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Individual determinants of extended working lives: a systematic review of the literature

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Abstract

The extension of working lives (EWL) appears as a long-term transformation driven by the increase in longevity and the expansion of institutional incentives to postpone retirement. However, the increase in average retirement ages is being less intense and more heterogeneous than promised by pension reforms. The mismatch between structural and individual changes reinforces the interest of a precise knowledge of the influence of individual determinants on EWL. Based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses methodology (Page et al. 2021), this article provides a systematic review of literature with the objective of conceptualizing variants of EWL and systematizing empirical evidence of the influence of individual determinants on EWL. This review can be of benefit both for detecting the areas on which future research should focus and for guiding the discussions on potential pension system reforms while considering the heterogeneity of individuals' profiles.

Keywords: bridge employment, pension, retirement, retirement planning.

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Introduction

Both scientific analyses and debates on the future of retirement focus on the causes and consequences of an extension of working life (EWL). The trend towards EWL seems to be long-term, driven by two major social transformations. On the one hand, the increase in longevity has caused life expectancy at retirement age to double in Organisation for Economic Co-operation and Development (OECD) countries over the last five decades; indeed, available projections indicate that this trend has not yet come to an end (OECD 2019, 2021; Weber & Loichinger 2022). On the other hand, there is a fairly uniform evolution of pension systems with increasing requirements for full access to old-age benefits and incentives to extend working life and/or to make this transition more flexible by favouring the combination of pension and work (Hinrichs 2021; Lis et al. 2021; Myck 2015).

In any case, it is not clear that parallel changes in the microsocial sphere have been in line with these major transformations. Although with significant differences among European countries, surveys have revealed that the expected retirement age remains anchored at approximately 65 years, while perceptions of the starting point for old age have increased (Eurofound 2014; European Social Survey 2021). In recent decades, policies to prolong working lives in OECD countries have focused on incentives to increase labour participation beyond retirement age, and to reduce financial penalties for working longer. In addition, reforms also restrict the use of early retirement schemes and other passive benefits and allow for the combination of work and pension income.

However, on a factual level, there is a general increase in average retirement ages, but this trend has been of a lower intensity than promised by pension reforms, with additional evidence of the limited effects of financial incentives, at least on their own, to extend partial retirement schemes beyond a small group of highly skilled individuals (Eurofound 2016; OECD 2017, 2019).

This potential mismatch between structural and individual changes is of great interest and points to two very important facts to research. First, the sociodemographic characteristics (health, gender, family, education, occupation and work history) of individuals are associated with very relevant differences in their expectations and their actual conditions of

transition to retirement. In contrast, pension systems and labour market reform policies aimed at prolonging and making working life more flexible tend to ignore the heterogeneity of the objective and subjective traits of different groups of individuals, assuming that financial incentives translate into uniform changes in expectations and behaviours, with the consequent risks of increasing inequality risks in timing and conditions of retirement (Barslund 2019; Ní Léime et al. 2020). For a better design of policies affecting retirement, it is therefore crucial to have a precise knowledge of individual determinants of EWL.

Second, the heterogeneity of individuals, added to the very diversity of institutional environments, push towards a wider variety of transitions from employment to retirement (Fisher et al. 2016). For a growing, although still small, number of individuals, this transition loses the form of a dichotomy between regular employment and conventional retirement (OECD 2017). The EWL takes forms that are not limited to continuing employment after the legal retirement age, leading to greater complexity in later-life labour market dynamics. The way in which this complexity is conceptualized has a decisive influence on research findings (Leinonen et al. 2022). Further research on EWL needs to identify this variety of forms of transition towards retirement.

Whereas research on the effects of individual determinants of retirement timing and conditions has increased notably in recent years, systematic reviews of their contributions are limited, particularly those on their individual factors. Carlstedt et al. (2018) reviewed the research up to 2016 and focused specifically on macro, meso and microlevel incentives to prolong employment beyond retirement age. Ratten (2019) reviewed recent literature but focused on the specific mode of older entrepreneurship. Lassen and Vrankbaek (2021) extended the review to mid-2020, also with a focus open to all types of EWL incentives, macro, meso and micro, but without using systematic methodology to analyse the content.

This paper provides a systematic review of international research on the main individual factors determining EWL based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Page et al. 2021) methodology. This review offers three contributions that reinforce its novelty. First, it proposes a clear conceptualization of variants of EWL, which have been termed “employment after retirement” (EAR), “bridge

employment" (BE) and "unretirement" (UN). This conceptual dimension is a previous and necessary step for the second contribution: to review systematic evidence of a broad set of individual determinants of EWL, approaching a more explanatory discussion. Third, the review extends to research published between 2000 and 2023, which allows us to identify the most recent stage in which the overview of results has been uniquely enriched. Overall, this review can be helpful both for detecting the areas for research and for guiding the debates on potential pension system reforms while considering the heterogeneity of individuals' profiles.

The structure of the paper begins with a description of the methodology. The results are then presented in two sections: the first is based on the three main conceptual variants of the EWL, and the second on the observed influences of the four main types of individual determinants. The paper closes with a summary of the main contributions, which leads to a double discussion: on the one hand, regarding the gaps, both theoretical and empirical, that should be addressed in future research; and, on the other hand, on possible directions for institutional reforms that promote EWL.

Methods

Information Sources and Inclusion Criteria

The methodology employed for this systematic literature review was designed following the Page et al. 2021 guidelines. The PRISMA statement was published in 2009 and updated in 2020, and "was designed to help systematic reviewers transparently report why the review was done, what the authors did, and what they found (…) reflects advances in methods to identify, select, appraise, and synthesize studies" (Page et al. 2021: 1).

The databases selected were Web of Science (WoS) and SCOPUS,[1] which gather information and studies published in the most important

[1] Other databases, such as Google Scholar, were not included in the analysis because non-commercial publications whose editorial processes are not necessarily academic do not fall within the scope of this systematic review (Haddaway et al. 2015). Moreover, Google Scholar also fails to offer high levels of recall, precision, transparency, and reproducibility (Gusenbauer & Haddaway 2020).

publications in Social Sciences. They fulfil the necessary quality requirements by identifying all relevant records and ensuring a transparent and reproducible search (Gusenbauer & Haddaway 2020). All selected articles follow rigorous peer-reviewed processes, and book chapters have been subject to editorial criteria led by leading experts in their respective fields. The objectives of the research framed the identification of inclusion criteria. The studies incorporated were those from the field of Social Sciences which analyse specific concepts of EWL with a quantitative perspective of microlevel factors.

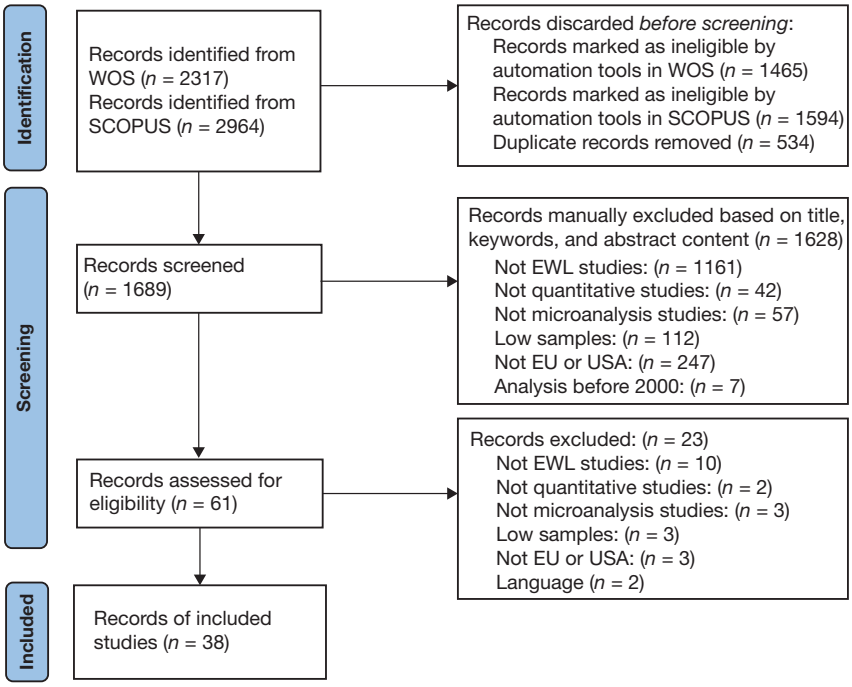
Search Strategy and Selection Process

Figure 1 presents the combinations of keywords entered into WoS and SCOPUS and the summary of the search strategy and selection process. The initial search without the application of exclusion criteria yielded a total of 2317 and 2964 documents in WoS and SCOPUS, respectively.[2] The automatic filters were then applied, excluding documents that were not articles, books or book chapters; were not published from 2000 onwards or were not published in English.

Only documents from the following Social Sciences areas were included. The subject areas selected in the WoS database were Business, Economics, Behavioural Sciences, Demography, Education Educational Research, Family Studies, Industrial Relations, Labour, Management, Political Science, Psychology, Psychology Applied, Public Administration, Social Issues, Social Sciences Interdisciplinary, Social Work, Sociology and Women's Studies. These filters reduced the number of WoS records to 1645. The subject areas selected in the SCOPUS database were Social Sciences, Business Management and Accounting, Psychology, Economics, Econometrics and Finance, Decision Sciences and Multidisciplinary. These filters reduced the number of SCOPUS records to 1495. Finally, 534 duplicated records were removed, resulting in a final sample of 1689 documents to be screened.

[2] The final search was conducted on 18th February 2023.

Figure 1. Identification of studies by databases and registers.
Source: Produced by the authors from Page et al. (2021).
Note: The keywords used in WoS and SCOPUS: ("bridge employment" OR "unretirement" OR "old* workers" OR "late* retirement" OR "old* employees" OR "old workforce" OR "extend* working life" OR "post-retirement" OR "postretirement" OR "working retirees" OR "working beyond retirement" OR "postponing retirement") AND ("preference*" OR "predictor*" OR "characteristic*" OR "motive*" or "determinant*" OR "factor*").



Screening

The title, abstract and keywords of 1689 articles and book chapters were examined with the objective of discarding those studies that did not fulfil the following inclusion criteria. First, in connection with the main objective

of the literature review, only research on EWL was considered. Based on our initial conceptual framework, any of the EWL concepts (EAR, BE and UN) should be addressed, preferably but not exclusively, as a dependent variable.

Second, only studies including microlevel factors of EWL from a quantitative perspective were selected. One of our objectives is to review what type of individual factors (sociodemographic, household characteristics, work-related and health) explain the decision of EWL. Therefore, research focused solely on countries or firms (not individuals) was disregarded. Moreover, the interest was in the quantitative analysis of representative samples at the country level. Only studies based on large representative samples were included.[3]

Third, the review was focused on European countries and the United States of America (USA) because they share two features that are relevant for the objectives of this analysis: on the one hand, they are countries with pension systems that are already "mature"; namely, culturally, and financially consolidated. On the other hand, although with divergent institutional trajectories among these regions, reforms are more likely to be implemented in the direction of encouraging EWL decisions (Aysan & Beaujot 2009).

All the above criteria resulted in a final sample of 61 records assessed for eligibility. The number of articles rejected in each stage of the exclusion process explained above is shown in Figure 1.

Data Extraction and Quality Assessment

The articles and book chapters in the final literature review were analysed using a data extraction template. The template was designed based on the research objectives. On the one hand, methodological information was summarized: data sources, sample size and country and years analysed (Table A1). On the other hand, the conceptual dimension was

[3] We have included studies based on samples collected by institutions of recognized statistical prestige in each country (or based on registry data); and/or that incorporate individuals from various regions or occupations; and/or whose sample size allows extrapolating the conclusions with a high degree of reliability at the national level.

systematized, including the specific concept of the EWL employed and a description of the investigated microlevel factors (Table A2). Finally, general information was extracted: findings, main contributions, limitations and future lines of research. The templates used to compile the information are available on request from the authors.

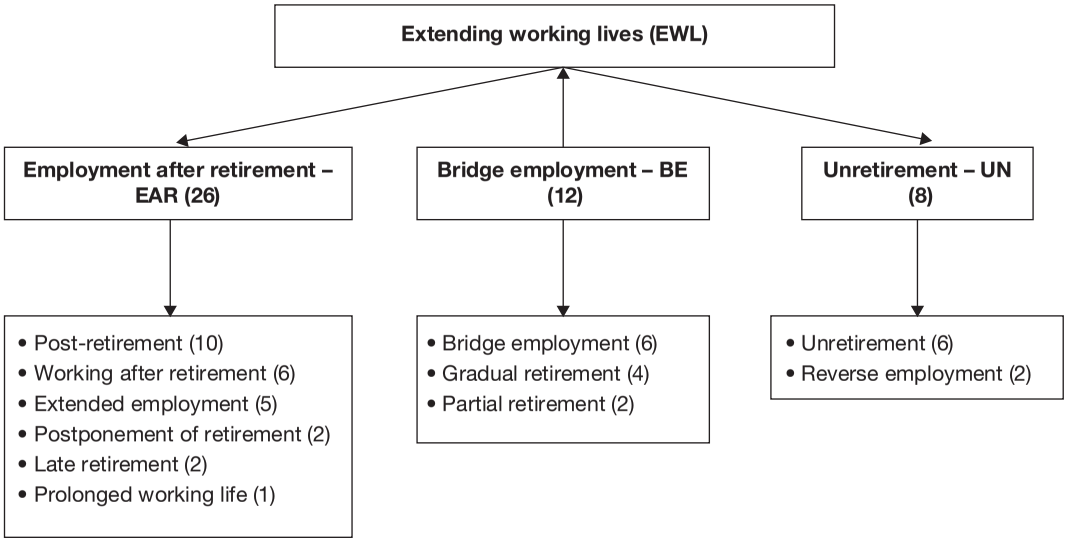
Quality control was carried out by all the authors of this article to minimize the potential bias of the procedure of gathering information. The full process of designing the literature review and the search and selection of articles for analysis was reviewed systematically and exhaustively. Two of the authors adopted the reviewer role (authors RG and FLR), and the other acted as supervisor (AT) in a three-phase process. First, the initial sample of 1689 publications was screened by the authors RG and FLR: each of them screened half of the sample and filled the templates of the 61 records assessed for eligibility; then, an exchange of records took place in order to detect possible biases, omissions or errors. Second, author AT monitored the systematisation of the collection process and confirmed the 61 records assessed for eligibility. Finally, all authors conducted an in-depth analysis of the texts (with special attention to their findings, scope, methods, and conclusions). In this stage, a total of 23 publications were excluded because they did not meet the inclusion criteria. The final sample of the systematic literature review comprised 38 articles and book chapters. The most common causes of exclusion were covering countries beyond the scope of this research or focusing on specific occupations with a low sample size.

Conceptual Dimension

The conceptual dimension deserves particular attention because available research has confirmed that EWL is not a univocal concept. This review has identified a range of 11 EWL concepts that have been used, with explicit definitions and with unequal frequency, in a total of 38 pieces of research (Figure 2).

When examining this range of terms, we conclude that the variety of concepts can be reduced to three variants, as shown in Figure 2: the concept of EAR, which would include all situations of paid employment after reaching the legal retirement age and which would cover 26 of the publications reviewed. The concept of BE encompasses all the situations

Figure 2. Concept mapping of EWL terms (# of studies).
Source: Prepared by the authors based on data from the systematic review.
EWL: Extending working lives.



that, in the final stage of the working career preceding full retirement, modifies the usual employment with another employer, other functions or another duration. And the concept of UN applies to individuals who return to work after a period of full retirement.

These three concepts cover the most typical forms of extended working lives. However, there are additional characteristics in their specific operational definitions that reflect the growing flexibility of this transition and imply that each of these concepts does not always refer to clearly differentiated situations of employment and retirement.

The concept of EAR cannot ignore the fact that retirement age is increasingly variable for individuals with different work histories. Consequently, in the reviewed studies, there are three main options for operating the after-retirement variant. The most frequent, grouped under the term "postretirement employment," takes all individuals who have reached the official retirement age, at whatever age it is established (Berglund et al. 2017; Finch 2014; Kauppi et al. 2021; McLaughlin & Neumark 2018; Virtanen et al. 2022). This includes those based on individuals' own self-attribution of that status (Brown et al. 2014; Pleau 2010), and all individuals who are employed aged over 65 years (Gstrein 2023; Hofäcker & Naumann 2015). The term "working after retirement" is attributed to those who combine a retirement pension with gainful employment (Dingemans & Henkens 2020; Dingemans & Moehring 2019; Fasbender et al. 2016). A further variant of this concept is even possible, including a minimum period of occupation in the reference year: 6 months (Myllyntausta et al. 2022), or 1 month (Finch, 2014; Hellevik & Herlofson 2020).

The concept of BE usually refers to situations prior to retirement in which there is a reduction in working hours with part-time, seasonal or temporary employment (Boveda & Metz 2016; Cahill et al. 2008; Kalenkoski & McCarthy 2021; Kantarci & Van Soest 2008). However, other publications apply this term to situations before and after retirement age, either when the observed population includes all individuals above a certain age, which is qualified as gradual retirement (Albanese et al. 2020; Dingemans et al. 2017; Topa et al. 2014), or when the bridge dimension is associated with compatibility between part-time employment and the receipt of a retirement pension, designated as "partial retirement" (Congdon-Hohman 2018; Madero-Calib et al. 2023).

Regarding the concept of UN, the most common definition is that of individuals who return to work after having previously retired (Kanabar 2015; Pettersson 2014; Smeaton et al. 2018; Zhao & Burge 2021). Nevertheless, in some versions, this return to work after retirement is limited to part-time jobs (Platts et al. 2019).

Individual Determinants

The results of the literature review on the variables of influence in EWL are presented in Table 1, which summarizes the variables that appeared in at least two of the publications analysed in the final sample. The explanatory variables were grouped into four blocks, seeking a certain theoretical-conceptual consistency, and considering the relevance of terms according to their number of appearances.

First, individual sociodemographic characteristics were the most analysed, specifically gender, level of education, marital status and age. Second, household variables and, more specifically, income or wealth, domestic and care responsibilities and the employment status of spouses. Third, individual labour characteristics include occupation, individual income, employment status and age and type of retirement. Finally, the variables referring to health (the least frequent) are measured by only two types of indicators: objective health and self-perceived health.

The bibliometric description of the search results also makes it possible to identify the countries, data sources and most analysed years.[4] On the one hand, the research carried out concentrates on countries with the most available data which are included in more than 10 publications. In addition to the European-wide comparative survey SHARE, Germany uses others such as German Social Security, German Socio-Economic Panel, German TOP Study or German Ageing Survey (DEAS); research for the USA has been mostly carried out with the American HRS (from the University of Michigan) and the American PSID; in United Kingdom (UK) research is mostly performed with the English Longitudinal Study of Ageing (ELSA) and the British Panel Household Survey (BPHS) and finally, the EWL concepts in Sweden have also been analysed with country-specific data sources (Swedish PSAE, Swedish Health Aging and

[4] Specific results can be found in the Appendix (Table A3 and A4, and Figure A1).

Table 1. Conceptual dimension: factors of extending working lives

Factor	*N*
Sex	34
Level of education	31
Age and cohort	28
Marital status	27
Race/ethnicity/country of birth	9
Life/job satisfaction	6
Total – individual sociodemographic characteristics	**135**
Household and personal income/wealth	24
Working status of spouse	11
Care/domestic responsibilities	10
Children in household/number of (grand)children	10
Housing tenure	6
Household size	3
Household type	2
Total – household characteristics	**66**
Health status	18
Self-reported health status	17
Mental health	3
Total – health	**38**
Occupation	16
Type of retirement/type of pension	9
Working time	6
Pension income/wealth	5
Age at retirement/year of retirement	5
Working status	3
Labour market trajectories (years in employment and number of works)	3
Public/private sector	3
Years in retirement	3
Health insurance	2
Volunteer work	2
Social class	2
Total – labour market trajectories and occupation	**59**

Source: Prepared by the authors.

Retirement Transitions Study, Statistics Sweden, Swedish Interdisciplinary Panel). On the other hand, these studies cover a broad time period (1990–2021). There is a concentration of research just after the 1990s decade, when discussions and regulation of EWL transitions began to arise; particularly in the interval between 2000 and 2007, with a peak in the years before the Great Recession (22 publications included 2006 in their analysis).

Sociodemographic Characteristics

The influence of gender on EWL shows that being a female is negatively associated with late retirement and BE (Albanese et al. 2020; Axelrad 2018), so men are more likely to extend their employment (Myllyntausta et al. 2022): either beyond retirement age (Hellevik & Herlofson 2020; Hofäcker & Naumann 2015), by postretirement employment (Cho et al. 2016; Dingemans & Henkens 2020; Fasbender et al. 2016; Leinonen et al. 2020), or reverse retirement (Platts et al. 2019; Smeaton et al. 2018). However, some studies highlight gender similarities in terms of retirement (Radl 2013), re-entry into the labour force (Pleau 2010) and postretirement trajectories in the same environment as that previous to retirement (Burkert & Hochfellner 2017). There are also some differences across countries that show that females retire later than males in Sweden (Klaesson et al. 2018); similarly, in the UK and Belgium, women are more likely than men to extend their working lives beyond retirement age[5] (Albanese et al. 2020; Finch 2014). However, in Germany, women have a higher probability of entering a postretirement job in an environment that is different from their jobs before retirement (Burkert & Hochfellner 2017).

Regarding the level of education, the general trend is that higher education is positively associated with EWL pathways (Madero-Cabib et al. 2023; Radl 2013). Working in retirement is more frequent among higher educated workers, regardless of the EWL concept (Boveda & Metz 2016; Cahill et al. 2008; Dingemans & Henkens 2020; Dingemans et al. 2017;

[5] Finch (2014) research for UK analysed the period between 1991 and 2004 prior to the reform that equalized pension ages between women and men in 2018. Therefore, further research could determine whether EWL transitions in this country have changed since then.

Hofäcker & Naumann 2015; Kanabar 2015; Leinonen et al. 2020; Smeaton et al. 2018; Zhao & Burge 2021). Even medium-educated workers are more likely to remain in the labour market longer than lower-educated workers (De Preter et al. 2015). The interaction with gender shows that postretirement employment is also common among men with primary education (Leinonen et al. 2020). For women, a higher level of education reduces the probability of being employed aged over 67 (Hellevik & Herlofson 2020).

When the influence of marital status on EWL is analysed, most studies show that those without a partner are more likely to extend their working lives (Cho et al. 2016), either when they are single or have never married (Kanabar 2015; Platts et al. 2019), in widowhood (Dingemans & Moehring 2019; Dingemans et al. 2017), divorced (Dingemans et al. 2017; Leinonen et al. 2020) or with no spouse (Myllyntausta et al. 2022). However, there are exceptions in specific countries, such as Sweden, where retirees with a partner were more likely to prolong their participation in the labour market (Hansson et al. 2022); or the USA, where married individuals were more likely to choose BE (Boveda & Metz 2016; Cahill et al. 2008). In addition, marital status is one of the variables that significantly interacts with gender (Dingemans & Moehring 2019; Kauppi et al. 2021). In all institutional contexts, single never-married women are more likely to follow extended working life pathways (Madero-Cabib et al. 2023). This implies that being married lowers the odds of retired women's labour force re-entry (Pleau 2010), and that those who remarried after a divorce are likely to work after retirement (Dingemans & Moehring 2019; Finch 2014). Women divorcees or widows are more likely to work in bridge jobs than their male counterparts (Dingemans et al. 2017). Moreover, married men have a higher probability of UN (Congdon-Hohman 2018).

In the case of age, there are some differences among the concepts of EWL. On the one hand, both EAR and BE have a negative association with age: the younger, the greater the probability of being in this type of EWL (Axelrad 2018; Cahill et al. 2008; Cho et al. 2016; Dingemans & Moehring 2019; Dingemans et al. 2017; Topa et al. 2014). However, those who are still working after turning 67 are likely to remain employed for more years (Hellevik & Herlofson 2020). On the other hand, the likelihood of UN rises with age until the late 60s, when it starts to be negatively associated with UN (Congdon-Hohman 2018; Kanabar 2015; Smeaton et al. 2018; Zhao & Burge 2021). Age also shows a specific pattern of association

with gender: while it is negatively related to the likelihood of working in bridge jobs among men, this effect was found to be even more negative for women (Dingemans et al. 2017).

There are two individual variables that have been studied, although to a lesser extent. First, studies that analyse race, country of birth and ethnicity[6] are more common in the USA and find that black workers are more likely to UN (Congdon-Hohman 2018; Zhao & Burge 2021), and to be partially retired (Kalenkoski & McCarty 2021). Specific studies for the European context were not found, but regarding the effective retirement age, in Sweden, Qi et al. (2019) reported that older immigrants' employment rates tended to be positively correlated with those of their non-migrant counterparts in their respective countries of origin. Second, workers with higher levels of job and life satisfaction are more likely to experience BE (Topa et al. 2014), and to prolong their working life (Berglund et al. 2017).

Household Characteristics

Beginning with household variables, the results obtained from the literature review for income and wealth have shown some inconsistencies depending on the concept of EWL used. On the one hand, both wealth and income are negatively associated with BE (Boveda & Metz 2016; Dingemans et al. 2017; Gstrein 2023), and with UN (Congdon-Hohman 2018; Leinonen et al. 2020; Zhao & Burge 2021). However, there are some nuances in this relationship: when the influence of wealth and income is jointly considered, the effect of the former remains negative, while the latter becomes positive, especially from age 71 onwards (Pettersson 2014). In terms of gender interaction, wealth appears to be a more important determinant for women (Cahill et al. 2008), who are less likely to experience re-entry when their household socioeconomic status is higher (Pleau 2010), and more likely to prolong their working lives when experiencing economic difficulties (Kauppi et al. 2021).

On the other hand, other studies have found that EAR (and postretirement employment, specifically) is more frequent for those who live

[6] These variables were aggregated to account for the number of studies that included them, but Table A2 in the Appendix provides an accurate record of each specific concept.

in high- and low-income households, with some U-shaped polarization (Leinonen et al. 2020; Smeaton et al. 2018); on the contrary, individual income depicts an inverted U-type distribution (Burkert & Hochfellner 2017; Dingemans & Henkens 2020). The discrepancy with respect to the other two EWL concepts is probably due to the way income and wealth are defined: when it is measured as a continuous variable, the effect of household income and wealth on EWL is negative; whereas when it is operationalized as a categorical variable, the association turns positive for people living in households in higher socioeconomic positions.

Care and domestic responsibilities have shown a negative influence on EWL, regardless of the concept used (Brown et al. 2014; De Preter et al. 2015; Dingemans et al. 2017; Pleau 2010; Smeaton et al. 2018). This negative effect has proven to be stronger for women (Pleau 2010), although it can also vary over time: when care is prolonged over time (more than 5 years), that pattern becomes even more pronounced (Finch 2014).

The working status of partners has shown that having a spouse who is employed reduces the likelihood of EWL (Cahill et al. 2008; Hellevik & Herlofson 2020; Kanabar 2015; Pettersson 2014; Platts et al. 2019; Radl 2013; Smeaton et al. 2018). Further clarifying the effect of this variable on post-retirement employment, the higher the work intensity of the spouse (full time vs. part time), the higher the probability of this specific type of EWL (Hellevik & Herlofson 2020; Myllyntausta et al. 2022). In the case of UN, this association seems to be more evident for women, as men show higher odds of extending employment regardless of their partner's employment status (Kauppi et al. 2021; Pettersson 2014).

The presence and number of children are positively associated with postretirement employment or delayed retirement (De Preter et al. 2015; Dingemans & Moehring 2019; Fasbender et al. 2016; Gstrein 2023), BE (Dingemans et al. 2017) and UN (Cahill et al. 2008). However, when this effect is specifically analysed for UN and separated by children and grandchildren, this association becomes negative (Pleau 2010). Moreover, the timing or birth histories, rather than the number of children, seem to be more relevant: if the family is completed later (Finch 2014), or the offspring arrives later (Smeaton et al. 2018), the likelihood of EWL is higher. This relationship changes slightly for women, who may become less likely to extend their working careers if they live in households with children (Cahill et al. 2008; De Preter et al. 2015).

Housing tenure, household size and household type also show significant differences. While their influence on BE has hardly been analysed, it has been observed that renters are more likely to participate in EAR (Leinonen et al. 2020; Platts et al. 2019). However, in the case of UN, homeowners are more likely to remain in full-time jobs at older ages (Cahill et al. 2008). Regarding household size, it would be the variation in family composition, and not the number *per se*, that would influence EWL (Gstrein 2023): when the number of cohabiting members increases, retirement tends to be delayed (De Preter et al. 2015), but only in the case of households formed by couples and not in extended or single-parent families (Congdon-Hohman 2018).

Labour Market and Socioeconomic Variables

Regardless of the concept used to operationalize the dependent variable, the higher the level of occupation or social class, the higher the likelihood of EWL (Kauppi et al. 2021; Leinonen et al. 2020; Virtanen et al. 2022). This effect is obtained whether the jobs are compared in terms of manual versus intellectual (Myllyntausta et al. 2022), degree of physical demand (McLaughlin & Neumark 2018) or social category: higher probabilities are found in the upper service, white-collar and managerial classes than in the lower sales, routine or intermediate classes (Cahill et al. 2008). A nuance to this general finding is that when prolongation of employment is analysed in terms of timing, rather than as a dichotomic or categorical decision, older workers at the bottom of the social structure also postpone their exit from the labour market (Radl 2013).

Working status and working hours allow the identification of several groups of workers who show greater probabilities of EWL: self-employed, entrepreneurs and working long hours are the categories most reported in the literature (Cahill et al. 2008; Dingemans & Moehring 2019; Klaesson et al. 2018; Zhao & Burge 2021). This can be explained by the labour conditions of those types of jobs: those workers who have direct contact with clients, work evenings or weekends (Berglund et al. 2017), or in part-time positions (Brown et al. 2014; Dingemans & Moehring 2019; Finch 2014) are more inclined to work after retirement. The main gender difference is that part-time work seems to be a significant determinant of the prolongation of employment for men (Dingemans & Moehring 2019), while

other studies find that women are more likely to EWL if they work longer hours (Hellevik & Herlofson 2020).

The influence of retirement age and the type of pensions received (private, occupational or public) on EWL are closely linked. The results show that the older a worker is, the lower the probability of EWL (Fasbender et al. 2016; Hansson et al. 2022). However, if the association is measured at each point in the life cycle, this probability is positively associated with age up to 62 and then becomes negatively influenced (Congdon-Hohman 2018). Since retirement age is highly dependent on future earnings, workers with occupational or public pensions, who expect to receive a more stable income with less uncertainty, are less likely to EWL (Congdon Hohman 2018; Hofäcker & Naumann 2015). Also, older workers with a defined pension plan or who have achieved full-time careers in lower occupational positions show a negative relationship (Cahill et al. 2008). The countries whose institutional pension scheme offers low provisions are an exception to this pattern, both in terms of coverage (amounts received) and social protection (Cho et al. 2016).

When analysing labour market trajectories, most evidence focuses on EAR. For the concepts of BE and UN, there seems to be a research gap, probably due to their own conceptual nature, which reflects time-varying changes that are difficult to measure in relation to retrospective information associated with labour market trajectories. More years in employment (Dingemans & Moehring 2019), and fewer years in unemployment, inactivity or sickness (Burkert & Hochfellner 2017; Fasbender et al. 2016; Finch 2014), are significantly associated with the probability of extending paid work beyond pensionable ages. Moreover, the number of job changes through working life increases the odds of postretirement employment, although this effect is more intense for men who achieve a high status in their previous jobs (Dingemans & Moehring 2019). When the working-time in previous labour positions is considered, women who spend more years in full-time jobs, with more employment stability, are found to be more likely to EWL (Finch 2014).

Health-Related Variables

Health-related variables are mainly measured from two perspectives: objective indicators related to health conditions (health variables), and

subjective indicators based on individuals' perceptions of their own health status (self-reported health). On the one hand, studies that include health variables demonstrate that those with good health, good working capacity, no pain and/or no sleep difficulties are more likely to undergo EWL (Dingemans & Moehring 2019; Dingemans et al. 2017; Myllyntausta et al. 2022; Platts et al. 2019; Smeaton et al. 2018; Topa et al. 2014; Zhao & Burge 2021). However, being in good health resulted in a lower probability of being partially retired (compared to other health conditions considered in the literature) (Kalenkoski & McCarty 2021).

On the other hand, self-reported health is also positively associated with EWL: considering one's health to be very good or excellent, or not having depression, increases the likelihood of continuing to work (Fasbender et al. 2016; Hellevik & Herlofson 2020; Kauppi et al. 2021), whereas the worse the self-reported health is, the lower the likelihood of UN (Kanabar 2015; Smeaton et al. 2018). Some studies emphasize this association specifically for women in two directions: women with good self-rated health are more likely to engage in EWL (Myllyntausta et al. 2022), but those who continue working beyond their pensionable age are significantly more likely than their male counterparts to have poor self-perceived health (Madero-Cabib et al. 2023).

Discussion and Conclusions

The volume and variety of available studies on EWL reinforces the conceptual convenience of the systematic review performed. The search was based on a total of 1645 screened publications, which was reduced to 61 articles or book chapters that were assessed, and then reduced to 38 that were finally included in the systematic review after the selection filters were applied.

The results obtained offer valuable contributions to the literature on EWL in several ways. First, current research accounts for a variety of EWL situations, reflecting that the transition between occupation and retirement takes multiple forms. This review has aggregated and categorized the three conceptual variants of EWL that are already fairly well-established in the available research. They have been termed "employment after retirement," "bridge employment" and "unretirement."

Recognizing and categorizing this variety is clearly a novel contribution and points to future lines of research.

Second, among the four groups of analysed individual factors, there are significantly influential variables on EWL, which confirms the relevance of systematically consolidating the patterns of association. In this sense, there are four explanatory variables whose influence has proven to be more consistent: educational level, occupation, health and domestic responsibilities. Educational level and occupation are those that most clearly favour EWL. This positive effect reaches the highest levels of education or occupation, but also the intermediate categories as compared to the lowest. The stronger influence and more consistent association for educational and occupational attainment reveals a pattern that may be associated with a job quality mechanism. Both pieces of evidence support the hypothesis that better working conditions act as powerful independent pull factors in various institutional contexts (De Preter et al. 2013). Good health also contributes to prolong working life and does so whether health status is measured by objective or subjective indicators. Care responsibilities at home is the explanatory variable that most clearly hinders EWL, an effect that is registered in any of its variants.

Third, there are some factors whose influence is less consistent, which makes it advisable to study them in greater detail in future research. On the one hand, regarding sociodemographic variables, the influence of gender is conditioned by the interaction with other factors: although women are less likely to have EWL, this influence is modified by educational level, marital status, health, income-related variables and household characteristics. The interaction with educational level shows how less educated men have a higher probability of postretirement employment, while for women, this positive influence is observed among the more educated. Regarding marital status, single women are more likely to follow EWL pathways. Health also interacts with gender insofar as women who continue working beyond their pensionable age are significantly more likely than their male counterparts to have poor self-related health. Other factors, such as socioeconomic vulnerability, financial or income difficulties, family care and childcare responsibilities or the difficulty of working full-time push women to extend their working lives.

On the other hand, regarding socioeconomic variables, the influence of income level also shares a limited consistency, most likely because

measuring it should be refined and any biases associated with other variables such as wealth should be avoided. Future research should properly distinguish between income and wealth, and specify whether such variables are defined as absolute measures or as relative levels at specific points in the distribution. Additionally, results point to the convenience of exploring the effects of these income-related factors differentiating the measurement at individual or aggregated-household level.

Fourth, it is also interesting to consider some evidence on specific EWL variants. While age is negatively associated with EAR and BE, this is not the case for UN. For this specific type of EWL, which usually involves returns to preretirement employment status, there is a positive influence of age that is maintained up to the ages closest to the statutory retirement age. Similarly, and given that BE also involves defining changes over time based on retrospective information, the evidence on labour trajectory variables has mostly concentrated on the EAR variant, indicating a potential gap and empirical challenge when analysing its influence on the rest of the EWL concepts. Moreover, some categories of explanatory variables have shown contradictory effects among the conceptual variants analysed. While married men are more likely to be UN; in the case of BE, it is divorced or widowed women. Furthermore, in the case of UN, it is the homeowners who are more predisposed to remain in their jobs; but in the EAR variant, it would be the renters.

This discussion on the main empirical results has already identified some of the most attractive lines for future research, such as systematically analysing EWL in these three different conceptual variants (EAR, BE and UN). Another line of improvement would be multilevel comparative analyses, still scarce in the literature (De Preter et al. 2013; Szinovacz 2012), connecting macro variables of the institutional (labour markets or pension systems) and cultural (expectations and values about life cycles and retirement) environment with patterns of individual determinants that already have a generalised influence. Most of the studies reviewed, especially for the European context, allow neither the joined in-depth analysis of country cases with a comparative perspective, nor the specification of different EWL trajectories. For this purpose, larger, longitudinal, comparative and more representative datasets will be required.

In these future analyses, research hypothesis could be to verify if the consistent determinants of EWL found in this systematic review

(educational level, occupation, health, and caregiving responsibilities) are maintained in all institutional and cultural settings; or, on the contrary, those contexts modulate the observed influence. In fact, one of the limitations of this literature review is the country coverage: the results obtained could be improved by including regions outside Europe and the United States with different cultural frameworks and, probably also, with more diverse pension systems. Future research could also be benefited from analysis of more recent years in which some reforms have been implemented, such as the equalization of pension ages between women and men in the UK.

These results may have interesting implications for debates both on the goals and effectiveness of policies aimed at extending of working lives. The obtained evidence supports critical approaches to policies that only seek to extend the legal retirement age and/or increase financial incentives to EWL (Ní Léime et al. 2020; Phillipson 2019; Turek et al. 2022). If those who have lower educational or occupational profiles, poor health or more care responsibilities are less likely to prolong their working lives (pushed by regulations or incentives to postpone retirement), the risk that either the incentives will be ineffective, or the retirement will be less equitable is higher. Flexible arrangements that respond to that heterogeneity of individual traits and preferences should avoid reproducing life-course advantages and disadvantages in the timing and conditions of accessing to retirement.

Regarding specific policies and considering the research on how different individual characteristics and trajectories determine EWL, there are two policies that have proven to frame more flexible and equitable effects. On the one hand, compared to Bismarckian pension systems with tightened contributions-benefit pension systems, Beveridge multipillar pensions systems (combining both public pension with minimum income and occupational or private earnings-related pension) have proved to be more effective in fighting poverty and inequality (Ebbinghaus 2021; Hinrichs 2021). On the other hand, a social investment orientation of welfare states has been confirmed to be effective in that direction (Kuitto & Helmdag 2021): investing in people skills and supporting care work over the life course could contribute to lengthen working lives. The positive effect of that approach on lifelong skills facilitates careers with greater mobility

in the central part of working life, which happens to a very favourable condition for EWL (OECD 2024).

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Appendix

Table A1. Methodological characteristics of the articles examined

Reference	Sample	Data sources	Countries	Period
Albanese et al. (2020)	243,655 individuals aged between 52 and 61.	Administrative data from the Belgian Population Register and Belgian Social Security.	Belgium.	1989, 1997, 2000–2004.
Axelrad (2018)	34,483 retired respondents.	Survey of Health, Ageing and Retirement in Europe (SHARE).	20 EU countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Israel, Italy, Ireland, Luxemburg, the Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, and Switzerland.	2006–2007; 2010–2011, 2013.
Berglund et al. (2017)	764 workers aged 52 to 59.	Swedish Panel Survey of Ageing and the Elderly (PSAE).	Sweden.	2002–2003, 2010–2011.
Boveda and Metz (2016)	3737 men and women aged 50 and over.	University of Michigan Health and Retirement Study (HRS).	EE. UU.	1992–2014.
Brown et al. (2014)	3508 workers aged 18 and over.	National Study of the Changing Workforce (NSCW).	EE. UU.	2008
Burkert and Hochfellner (2017)	15,504 retirees who received regular old-age pension benefits.	German Pension Insurance linked to data of the German Federal Employment Agency (BASiD).	Germany.	2007

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Cahill et al. (2008)	12,600 respondents aged between 51 and 61.	Health and Retirement Study (HRS).	USA	1992–2004.
Cho et al. (2016)	50+ workers for different countries: 24,505 (Corea), 75,983 (Germany) and 18,780 (USA).	Korean Labour and Income Panel Study, German Socio-Economic Panel y Panel Study on Income Dynamics (USA).	USA, Germany and South-Korea.	1999–2007.
Congdon-Hohman (2018)	3421 respondents aged between 51 and 62.	University of Michigan's Health and Retirement Study (HRS).	USA	2006–2008.
De Preter et al. (2015)	930 people over 50 years old who are living with their partners.	SHARE.	11 EU countries: Austria, Germany, Sweden, the Netherlands, Spain, Italy, France, Denmark, Switzerland, Greece and Belgium.	2004–2005; 2006–2007.
Dingemans and Henkens (2020)	2926 working retirees (aged 60–75)	SHARE.	11 EU countries: Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Italy, Netherlands, Sweden and Switzerland.	2004–2007; 2010–2011.

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Dingemans and Moehring (2019)	11,369 retirees aged 60–75 receiving pension income.	SHARE.	13 EU countries: Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Italy, Netherlands, Poland, Switzerland, Spain, and Sweden.	2004–2008; 2011–2013.
Dingemans et al. (2017)	22,485 pensioners aged between 60 and 75.	SHARE.	16 EU countries: Spain, France, Poland, Germany, Italy, Slovakia, Slovenia, Portugal, Netherlands, Denmark, Austria, Belgium, Cyprus, Hungary, Czech Republic.	2011
Fasbender et al. (2016)	2149 pensioners aged 60–70.	Transitions Old Age Potential Study (TOP) Study.	Germany.	2013
Finch (2014)	2680 individuals above retirement age (65 for men, 60 for women).	British Household Panel Survey (BHPS).	UK.	1991–2004.
Gstrein (2023)	9389 individuals aged 65 and over.	European Quality of Life Surveys (EQLS, EUROFOUND).	28 EU.	2016

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Hansson et al. (2022)	3123 retired persons aged 60–66 years.	Swedish Health, Aging, and Retirement Transitions Study (HARTS).	Sweden.	2015–2021.
Hellevik and Herlofson (2020)	3123 retired persons aged 60–66 years.	Swedish Health, Aging, and Retirement Transitions Study (HARTS).	Sweden.	2015–2021.
Hofäcker and Naumann (2015)	3492 workers over 65, or over 40 if already retired but not prematurely retired (with full work history).	German Ageing Survey (DEAS, Deutscher Alterssurvey)	Germany.	1980–2008.
Kalenkoski and McCarty (2021)	11,700 observations (one per person per year), heads of household over 50 and working full-time.	Panel Study of Income Dynamics (PSID)	USA.	2005–2015.
Kanabar (2015)	941 workers who reported having retired at some point between the ages of 50 and 70 (unbalanced panel).	English Longitudinal Study of Ageing (ELSA)	UK.	2002–2013.

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Kantarci and Van Soest (2008)	Meta-analysis including samples from other studies (of different sizes, all over 1000 individuals aged 50+), added to an own survey of 815 workers aged 25+ selected from the CentER panel (a Dutch representative survey).	Health and Retirement Study (HRS), Retirement History Study (RHS), National Longitudinal Survey (NLS), PSID, CPS, Current Population Survey (CPS), Retirement Confidence Survey (RCS), European Community Household Panel (ECHP) and Enquete Beroepsbevolking (*Statistics Netherlands*).	Although it compares with other EU countries, it focuses mainly on the comparison between USA and Netherlands, with specific analysis for the latter.	1994–2006
Kauppi et al. (2021)	4014 public sector workers contacted 18 months before retirement.	Finnish Retirement and Aging Study (FIREA).	Finland.	2014–2019.
Klaesson et al. (2018)	4,190,298 individuals over 50.	Statistics Sweden (administrative records).	Sweden.	2001–2011.

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Leinonen et al. (2020)	10,879 workers who reached 63 years of age after 2003 (affected by a pension reform), and have reached 68 in 2015 after receiving employment income.	Finnish Centre for Pensions and Statistics Finland (cross-referencing administrative and demographic data).	Finland.	2005–2015.
Madero-Cabib et al. (2023)	2699 individuals over 60 who in the base year were below the average retirement age.	ELSA, HRS y SHARE.	11 EU countries: Austria, Belgium, Denmark, England, France, Germany, Italy, Spain, Sweden, Switzerland and USA.	2004–2016.
McLaughlin and Neumark (2018)	12,421 individuals aged 50–60, who are affected by an increase in retirement age.	Health and Retirement Study (HRS).	USA.	1992–2008.
Myllyntausta et al. (2022)	4263 public sector employees who have reached their individual pension date.	Finnish Retirement and Aging study (FIREA).	Finland.	2014–2019.

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Pengcharoen and Shultz (2010)	2869 workers over 50 years who have been in their job for more than 10 years.	Health and Retirement Study (HRS).	USA.	1992–2002.
Pettersson (2014)	Two samples of 87,995 and 93,584 individuals aged between 56 and 107.	LINDA database (representative panel of 3% Swedish population, containing detailed information on income).	Sweden.	1994–2007.
Platts et al. (2019)	2046 individual aged 50–69 years who were born in 1920–1959	British Household Panel Survey.	UK.	1991–2015.
Pleau (2010)	3590 over the age of 50.	Health and Retirement Study (HRS).	USA.	1992–2006.
Qi et al. (2019)	12 million people over 18 years of age, born between 1930 and 1980, resident in Sweden at the time of the interview.	Swedish Interdisciplinary Panel (SIP, data from several administrative registers on income, taxes and employment).	Sweden.	1981–2011.

(*Continued*)

Table A1. (*Continued*)

Reference	Sample	Data sources	Countries	Period
Radl (2013)	10,112 individuals aged between 55 and 75.	SHARE.	12 EU countries: Austria, Belgium, Denmark, France, Germany, Greece, Italy, Israel, Netherlands, Spain, Sweden, Switzerland.	2006–2007.
Smeaton et al. (2018)	Individuals over 50 for different countries: England (10,361), Italy (2852), USA (19,643).	SHARE, English Longitudinal Study of Aging (ELSA), American Health and Retirement Survey (HRS).	England, Italy and USA.	2004–2012.
Topa et al. (2014)	5403 respondents aged 50 and over; 634 selected for longitudinal analysis.	SHARE.	11 EU countries: Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden, and Switzerland.	2004, 2006.
Virtanen et al. (2022)	1953 public sector employees whose statutory retirement date was between 2014 and 2019.	Finnish Retirement and Aging (FIREA) study.	Finland.	2019
Zhao and Burge (2021)	33,807 individuals aged between 51 and 69.	Health and Retirement Survey (HRS).	EEUU.	1991–2010.

Source: Prepared by the authors based on data from the systematic review.

Table A2. Main contributions of the articles examined: concepts and micro factors

Reference	EWL concept	Micro-level factors analysed
Albanese et al. (2020)	Gradual retirement: workers over 50 (mainly from the private sector) that reduce their working hours by 50%, 80%, or totally, and supplement their salary with a public pension.	Sex, age, occupation, type of household.
Axelrad (2018)	Late retirement: working after statutory retirement age.	Year of birth, health, age, education, marital status, household wealth.
Berglund et al. (2017)	Prolonged working life: probability of staying in their jobs after reaching the age of eligibility for old-age pension.	Type of employment (public or private sector), working hours, type of contract, self-reported health, individual income, household income, level of education, year of birth, age, level of education, marital status, household wealth.
Boveda and Metz (2016)	Bridge employment: transitional work that occurs between full-time employment in a career and complete labour force withdrawal.	Sex, age, education, marital status, health, total household wealth.
Brown et al. (2014)	Working in retirement: workers over the age of 50 that consider themselves to be working for pay in retirement.	Self-reported health, age, sex, marital status, presence of children under the age of 18, older care responsibilities, ethnicity, adjusted household income, working hours, job satisfaction, job characteristics (job demands, job control, social support), occupation.

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Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
Burkert and Hochfellner (2017)	Post-retirement: taking a job after officially starting to claim old-age pension benefits; individuals who have worked for at least 30 days in the first 3 years of their retirement or who are jobseekers.	Seeking financial security (wage at the end of the career job), seeking continuity (days of unemployment relative to days in the labour force over the life course; last work status prior to retirement; gap in days between the last job prior to retirement and entry into retirement), seeking work ability (health and employers' characteristics); control variables (sex, level of education, nationality, birth cohort, duration of the career job, occupation, working time).
Cahill et al. (2008)	Bridge job, gradual retirement, and postponement of retirement: reduction of employment participation before complete retirement (combination of part-time employment and pension benefits).	Cohort, age, sex, level of education, self-reported health, marital status, working status of spouse, presence of children in the household, type of pension, health insurance, wage, occupation, wealth, housing tenure.
Cho et al. (2016)	A middle step between full-retirement and unretirement: continuity after retirement (working and receiving a public pension at the same time) and 'hopping postretirement' (repeatedly shifting between employment and non-employment).	Sex, age, level of education, marital status, occupation, type of pension (public vs. private).
Congdon-Hohman (2018)	Unretirement: return to work (either part-time or full-time) after full retirement.	Demographic characteristics (age, sex, race, marital status, level of education), health (own and spouse's self-reported), dummy for receiving a pension, health insurance, household wealth, household size.

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Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
De Preter et al. (2015)	Retirement timing: age at which individuals self-report being retired.	Sex, age, level of education, care responsibilities, health status (respondent and partner), working hours (full-time or part-time), volunteer work, household measures (age gap between partners, household size, household income).
Dingemans and Henkens (2020)	Post-retirement or working after retirement: working beyond the statutory pension age, receiving old-age pension benefits.	Sex, age, level of education, marital status, average annual pension income by quartile, severe deprivation rate.
Dingemans and Moehring (2019)	Working-retiree or working after retirement: working beyond the statutory pension age, receiving old-age pension benefits.	Age, level of education, marital status, self-reported health, presence of children in the household, pension income at household level, years in employment, years in full-time employment, years in part-time employment, years in self-employment, occupation, number of jobs
Dingemans et al. (2017)	Bridge employment: participation in paid work while receiving a pension income.	Sex, age, level of education, marital status, self-reported health, pension income, daily informal care tasks (having children or grandchildren).
Fasbender et al. (2016)	Post-retirement employment: working while receiving old-age pension benefits.	Age, sex, level of education, partner status, self-reported health, previous employment status, post-retirement civil engagement, post-retirement family care, social meaning of work
Finch (2014)	Working after retirement/working after pension age: working at least 1 month beyond statutory pension age.	Birth cohort, years since reaching pension age, socio-demographic characteristics (sex, marital status, and tenure), working status of spouse, health status, access to job opportunities (access to a car and level of education), individual non-labour income, type of pension (private, occupational, public), future financial expectations.

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Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
Gstrein (2023)	Extension of working life – postretirement: probability of being employed after 65.	Sex, health, age, level of education, household composition (marital status and presence of children), life satisfaction, household size, income quartile.
Hansson et al. (2022)	Postretirement work: working full-time, a few days a week, once a week or once/twice a month while being retired.	Sex, years in retirement, retirement age, partner status, partner's working status, pension income, involuntary retirement, occupation, caregiving, objective health, subjective/mental health, reasons for working.
Hellevik and Herlofson (2020)	Older workers o post-retirement work: working beyond statutory retirement age.	Sex, age, level of education, sector affiliation/type of employment (private/public/self-employed), working hours, job satisfaction, importance of work, work motivation, work ability, retirement/exit plans, financial situation, subjective health, health change, partner's working status.
Hofäcker and Naumann (2015)	Late retirement or post-retirement work: working beyond 65 years.	Level of education, sex, place of residence.
Kalenkoski and McCarty (2021)	Bridge employment: partial retirement, defined as household heads aged 50 or older who were working between 1 and 34 hours per week.	Age, sex, marital status, race, level of education, health, non-labour income.

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Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
Kanabar (2015)	Unretirement: returning to work after being retired.	Marital status, working status of spouse, self-reported health, level of education, opportunity to work beyond retirement age, subjective financial situation, financial planning horizon, self-reported social class, pension wealth, non-pension financial wealth quintile.
Kantarci and Van Soest (2008)	Gradual retirement: gradual withdrawal from the labour market by reducing work effort. Phased retirement: progressive retirement keeping the same employer. Partial retirement: change in employer before leaving the labour market.	Sex, age, presence of children, partner status, level of education, income level, reasons for not reducing working hours before retirement (financial/economic, social, individual, company benefits).
Kauppi et al. (2021)	Extended employment: working beyond pensionable date more than 3 months and less than a year (short extension), or 1 year or more (long extension).	Sex, age, occupational status, marital status, working status of spouse, financial difficulties, social relationships, social engagement frequency, social participation, informal care giving, self-reported health, mental health.
Klaesson et al. (2018)	Timing of retirement and late-retirement: working beyond the average retirement age of a given socio-demographic group.	Sex, family type, occupation, level of education, professional status, commuter.
Leinonen et al. (2020)	Post-retirement employment: working and receiving a pension at the same time.	Sex, marital status, level of education, occupational class, housing tenure, household income, household wealth, household debt, part-time pension.

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Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
Madero-Cabib et al. (2023)	Extended working life pathways: late retirement from a full-time job (working in a full-time job beyond the statutory retirement age), late retirement from a part-time job (work beyond the statutory retirement age in a part-time job), gradual retirement (combine some kind of retirement pension with paid job).	Sex, level of education, marital status, objective health, self-reported health.
McLaughlin and Neumark (2018)	Post-retirement employment: working after full retirement age.	Level of education, cohort, sex, self-reported health, marital status, ethnicity.
Myllyntausta et al. (2022)	Extended employment: continuing working for over 6 months beyond the individual pensionable date.	Sociodemographic variables (sex, marital status); work characteristics (occupation, working status of spouse, caregiving status, part-time retirement, shift work status, good working capacity, job strain, work time control); health status, self-reported health, and mental health.
Pengcharoen and Shultz (2010)	Bridge employment: part-time or full-time temporary jobs that are held after leaving one's career employment.	Demographic/control variables (age, sex, health status, annual household income, and level of education); work-related variables (work schedule flexibility, job satisfaction, job involvement, and job seeking self-efficacy); non-work-related variables (security or certainty of retirement plans, family and marital satisfaction, attitude towards employment).

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Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
Pettersson (2014)	Unretirement: fully retired individuals can choose to re-enter the labour market (unretire) in full or partially.	Sex, level of education, country of birth, age, age at the re-entry, social allowances, housing allowances, marital status, working status of spouse, pension, household wealth, years of retirement, years of unretirement.
Platts et al. (2019)	Unretirement: reporting being retired and subsequently return to paid employment or beginning full-time work after partial retirement.	Sex, year of unretirement, cohort, age at retirement, level of education, household income, subjective financial status, housing tenure, type of pension, self-reported health, working status of spouse, care responsibilities.
Pleau (2010)	Postretirement: any paid employment after an initial self-identification as fully or partially retired.	Demographic variables (sex, race, level of education, age at retirement), occupation, individual earnings, household wealth, housing tenure, type of pension, self-reported health, joint retirement; family/household composition variables (marital status, number of children and grandchildren, and caregiving).
Qi et al. (2019)	Extending working life: to postpone retirement despite having the option to exit the labour market earlier.	Sex, level of education, health status, country of birth.
Radl (2013)	Timing of retirement.	Social class, household income, working status of spouse, number of grandchildren, sex, years of education, job tenure.

(*Continued*)

Table A2. (*Continued*)

Reference	EWL concept	Micro-level factors analysed
Smeaton et al. (2018)	Reverse retirement-unretirement: individuals who return to work after a period of self-defined full retirement.	Sex, age, income decile, marital status, level of education, self-reported health, work-limiting health problems, housing tenure, volunteer, carer, working status of spouse, number of children, child age, children living at home.
Topa et al. (2014)	Bridge employment: employment after retirement from a full-time job, but before leaving the labour market permanently. The worker must receive a salary and an old-age pension benefit at the same time.	Health, quality of life, life satisfaction, job satisfaction, bride employment quality (rewards dimension), age, sex, type of pension, type of employment (public/private sector), occupation.
Virtanen et al. (2022)	Extended employment: working beyond retirement age.	Work time control trajectories, cohort, sex, occupation, marital status, self-reported health.
Zhao and Burge (2021)	Unretirement – reversing retirement: reversal of a previously communicated retirement decision.	Working status, retirement expectations, wealth-related information (home assets, housing wealth, property taxes, financial assets, financial wealth); demographics (cohort, age, health, sex, number of children, marital status, race, level of education).

Source: Prepared by the authors based on data from the systematic review.
EWL: extension of working lives.

Table A3. Methodological dimension: countries analysed

Country	*N*
Germany	13
EEUU	12
Sweden	12
Belgium	10
Italy	10
Denmark	9
France	9
Austria	8
Netherlands	8
Spain	8
UK	7
Finland	6
Greece	6
Switzerland	6
Czech Republic	4
Portugal	3
Poland	3
Cyprus	2
Estonia	2
Slovakia	2
Slovenia	2
Hungary	2
Ireland	2

Source: Prepared by the authors based on data from the systematic review.
Note: countries only analyzed in one study are not included in the table: Malta, Latvia, Lithuania, Romania, Bulgaria, Croatia, Luxembourg and Israel.

Table A4. Methodological dimension: data sources

Database name	*N*
American HRS (U. Michigan)	10
SHARE	9
English Longitudinal Study of Ageing (ELSA)	3
Finnihs Retirement and Aging Study (FIREA)	3
American PSID	2
Britihs Panel Household Survey	2
EQLS- Eurofound	1
Belgium Social Security	1
Sweedish PSAE	1
American NSCW	1
German Social Security	1
German Socio-Economic Panel	1
German TOP Study	1
German Ageing Survey (DEAS)	1
American Current Population Survey (CPS)	1
Retirement History Study (RHS)- USA	1
Retirement Confidente Survey (RCS)- USA	1
U.S National Longitudinal Survey (NLS)	1
Swedish Health Aging and Retirement Transitions Study	1
Statistics Sweden	1
Finnish Centre for Pensions and Statistics	1
Swedish Interdisciplinary Panel (SIP)	1

Source: Prepared by the authors based on data from the systematic review.

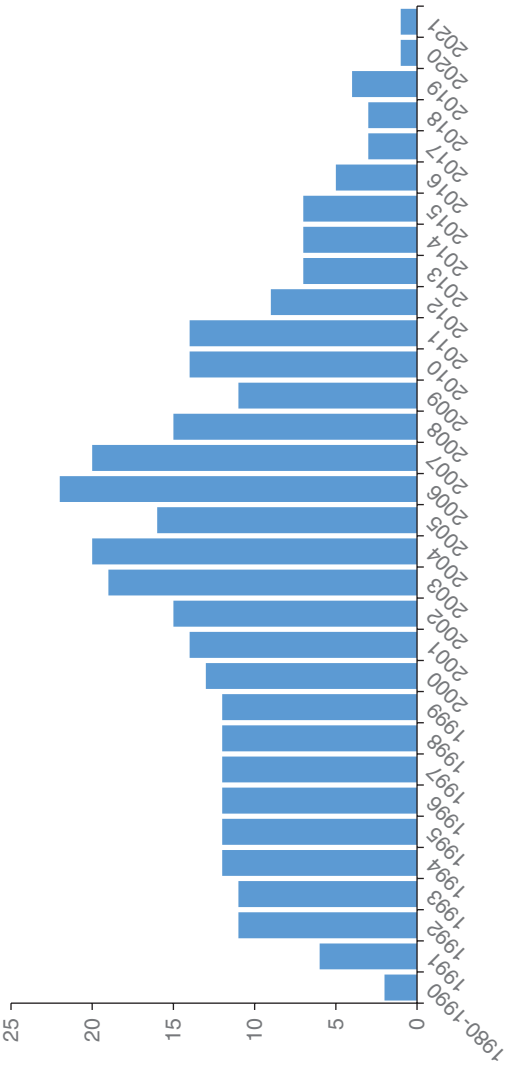

Figure A1. Methodological dimension: years analysed.
Source: Prepared by the authors based on data from the systematic review.