ORIGINAL ARTICLE

WILEY

Labour market trajectories and unemployment of older workers in Europe after the Great Recession

Marco Trentini

Department of Education Studies "Giovanni Maria Bertin", University of Bologna, Bologna, Italy

Correspondence
Marco Trentini.
Email: marco.trentini@unibo.it

Abstract

Many European countries want to overcome the early exit from labour market which was widespread since the 1970s through pension reform and labour policies. The extension of working life is hindered by factors that the literature overlooks. This article focuses on the discontinuity of the late-career caused by unemployment. The aim is to investigate whether older workers are at risk of unemployment and what are the transitions after spells of unemployment. The labour market trajectories of workers over 50s in 11 European countries from 2006 to 2019 were analysed, specifically after the Great Recession and before the Covid-19 epidemic. It is based on longitudinal survey data from the generated Survey of Health, Ageing and Retirement in Europe Job Episodes Panel. Event history analysis and sequence analysis were performed. Older employees are unlikely to face unemployment. The transition rate highlights the difficulty for older workers into re-employment. A low education level increases the risk of unemployment and remaining unemployed. Data by country confirm the trend towards overcoming the transition from unemployment to early exit. Divergences concern the higher risk of being trapped in unemployment in Southern European countries such as Greece and Italy.

KEYWORDS
active ageing, longitudinal analysis, older workers, trajectory, unemployment, working life extension

1 | INTRODUCTION

In the last 20 years, the labour market participation of older workers is changing. There has been a shift from early exit to active ageing (Ebbinghaus & Hofäcker, 2013). Extending the labour market participation of older workers and delaying retirement are some of its aims (Phillipson, 2002; Walker, 2019).

The debate on the extension of working life is often approached uncritically, underestimating its problematic features (Taylor, 2019; Vickerstaff, 2010; Walker, 2019). Older workers do not always voluntarily choose to retire or find a job if they lose it. Or they are not a homogeneous group (Bennett & Möhring, 2014; Loretto et al., 2007; Vickerstaff, 2010; Vickerstaff & Cox, 2005). Working careers exhibit gender differences (Leime et al., 2017; Schmitz et al., 2023). Or related to educational qualifications. Those with low educational qualifications often have a long working history, even in demanding jobs.

The article contributes to literature in three ways: (1) the topic, the unemployment; (2) the countries studied; (3) the methodology.

The study analyses the labour market trajectories of workers over 50s from 2006 to 2019 in 11 European countries (Austria, Belgium, the Czech Republic, Denmark, France, Germany, Greece, Italy, Poland, Spain and Sweden).

The focus is on the experience of unemployment. Are the older workers at risk of unemployment? Is unemployment transitory or continuous? What are the labour market transitions from unemployed status (re-employment, remaining unemployed, or transition to retirement)?

The literature agrees that older unemployed workers face challenges in returning to work (Blossfeld et al., 2011; Eurofound, 2012; Hofäcker et al., 2015; Johnson & Butrica, 2012; Loretto et al., 2007; OECD, 2019). They are at a disadvantage compared to young people (Axelrad et al., 2017).

Several reasons justify the need for a specific focus on older workers' unemployment. The impact of raising the retirement age and active ageing policies on the labour market has not yet been sufficiently studied (Boeri et al., 2022). The effectiveness of the former stems from individuals being able to postpone their departure from the labour market and avoid needing other income supports, like unemployment benefits (Rabaté & Rochut, 2020). Otherwise, the decrease in retirement spending is balanced at least partially by the increase in spending on other social protection measures. An active ageing policy can be successful if the working life extension does not expose older workers to the risk of unemployment. And if, once they have lost their job, they can be re-employed. Else, overcoming early exit may reduce the social protection enjoyed by older workers affected by unemployment, in line with the ongoing trend towards individualisation of social risk coverage (Castel, 2004).

There is also a need for research on older workers' unemployment because changes in pension and labour policies are happening during two crises, the Great Recession (2007–2009) and the Covid-19 pandemic (2020–2023). It is important to examine their impact on unemployment on older workers and policies to overcome early exit. Since the 1970s and until the early 2000s, especially continental and South European countries have used early exit as a way of managing the employment consequences of the economic crisis and the restructuring because of the transition from Fordism (Kholi et al., 1991).

The paper only addresses the Great Recession. It contributes to the literature by offering a cross-country analysis which also covers less studied countries. Few studies focus on the unemployment experience only of older workers after the Great Recession (2007–2009) and they concern only some countries (e.g., US, Johnson & Butrica, 2012; the UK, Parsons & Walsh, 2019; Germany, Heisig & Radl, 2017).

The research's originality is further enhanced by the longitudinal analysis. It is little used in labour market analysis (e.g., Ponomarenko, 2016; Riekhoff, 2018, 2019), where studies with cross-sectional data prevail. A longitudinal analysis makes it possible to study the labour market trajectories of older workers and the transition over time between different states or events (being employed, being unemployed, being retired). It is based on data from the Survey of Health, Ageing and Retirement in Europe (SHARE), from the generated SHARE Job Episodes Panel

(release 8.0.0) (Brugiavini et al., 2019), updated with the data of wave 8 (2019, release 8.0.0.) (Börsch-Supan et al., 2013). It was conducted using two methods, event history analysis and sequence analysis.

2 | LITERATURE REVIEW

The focus of the literature review is on two topics: changes in pension and labour policies and overcoming early exit; the impact that unemployment of older workers may have on the extension of working life.

Between 2006 and 2022, the labour market participation of older workers of 50–64 has increased in the countries studied, although rates remain different (ranging from 85.6% in Sweden in 2022 to 64.9% in Italy, Eurostat data). The reasons are manifold: demographic changes, improved health conditions, the redefining social role of older adults, and welfare state reform.

The countries under study can be attributed to different welfare regimes (Esping-Andersen, 1990). They may affect the labour market participation of older workers for several reasons. For example, the role of the family in the welfare state of Southern European countries explains the different labour market participation by gender, which is lower for women.

The changes in the pension and labour policies in European countries affected the labour market trajectories of older workers (Ebbinghaus & Hofäcker, 2013; Hofäcker et al., 2015). Since the 1970, the early exit was achieved through several tools: low retirement age (e.g., in Southern European countries), pre-retirement, disability and unemployment benefits. At least until the early 2000s, the generosity of the pension system meant that, especially in Continental and Southern European countries, there was an orientation towards an early retirement. In contrast, the Scandinavian countries followed active labour market policies earlier. Less clear are the trends in Eastern European countries affected by the transition from socialism to capitalism.

Since then, a convergence towards overcoming early exit can be expected. Many European countries have pursued the financial sustainability of pensions through reforms aimed at delaying retirement (Blossfeld et al., 2011; Phillipson, 2002). Although there is some heterogeneity between countries, some common features of the reform are the raising of the retirement age and introducing multi-pillar pension systems, including private ones, which offer lower benefits (Ebbinghaus & Hofäcker, 2013; OECD, 2021).

The extension of labour market participation among older workers was also driven by the reform of unemployment benefits, which are less generous and of shorter duration in various countries. For example, in Germany, a cut in unemployment benefits contributed to the increase in their activity rate (Riphahn & Schrader, 2020). The activation approach prioritises active labour policies over passive ones to help people move from unemployment to employment (Ebbinghaus & Hofäcker, 2013).

The changes in pension and labour market policies have discouraged early exit from the labour market. Even in Southern European countries that were lagging in pension reform at least 20 years ago. Since 2000, the average effective age of labour market exit is rising (OECD, 2021).

Late-career discontinuity resulting from unemployment has received limited attention in recent studies on retirement timing determinants (Blossfeld et al., 2011; Trentini, 2021).

The consequences of unemployment on individuals concern various aspects (Brand, 2015; Ponomarenko, 2016): career prospects, income and wealth accumulation, risk of social exclusion, and individual well-being to mention a few. They change depending on age and career stage.

For older workers, career continuity and re-employment may be hindered by factors affecting their employability (Bowman et al., 2017; Phillipson, 2019): age, gender, low education level, health conditions, job, training, skills obsolescence, lower productivity, discrimination and stereotyping based on age. Disadvantages or advantages can accumulate over time (Bennett & Möhring, 2014; O'Rand, 1996).

Unemployment may affect the type of retirement (voluntary or involuntary) and retirement timing (early, on time, later) (Dingemans et al., 2017; Fisher et al., 2016; Hofäcker et al., 2015; Stiemke & Hess, 2022; Trentini, 2021).

The literature on early exit differentiates between pull and push factors to retirement. On the institutional level, the former refers to the labour market exit incentives provided by the social policies (benefits and eligibility rules), while the latter refers to the labour market situation, such as a high unemployment rate, redundancies due to corporate restructuring (Kholi et al., 1991). On an individual level, pull factors may include reasons for retirement linked to desirable aspects such as devoting time to leisure or volunteering, while health status and job conditions can be push factors (Fisher et al., 2016). Pull factors can cause voluntary retirement and push factors can lead to involuntary retirement.

Distinguishing between pull and push factors is not always clear. The transition from the labour market to retirement can be viewed as the outcome of a process in which individual characteristics such as gender, education level, health conditions, and work history, as well as institutional features such as social policies, the labour market, and economic trends, play a role.

According to Bennett and Möhring (2014), for older workers unemployment and early retirement are different processes. In the 12 European countries they studied, unemployed older workers with more stable employment histories were eligible for early retirement. Individuals with a fragmented work history were at a higher risk of experiencing late-career unemployment and were more likely to remain in that condition.

Economic status is another factor that can influence retirement timing (Fisher et al., 2016). The reduced continuity of employment may negatively affect the pension contributions paid as well as the accumulated wealth and lead to a delayed exit from the labour market (Ponomarenko, 2016).

The theoretical framework usually applied to address the issue of late-career unemployment and the transition to retirement is challenged by changes in pension policies. As early exit is being overcome, there is a need for studies that address the unemployment experience of older workers (Heisig & Radl, 2017). Research should focus on the consequences of unemployment on extending working life rather than on work-retirement transition, in order to understand if overcoming early exit leads to an extension of working life. Or, instead, transfers the social risks associated with unemployment to the individuals who can benefit from less social protection. Since older workers are not a homogeneous group, both the experience of unemployment (transitory, covering a few years or continuous) and the transition from unemployment can be different.

These topics are little explored even in the recent studies dealing with the unemployment of older workers after the Great Recession. Axelrad et al. (2018) studied the impact of the recession on older workers' employment outcomes and job quality in some European countries. The risk of older workers being unemployed increases. Older workers experience a deterioration in job quality (e.g., lower prospects for job advancement, and lower job security). In the US, older workers are less likely than younger workers to experience unemployment (Johnson, 2012; Johnson & Butrica, 2012). However, if unemployed, they have great difficulty to be re-employed. Or, if they succeed, they do so in temporary or part-time employment, with less pay or fewer benefits (Van Horn & Heidkamp, 2019). Researchers also found these difficulties in the UK. Already before the Great Recession (Loretto et al., 2007) and even recently, as studies by the Centre for Ageing Better (e.g., Crawford et al., 2021; Parsons & Walsh, 2019) have shown. In Germany, too, many over-55s struggle to find employment, even 5 years after losing their jobs (Heisig & Radl, 2017).

The few recent research studies reveal a picture of older workers' vulnerability that deserves further investigation by focusing on their labour market trajectories and broadening the countries studied.

3 | METHODS

Researchers usually look at the trends in indicators such as activity, employment, and unemployment rates through cross-sectional research on the labour market participation of older workers. Examples are Eurofound (2012), Johnson (2012) and Johnson and Butrica (2012), which considered the employment consequences of the 2007–

2009 crisis in Europe and the US. Less widespread are longitudinal analysis. Unlike surveys based on aggregate data, they focus on individual employment trajectories and changes over time (Hofäcker, 2010; Orsholits et al., 2019). Only a longitudinal analysis allows us to study the unemployment experience of older workers, focusing on individual employment trajectories and changes.

Data from SHARE, the Survey of Health, Ageing, and Retirement in Europe, has been used in this study. SHARE has been studying ageing-related topics in individuals aged 50 and up in 28 European countries and Israel since 2004. The generated SHARE Job Episodes Panel (release 8.0.0) was used (Brugiavini et al., 2019, 2022). The SHARE Job Episode combines retrospective information collected in the Sharelife waves 3 (2009) and 7 (2017) and allows reconstruction of the entire work history of the respondents up to 2017. Data have been updated to 2019, considering the latest available wave (8, 2019–2020) (Börsch-Supan, 2022).

The employment histories were based on three dummy variables (working, unemployed and retired) generated using the start and end date of each job spell and the question on current job situation in wave 8. Gender, age, year of birth, educational level, and country of residence were taken into consideration in the analysis. These variables should make the experience of unemployment different. Some refer to context: the 11 countries are an example of different models of capitalism and welfare regime (Amable, 2003; Esping-Andersen, 1990; Hall & Soskice, 2001). Others to the usual socio-demographic variables. Not only labour market participation differs according to gender (the highest differences, as mentioned, are found in Southern European countries. Amable, 2003; Schmitz et al., 2023), but the patterns of labour market exit are also different (Leime et al., 2017). Women commonly left the workforce earlier than men because of a variety of reasons, including lower retirement age, difficulty balancing work and family life, and joint retirement decisions in couples, with women often younger age than their partner. Low educational qualifications can be a disadvantage because they increase the risk of skill obsolescence and performing physically demanding work that can worsen health conditions (Mäcken et al., 2022; Phillipson, 2019; Turek & Henkens, 2019). Age may also penalise because of the obsolescence of skills, health conditions, lower productivity, discrimination, and stereotyping based on age. Finally, there may be differences related to the birth cohort, as the life-course literature has shown (Mortimer & Shanahan, 2003). The educational level variable starting from the Isced 97 classification was recoded into three levels: lower secondary or less, upper secondary and tertiary.

A sub-sample was extracted from the original data file: those who in 2006 were 50 years old and up, and were employed or unemployed. The individuals have been followed up to the age of 65. Data from the entire employment history were not analysed, but only from the period between 2006 and 2019 (or earlier for those who have reached the age of 65 or who drop out for other reasons.). That is, from the year immediately before the Great Recession to the latest available data. The data concern a sample of 15,024 individuals. Males (54.1%) outnumbered females (45.9%) (Table S1). The year of birth saw a higher percentage of those born from 1950 onwards (63.7%) than those born up to 1949 (36.3%). Those with an educational qualification up to upper secondary education (40.7%) predominated. 27.7% of the respondents had a low educational qualification, while 31.6% had tertiary education. The sample was unevenly distributed among the 11 countries: from 5.9% in Austria to 12.1% in Sweden. The employment status in 2006, the first year considered, had 98.5% employed. Only 1.5% were unemployed.

The data analysis was conducted by combining two methods considered in the literature, at least initially, as alternatives: event history analysis and sequence analysis.

The former focuses more on single-event transitions and, the latter, on trajectories as a whole (Mills, 2011). The Kaplan–Meier survival estimate was performed to answer whether those 50s and over are at risk of unemployment, using unemployed status as the dependent variable and for the time the year, since the focus is on the consequences of the Great Recession. The data have been censored to the right.[1] To avoid left-censored data, only individuals employed in 2006 were considered (14,799).

To carry out the sequence analysis, the longitudinal data file was converted to a wide format. Sequence analysis (Abbott, 1995; Abbott & Hrycak, 1990; Abbott & Tsay, 2000) has been used to analyse trajectories in the labour market. It aims to identify patterns in data by clustering similar trajectories. Especially initially, it was identified with

optimal matching analysis (OM), a technique that creates clusters of similar sequences from an algorithm that measures their dissimilarity. Afterwards, additional measures of dissimilarity between sequences have been introduced (Studer, 2013; Studer & Ritschard, 2016). Following Studer and Ritschard (2016), the dissimilarity of sequences was measured using the OMstran method, since the focus of the research was on changes in sequences.

The sequence analysis seemed appropriate to describe the trajectories in the labour market of the over 50s. Starting from the visualisation of the sequences and the description of some of their characteristics, the focus was on three aspects:

- the heterogeneity or otherwise of the trajectories;

- the transition rate between the different states;

- the identification of a typology of the trajectories of those who experienced unemployment through clustering the sequences.

The data analysis was performed with BlueSky Statistics 10.3.2 (data management and Kaplan–Meier survival estimate) and TraMineR, the package for sequence analysis in R (Gabadinho et al., 2011).

To account for attrition bias (participants dropping out over time), a well-known problem in longitudinal surveys, the data were weighted. As the data refer to a subsample of the SHARE Job Episodes Panel and the longitudinal weights were not available, the weights were calculated using Inverse Probability Weights.[2]

In sequence analysis, a critical issue is the handling of missing values that may affect the length of sequences or alignment. The default setting of TraMineR codes gaps and left-missing states as missing. Right-state missing states as void elements, leading to the sequence being considered terminated.

3.1 | The risk of unemployment is low, but…

The starting point for analysing the unemployment experience of older workers was to see to what extent they were exposed to this event.

Both the Kaplan–Meier survival estimate, and the sequence analysis showed that the unemployment risk of the over 50s was rather low. The former was conducted using unemployed status as a variable and, as said, the year for the time. The observations were 83,815, the missing data were 66,261 and the number of events (being unemployed) was 1038.

The Kaplan–Meier survival estimates the probability of surviving the unemployment event for individuals aged 50 and over in 2006, followed until 2019 (or, as said, earlier if they left the survey). Over the period considered, the survival probability has gone from 1.00 in 2006 (starting year) to 0.94 in 2019, so the probability of surviving the unemployment risk in 2019 was 94%. The trend over time was stable, even in the years following the Great Recession. The risk of unemployment among older workers did not seem to have increased after the economic crisis.

The compared difference in Kaplan–Meier survival estimates between groups[3] showed that the risk of unemployment was a bit higher for women (2019 0.92, men 0.95), and individuals with low educational levels (2019 0.87, upper secondary 0.95, tertiary 0.97). The disadvantage of those with low educational qualifications is confirmed, for the reasons already mentioned (Mäcken et al., 2022; Phillipson, 2019; Turek & Henkens, 2019). Differences were negligible by birth cohort (2019, 1936–1949 0.91, 1950–1956 0.94). There were also differences between countries (Figure S1). Italy and Greece were the countries where the risk of unemployment was a higher (2019, Italy 0.79, Greece 0.87). They were the two countries with Poland, in the Figure S1, standing out from the

rest. The values of the other countries in 2019 were between 0.93 of Poland and Spain, and 0.98 of Austria and the Czech Republic.

Although it is not appropriate to make a comparison between longitudinal data and cross-sectional data, collected with different methodologies and sample sizes, the low risk of unemployment of older workers is in line with the unemployment rate trends of people aged 50–64 in the 11 countries (Eurostat data).[4] Unemployment hit younger people harder than older people after the Great Recession (Eurofound, 2012).

Also, in sequence analysis, the time variable was the year. The sequences containing at least one episode of unemployment were only 371 out of 15,024 (2.5%). Sequences were rather heterogeneous. The top ten amounted to approximately 50%. The largest (17.1%) had four work episodes.

The trends were most easily visualised in the State Distribution plot (Figure 1) instead of the Sequence Index plot. In the early years, the employed status prevailed. Over time, there was a shift towards retirement. The unemployment episodes were extremely low and stable in time.

3.2 | ...Once you are unemployed, getting out is not easy

A key issue of the research was to study what happens to individuals who went through spells of unemployment. Longitudinal data makes it possible to determine if difficulties in being re-employed are confirmed or not (Blossfeld et al., 2011; Eurofound, 2012; Hofäcker et al., 2015; Johnson & Butrica, 2012; Loretto et al., 2007; OECD, 2019). This can be done in two ways: by analysing the unemployment duration to determine whether it is temporary or permanent, and by examining the transition from unemployment, which can result in a return to work or retirement.

To analyse the duration of unemployment, a subsample of individuals (324 and 2356 longitudinal observations) was selected from the previously used sample for event history analysis. Only the period from the year (t_0) in which they began their unemployment spell was considered. The data were not weighted. In this case, the Kaplan–Meier survival analysis measures the probability of surviving in the unemployed condition.

Figure 2 shows that the probability of remaining unemployed decreases over time, but the median duration of unemployment is rather long (5 years).

Sequence analysis allows to measure the probability of transition out of unemployment. Re-employment or retirement are possible outcomes. The transition rate between states of the unemployed showed they remained unemployed (85%). 13% moved into the employed status. Only 2% went to the status of retired. The transition from unemployment to retirement was not necessarily due to early exit. The data analysed did not take into account the
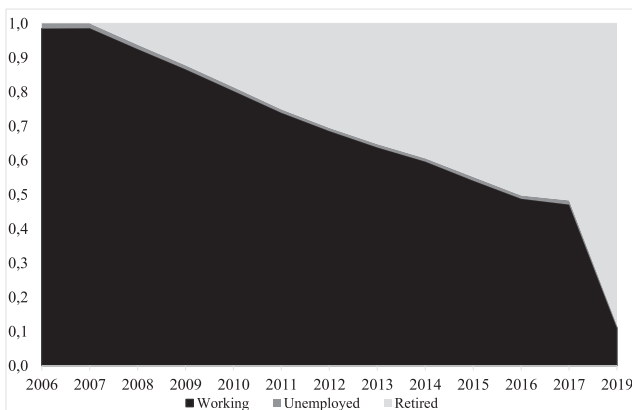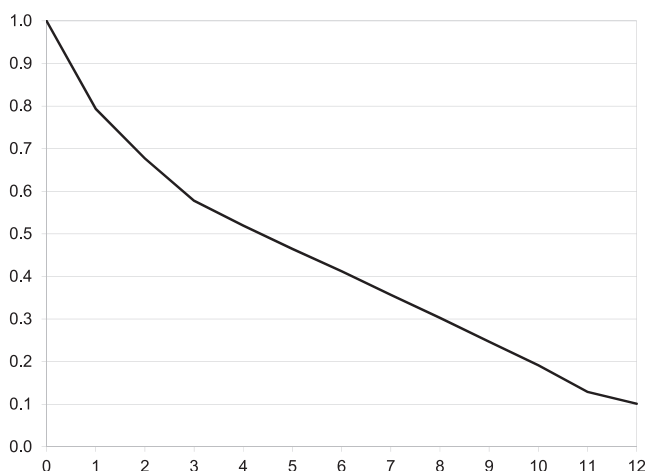

FIGURE 1 State distribution plot of the employment status (weighted data).

FIGURE 2 Transitions out of unemployment. Kaplan–Meier survival estimate by time in unemployment.

reason for retirement. One can assume that the use of early exit was also extremely low. A long period of unemployment can bring close to retirement age.

The transition rate of the unemployed changed depending on socio-demographic variables and the unemployment spells (Table 1).

Permanence in the unemployed status prevailed in all cases except in Denmark, where the transition to working status was highest (57%) and it was higher than the staying in the unemployed status (36%). Women (88%), those with a low educational level (92%) and of older cohorts (92%) remained more in unemployed status. Being male (70%), having a tertiary education (59%) and being born in the cohort since 1950 (82%) favoured re-employment. The transition rate confirmed that older workers are not homogeneous (Bennett & Möhring, 2014; Loretto et al., 2007; Vickerstaff, 2010; Vickerstaff & Cox, 2005). The transition out of unemployment varies according to the socio-demographic variables assumed to differentiate the experience of unemployment.

Countries varied markedly. When considering permanence in the status of unemployed, they could be divided into four groups based on their values: Greece and Italy presented values above 96%; Austria, Belgium, Poland and Spain between 75% and 80%; Germany and France between 60% and 64%; Denmark, the Czech Republic and Sweden between 36% and 52%. While in Denmark and Sweden, the probability of transition to working was highest (57% e 42%), the Czech Republic was the country where the transition to retirement was highest (17%).

Context affects the transition from unemployment. The data by country confirmed that in recent years there has been a convergence towards overcoming of the transition from unemployment to retirement. The transition to retirement was higher, as mentioned, in the Czech Republic (17%), while in the other countries, it was less than 6%. Southern European countries, where the early exit was widespread, have aligned with other countries.

As might be expected, the longer the unemployment spell, the more problematic re-employment became. The probability of returning to work fell from 32% for those with one to four spells to 0.06% for those with five to eight spells. The transition to retirement (0.1%) remained low even for those with more than eight spells of unemployment, despite their ageing.

Since the research aim, as stated, was to focus on the unemployment experience of older workers, an in-depth analysis of the 371 sequences containing at least one unemployment episode was conducted. The clustering of similar sequences was developed from the measurement of dissimilarity with the OMstran method. Based on the dendrogram, the number of clusters was three (Figure 3).

The first cluster (81 cases) included those who experienced unemployment in two periods: until 2009 and after 2014. Many individuals in the first cluster have retired since 2010. Individuals in the second cluster (195 cases)

TABLE 1 Transition of the unemployed by socio-demographic variables and unemployment spells (%).

	Working	Unemployed	Retired
Gender			
Male	0.24	0.70	0.06
Female	0.11	0.88	0.01
Year of birth			
Until 1949	0.05	0.92	0.03
From 1950	0.17	0.82	0.01
Education level			
Lower secondary or less	0.06	0.92	0.02
Upper secondary	0.23	0.73	0.04
Tertiary	0.36	0.59	0.05
Country			
Austria	0.18	0.78	0.04
Belgium	0.19	0.75	0.06
Czech Republic	0.34	0.49	0.17
Denmark	0.57	0.36	0.04
France	0.36	0.64	0.00
Germany	0.36	0.60	0.04
Greece	0.03	0.96	0.01
Italy	0.01	0.98	0.01
Poland	0.18	0.80	0.02
Spain	0.16	0.80	0.04
Sweden	0.42	0.52	0.06
Unemployment spells			
1–4	0.32	0.64	0.04
5–8	0.06	0.90	0.04
9–12	0.00	0.99	0.01

experienced unemployment for the entire period considered. The number of unemployed declined a little from 2014 onwards. The third cluster (97 cases) included mainly working people. Since 2014, the number of pensioners has increased. The unemployed were few. The three clusters showed variations in the unemployment level with the extremes represented by the second (remarkably high) and third clusters (negligible). And, by the trend of unemployment over time: a variable trend in the first cluster and a certain stability in the second and the third. The unemployed status did not seem consequent to the Great Recession. In the first cluster, more people were unemployed in 2006 than in 2009. In the second and third clusters, the unemployed are widespread throughout the period considered.

As the study followed individuals over time, as might be expected, the number of those retired increased in all clusters over the last few years.
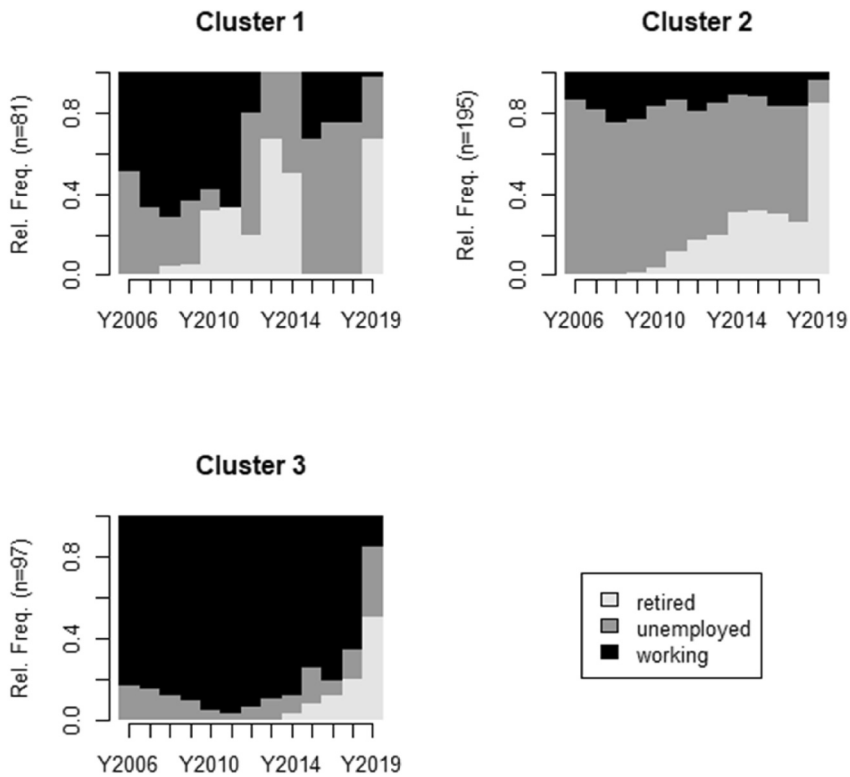
FIGURE 3 State distribution plot of the sequences of the unemployed by cluster.

4 | DISCUSSION

The longitudinal analysis confirmed that the unemployment risk of older workers is low. There are, however, differences between countries, with Italy and Greece having a higher risk of unemployment. In all countries, it remained stable even in the years following the Great Recession. Job experience and seniority have provided some protection (Tamborini & ChangHwan, 2022). At least in the sample analysed, the risk of unemployment does not seem to be related to the economic downturn, but to factors of individual vulnerability, such as low educational level in the case of Greece and Italy.

Research findings are in line with those of other studies that, however, concern a few or other countries also regarding the difficulties in exit from unemployment (Heisig & Radl, 2017; Johnson, 2012; Johnson & Butrica, 2012; Van Horn & Heidkamp, 2019). The sequence analysis enabled the calculation of the transition rate from the state of unemployment, showing that 85% of the unemployed in the sample studied remain trapped in that state. Only 13% found work again. The transition rate to retirement is extremely low (2%). As mentioned, since the reason for retirement is not known, early retirement cannot be ruled out. However, the Great Recession does not seem to have slowed down implementing measures to overcome early exit.

According to longitudinal analysis (survival, sequence analysis), the unemployment experience of older workers varies. The differences concern both the risk of unemployment, the transition, and the trend over time (cluster analysis). The article focused only on several socio-demographic variables (age, gender, educational level, birth cohort, and country of residence). Others, such as health status and the whole work history, were not considered. Women, those with less than secondary education and those living in Southern European countries such as Greece and Italy, are more at risk of unemployment and of remaining unemployed. The most significant socio-demographic variable that affects older workers negatively is low educational qualifications. Changes towards a digital economy

risk further weaken their position in the labour market. The aim of strengthening the employability of older workers by upgrading their skills (OECD, 2019) seems far from being achieved.

There are also differences in the experience of unemployment between countries. The divergences concern both the risk of being unemployed, which is higher in Greece than in Italy, and of being trapped in that condition (from 0.36 in Denmark to 0.98 in Italy). Especially in Greece and Italy, the probability of re-employment is extremely low. As mentioned, the higher presence of older workers with low educational qualifications in our sample could be a contributing factor. It should, however, be kept in mind that the risk of unemployment and its duration depend on a plurality of factors (economic trends, composition of employment by sector, labour force characteristics, labour policies and social protection measures) (Axelrad et al., 2017; Hoffmann & Lemieux, 2016), which the analysed data do not allow us to explore in-depth and on which further research is needed. Where active labour market policies are more developed (Denmark and Sweden vs. Greece and Italy), re-employment is more likely. In South European countries, the measures to support the unemployed are less developed.

Although there are differences by countries, our sample data on the low transition from unemployment to re-employment (even in the Denmark and Sweden), suggest that, while pension and labour policies have pushed toward overcoming early exit from the labour market (Ebbinghaus & Hofäcker, 2013), there is a need for more policies that support the extension of the working life of older workers. Otherwise, the social risks associated with unemployment are transferred to workers who, however, may benefit from fewer social protection measures. This may accentuate inequalities among older workers because of the aforementioned variables.

A topic on which further research is needed concerns the most effective policies and measures to extend working life. The focus should be on active labour policies. They include training, employment incentives, job search assistance. There is a need to understand which of these measures are implemented and which promote the employment of adult workers. Lifelong learning appears to have a positive effect on adult workers' exit from unemployment (Orfao & Malo, 2023), but participation in training declines with age (Picchio, 2021; Turek & Henkens, 2019). In order to promote the extension of working life, acting on labour supply is not enough. The demand side is also important (Lassus, 2015). The choices of companies in human resources management are important. They should introduce more age-inclusive cultures and practices (e.g., overcoming age discrimination in recruitment, introducing flexible working hours, offering training opportunities also to older workers, etc.) (Wainwright et al., 2019).

The research has some limitations. First, it is mainly descriptive also because of the chosen methods. This does not enable us to explore the underlying factors that cause differences by country. Second, sequence analysis has sparked much discussion since its beginning (Abbott, 2000; Levine, 2000; Wu, 2000). Unlike event history analysis, which is based on data modelling and assumes that stochastic processes generated data, sequence analysis has exploratory purposes and is based on algorithms (Aisenbrey & Fasang, 2009; Piccarreta & Studer, 2019). Without looking deeper into methodological aspects, criticism of sequence analysis has concerned both the algorithm-based approach and OM.[5]

Another limitation is that the focus on transitions in employment status (employed, unemployed, retired), does not allow addressing labour under-utilisation (because of involuntary part-time or temporary jobs), which may be another feature of the vulnerability of older workers. Finally, the data precede the Covid-19 pandemic. Given that this is a health-related crisis, it has to be analysed whether the employment effects of the COVID-19 also in Europe, as in the US, differ from those of other economic crisis (Tamborini & ChangHwan, 2022). And what impact it had on the employment of older workers in Europe, and what happened, especially after the measures taken by governments to mitigate the effects of the pandemic on employment based on job retention, have ended (OECD, 2020).

5 | CONCLUSION

The article contributes to the debate on working life extension by addressing late-career discontinuity because of unemployment. The labour market trajectories of workers aged 50–65 were analysed using a longitudinal methodology, which is not commonly used in labour market analysis. A larger number of European countries were

included in the study than usual. According to the sample results, experiencing unemployment can undermine the goal of extending working life. In the 11 European countries studied, the unemployment risk of older workers is low, but in the case of unemployment, it is not transitory and there is a risk of being trapped in it. The Great Recession has not delayed the implementation of policies that discourage early retirement, as shown by the extremely low shift from unemployment to retirement. This may at least partly be due to the low unemployment of older workers did not make it a significant social phenomenon to be managed. However, it should not be over-looked that unemployed workers may be in a situation where re-employment is difficult, and they are not entitled to a pension. Research confirms the heterogeneity of older workers. It concerns the experience of unemployment: the risk of unemployment, the unemployed state which may be transitory, cover a few years or be continuous, and the exit from unemployment. Heterogeneity results from contextual factors such as country, as well as socio-demographic variables. The low level of education is one of the most critical aspects.

CONFLICT OF INTEREST STATEMENT

The author declare that he has no competing interests.

DATA AVAILABILITY STATEMENT

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

ETHICS STATEMENT

The paper is based on a secondary analysis of data collected by SHARE. SHARE states that "The SHARE data collection procedures are subject to continuous ethics review. SHARE-ERIC's activities related to human subjects research are guided by international research ethics principles such as the Respect Code of Practice for Socio-Economic Research (professional and ethical guidelines for the conduct of socio-economic research) and the 'Declaration of Helsinki' (a set of ethical principles regarding human experimentation developed for the medical community by the World Medical Association, last revised at the 64th WMA Meeting held in Fortalezza/Brazil in October 2013)." https://share-eric.eu/data/data-access/conditions-of-use.

INFORMED CONSENT

This article does not contain any studies with human participants performed by the author.

ORCID

Marco Trentini [ID] https://orcid.org/0000-0001-8901-4078

ENDNOTES

[1] Observations are censored when the information about their survival time is incomplete (for example, loss to follow-up, withdrawal from the study, no event by the end of the period).

[2] A binary variable was created, equal to one if a respondent was a stayer throughout all the years and zero if they dropped out. The probability of being a stayer was estimated using binary logit models with age, gender and country as control variables. The inverse of this probability was then used as weight.

[3] The log-rank test was used to assess whether the difference between survival times between the groups by year and by age was statistically significant. The p-value was <0.001 for all the variables.

[4] The exceptions are Greece and Spain, which have seen the unemployment rate of the over 50s rise consistently since 2010, with a peak value in 2016 (19.3%) and 2013 (20.6%), respectively. Moreover, in Germany and Poland, the two countries with the highest unemployment rate in 2006, it fell sharply over the period.

[5] Critics have questioned the optimal matching analysis for its arbitrariness with which certain parameters (the so-called costs of insertions, deletions, and substitutions) are set to transform one sequence and make it more like another. Developments over time have led both to additional measures of dissimilarity between sequences (Studer, 2013; Studer & Ritschard, 2016) and the greater integration between sequence analysis and event history analysis (Piccarreta & Studer, 2019; Ritschard & Studer, 2018).

REFERENCES

Abbott, A. (1995). Sequence analysis: New methods for old ideas. *Annual Review of Sociology*, 21(1), 93–113. https://doi.org/10.1146/annur`ev.soc.21.1.93

Abbott, A. (2000). Reply to Levine and Wu. *Sociological Methods & Research*, 29(1), 65–76. https://doi.org/10.1177/0049124100029001004

Abbott, A., & Hrycak, A. (1990). Measuring resemblance in sequence data: An optimal matching analysis of musicians. *American Journal of Sociology*, 96(1), 144–185. https://doi.org/10.1086/229495

Abbott, A., & Tsay, A. (2000). Sequence analysis and optimal matching methods in Sociology. *Sociological Methods & Research*, 29(1), 3–33. https://doi.org/10.1177/0049124100029001001

Aisenbrey, S., & Fasang, A. E. (2009). New life for old ideas: The "second wave" of sequence analysis bringing the "course" back into the life course. *Sociological Methods & Research*, 38(3), 420–462. https://doi.org/10.1177/0049124109357532

Amable, B. (2003). *The diversity of modern capitalism*. Oxford University Press.

Axelrad, H., Luski, I., & Malul, M. (2017). Reservation wages and the unemployment of older workers. *Journal of Labor Research*, 38(2), 206–227. https://doi.org/10.1007/s12122-017-9247-6

Axelrad, H., Sabbath, E. L., & Hawkins, S. S. (2018). The 2008–2009 Great Recession and employment outcomes among older workers. *European Journal of Ageing*, 15(1), 35–45. https://doi.org/10.1007/s10433-017-0429-0

Bennett, J., & Möhring, K. (2014). Cumulative (Dis)advantage? The impact of labour market policies on late career employment from a life course perspective. *Journal of Social Policy*, 44(2), 213–233. https://doi.org/10.1017/S0047279414000816

Blossfeld, H. P., Buchholz, S., & Friedrich, O. (Eds.). (2011). *Aging populations, globalization and the labor market. Comparing late working life and retirement in modern societies*. Edgar Elgar.

Boeri, T., Garibaldi, P., & Moen, E. R. (2022). In medio stat virtus: Labor demand effects of an increase in the retirement age. *Journal of Population Economics*, 35(2), 519–556. https://doi.org/10.1007/s00148-021-00871-0

Börsch-Supan, A. (2022). Survey of health, ageing and retirement in Europe (SHARE) wave 8. COVID-19 survey 1. Release version: 8.0.0. SHARE-ERIC. Data set. https://doi.org/10.6103/SHARE.w8ca.800

Börsch-Supan, A., Brandt, M., Hunkler, C., Kneip, T., Korbmacher, J., Malte, F., Schaan, B., Stuck, S., & Zuber, S. (2013). Data resource profile: The survey of health, ageing and retirement in Europe (SHARE). *International Journal of Epidemiology*, 42(4), 992–1001. https://doi.org/10.1093/ije/dyt088

Bowman, D., McGann, M., Kimberley, H., & Biggs, S. (2017). 'Rusty, invisible and threatening': Ageing, capital and employability. *Work, Employment & Society*, 31(3), 465–482. https://doi.org/10.1177/0950017016645732

Brand, J. E. (2015). The far-reaching impact of job loss and unemployment. *Annual Review of Sociology*, 41(1), 359–375. https://doi.org/10.1146/annurev-soc-071913-043237

Brugiavini, A., Orso, C. E., Genie, M. G., Naci, R., & Pasini, G. (2019). Combining the retrospective interviews of wave 3 and wave 7: The third release of the SHARE job episodes Panel. *Share Working Papers Series*, 36–2019.

Brugiavini, A., Orso, C. E., Genie, M. G., Naci, R., & Pasini, G. (2022). SHARE job episodes Panel. Release version: 8.0.0. SHARE-ERIC. Data set. https://doi.org/10.6103/SHARE.jep.800

Castel, R. (2004). *L'insicurezza sociale. Cosa significa essere protetti?* Einaudi.

Crawford, R., Cribb, J., Karjalainen, H., & O'Brien, L. (2021). *Changing patterns of work at older ages*. The Institute for Fiscal Studies.

Dingemans, E., Henkens, K., & Van Solinge, H. (2017). Working retirees in Europe: Individual and societal determinants. *Work, Employment & Society*, 31(6), 972–991. https://doi.org/10.1177/0950017016664677

Ebbinghaus, B., & Hofäcker, D. (2013). Reversing early retirement in advanced welfare economies. A paradigm shift to overcome push and pull factors. *Comparative Population Studies*, 38(4), 807–840. https://doi.org/10.12765/CPoS-2013-24en

Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Princeton University Press.

Eurofound. (2012). *Employment trends and policies for older workers in the recession*. Publications Office of the European Union.

Fisher, G. G., Chaffee, D. S., & Sonnega, A. (2016). Retirement timing: A review and recommendations for future research. *Work, Aging and Retirement*, 2(2), 230–261. https://doi.org/10.1093/workar/waw001

Gabadinho, A., Ritschard, G., Müller, N. S., & Studer, M. (2011). Analyzing and visualizing state sequences in R with TraMineR. *Journal of Statistical Software*, 40(4), 1–37. https://doi.org/10.18637/jss.v040.i04

Hall, P. A., & Soskice, D. (2001). *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford University Press.

Heisig, J. P., & Radl, J. (2017). Adding scars to wrinkles? Long-run effects of late-career job loss on retirement behavior and personal income. *Work, Aging and Retirement*, 3(3), 257–272. https://doi.org/10.1093/workar/wax006

Hofäcker, D. (2010). *Older workers in a globalizing World: An international comparison of retirement and late-career patterns in western industrialized countries*. Edward Elgar.

Hofäcker, D., Schröder, H., Li, Y., & Flynn, M. (2015). Trends and determinants of work-retirement transitions under changing institutional conditions: Germany, England and Japan compared. *Journal of Social Policy*, 45(1), 39–64. https://doi.org/10.1017/S004727941500046X

Hoffmann, F., & Lemieux, T. (2016). Unemployment in the great recession: A comparison of Germany, Canada, and the United States. *Journal of Labor Economics*, 34(1, pt. 2), 95–319. https://doi.org/10.1086/682424

Johnson, R. W. (2012). *Older workers, retirement, and the great recession*. Stanford Center on Poverty and Inequality.

Johnson, R. W., & Butrica, B. A. (2012). *Age disparities in unemployment and reemployment during the great recession and recovery*. Urban Institute.

Kholi, M., Rein, M., Guillemard, A. M., & van Gunsteren, H. (Eds.). (1991). *Time for retirement. Comparative studies of early exit from the labour force*. Cambridge University Press.

Lassus, L. A. P. (2015). Over the hill, under siege: Labor force graying, labor market pushes, and consequences for life chances. *Sociology Compass*, 9, 814–827. https://doi.org/10.1111/soc4.12295

Léime, A. N., Street, D., Vickerstaff, S., Krekula, C., & Loretto, W. (Eds.). (2017). *Gender, ageing and extended working life: Cross-national perspectives*. Policy Press.

Levine, J. H. (2000). But what have you done for us lately? Commentary on Abbott and Tsay. *Sociological Methods & Research*, 29(1), 34–40. https://doi.org/10.1177/0049124100029001002

Loretto, W., Vickerstaff, S., & White, P. (Eds.). (2007). *The future for older workers: New perspectives*. Policy Press.

Mäcken, J., Präg, P., Hess, M., & Ellwardt, L. (2022). Educational inequalities in labor market exit of older workers in 15 European countries. *Journal of Social Policy*, 51(2), 435–459. https://doi.org/10.1017/S0047279421000258

Mills, M. (2011). *Introducing survival and event history analysis*. Sage.

Mortimer, J. T., & Shanahan, M. J. (2003). *Handbook of the life course*. Springer.

OECD. (2019). *Working better with age. Ageing and employment policies*. OECD Publishing.

OECD. (2020). *Job retention schemes during the COVID-19 lockdown and beyond*. OECD Policy Responses to Coronavirus (COVID-19) October.

OECD. (2021). *Pensions at a glance 2021: OECD and G20 indicators*. OECD Publishing.

O'Rand, A. (1996). The precious and the precocious: Understanding cumulative disadvantage and cumulative advantage over the life course. *The Gerontologist*, 36(2), 230–238. https://doi.org/10.1093/geront/36.2.230

Orfao, G., & Malo, M. A. (2023). Are active labour market policies effective for the older unemployed? A meta-evaluation. *Ageing and Society*, 43(7), 1617–1637. https://doi.org/10.1017/S0144686X21001288

Orsholits, D., Studer, M., & Ritschard, G. (2019). The great recession and trajectories of vulnerability to unemployment in the UK and Switzerland. Lives Working Paper. Issue 79.

Parsons, D., & Walsh, K. (2019). *Employment support for over 50s: Rapid evidence review*. Centre for Ageing Better.

Phillipson, C. (2002). *Transitions from work to retirement. Developing a new social contract*. The Policy Press.

Phillipson, C. (2019). 'Fuller' or 'extended' working lives? Critical perspectives on changing transitions from work to retirement. *Ageing and Society*, *39*(3), 629–650. https://doi.org/10.1017/S0144686X18000016

Piccarreta, R., & Studer, M. (2019). Holistic analysis of the life course: Methodological challenges and new perspectives. *Advances in Life Course Research*, *41*, 100251. https://doi.org/10.1016/j.alcr.2018.10.004

Picchio, M. (2021). Is training effective for older workers? *IZA World of Labor*, *121*. https://doi.org/10.15185/izawol.121.v2

Ponomarenko, V. (2016). Cumulative disadvantages of non-employment and non-standard work for career patterns and subjective well-being in retirement. *Advances in Life Course Research*, *30*, 133–148. https://doi.org/10.1016/j.alcr.2016.06.003

Rabaté, S., & Rochut, J. (2020). Employment and substitution effects of raising the statutory retirement age in France. *Journal of Pension Economics and Finance*, *19*(3), 293–308. https://doi.org/10.1017/S1474747218000392

Riekhoff, A.-J. (2018). Institutional and socio-economic drivers of work-to-retirement trajectories in The Netherlands. *Ageing and Society*, *38*(3), 568–593. https://doi.org/10.1017/S0144686X16001252

Riekhoff, A.-J. (2019). De-standardisation and differentiation of retirement trajectories in the context of extended working lives in The Netherlands. *Economic and Industrial Democracy*, *40*(4), 890–912. https://doi.org/10.1177/0143831X16669593

Riphahn, R. T., & Schrader, R. (2020). Institutional reforms of 2006 and the dramatic rise in old-age employment in Germany. *ILR Rev*, *73*(5), 1185–1225. https://doi.org/10.1177/0019793919863378

Ritchard, G., & Studer, M. (Eds.), (2018). *Sequence analysis and related approaches innovative methods and applications*. Springer Open.

Schmitz, W., Naegele, L., Frerichs, F., & Ellwardt, L. (2023). Gendered late working life trajectories, family history and welfare regimes: Evidence from SHARELIFE. *European Journal of Ageing*, *20*(5), 5. https://doi.org/10.1007/s10433-023-00752-3

Stiemke, P., & Hess, M. (2022). Determinants of (in-)voluntary retirement: A systematic literature review. *Journal of European Social Policy*, *32*(3), 348–358. https://doi.org/10.1177/09589287221089465

Studer, M. (2013). *Weighted Cluster Library Manual: A practical guide to creating typologies of trajectories in the social sciences with R*. LIVES Working Papers. https://doi.org/10.12682/lives.2296-1658.2013.24.Issue 24

Studer, M., & Ritschard, G. (2016). What matters in differences between life trajectories: A comparative review of sequence dissimilarity measures. *Journal of the Royal Statistical Society - Series A: Statistics in Society*, *179*(2), 481–511. https://doi.org/10.1111/rssa.12125

Tamborini, C. R., & ChangHwan, K. (2022). Employment transitions among older Americans during the initial lockdown and early reopening months of the COVID-19 recession. *Social Security Bulletin*, *82*(4), 23–39.

Taylor, P. (2019). Working longer may be good public policy, but it is not necessarily good for older people. *Journal of Aging & Social Policy*, *31*(2), 99–105. https://doi.org/10.1080/08959420.2019.1576487

Trentini, M. (2021). Retirement timing in Italy: Rising age and the advantages of a stable working career. *Ageing and Society*, *41*(8), 1878–1896. https://doi.org/10.1017/S0144686X20000148

Turek, K., & Henkens, K. (2019). Accessibility of training in older age; a longitudinal European perspective. Netspar Discussion Paper, DP, 04/2019-020.

Van Horn, C. E., & Heidkamp, M. (2019). Older workers, precarious jobs, and unemployment. *Generations: Journal of the American Society on Aging*, *43*(3), 21–28.

Vickerstaff, S. (2010). Older workers: The 'unavoidable obligation' of extending our working lives? *Sociology Compass*, *4*(10), 869–879. https://doi.org/10.1111/j.1751-9020.2010.00322.x

Vickerstaff, S., & Cox, J. (2005). Retirement and risk: The individualisation of retirement experiences? *Sociological Review*, *53*(1), 77–95. https://doi.org/10.1111/j.1467-954X.2005.00504.x

Wainwright, D., Crawford, J., Loretto, W., Phillipson, C., Robinson, M., Shepherd, S., Vickerstaff, S., & Weyman, A. (2019). Extending working life and the management of change. Is the workplace ready for the ageing worker? *Ageing and Society*, *39*(11), 2397–2419. https://doi.org/10.1017/S0144686X18000569

Walker, A. (Ed.). (2019). *The future of ageing in Europe. Making an asset of longevity*. Palgrave Macmillan.

Wu, L. L. (2000). Some comments on "sequence analysis and optimal matching methods in Sociology: Review and prospect". *Sociological Methods & Research*, *29*(1), 41–64. https://doi.org/10.1177/0049124100029001003

AUTHOR BIOGRAPHY

Marco Trentini is an Associate Professor of Economic Sociology and Sociology of Work and Organisations at the Department of Education Studies 'Giovanni Maria Bertin', University of Bologna (Italy). His recent research

concerns the labour market participation of older workers, the transition from work to retirement, and trade union membership.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.