

¹⁸ UN data available at data.un.org/Data.aspx?d=UNESCO&f=series%3ATHAGE_1

¹⁹ *The structure of the European education systems 2010/11: schematic diagrams*. Available at acea.ec.europa.eu/education/eurydice/documents/tools/108EN.pdf

- *married*: dummy variable indicating whether the respondent is or has ever been married (source: SHARE)
- *children*: dummy variable indicating whether the respondent has at least one child (source: SHARE)
- *ill at 50*: dummy variable indicating whether, at age 50, the respondent had ill health (source: SHARE)
- *stressed at 50*: dummy variable indicating whether the respondent was in a period of stress at age 50 (source: SHARE)
- *poor health at 50*: dummy variable indicating whether the respondent was in a period of poor health at age 50 (source: SHARE)
- *financial hardship at 50*: dummy variable indicating whether the respondent was in a period of financial hardship at age 50 (source: SHARE)
- *living in rural area at 50*: dummy variable indicating whether the respondent was living in a rural area at age 50 (source: SHARE)
- *job at 50 full time*: dummy variable indicating whether the job the respondent was doing at age 50 (the career job) was a full-time job (source: SHARE)
- *job at 50 services*: dummy variable indicating whether the job the respondent was doing at age 50 (the CJ in this case) was in the services sector (source: SHARE)
- *job at 50 blue collar*: dummy variable indicating whether the respondent was in a blue collar job at age 50 (source: SHARE)
- *job at 50 public sector*: dummy variable indicating whether the respondent was employed in the public sector at age 50 (source: SHARE)
- *job at 50 self employed*: dummy variable indicating whether the respondent was working as self-employed at age 50 (Sharelife)
- *experience at 50*: years of working experience cumulated at age 50. The variable is calculated as the sum of the years in which the respondent declares to have been working since the year when the first job started (source: SHARE)
- *fewbooks*: dummy indicating whether the respondent had less than 25 books during childhood (source: SHARE)
- *with bath*: dummy indicating whether the accommodation where the respondent was living during childhood had a bath (source: SHARE)
- *cold water*: dummy indicating whether the accommodation where the respondent was living during his childhood had cold running water (source: SHARE)
- *toilet*: dummy indicating whether the accommodation where the respondent was living during his childhood had inside toilet (Sharelife)
- *log population at 50*: the logarithm of the population aged 55-64 in each year and country (Source: Eurostat, Statistic Database)
- *rd*: total intramural research and development expenditure, measured in euro per capita (Source: Eurostat, Statistic Database)

- *high education*: share of people having at least a third level education degree (Source: ELFS)

Table C.1: Summary statistics for the country specific macro variables

Variable	Means (6 countries)	Means (4 Northern countries)	Means (2 Mediterranean countries)
Early retirement age	60.53	61.62	58.80
EPL	2.30	2.01	2.76
Unemployment rate (Eurostat)	6.33	4.65	8.96
Life Expectancy at 50 (Eurostat)	29	28.95	29.08
Log of GDP per capita (OECD)	9.88	9.97	9.75

Source: SHARE wave 3.

Table C.2: Multinomial logit for discrete survival data. 10 European countries. Individuals aged 55-70. Marginal Effects

	Full sample		North Europe		Mediterranean Europe	
	Hazard into a bridge job	Hazard into retirement	Hazard into a bridge job	Hazard into retirement	Hazard into a bridge job	Hazard into retirement
Z ⁺	0.08 [0.09]	-0.84*** [0.13]	0.45** [0.18]	-0.32 [0.23]	0.02 [0.099]	-1.21*** [0.23]
EPL ⁺	0.09 [0.26]	0.58 [0.59]	-0.18 [0.35]	0.26 [1.05]	0.24 [0.30]	-0.56 [0.80]
Economic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Personal characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Job at 50 characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Childhood dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	34,435	34,435	23,604	23,604	10,831	10,831

Standard errors in brackets. *p<0.1, **p<0.05, ***p<0.001. ⁺All coefficients are multiplied by 100 to enhance readability.