Bridge jobs in Europe

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Abstract

We study the transitions from career to gradual and permanent retirement by a sample of (Continental) European males aged 55 to 70 in the late 2000s. We find that only 14.6% of the workers in this sample moved from a career to a bridge job by the time of the interview, much less than in the United States, where this share is estimated at close to 60%. We use the cross country and time variation in employment protection legislation and minimum retirement age to study whether recent changes in these labour market institutions have had any effect on the transitions out of career jobs. We find that policies that have increased minimum retirement age and reduced the strictness of employment protection legislation have raised the hazard into gradual retirement in Northern and Central European countries and the permanence in career jobs in Mediterranean countries.

JEL codes: J26, J11, J21

Keywords: Retirement; Europe; Bridge jobs; Pension reforms

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 (phased retirement) or the transition from a "career job" to one or more transitional jobs, or "bridge jobs" (partial retirement), as a preliminary step to ultimate withdrawal from the labour force.

Gradual retirement has both advantages and disadvantages. On the one hand, less demanding jobs can increase the job satisfaction and utility of older workers at the end of their employment trajectories, and induce people with valuable skills and experience to work longer, thereby reducing alternative transitions to retirement such as disability and unemployment. By virtue of this, labour supply increases, and the sustainability of pension systems improves. On the other hand, the availability of part-time or less demanding jobs for older workers may be hampered by the presence of fixed employer costs and by other restrictions, including the production technology, the difficulty of job scheduling in the case of part-time jobs and labour market institutions that discourage labour turnover.

By and large, the existing evidence on gradual retirement patterns is based on US data and research. Less has been done to understand whether similar patterns apply to European labour markets (one notable exception being Kantarci and Van Soest, 2008). This paper contributes to the empirical 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 gradual retirement patterns and the diffusion of bridge jobs in Continental Europe. 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 in the strictness of employment protection legislation that have occurred in several European countries during the 1990s and the 2000s.

These institutional changes have the potential of influencing the labour market transitions of older workers. On the one hand, 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. On the other hand, 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. Furthermore, when the increase in minimum retirement age is unexpected, job losers may be forced to find a short term job instead than early retirement[1].

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 by males aged 55 to 70, who held a career job (defined as a full-time job lasting more than 10 years) at age 50. We find that 8.86% of the individuals in our sample have transited from a career to a bridge job and eventually to retirement, 0.71% have retained their career job but switched from full to part-time, 51.53% have transited directly from a career job to permanent retirement and the remaining 38.90% are still in their career job. 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).

These results suggest that partial retirement is less common in Continental Europe than in the US or Japan, where it involves the majority of older male workers[2], and that phased retirement involving a switch from full to part-time work is very rare with the same employer[3]. Since bridge jobs are more likely be part-time than career jobs, we conclude that older European workers willing to switch from full to part-time work typically have to change employer[4].

Using a sample of men who were holding a full-time career job at age 50, we estimate a multinomial logit model of competing risks, with hazards into gradual and permanent retirement, to study the effects on these hazards of changes in minimum retirement age and in the strictness of employment protection legislation. We find an interesting contrast between the Northern and Central European countries and the Mediterranean countries in our sample. In the former group, policies that raise minimum retirement age and reduce employment protection have increased the hazard into gradual retirement. In the latter group, these policies have reduced the hazard into permanent retirement without significantly affecting gradual retirement. Therefore, permanence into career jobs has increased. These results suggest that both policies have contributed to increase the labour supply of older workers and to improve the sustainability of pension systems. This has been attained by transitions into bridge jobs in Northern and Central

Europe, and by longer permanence in full time career jobs in Mediterranean Europe. We speculate that this difference is due both to the fewer opportunities to work part-time and to the lower average human capital of older workers in the latter group of countries.

The paper is organized as follows. We start by reviewing the relevant literature (Section "Introduction"). Section "Previous literature" introduces the data, the key definitions and the descriptive evidence on bridge jobs in Continental Europe based on SHARE. Finally, Section "Bridge jobs in Europe" presents our estimates of the effects of changes in minimum retirement age and employment protection on the hazards from career jobs to gradual and permanent retirement. Conclusions follow.

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 and 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 review the few existing country studies and present European evidence on

part-time work using the European Community Household Panel. These data, however, do not allow them to measure the frequency of bridge jobs using definitions similar to those applied in the US. Therefore, their comparative perspective is rather limited.

Bridge jobs in Europe

Following Ruhm, 1990, and Cahill et al., 2006, we define a career job as a full-time 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[5]. When job spells are completed, their duration is obvious. When they are on-going or interrupted, we can only measure their duration until the time of the survey. Partly following Quinn, 1996, we estimate the completed duration of interrupted spells as the maximum between twice the interrupted duration and the duration until modal retirement age[6]. To illustrate with an example, assume that an individual aged 60 is observed on an ongoing job after his career job, and that the observed duration of this job is three years. Assume also that modal retirement age in his country and for his cohort of birth is 62. We estimate the completed length of the current job spell as the minimum between 6 – twice the interrupted length – and 5, the completed length by the time of modal retirement.

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 from age 50 to 70 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. This information is available on a European scale in the third wave of the survey SHARE.

The survey 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 male 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 5148 males from 10 countries (Austria, Germany, Sweden, the Netherlands, Spain, Italy, France, Denmark, Switzerland and

Belgium) and has the following characteristics: almost 85% were holding a career job at age 50 – a full-time job which started before age 50, was not finished before that age, and had a completed duration of at least 10 years[7] – close to 7% had instead a short-term job or were in an unemployment spell leading to a short-term job, defined as a job with a completed duration shorter than 10 years, close to 2% were in a part-time job longer than 10 years, and the remaining 6% were either retired or in an unemployment spell leading to retirement[8].

Table 1 shows that 8.86% of the workers who were in a career job at age 50 have experienced at least one bridge job in the following years, 0.71% have moved from a full-time to a part-time job with the same employer, 51.3% have exited directly into permanent retirement, and the remaining 38.90% were still in the career job at the time of the interview. The percentage of male individuals experiencing one or more bridge jobs is 6.45% in Mediterranean Europe (France, Italy and Spain) and 10.52% in the rest of the sample, which includes Central and Northern European countries. We find that transitions from full to part-time work with the same employer are relatively more frequent in the latter group of countries, and that direct transitions from a career job to retirement are much more frequent in Mediterranean Europe (58.32% versus 48.20% in Northern and Central Europe). 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 (9.40% versus 7.97%).

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% of the American males aged 51 to 61 in 1992 who exited a career job moved to a bridge job[9]. In sharp contrast, the corresponding percentage for male Europeans in our sample aged 55 to 64 in 2008/9 is 14.6% (8.86/(8.86 + 51.53) in Table 1), and as low as 9.9% in Mediterranean Europe. While these percentages may be affected by cohort and macroeconomic

Table 1 Transitions from a career job

	Still in a full time career job	Moved to a part time CJ	Moved to a bridge job	Moved directly into retirement
Age group 55-70				
Full Sample	38.90	0.71	8.86	51.53
Northern Europe	40.78	0.99	10.04	48.20
Mediterranean Europe	35.09	0.14	6.45	58.32
Age group 55-64				
Full Sample	57.05	0.88	9.40	32.67
Northern Europe	60.30	1.22	10.52	27.96
Mediterranean Europe	50.65	0.22	7.19	41.94
Age group 65-70				
Full Sample	9.06	0.42	7.97	82.55
Northern Europe	9.63	0.62	9.28	80.48
Mediterranean Europe	7.82	-	5.15	87.02

Males only. Age groups: 55–70, 55–64 and 65–70.
Source: our computations from the third wave of the survey SHARE.

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 2 considers labour market transitions by level of education (at most 12 year or higher than 12 years). We find that both in Northern/Central and in Mediterranean Europe better educated individuals are less likely to move directly from a career job to permanent retirement and more likely to take up a bridge job or to switch from full to part - time work than less educated individuals. The table suggests that one reason why transitions to gradual retirement are higher in Northern/Central Europe is that older workers tend to be better educated than in Mediterranean Europe[10].

Table 3 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 close to 44% in the Mediterranean countries in our sample.

Most individuals aged between 55 and 70 who changed from a career to a bridge job have had a single new job (81.1%), and only slightly more than 5% have had three or more new jobs (see bottom part of Table 3). Among the individuals who have experienced a bridge job, 42% did not change both industry and occupation, almost 30% changed either occupation or industry and 28% 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% of older Americans remained in the same occupation and industry, and 51% changed either occupation or industry[11].

We have found important differences in the prevalence of bridge jobs among different European countries (Northern and Central versus Mediterranean) and groups of individuals (less versus more educated). Demand, supply and institutional factors are likely to affect these differences. On the demand side, the availability of part-time jobs for older workers is much higher in Northern than in Southern Europe. According to Eurostat, in 2007 the percentage of male employees aged 50 to 64 who was in a

Table 2 Transitions from a career job

	Still in a full time career job	Moved to a part time CJ	Moved to a bridge job	Moved directly into retirement
Full Sample				
At Most 12 Years of Schooling	33.16	0.39	7.67	58.78
More Than 12 Years of Schooling	46.96	1.15	10.53	41.36
Northern Europe				
At Most 12 Years of Schooling	35.13	0.66	8.86	55.35
More Than 12 Years of Schooling	46.86	1.34	11.31	40.49
Mediterranean Europe				
At Most 12 Years of Schooling	30.27	-	5.90	63.83
More Than 12 Years of Schooling	47.30	0.49	7.84	44.36

By education. Males only. Age: 55–70.
Source: our computations from the third wave of the survey SHARE.

Table 3 Reasons to move to a bridge job and number and types of job changes after leaving the full time career job

Reason why CJ was stopped	All Countries	Mediterranean Countries		
Resigned or mutual consent	36.75	29.55		
Laid off, plant closure or end of temporary job	32.81	44.32		
Retirement	0.52	-		
Else	29.92	26.14		
	Numbers of changes			
	0	1	2	3+
Number of bridge jobs after a career job	-	81.15	13.61	5.24
Changes in occupation after a career job	56.02	38.22	4.71	1.05
Changes of job industry after a career job	57.59	35.60	5.50	1.31

Men aged 55–70. All European and Mediterranean countries.
Source: see Table 2.

part-time job was as low as 2.9 percent in Spain and as high as 22.5 percent in the Netherlands. On the supply side, the willingness and the ability to gradually rather than permanently retiring depends on the quantity and quality of human capital, which is acquired both at school and in the labour market (training). According to the OECD, 2006, the percentage of employed individuals aged 50 to 64 who participated to training during the previous 12 months was smallest in Spain and Italy and largest in Switzerland, Sweden and Denmark. These demand and supply factors suggest that transitions from career jobs to gradual retirement should be less frequent in Mediterranean Europe.

Institutional rules that regulate the calculation of pension benefits also differ among countries and affect the incentives to use gradual retirement. For instance, as reported by the OECD, 2006, the net replacement rate for full career workers – measured as the ratio of net pension entitlements to net average earnings - is higher in Italy and Spain than in Denmark, Germany and The Netherlands, and favours transitions into permanent retirement in the former group of countries.

Since countries differ because of a wide range of observable and unobservable characteristics, the identification of the effects of economic institutions on the labour market transitions of older workers is difficult if not impossible using cross section data. To better illustrate this point, consider employment protection legislation, which can have two opposite effects on labour market outcomes. Stricter protection can lead both to greater retention of workers because it raises firing costs and to fewer hirings because it raises hiring costs. The OECD, 2006, plots the employment rate of men aged 50 to 64 against the strictness of employment protection in a number of member countries, and shows that there is a negative and statistically significant correlation. Yet the omission of country – specific effects that can affect both employment protection and employment rates implies that this correlation does not inform us of the presence of a causal relationship. One way to control for the host of time invariant country – specific effects is to use longitudinal data and focus on the variations of institutional rules over time. In the next section of this paper, we focus on two such rules, minimum retirement age and employment protection legislation, and exploit their within – country variations to study the effects on the labour market transitions of older workers[12].

The effects of changes in minimum retirement age and employment protection on the probability of gradual retirement

Several European countries have experienced during the 1990s and the 2000s important changes in their labour market institutions. In this section, we focus on two such institutions, employment protection legislation and minimum early retirement age, and restrict our attention to the sub-sample of countries included in SHARE which have experienced changes in minimum retirement age during the period 1992 to 2008. These countries are: Austria, Italy, Spain, Switzerland, the Netherlands and Sweden. In Austria and Sweden, minimum early retirement age increased from 60 to 61 in 2002 and 2007 respectively. In the Netherlands and Spain, minimum age increased from 60 to 62 in 1995 and 1994. In Switzerland, the increase from 62 to 63 years occurred in 2007. In Italy, there were several increases from 1996 to 2007, with minimum age rising progressively from 52 to 57 years (see Table 5 in the Appendix for further details). In all these countries, with the exception of Switzerland, the strictness of employment protection legislation has declined over the sample period, as illustrated by Figure 1[13].

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 the retrospective data from SHARE to reconstruct for each male 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 the six countries over the period 1992–2008, match them with data on minimum retirement age and employment protection for the same period and use a survival data approach. We focus on men who, at the age of 50, were holding a full-time career job. In this approach, career employment at age 50 is treated as the initial (survival) status and the transitions from career employment to gradual or to permanent retirement are treated as the
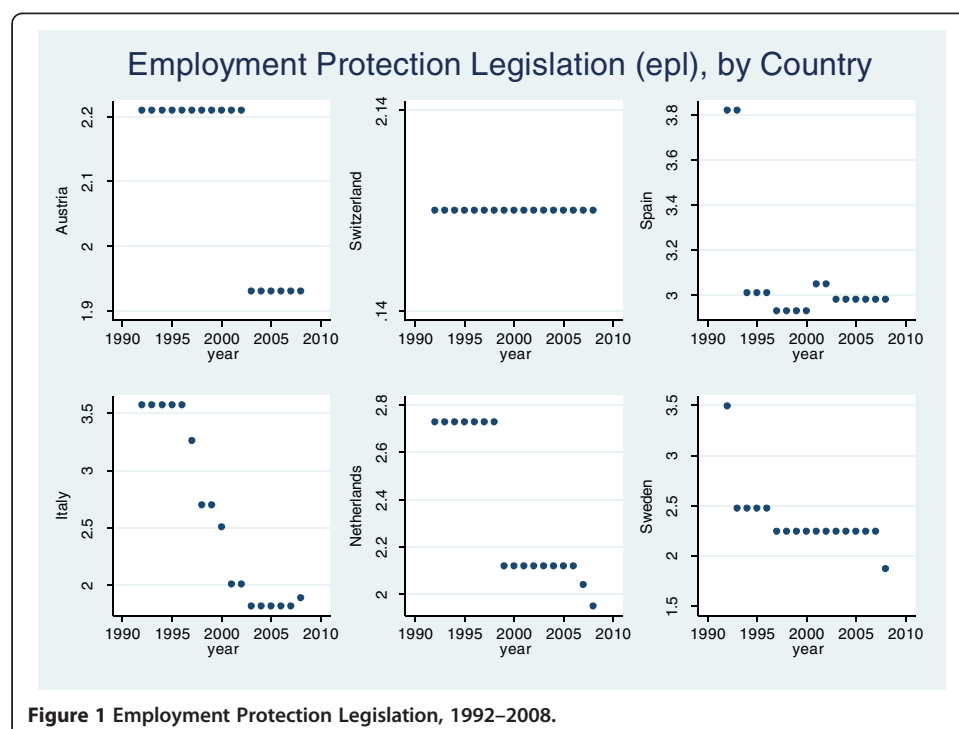

Figure 1 Employment Protection Legislation, 1992–2008.

competing risks or hazards[14]. Following Jenkins, 2005, we estimate a multinomial logit model of competing risks, where the baseline category is the censored event (still in a career job).

Define W_{it} as a variable taking the value 0 if the individual i is in a full-time career job at time t, 1 if he is in gradual retirement, and 2 if he has permanently retired. To capture the effects of minimum early retirement age RA_t on the decisions to permanently retire or take up gradual retirement, we define the variable Z_{it} as equal to zero if RA_t is lower than or equal to individual age A_{it} and to $RA_t - A_{it}$ if RA_t is higher than A_{it}. The variable Z_{it} indicates that individuals older than or as old as the minimum early retirement age are not constrained by RA_t in their retirement decisions ($Z_{it} = 0$). On the other hand, individuals younger than RA_t are affected by minimum retirement age because they can retire only after reaching it ($Z_{it} > 0$). Minimum early retirement age in Europe has varied between the early 50s and the early 60s during the past twenty years. In our data, the variable Z_{it} ranges from 0 to 13. Since we use data for individuals aged 55 to 70 at the time of the interview, our sample includes for each country both constrained ($Z_{it} > 0$) and unconstrained individuals ($Z_{it} = 0$).

We treat both gradual and permanent retirement as absorbing states and - for each individual in the sample who attains either state at time t – we drop all observations from time $t + 1$ onwards. We estimate the following regression model

$$W_{it} = \alpha_0 + \alpha_1 A_{it} + \alpha_1 A^2_{it} + \beta_1 Z_{itc} + \beta_2 E_{ct} + \gamma G_{ct} + \delta X_i + \theta_c + \theta_s + \varepsilon_{it} \qquad (1)$$

where A_{it} is individual age, E_{ct} is the index of strictness of employment protection legislation, G_{ct} is a vector of country by time effects – 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_s are country and cohort dummies, ε_{it} is the error term, c is for the country, i for the individual and s for cohort. By including country dummies, we control in a flexible way for the effects of all time invariant labour market institutions that can affect the labour market transitions of older workers. We are interested in estimating the effects of Z_{itc} and E_{ct} on the hazard to gradual and permanent retirement, using as baseline the probability of being in a full-time career job[15]. We also take into account the fact that some covariates are defined at a higher level of aggregation than the dependent variable by clustering standard errors by country and time. Table 6 in the Appendix show the summary statistics of the relevant covariates.

Table 4 presents our estimates both for the full sample of six countries and for the two sub-samples of Northern/Central and Mediterranean countries. The table reports only the estimated relative risk ratios for the two key variables, employment protection E and minimum retirement age Z[16]. The estimates of the other covariates are reported in Table 8 in the Appendix. Consider first the results for the full sample – columns (1) and (2) of the table. On the one hand, we find that changes in either employment protection or in minimum retirement age have had no statistically significant impact on gradual retirement. On the other hand, there is evidence that a one-year increase in minimum retirement age has had a negative and statistically significant impact on the hazard into permanent retirement.

Next, consider the two sub-samples of Northern/Central and Mediterranean countries in columns (3) to (6) of the table. In the former case, we estimate that, for gradual

Table 4 Multinomial logit for discrete survival data (Baseline: Full time career job)

Variables	All countries. Gradual retirement	All countries. Permanent retirement	North/Central. Gradual retirement	North/Central. Permanent retirement	Mediterranean. Gradual retirement	Mediterranean. Permanent retirement
Z	0.945	0.784***	1.548**	0.845	0.959	0.860***
	[0.077]	[0.028]	[0.313]	[0.092]	[0.109]	[0.046]
Employment protection index	0.843	0.935	0.286**	0.854	0.522	1.355*
	[0.275]	[0.156]	[0.164]	[0.397]	[0.219]	[0.224]
Cohort dummies	YES	YES	YES	YES	YES	YES
Country dummies	YES	YES	YES	YES	YES	YES
Observations	19,178	19,178	11,821	11,821	7,357	7,357

6 European Countries. Males aged 55–70. Relative risk ratios.
Note: standard errors clustered by country and time within brackets. *p < 0.1, **p < 0.05, ***p < 0.001.

retirement, the relative risk ratios associated to a marginal change in Z and E are equal to 1.548 and 0.286 respectively (statistically significant at the 5% level of confidence), suggesting that both the increases in minimum retirement age and the reductions in the strictness of employment protection legislation have produced more exits into gradual retirement. In these countries, we find no statistical significant effect of either Z or E on exits into permanent retirement. Conversely, in the case of Mediterranean countries, we find no statistically significant effect of Z and E on exits into gradual retirement, and statistically significant effects on exits to permanent retirement. In particular, we find that a marginal increase in Z and in E have respectively reduced (estimated value: 0.860, statistically significant at the 1%) and increased (estimated value: 1.355, statistically significant at the 10%) the hazard into permanent retirement. These findings suggest that older male workers in Mediterranean countries have reacted to higher minimum retirement age and to lower employment protection by increasing their permanence into career jobs, rather than by taking up bridge jobs with other employers, as done by their colleagues in Northern and Central Europe.

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 almost 9% of the European males in our sample 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, that less than 1% have switched from a full to a part-time schedule with the same employer, that about 51% have moved directly from a career job to permanent retirement, and that the remaining 39% have remained in their 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 – are 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.

We have studied the effects of changes in minimum early retirement age and in the strictness of employment protection on the hazards from career jobs to gradual and permanent retirement by estimating a discrete competing hazard model with two hazards. Our a priori expectations were that less restrictive employment protection could have affected the hazard into bridge jobs by increasing the availability of short-term contracts with shorter working hours. We also expected to find that higher minimum retirement age, by delaying retirement, could have induced individuals wishing to consume additional leisure to switch from more demanding career jobs to bridge jobs. Our findings suggest that these expectations are correct only for our sample of older workers in Northern and Central European countries. In Mediterranean Europe, our results suggest that these policies have induced older workers to stay on in their full time career jobs.

What are the sources of these cross country differences? While a detailed investigation is beyond the scope of the current paper, we believe that plausible candidate factors are: a) on the demand side, the relative scarcity of part-time jobs available to the specific age group in Mediterranean countries; b) on the supply side, the lower level of human capital (both education and training) owned on average by older workers in Mediterranean countries, which hampers mobility and the flexibility required to profitably change jobs before retirement.

Endnotes

[1]While we focus in this paper on employment protection and minimum retirement age, we acknowledge that other policies, including how earnings in the last years are counted in determining pension benefits and the existence of generalized partial pension schemes that allow for a combination of part-time work and a partial pension, can affect transitions into retirement. Yet, insofar as these policies vary slowly or not at all over time, their effects on the variables of interest is absorbed in our analysis by country fixed effects.

[2]In Japan the prevalence of bridge jobs is due to mandatory retirement.

[3]Since we do not observe working hours, our data are silent on other forms of phased retirement that imply a reduction in hours with the same employer, without a formal switch from full to part-time.

[4]Older workers holding a part-time job in our sample are either those who were not in a career job at age 50 because they were already in a part - time job or in a short - term job at that age – or those who held a career job and switched to a bridge job. In our sample of men aged 55 to 70 at the time of the interview, 8.88% did not have a career job at age 50. Of these, 21.44% had at least one part - time job during their career.

[5]The definition of a career job in the US usually include both a tenure component and a full time work component during this tenure. In this paper, we adopt this definition. Results which include the small fraction of part-time career jobs are reported in Table 7 in the Appendix.

[6]Under stable economic conditions, on-going or interrupted spells are on average halfway through their full length at the time of a survey (Salant, 1977).

[7]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.

[8]In this study we assign all temporary inactivity spells due, for example, to unemployment, either to the job spells occurring after inactivity, if the individual finds a job, or to retirement, if she retires from the labour market. While we acknowledge that labour market re-entry after temporary retirement can be an important feature of labour market transitions, our data do not allow to measure re-entry in an accurate manner.

[9]See also Ruhm, 1990.

[10]Average years of schooling in our sample are 12.6 in Northern and Central Europe and 9.8 in Mediterranean Europe.

[11]These percentages are not strictly comparable to ours, because Ruhm refers to both males and females, while we only consider males.

[12]The focus on time varying institutions naturally restricts the range of rules and policies that we can examine, also because of data availability.

[13]Our results are not qualitatively affected by the exclusion of Switzerland from the sample. The OECD indicator of employment protection refers to the protection of regular employment and the regulation of temporary work and is intended to measure the strictness of EPL. More precisely, since most of the literature on employment protection emphasises the analogy of EPL to an employer-borne tax on employment adjustment, the overall intent is to reflect the cost implications of various regulatory provisions for employers (i.e. stricter is interpreted as more costly). The overall summary measure of EPL strictness relies on three main components related to protection of regular workers against (individual) dismissal, specific requirements for collective dismissals and regulation of temporary forms of employment. See OECD, 2004.

[14]Transitions to gradual retirement are moves from a career to a bridge job and from full to part-time within the same career job.

[15]We also explore whether the two institutions are complements or substitutes in their effects on both hazards but find little evidence of significant interactions.

[16]The relative risk ratio is the exponentiated value of the estimated coefficient of the variable of interest in a multinomial logit setup. Values larger than one and smaller than one indicate that the marginal effect of the relevant covariate on the selected hazard is positive and negative respectively.

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

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

Appendix

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) and Angelini, Brugiavini, and Weber (2009). Results for our sample of six countries are reported in Table 5 below.

The sources of data for the covariates used in the multinomial analysis are:

- *unemployment rate*: Eurostat, the Statistic Database (lfsa_urgaed series)
- *life expectancy at the age of 50:* Eurostat, the Statistic Database (demo_mlexpec series)

Table 5 Minimum early retirement age from 1992 to 2008

Country	Period	Early retirement age
Austria	1992-2001	60
	2002-2004	61
	2005-2008	62
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	60
	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 (2009); OECD (2011); Fondazione Rodolfo Debenedetti.

- *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 when compulsory school starts (Source: United Nations[18] and Eurydice[19])
- *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)

Table 6 Summary statistics for the country specific macro variables

Variable	Means (6 countries)	Means (4 Northern countries)	Means (2 Mediterranean countries)
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
Years of schooling	12.00		
	(0.068)		
Married dummy	0.89		
	(0.005)		
Has children	0.88		
	(0.005)		
Dummy: stressed at 50	0.17		
	(0.006)		
Dummy: poor health at 50	0.07		
	(0.004)		
Dummy: financial hardship at 50	0.05		
	(0.003)		
Dummy: living in a rural area at 50	0.35		
	(0.007)		
Job at 50: full time	0.97		
	(0.002)		
Job at 50: in the 3rd industry	0.57		
	(0.008)		
Job at 50: blue collar	0.41		
	(0.008)		
Job at 50: self employed	0.16		
	(0.005)		
Job at 50: civil servant	0.19		
	(0.006)		
Job at 50: lost because of layoff or plant closure	0.07		
	(0.004)		
Years of working experience at 50	43.12		
	(0.375)		
Dummy: few books when child	0.60		
	(0.007)		

Source: OECD and SHARE. Standard errors within parentheses.

- *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 (source: SHARE)
- *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)
- *log population at 50*: the logarithm of the population aged 55-64 in each year and country (Source: Eurostat, Statistic Database)

Table 6 presents summary statistics for the individual and country specific macro variables used in the regressions. Table 7 replicates Table 1 by adding the small fraction of individuals in part-time career jobs. Finally, Table 8 is an enlarged version of Table 4, which includes all covariates.

Table 7 Transitions from a career job

	Still in a career job	Moved to a bridge job	Moved directly into retirement
Age group 55-70			
Full Sample	40.18	8.74	51.08
Northern Europe	42.40	9.87	47.73
Mediterranean Europe	35.63	6.40	57.97
Age group 55-64			
Full Sample	58.24	9.27	32.49
Northern Europe	61.76	10.34	27.91
Mediterranean Europe	51.23	7.15	42.03
Age group 65-70			
Full Sample	10.10	7.84	82.06
Northern Europe	11.02	9.11	88.98
Mediterranean Europe	8.10	5.08	86.82
Full Sample			
At Most 12 Years of Schooling	34.23	7.64	58.14
More Than 12 Years of Schooling	48.43	10.26	41.31
Northern Europe			
At Most 12 Years of Schooling	36.57	8.87	54.56
More Than 12 Years of Schooling	48.60	10.94	40.46
Mediterranean Europe			
At Most 12 Years of Schooling	30.76	5.81	63.43
More Than 12 Years of Schooling	47.85	7.84	44.26

Males aged 55–70. Transitions by age and by education. Including part-time jobs in the definition of career jobs.

Table 8 Multinomial logit for discrete survival data (Baseline: Full Time Career Job)

Variables	All countries. Gradual retirement	All countries. Permanent retirement	North/Central. Gradual retirement	North/Central. Permanent retirement	Mediterranean. Gradual retirement	Mediterranean. Permanent retirement
Z	0.945	0.784***	1.548**	0.845	0.959	0.860***
	[0.077]	[0.028]	[0.313]	[0.092]	[0.109]	[0.046]
Employment protection index	0.843	0.935	0.286**	0.854	0.522	1.355*
	[0.275]	[0.156]	[0.164]	[0.397]	[0.219]	[0.224]
Macro controls						
Log real GDP per capita	0.593	9.450*	0.001**	0.945	8.716	16.068*
	[1.444]	[11.153]	[0.002]	[2.738]	[43.579]	[24.310]
Unemployment rate	0.952	1.078**	0.973	1.091	0.814	1.065
	[0.069]	[0.037]	[0.105]	[0.077]	[0.110]	[0.061]
Life expectation at 50	1.064	0.990	1.353	0.866	0.653	1.307*
	[0.274]	[0.149]	[0.439]	[0.199]	[0.290]	[0.209]
Individual controls						
Years of schooling	1.022	0.959***	1.027	0.959***	1.014	0.953***
	[0.022]	[0.007]	[0.027]	[0.013]	[0.036]	[0.009]
Marital status	0.886	0.900	0.739	0.935	2.247	0.789
	[0.222]	[0.109]	[0.204]	[0.144]	[1.203]	[0.202]
Has children	1.520	0.807*	1.719*	0.772	0.854	0.959
	[0.440]	[0.100]	[0.538]	[0.122]	[0.510]	[0.230]
Was ill at 50	0.958	1.611**	1.033	2.129***	0.914	1.016
	[0.341]	[0.313]	[0.418]	[0.509]	[0.661]	[0.335]
Was stressed at 50	1.481*	1.397***	1.473	1.354**	1.886*	1.580*
	[0.321]	[0.172]	[0.396]	[0.203]	[0.725]	[0.399]
Was in poor health at 50	1.079	1.293*	1.236	1.395**	0.567	1.235
	[0.343]	[0.179]	[0.425]	[0.219]	[0.606]	[0.389]

Table 8 Multinomial logit for discrete survival data (Baseline: Full Time Career Job) *(Continued)*

Was in financial distress at 50	1.341	0.920	0.779	0.881	2.884**	0.855
	[0.407]	[0.166]	[0.344]	[0.229]	[1.468]	[0.229]
Lived in rural area at 50	0.788	0.952	0.799	0.957	0.819	0.968
	[0.135]	[0.079]	[0.163]	[0.097]	[0.237]	[0.142]
Job in services at 50	0.681*	0.993	0.763	1.262**	0.523*	0.815
	[0.136]	[0.086]	[0.179]	[0.145]	[0.190]	[0.103]
Blue collar job at 50	0.867	1.060	0.807	1.199	0.923	0.962
	[0.172]	[0.079]	[0.219]	[0.141]	[0.316]	[0.097]
Civil servant job at 50	0.839	1.314**	0.859	1.485***	0.333	0.964
	[0.241]	[0.148]	[0.265]	[0.207]	[0.342]	[0.208]
Self-employed at 50	0.907	0.328***	0.800	0.412***	1.061	0.284***
	[0.169]	[0.039]	[0.191]	[0.080]	[0.318]	[0.044]
Work experience at 50	0.992*	0.996**	0.994	1.000	0.989*	0.992***
	[0.004]	[0.002]	[0.005]	[0.003]	[0.006]	[0.002]
Had few books in the house at 10	1.097	1.177	1.121	1.188	0.995	1.049
	[0.231]	[0.124]	[0.261]	[0.150]	[0.493]	[0.198]
Age	1.106	0.500**	6.413*	0.509	1.353	0.970
	[0.722]	[0.147]	[6.673]	[0.332]	[1.038]	[0.447]
Age squared	0.999	1.007***	0.988	1.008	0.996	1.001
	[0.005]	[0.003]	[0.008]	[0.005]	[0.006]	[0.004]
Cohort dummies	YES	YES	YES	YES	YES	YES
Country dummies	YES	YES	YES	YES	YES	YES
Observations	19,178	19,178	11,821	11,821	7,357	7,357

6 European Countries. Males aged 55–70. Relative risk ratios. All covariates.
Note: standard errors clustered by country and time within brackets. *p < 0.1, **p < 0.05, ***p < 0.001.

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