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SCARRING EFFECTS ACROSS THE LIFE COURSE AND THE TRANSITION TO RETIREMENT

DEDICATED TO MY GRANDFATHER ARTHUR STROSCHERER

ACKNOWLEDGEMENTS

As this thesis is about trajectories and instabilities in the life course, I want to spend some words on my own "life course" to articulate better what this dissertation means to me and in order to intensify my thanks to the addressed persons. Being a less than mediocre pupil at the end of the 4th grade, the German schooling system reluctantly assigned me to the *Realschule*, where I mostly suffered through the 5th and 6th grade. Only after many nightly study sessions with my parents, I developed some academic ambition and started to appreciate knowledge as an important resource in life. Shortly after these first hard years, I caught up on my early disadvantages and finished the *Realschule,* knowing I want to continue my education and study at a university. Three years later I graduated from the *Gymnasium* with a defined aim in my mind. I wanted to study sociology and I wanted to do a PhD eventually. This whish accompanied me throughout my studies and it was still my goal when I finished my diploma. At this point I have to articulate my deepest gratitude to Professor Louis Chauvel and Professor Dieter Ferring for enabling me the possibility to pursue my PhD studies at the University of Luxembourg. I was given a unique opportunity to do my own research with a very supportive supervision. I had the possibility to extend my qualification under very favourable conditions and I was integrated in a very productive research team. However, it was not the rich resources of the University of Luxembourg that benefited my work and my personal growth. I am indebted to Professor Louis Chauvel, whose high expectations and impetus inspired me to aim for the best results and apply high standards to my own work as well. I also want to thank Professor Bernhard Ebbinghaus and Professor Dirk Hofäcker, who provided helpful support, different perspectives and suggestions from afar and personally at many occasions. I also have to say many thanks to my colleagues and co-authors Anja and Javier. I have certainly learned as much during our work together as I contributed to it. Thanks to my colleagues Anne, Eyal and Vanessa, who helped me to enjoy work even more and also to digest some negative reviewer responses. I owe many thanks to Sabine. Her ongoing effort and hard work to support the team is incredible, but more so her friendship and loyalty.

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ABSTRACT

This thesis investigates the long-term negative effects of unemployment, labour market inactivity and atypical employment. Within the theoretical framework of cumulative advantages and disadvantages, it is outlined how life-course differentiation creates gaps between age peers and cohorts and how this leads to social inequality in old age. In the three separate, but linked studies, disadvantages across the career and their associations to retirement are analysed. The focus of the analyses is laid on the outcomes of career disadvantages in form of subjective and financial well-being. The three studies all use the Survey of Health, Ageing and Retirement in Europe. This large and multidimensional panel study provides not only prospective, but also retrospective data on European countries. The data base is employed in different combinations in the studies. In the first and second study, the retrospective wave SHARELIFE provides information on employment biography and is related to well-being indicators of the regular waves. In the third study, the persistence of disadvantages upon retirement is observed with a causal model.

The first study investigates how disadvantages are affecting careers and subjective well-being of older Europeans. In two complementary analyses, first the employment history of older Europeans is studied with sequence analysis methods to show how non-employment and part-time work shape careers and to illustrate gender differences. In a second step, indicators of timing and duration, exemplifying the accumulation mechanisms, are related to subjective well-being in old age. The results indicate that women experience more turbulent careers with more periods of non-employment and part-time employment. However, this is not reflected in lower subjective well-being in old age. Accumulation of non-employment disadvantages is far more comprehensive for men than for women. Part-time employment has an ambiguous effect for women, but is not relevant for men. In the second study, the household level is added and it is analysed how an adverse employment history is related to wealth accumulation. The results show that cumulative non-employment and employment in lower occupations has significant disadvantages for wealth accumulation in old age. However, large differences for men and women remain. Particularly, the household composition and household factors are decisive in the effectuality of these disadvantages. The third study includes the scarring question, that means if career disadvantages continue beyond the working life. The study examines whether non-employment disadvantages are still found in retirement and the extent to which well-being levels change in the transition to retirement. Well-being scores before and after retirement are obtained and unbiased effects of the retirement transition are identified. Results indicate that being unemployed before retirement is associated with an increase in life satisfaction, but presents mainly a catching-up effect compared to employed persons transitioning to retirement. Findings are robust to selection into unemployment and country differences.

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1 Introduction

1.1 Motivation

Induced by demographic change, industrialised countries are confronted with ageing populations. The decline of fertility rates with a simultaneous decline of mortality rates skews the classical population pyramid and leaves societies with fewer youth and increasingly more old. At the same time, life expectancy is rising and contributing to the *greying* of societies (UN, 2015). This development is problematized by researchers and policy makers alike. Issues are raised in terms of pension sustainability, advanced health care requirements and increasing old age poverty (Ebbinghaus, 2015). However, the rise in life expectancy does not necessarily imply living longer means living longer sickly. Improved medical treatment, age-based employment configurations and living arrangements prolong independence of older persons and reduce need for care. Hence, the terms old age and ageing are in the process of redefinition and decoupling from the implicit meaning of sick, unproductive and useless. Redefining ageing from a life-course perspective, the term *Third Age* (Laslett, 1987) connotes a life stage where individuals do not have to participate in the labour market, but are not impaired yet by sickness and can enjoy their retirement actively. The terms *active ageing* and *successful ageing* suggest that ageing is not only a biological process, which is deemed inevitably damaging, but that the quality of old age lies in the hand of the individual and can be influenced and optimised (WHO, 2002). From a population perspective, active older persons could relieve the pressure on social systems e.g. by postponing their retirement, preserving health or participating in society and hence active ageing is becoming a paradigm. The dispositions for successful ageing, though, have to be laid early in the life course (Brandt et al., 2012). The heterogeneity among the old implies that successful transition from the working ages to retirement is not an automatism. Social inequality among older populations could be therefore also a result of life-course disadvantages that are prolonged or perpetuating into old age (Chauvel & Schröder, 2014).

This thesis contributes to the current debate on challenges and potentials of population ageing by evaluating the potential scope of active ageing targets. Even tough late life employment is stimulated in many European countries (Ebbinghaus & Hofäcker, 2013), its effectuality can be diminished in case of adverse employment or health biographies. Hence, the evaluation of quality of old age and retirement has to take place from a broader view that incorporates the life-course perspective. Engagement in employment constitutes a major part of the life course and its importance for the ageing process cannot be underestimated. Employment arranges the life course (Kohli, 1994), it creates financial resources (Tophoven & Tisch, 2016) and it is crucial for health and subjective well-being (van der Noordt et al., 2014; Wahrendorf, 2014).

One of the main sources of unwell-being in the life course is established through experience of adversity in employment. Subsumed under the term *scarring effect*, disruptions in the employment biography are discussed to have long-term effects for economic resources and health. In three interrelated studies, I investigate to what extent well-being in old age is related to disadvantages in the employment biography. The first study serves this purpose by outlining differential career trajectories of retired Europeans and then relating subjective well-being to episodes of disadvantages. It shows the heterogeneity of life courses between genders, but also between welfare regimes. In the second study, disadvantages in the employment history, but also household disadvantages, are related to a - in social sciences - largely neglected form of financial well-being, namely household wealth. The last study contributes to the research of scarring effects by investigating the relevance of joblessness after the retirement transition for subjective well-being.

Before presenting the three empirical studies, which build the centre of the thesis, I first set the scene by outlining the significance of ageing in cohort and life-course studies (*section 1.2*). The non-exhaustive overview shows that age-related processes do not only regulate inter- but also intracohort differentiation. The differentiation operates throughout the life course and is affected by historical context and social institutions that can allow or prevent certain trajectories. This relation is the foundation of current concepts of cumulative (dis)advantages. In *section 1.3,* I introduce and reflect on several approaches to conceptualise cumulative advantages and disadvantages. Further, *section 1.4* reviews selected empirical contributions to unemployment research using these concepts. *Section 1.5* integrates the framework with the research aims of the empirical studies. The *chapters 2* to *4* consist of the three empirical studies. They inquire in more detail how employment disadvantages across the life course are related to subjective well-being and wealth in old age, as well as the stability of those upon retirement. The thesis ends with a discussion that elaborates on the results of the empirical studies and their contributions (*section 5.1*) and reflects on limitations and potentials for future research (*section 5.2*), before it closes with a general conclusion (*chapter 6*).

1.2 Ageing and life-course research

The first cohort analysts were concerned with the explanation of social change and laid the foundation for the research of age-related social processes. Whereas ageing was traditionally seen as a natural process, that is experienced the same way by every birth cohort, cohort analyses contributed to the view that succession of birth cohorts alters the environment for ageing and also produces different forms of ageing. Ryder (1965) elaborated that social change is manifested through the succession of the young over the old and their innovative ideas and motivation. Although, he acknowledged that individuals in their birth cohorts experience different life courses, he emphasised that social change is driven by inter-

cohort differentiation. From his perspective, differentiation within a cohort was not relevant for social change. Elder challenged this view, by following two cohorts of young adults through the Great Depression in his renowned book "Children of the Great Depression" (Elder & George, 2016). He found that socio-economic circumstances produced different life courses for these cohorts. His results exemplify that life courses are not only affected by historical events, but also how the social structures interacted with the events. Hence, Elder and George (2016) stressed that

> […] although cohort differences, especially those generated by significant social disruptions, have important consequences for biography, they are not equally important for all cohort members. […] cohort members are situated in numerous contexts - only one of which is cohort – that combine to provide both opportunities and constraints for individual development.

Elder introduced a life-course perspective to youth development studies that also affected research on ageing and intra-cohort differentiation. He emphasised and implemented a view of social processes that "shape the life course and its developmental consequences" (Elder, 1994, p. 5). Although cohort membership certainly affects the life course via historical context, age structures the life course by distributing socially normative positions of individuals. Transitions like entering education, the labour market or retirement are embedded in the presumption of the appropriate timing of events. However, not only timing but also duration and order of events are crucial in the estimation of trajectories (Elder & Rockwell, 1979). As a result Elder (1998) formulated four principles of the life-course concept: *development in context of historical time and place, timing of events, linked lives* and *human agency*. Linked lives refer to the marital and family relations that shape mutual life courses. Human agency means that individuals construct their own life course by making choices, albeit these choices are constrained by social environment.

The discussed literature on the inter- and intracohort differentiation both observe social change. While the first is more concerned about social change between cohorts, the latter explains dissimilar life courses. Both look at differentiation from a process perspective, also because ageing and the successions of birth cohorts are ongoing processes. Dannefer (1987), on the other hand, also discussed the life course as determinant for late life outcomes like old age heterogeneity. He proposed that „aging [sic] be conceptualized […] as a consequence of social processes that regulate the *internal differentiation of cohorts* [sic]" (Dannefer, 1987, p. 212). Hence, social processes, that operate on different levels, can diverge cohorts and individuals over their life course. Dannefer (1987) identified accumulation of advantages and disadvantages as driving force of differentiation. This processes may operate on three levels. On the macro level, differentiation operates between larger population groups across age or occupational lines. Occupational segmentation leads to differentiation, as occupation can set possible individual trajectories not only concerning earnings, but also employment stability, career prospects, health and pension provision. On the organisational level, Dannefer (1987, p. 220) discussed the role of organisations as gatekeepers that provide resources and define roles for individuals. Therefore,

differentiation occurs by the unequal distribution of those resources and in the construction of roles that shape future trajectories. Main examples are schools, human capital intensive employment, but also public institutions like administration or penal institutions. At the micro level, mechanisms thrive a self-fulfilling prophecy of the expectations of a "stuck" or "moving" situation. Differentiation is then enforced by the adaptation of individuals to their situation. Hence, individuals adapt to social structures that can leave them behind or promote their beneficial situation.

1.3 Concepts of cumulative advantages and disadvantages

Several authors use the concepts of cumulative advantage and disadvantage[1], to explain life-course differentiation and ageing heterogeneity. However, they employ different formalisations and mechanisms. Among one of the first to recognise accumulative processes that lead to differentiation was Merton (1968), who also coined the term *Matthew effect*[2]. He observed a skewed reward system in science that benefits researchers (or organisations) who were able to receive early recognition, while equally able scientists were often disregarded. This process is deepening contrasts that allow scientists to enter the research facility in the first place and benefit (or loose) from its reputation. Merton rationalised this unbalance with an enhanced function for the communication system in science. In his revision 20 years later, he acknowledged that this process of early advantage and disadvantage increases inequality of scientific recognition. He emphasised that early disadvantages are not only difficult to overcome, but may lead to an exclusion of lower strata to science if not accredited as precocious among age peers. Hence, he attributed the interaction of contextual factors (e.g. lower social class) with individual factors (e.g. lack of ability) to the persistence of disadvantages. On the other hand, "capacity, structural location and available resources" amplify advantages and divide the "haves and the have-nots" (Merton 1988, p.606). Hence, accumulative processes work in both directions.

Dannefer tried to explain increasing diversity of individuals in a cohort by building a bridge between Merton's Matthew effect and the idea of cohort differentiation. He proposed that "cumulative advantage/disadvantage can be defined as the systemic tendency for interindividual divergence in a given characteristic (e.g. money, health, or status) with the passage of time" (Dannefer, 2003, p. 327). The essence of this definition lies in two keywords. First, systemic tendency indicates an interaction between time and position, but also acknowledges that individuals are "processed" in institutions that

[1] Wherever I deviate from the expression "cumulative advantages and disadvantages" or its abbreviated version "cumulative (dis)advantages", I use the authors' own stylised version to avoid confusion between the discussed concepts.
[2] He relates this observation to a gospel: „For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even which he hath" (Merton, 1968, p. 58)

operate on different levels. Second, inter-individual divergence claims that populations or "other defined collectivities" (Dannefer, 2009, p. 194) and not the individual per se are affected by this differentiation. This means that (dis)advantage of a population is always expressed as (dis)advantage in a certain characteristic over another population. Even though the concept of cumulative advantage/disadvantage (CAD)[3] tries to explain inter-cohort differentiation, it is inherently a multidimensional concept. It firstly addresses differentiation between cohorts, based on non-normativity of ageing and unique resources and opportunities of every cohort. As individuals age within their structural realities, ageing is differently experienced from cohort to cohort. In that, Dannefer (2009) wanted to shift the view away from "microfications" of ageing, and to establish a broader view on processes that repeat themselves over cohorts. Secondly, intra-cohort differentiation, i.e. the divergence of individuals' life-course trajectories leads to heterogeneity in old age. Hence, CAD seeks to explain the existence and sources of age-specific differences between individuals in a cohort. However, Dannefer does not elaborate on specific mechanism of life-course differentiation.

This is where Cumulative inequality theory (CI)[4] expands the concept to the meso and micro level by linking it to the life-course perspective. Ferraro et al. (2009) concretised the broad concept of Merton and Dannefer by formalising a set of axioms and propositions. Similar to the view of Dannefer's CAD, CI also claims that inequality is generated by social systems and manifested over the individual life course. Ferraro and Pylypiv Shippee (2009) highlighted the importance of age as indicator of accumulative processes from an individual and cohort perspective. Unlike earlier concepts, they do not imply that advantages and disadvantages are inverse. Rather they assumed that individuals can be simultaneously exposed to risks and opportunities and that "magnitude, onset and duration of advantage and disadvantage" (Ferraro & Pylypiv Shippee, 2009, p. 335) matters in its effectuality. Unlike Merton and Dannefer, Ferraro et al. (2009) also include a resilience perspective in CI. Even if risks accumulate over the life course, individuals have access to resources and can counteract adversities. However, action equally depends on the onset and duration of disadvantages (Schafer et al., 2009). A further advancement of CI suggests that individuals are aware of inequality and will act to avoid disadvantages. Several propositions are subsumed under the different axioms which try to combine strands of the ageing, health and mortality as well as life course literature (Ferraro et al., 2009). As the propositions of the axioms rely on a variety of topics from various disciplines, they are difficult to test jointly. However, they are a source for hypotheses on specific aspects of processes and outcomes of cumulative advantages and disadvantages. Despite, and possibly even because of the broadness of CI, it is quickly adapted to the study of health, financial resources or life course events.

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[3] Also spelled "cumulative dis/advantage" by Dannefer (2009)

[4] Although CI is based on and developed from CAD, the authors speak of inequality instead of advantages and disadvantages. To avoid confusion of the concepts, I refer to the vocabulary of the authors.

Table 1-1: Axioms and Propositions of Cumulative Inequality Theory

Axioms	Propositions
1. Social systems generate inequality, which is manifested over the life course through demographic and developmental processes.	a) Childhood conditions are important to adulthood, especially when differences in experience or status emerge early. b) Reproduction is a fulcrum for defining life course trajectories and population aging. c) Influenced by genes and environment, family lineage is critical to status differentiation early in the life course. d) Cohorts provide the context for development, structuring risks, and opportunities. e) Consider inter- and intra-individual processes and use analytical techniques that explain variability on multiple levels or in multiple domains.
2. Disadvantage increases exposure to risk, but advantage increases exposure to opportunity.	a) Consequences of advantage may not be the inverse of disadvantage. b) Inequality may diffuse across life domains (e.g., health and wealth). c) Trajectories are affected by the onset, duration, and magnitude of exposures.
3. Life-course trajectories are shaped by the accumulation of risk, available resources, and human agency.	a) Human agency and resource mobilization may modify trajectories. b) Turning points in the life course may alter the anticipated consequences of a chain of risk. c) The dialectic of human agency and social structure is essential to cumulative inequality. d) Unfavourable trajectories can be mitigated by the magnitude, onset, and duration of resources; resources can also accelerate favourable trajectories.
4. The perception of life trajectories influences subsequent trajectories.	a) Social comparisons shape trajectories. b) Favourable life review linked to self-efficacy. c) Perceived life course timing influences psychosomatic processes.

5. Cumulative inequality may lead to premature mortality; therefore, non-random selection may give the appearance of decreasing inequality in later life.	a) Cumulative inequality creates compositional change in a population. b) Population truncation may give the appearance of decreasing inequality. c) Test for selection effects. d) Interpret results in light of event censoring and cohort inclusiveness.

Note: Adapted from Ferraro et al. (2009)

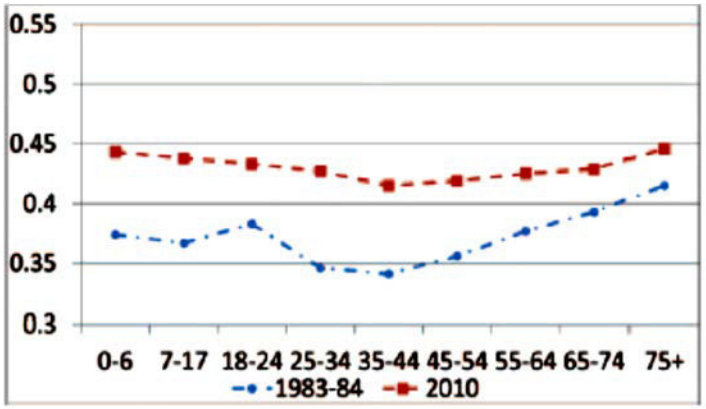
In their undertaking to provide formal evidence of cumulative advantages and disadvantages, DiPrete and Eirich (2006) distinguished two forms of cumulative advantage (CA) processes. The authors build their work on Merton's original approach, focusing on inequality generation by accumulation of resources across time. According to DiPrete and Eirich (2006, p. 272), CA is only relevant for inequality growth if "current levels of accumulation have a direct causal relationship of future levels of accumulation". This means CA can increase the gap between individuals or groups of individuals. The authors illustrate two possible forms. The first relies on a "strict" logic of Merton who formulated the future growth of advantages by current rate of accumulation. In other words, accumulation of advantages creates differences between groups, but they are - based on the idea of compound interest - increasing exponentially. This resource-based perspective is different to the second from, which includes an interaction with disadvantage exposure. DiPrete and Eirich (2006) associate the second form to the sociological literature and particular to the work of P. M. Blau and Duncan (1967), who observed status attainment. The main assumption of the "Blau-Duncan" form of CA relates inequality to initial group differences (black versus white) or exposure (living in poor neighbourhood versus living in good neighbourhood) that is interacted with status returns. Returns are different for advantaged and disadvantaged groups. Since this type of accumulation is associated to exposure and not on rate of accumulation, inequality between groups or individuals is not enlarging mean differences.

The broad applicability of cumulative advantages and disadvantages concepts to different disciplines and with various indicators led to a multitude of studies on life-course inequality. Authors frequently enhanced the main idea of accumulative processes by interactions with social structure. O'Rand (1996) incorporated structural and institutional arrangements as gatekeepers and resource allocators. The educational system and labour market create class structured societies that have an unequal distribution of resources. O'Rand (1996) argued that the interaction of institutional structures and membership in a disadvantaged group reinforces old age inequality. Additionally, the author also recognised the influence of the timing, duration and pace of life events in the accumulation of advantages. Therefore, she placed an emphasis on instable career trajectories that deviate from the normative life courses Those are usually built around a full-time male employment biography. Experience of instabilities can deviate life courses

and foster disadvantage accumulation. This structure marginalises for example women and minorities and makes them more vulnerable to unemployment and non-standard work (O'Rand, 1996, p. 233). Discussing evidence for old age heterogeneity, O'Rand (1996) concluded that income inequality has been reduced among the young and middle ages, but the differentiation process in younger cohorts still leads to high inequality in old ages.

Crystal and Shea (1990) present similar results and show a skewed distribution of old age income sources. Older persons in lower income quintiles disposed of fewer sources of private pension or wealth than individuals in higher quintiles. Even tough governmental Social Security benefited US Americans quite equally, accumulation of pensions and assets outweighed redistributive measures. The study of Crystal and Shea (1990) comes close to the second form of cumulative advantages conceptualised by DiPrete and Eirich (2006) since they interrelate the disadvantages of status, education and race with career disadvantages over the life course. In the replication of their 1990 study, Crystal et al. (2016) confirm that income inequality is still the highest among people aged 65+. Figure 1-1 shows that inequality has increased for all age groups between 1983/84 and 2010, but the inequality between middle and old age accelerates faster than between youth and middle age. Consequently, the study provides evidence for intra- and inter-differentiation processes of cumulative disadvantages and the relevance of cohort-based investigation of ageing.

Figure 1-1: Gini coefficient by age, 1983-84 and 2010



Note: Adapted from Crystal et al. (2016)

1.4 Scarring effects of unemployment

The term *scarring effect* does not originate from the core concepts of cumulative advantages and disadvantages by Merton and Dannefer, nonetheless it is frequently applied to study unemployment disadvantages from a long-term perspective. Unemployment scarring has been formulated most prominently by Ellwood (1982) to explain labour market inequality among youth. Even though scarring refers to persisting unemployment disadvantages, Ellwood did not elaborate on the accumulative process per se. However, he assumed that early unemployment induces later unemployment, hence creating an unstable life course. Different than the life-course perspective, which relates long-term disadvantages to an interaction of social structures and institutions, Ellwood (1982) relied on economic labour theories as framework for scarring. Human capital theory, for example, proposes long-term consequences of

unemployment due to the failure to invest early in capital accumulation. The theory of dual labour market suggests that low labour market attachment increases future risk. Ellwood demonstrated that unemployment episodes immediately after school exit increase the probability of unemployment up to four years later. With advanced methods, he could decompose this disadvantage into individual heterogeneity and "state dependence". State dependence can be understood as persistent disadvantage. The main results confirmed a cumulative advantage of employment, since early employment fosters later employment. Yet, a long-term scarring effect of unemployment is only evident if looking similarly at inactivity (Ellwood, 1982, p. 372). However, in terms of wages, the results show a clear scarring effect of early unemployment. Gangl (2006) also employed the concept of wage scarring and provided evidence of long-term wage losses after unemployment episodes.

Chauvel (2010) integrated the idea of scarring effects into the broader concept of inter-cohort differentiation and the life course. He analysed how early career instabilities endanger the life courses of youth and the generational sustainability. In France, cohort inequalities are enforced through socio-economic advantages of the old (birth cohorts 1945) over the young (birth cohorts 1970). Although young cohorts dispose of higher educational credentials, they receive less returns to their higher education compared to older cohorts. At the same time, youth is confronted with higher unemployment risks. The economic difficulties of younger cohorts project their future difficulties in old age and hence create rifts between "social generations" (Chauvel, 2010, p. 82). Chauvel also problematized the sustainability of welfare institutions, since the retirement of larger cohorts with favourable pensions will be an extreme burden for young cohorts with labour market difficulties. Chauvel and Schröder (2014) provided confirmation for these cohort inequalities also for other European countries. They can be found frequently in countries with Conservative and Southern welfare regime types. Brandt and Hank (2014) made use of longitudinal life-course data of the Survey of Health, Ageing and Retirement in Europe. They studied to which extent unemployment scarring is moderated by labour market policies in different welfare regimes. Firstly, they found an increased risk of repeated unemployment exposure, independently from career stage. Hence, the risk of unemployment accumulates over the life course. Secondly, the authors illustrated different institutional patterns of unemployment. Whereas, youth unemployment was higher in Mediterranean countries, it was less prevalent in mid and older ages. The opposite is true in Conservative and Socio-Democratic countries. These two studies highlight that scarring may not be a uniform process across the life course and between countries.

The idea of cumulative disadvantages of unemployment has not only been applied to future unemployment risks and monetary measures. A large body of literature studies persistent disadvantages of unemployment with indicators of health and subjective well-being. As discussed by Ellwood (1982), long-term effects of labour market disadvantages can only be revealed if estimates are unbiased by individual heterogeneity. Therefore, true scarring effects are difficult to identify. This is particularly the case for subjective measures like life satisfaction or mental health, because they can be affected by or

lead to unemployment. A way to resolve reverse causality is to use longitudinal data and model unemployment as an exogenous event. Clark et al. (2008) employed this approach with the longitudinal data of the German Socio-Economic Panel and find that individuals do not adapt to unemployment, even though they adapt to other negative life events like divorce or widowhood. This disadvantage is still present even if individuals have been re-employed (Clark et al., 2001). Strandh et al. (2014) applied a model of accumulated exposure to unemployment to Swedish longitudinal data of 27 years follow up. After measuring exposure to unemployment at three different career stages, they found high mental health disadvantages for individuals with multiple unemployment episodes. This study, although restricted to a single Swedish birth cohort presents evidence of the cumulative disadvantage of unemployment. Nurius et al. (2015) also studied health inequalities with a cumulative disadvantages framework. They related their study more closely to the framework of Ferraro and Pylypiv Shippee (2009) and their interaction of exposure to stressors and social disadvantage. The measure of cumulative disadvantage is composed of 12 social stratification or discrimination experiences, including race/immigration, low income, education, gender, disability and others. Therefore, the authors applied a cumulative (dis)advantage approach in the "Blau-Duncan" form (DiPrete & Eirich, 2006). They showed that accumulating social disadvantages increased risks for physical and emotional health.

In conclusion, the idea of scarring and the framework of cumulative disadvantages are not only applied in studies of "objective" well-being, but also with subjective measures. A part of these studies defined scarring as persistent disadvantage of unemployment. This approach is common in the economic literature. Even though scarring in this literature implies recurring unemployment, authors do not explicitly refer to the accumulation of disadvantages, i.e. the exponential increase in the sense of a "strict" Mertonian CA(DiPrete & Eirich, 2006). Instead, for example Clark et al. (2001) assumed a long-lasting strain. Studies in the field of epidemiology and gerontology however imply a cumulative effect of unemployment. Cumulative (dis)advantage employs a more dynamic life-course perspective, which includes timing, duration and resilience. Even though both concepts have been developed alongside, they can be integrated in the study of old age inequality. Hence, I speak of cumulative disadvantages if an accumulative process is assumed and of scarring if I refer to a persistent disadvantage, whose shape is unknown.

1.5 Three studies in the framework of cumulative advantages and disadvantages

The concepts of cumulative advantages and disadvantages provide a unique framework to study long-term consequences of adverse employment biography. Albeit the concepts differ in the degree of formalisation and core mechanisms, their main focus lies on the explanation of differentiation across the life course and old age heterogeneity. The empirical studies in this thesis, employ different strategies to

study (dis)advantage accumulation and life-course differentiation. The first study (Chapter 2) demonstrates two ways to study the accumulation of career disadvantages. First, it outlines the different employment biographies of older cohorts from a process perspective. Second, it relates the adverse career patterns to retirement outcomes and this way studies mechanisms of accumulation. In order to identify how careers are differentiated through disadvantages across the life course, the occurrence and stability of joblessness and atypical work is investigated. This is done with different methods of sequence analysis. By applying a holistic life-course perspective, sequence analysis provides an overview of the dynamics of the careers and how disadvantages shape the employment biography. With this approach, the differentiation becomes graphically visible and diverging biographies can be identified. The clustering and graphical analyses of sequence analyses are powerful tools to study the life course. However, to also include possible long-term effects, this approach can be enriched by statistical inference methods. Several indicators of accumulation are built to analyse possible associations of life-course disadvantages with subjective well-being in retirement. As proposed by Elder and O'Rand (see section 1.3), the life-course trajectories are determined by timing, duration and pace of events. Timing and duration of employment disruptions can be observed with the data at hand. Hence, the importance of event timing is acknowledged by dividing the career in an early (15-24 years), main (25-50 years) and a later career stage (50-60 years). It was tested if early disadvantages could be either counterbalanced over time or accumulated and prolong into later life. Additionally, the durations of disadvantages are observed in average length and frequency of exposure, since not only timing but also length could be crucial. These indicators were related to subjective well-being to measure an accumulative effect of disadvantages.

In the second study (Chapter 3), the research strategy of the first study is enlarged by a structural perspective. Using a similar life-course approach, the complete employment history is observed by using indicators of accumulated advantages and disadvantages. However, the emphasis of the second study lies on the interrelation of (dis)advantages and household structure. This research strategy pertains to the idea that individual life courses are interrelated in a common household or family and that individuals act within these structural realities. This study incorporates the theory of Cumulative inequality by Ferraro and colleagues and investigates household wealth as a multifaceted inequality indicator. This measure combines several components of life-course (dis)advantages. At first, wealth is generated by individual or joint income, which is -amongst others- enabled by stable employment biographies. Since it is a household measure, individual employment biographies of household members have to be evaluated jointly. Next to the individual perspective, a further aim is to evaluate how household members contribute to common wealth and especially how gendered careers are related to wealth advantages and disadvantages. Therefore, the career disadvantages of couples are estimated at the same time and in relation to each other. Another dimension of wealth is intergenerational transmission of advantage. Wealth is not necessarily generated with own labour. It can also be established and increased

with inter-vivo gifts or inheritances. Hence, the second study interrelates the impact of employment disadvantages and inheritance reception.

Study 3 (chapter 4) takes on another approach within the larger framework of cumulative advantages and disadvantages to investigate old age heterogeneity. It examines the scarring hypothesis upon retirement under consideration of individual heterogeneity. That is, if the disadvantages of unemployment are not only related to retirement well-being, but if they are also extended. While section 1.4 discussed the identification of scarring effects in youth and in the working ages, Study 3 adds to this literature and studies scarring upon the retirement transition. Unemployment is connected to a variety of disadvantages. However, the retirement transition omits the risk of future unemployment or career disruption for older persons. The last study therefore investigates if financial and health disadvantages of unemployment prevail in retirement. Study 1 and 2 relate episodes of non-employment in the career to lower subjective well-being and lower wealth in retirement. They investigate the accumulative effects of (dis)advantages. The third study in the thesis looks on the persistent disadvantage after the retirement transition of disadvantaged groups compared to advantaged groups.

Throughout the thesis, disadvantages are observed from three perspectives and applied to all empirical analyses: variation of disadvantage, gendered life courses and national differences. First, it is differentiated by type of career disadvantage, i.e. unemployment, labour market inactivity and atypical employment. While much research has been conducted on unemployment scarring, disadvantages of labour market inactivity have been mostly disregarded. However, the negative consequences of joblessness could be comparable independently of the reasons. Similarly, part-time employment, as type of non-standard employment, has received only little attention in the scarring literature. Previous research focused mainly on aspects of income and wages (Fouarge & Muffels, 2008, 2009), but less often on long-term negative consequences for subjective well-being. Second, life-course trajectories and particularly careers have to be viewed from a gendered perspective. Traditional (full-time) employment patterns represent mostly a male (and Western) life-course ideal type. Women's engagement in care and family obligations leads to quite different career patterns (Möhring, 2016). Female biographies are more often marked by instable labour market participation. Hence, the interrelation of gendered life courses and disadvantages are observed in all the studies. Lastly, a comparative perspective is included. The national context of labour markets, traditional gender role allocations and social institutions are affecting life courses and especially employment trajectories. Therefore, the interrelation of life courses and country context can produce diverse outcomes and disadvantages may be approached differently by institutions. The empirical studies incorporate all three interrelations of life-course trajectories and disadvantages into the respective research designs.

2 Cumulative disadvantages of non-employment and non-standard work for career patterns and subjective well-being in retirement[5]

Abstract

This study investigates how cumulative disadvantages of non-employment and non-standard work are affecting careers and subjective well-being of older Europeans from 13 countries. In previous research, unemployment, labour market inactivity and part-time work had negative effects, however they were seldom addressed in a common study and over the whole career. In two complementary analyses, first, the employment history of older Europeans is analysed with sequence analysis methods to show how non-employment and part-time work shape careers and to illustrate gender differences. In a second step, adverse career components are used to exemplify cumulative disadvantages on subjective well-being in old age. Data from the Survey of Health, Aging and Retirement in Europe (SHARE) is used for the analyses. After optimal matching and clustering of the retrospective employment history, the results indicate that women experience more turbulent careers with more periods of non-employment and part-time employment. The analyses of subjective well-being show that labour market inactivity and unemployment have negative effects in old age for men, but less for women. Part-time employment has differentiated effect for women, however not for men.

[5] A similar version of this chapter has been published in *Advances in Life Course Research* as Ponomarenko (2016)

3 Wealth accumulation over the life course. The role of disadvantages across the employment history

Abstract

In this study wealth is employed as an often neglected but highly stratified well-being measure in sociology. I relate the employment history and especially the accumulating disadvantages like non-employment and lower occupations to wealth in old age. In particular, I am interested in determining whether an adverse employment history prevents wealth accumulation and which factors influence wealth accumulation across the life course. I use comparative data from the Survey of Health, Ageing and Retirement and combine it with the retrospective panel SHARELIFE to retrieve information about the complete employment history. The relevance of wealth varies significantly across households and in the wider national context. Hence, a contextual perspective is included to account for the difference in wealth rates and wealth inequality in the European countries. The results show that cumulative non-employment and employment in lower occupations has significant disadvantages for wealth accumulation in old age. However, large differences for men and women persist. Particularly, the household composition and household factors are decisive in the effectuality of these disadvantages. The relation of life course employment and especially disadvantages to accumulated wealth in old aged is stronger in conservative countries than in other welfare regimes.

3.1 Introduction

Whereas the research on wealth and wealth inequality has always been dominated by economists, with a few exceptions (Skopek et al., 2012; Grabka, 2015) sociologists have been quite hesitant in using wealth as an additional indicator of socio-economic inequality. Social stratification researchers portray inequality primarily through class or status and are largely dismissive of economic inequality, which is, at most, studied with income (Erikson & Goldthorpe, 2010; Goldthorpe, 2012; Savage et al., 2013). Only recently do scholars perceive income and wealth as separate dimensions of socio-economic inequality and outcomes of social stratification[9]. This is fortunate, since wealth is an important protection against social risks, and its importance is growing in times of increased volatility of the labour market and privatisation of public expenditure. However, this holds only under the premise that wealth can be established and increased with a person's own labour and that certain groups are not excluded from wealth building. I want to study if wealth can indeed be accumulated with one's own employment and how disadvantages over the life course are related to wealth in old age.

Wealth is a stock measure that reflects accumulative processes of advantages and disadvantages occurring over the life course. These advantages could be higher education, higher income or higher status occupation, but also familial advantages like intergenerational transfers or inheritances. Contrary, periods of joblessness or lower occupational employment might inhibit wealth accumulation and create scarring effects in the future. I suggest that wealth is a particularly suitable indicator to study these long-term processes, since income is usually dependent on current labour market performance or on social transfers. Income can fluctuate in the short term and it varies considerably by occupation, industry sector and individual experience. Additionally, it reaches its peak far before retirement. Wealth, on the other hand, can be quite stable and illiquid, especially if it is composed of real assets. Although wealth is certainly increased by inflowing income, Skopek et al. (2014) showed that wealth inequality is substantially different from income inequality. Hence, wealth research adds to the literature on socio-economic inequality by highlighting that income is not sufficient to reveal social risks of atypical employment and stratification.

This paper analyses the role played by employment history in wealth building across the life course. In particular, I am interested in determining whether an adverse employment history (part-time employment, unemployment, inactivity and years in lower occupations) is related to wealth

[9] Goldthorpe (2012) elaborated how economists and sociologists differ in their perspectives on social inequality. He demonstrated that a one-dimensional view on social inequality can lead to misinterpretation of the reality. In particular, he criticised that economists fail to conceptualise economic inequality in a broader context of social relations. On the other hand, he blamed the disengagement of sociological research with current inequality studies. Goldthorpe furthermore encouraged the application of sociological concepts to inequality research.

disadvantages in old age. The paper proceeds as follows: The next section presents previous research on wealth generation and especially on the role of employment disadvantages. The section thereafter highlights the country variation of wealth. In the theoretical section, I outline the concepts of the cumulative disadvantages approach and formulate the hypotheses. The following section presents the data and describes the sample and operationalisation of variables. Next, I present the results and conclude with a discussion.

3.2 Wealth generation and employment history

Wealth can be generated in various ways. Semyonov and Lewin-Epstein (2013) showed that wealth in European countries, the US and Israel is mostly generated with labour income and inheritances (see also Kolb et al., 2013; Karagiannaki, 2015). In line with previous studies, they find confirmation for the life-cycle hypothesis (Modigliani, 1988) which assumes that wealth is accumulated across the life course and reaches its peak in old age. Next to age, also household composition is related to ownership of assets (e.g. the household size), the presence of multiple generations and intact family structures (Bover, 2010; Kolb et al., 2013).

In this study, I am mainly concerned with the effects of the employment history for wealth and concentrate on wealth in the form of real and financial assets. I analyse if periods of joblessness and adverse employment prevent wealth accumulation. Although similar studies are scarce, there is evidence for the importance of labour market participation patterns for wealth building net of income. Employment experience from adolescence benefits wealth accumulation across the life course (Painter, 2010). From both a cross-sectional and longitudinal perspective, Frick and Grabka (2009) tested the association of labour market participation and wealth with data from the German Socio-Economic Panel (SOEP). They found that employment length is positively related to net worth as well as being self-employed. In contrast, persons with episodes of unemployment and blue collar workers are disadvantaged in wealth accumulation. Between 2002 and 2007, the effect size of own labour decreased for wealth accumulation, while the negative effects of unemployment intensified. At the same time, the importance of inheritances and self-employment grew. These results suggest that labour income loses its relevance for wealth accumulation.

Besides studying the importance of the employment situation in wealth accumulation, studies researching the long-term disadvantages of non-employment are even harder to find. In their analyses of joblessness in later life, Ozturk and Gallo (2013) found that unemployment constrains wealth accumulation for at least six years after the episode. The fall in financial assets is twice as high as housing assets, but both add up to about 10% permanent loss of wealth (Ozturk & Gallo, 2013). Labour market inactivity in the form of military service is also associated with decreased wealth in old age

(Fitzgerald, 2006). Moreover, non-standard work, like fixed term or temporary employment, reduces not only the chance to accumulate wealth because of lower and unstable income, but it also decreases future job chances and mobility (McGrath & Keister, 2008). This *scarring effect* of adverse employment patterns not only lowers income, which is the foundation for wealth building, it also has non-monetary long-term consequences for career trajectories.

As women's labour market participation is less stable than men's (Simonson et al., 2011; Fasang et al., 2013; Lyberaki et al., 2013; Madero-Cabib & Fasang, 2016), their disruptive careers lead not only to disadvantages in income, but also in the accumulation of wealth (Gornick et al., 2009). In partnerships, women possess less individual wealth than their partners (Grabka et al., 2015). In German households, for example, this gaps adds up to 30,000 euros (Sierminska et al., 2010). These disadvantages can be mostly attributed to lower access to education and labour market, since women with comparable educational and occupational attainment do have an advantage over men. Additionally, Bannier and Neubert (2016) show that women, although being financially literate, underestimate their knowledge and hence could be hesitant to invest and maintain financial assets.

3.3 Wealth variation across countries

Among 18 European countries and Israel, Skopek et al. (2014) found high variation in wealth inequality and composition. One of their main results concludes that wealth rates are higher in Southern European countries and Israel, where also wealth inequality is lower. On the contrary, Northern and Eastern European countries have lower wealth rates and higher wealth inequality. Hence, the shape of wealth inequality is quite dissimilar to income inequality, where Socio-democratic welfare regimes regularly outperform liberal and Southern welfare states. Previous studies derive similar conclusions and stress that countries like Greece, Spain and Italy dispose over wealth mostly in the form of housing wealth, while Northern and central European countries rather hold financial assets (Christelis et al., 2009; Kolb et al., 2013).

Several authors related this high variation to differences in welfare state generosity that regulates economic security of individuals. If wealth is only regarded from a security function, then the need to save for harder times or for old age should be less relevant in an encompassing welfare state. Various studies confirmed a displacement of private wealth in countries with more generous pensions (Hurd et al., 2012; Alessie et al., 2013; Skopek, 2015). Using data from a large cross-national panel study, Alessie et al. (2013) demonstrated that pension wealth can displace private wealth in the form of housing or other real assets. They find an average reduction in private wealth by 47 cents per euro pension wealth. This effect is stronger in Northern European countries with a mostly social-democratic universalistic welfare system than in Southern and Eastern European countries. Further, the displacement effect is

stronger for the higher educated. Lower educated individuals, persons with career gaps and persons with limited financial literacy are disadvantaged in wealth building. This increases the exposure to risk in old age. Skopek (2015, Ch. 5) showed a small, albeit significant negative association of pension generosity and private wealth levels. She further found tentative results that the ability and the motivation to save could vary along class lines, since those in a lower socio-economic position might not be able to invest in assets (Skopek, 2015, p. 164).

Semyonov and Lewin-Epstein (2013) challenged the association of wealth and country factors. They do not find any significant effects of economic development, taxation and homeownership rates for the interaction of income and inheritances with wealth. This means that although wealth rates vary across countries, the impact of income and inheritances on wealth are mostly similar across European countries, the United Kingdom and the United States. However, in their study they do not address social policies per se, largely use indicators of economic performance which could underestimate the need for wealth accumulation versus the possibility to accumulate assets and do not address the gender differences in labour market patterns. To the best of my knowledge, no studies explicitly address the interrelation of private wealth and employment history across different countries. However, a few studies show that the employment-related disadvantages in pension wealth may be varying between different welfare states (Warren, 2006; Dewilde, 2012). In a comparative study of the Survey of Health, Ageing and Retirement in Europe, Möhring (2015) showed that the design of the pension system moderates the relevance of the employment history for pension wealth.

Wealth accumulation might vary due to the degree of decommodification provided by social policies It could also be affected by tax regulation or inheritance legislature. Hence, the country variation of wealth is difficult to explain and is beyond the scope of this paper. However, acknowledging this background against the relation of employment history and wealth accumulation, I perform comparative analyses.

3.4 Theoretical background

Originating from cohort analysis, the concept of cumulative advantages and disadvantages (CAD) seeks to explain increasing heterogeneity in the process of ageing (Dannefer, 1987). It suggests that ageing is a longitudinal process differentiating individuals in a cohort over the life course. Differentiation takes plays independently of the individuals' achievements, and it creates a "systemic" difference between individuals (Dannefer, 2003). One of the crucial mechanisms in the process is the so-called *Matthew effect*, a term which was coined by Merton (1968). He exemplified how the rewarding of scientists is not primarily associated to merit, but rather to recognition. This creates a system where the advantage of credited peers is further accumulating in the scientific community. In his structural functionalism tradition, he suggested that this process is essential to the communication of performance. Even if he

acknowledged these socially stratifying processes, Merton did not problematize it until his later revision of the Matthew effect in science (Merton, 1988). Other researchers, however, were concerned with the implications of cumulative advantages and disadvantages for the inequality in populations and individuals (Crystal & Shea, 1990; O'Rand, 1996; DiPrete & Eirich, 2006; O'Rand, 2006; Crystal et al., 2016). (1987); Dannefer (2009) emphasised that differentiation is a process driven by social systems and, hence, concentrated rather on the macro level. Ferraro et al. (2009) took this idea further and developed the theory of cumulative inequality (CI). Incorporating the life course perspective by Elder (1998), they distinguished their propositions of CI from the rather broad CAD and other life-course theories. Hence, CI is a more formalised version of CAD, which also addresses and specifies the role of human agency and individual trajectory (Schafer et al., 2009). Since the theory of "cumulative [dis/] advantage is situated at the intersection of the study of social stratification and the sociology of the life course" (Pallas & Jennings, 2009, p. 214), it allows studying advantages and disadvantages from a two-dimensional perspective, across the life course and between individuals.

I base my hypotheses on three propositions of CI. The first proposition assumes that life-course trajectories are shaped by exposure to accumulating advantages and disadvantages. This means that especially at early stages of the life course, or career in this case, disadvantages can have no impact if they are of short duration. However, with the onset of exposure, they are more likely to leave a scar or even accumulate further. Hence, the first hypothesis covers the effect of duration of individual disadvantages.

> Hypothesis 1: Increasing experience of disadvantages in the employment history is related to lower wealth in old age.

In the second proposition, it is emphasised that advantage is not the inversion of disadvantage. This means that failure to accumulate advantages is not equal to the experience of disadvantages, because "disadvantage increases exposure to risk, but advantage increases exposure to opportunity" (Ferraro et al., 2009, p. 418). Additionally, individuals must invest more effort to overcome disadvantages and achieve the same position as their advantaged peers. Hence, I study advantages in life course separately and assume that advantages can only partially compensate disadvantages.

> Hypothesis 2: Experience of advantages is positively related to wealth.

Lastly, I incorporate the assumption that inequality is a result of social systems, whose "demographic and developmental processes" (Ferraro et al., 2009) are manifesting (dis)advantages. The literature review showed that accumulation of wealth can be enhanced by individual factors, like own employment, but also through household factors like inheritances or household composition. Hence, I address how household factors contribute to wealth accumulation.

Hypothesis 3: Household factors moderate the relation of employment disadvantages and wealth.

Since employment patterns display large gender differences across countries (Lyberaki et al., 2013; Möhring, 2016; Ponomarenko, 2016), I expect to find gendered results.

Hypothesis 4: The volatile careers of women are more vulnerable to disadvantages, and the effects of disadvantages vary more strongly for women.

3.5 Method

3.5.1 Data

Data from the Survey of Health, Ageing and Retirement in Europe (SHARE) (Börsch-Supan & Jürges, 2005) is used to conduct the empirical analyses. Specifically, I combine information from the second wave (2006/07) and the retrospective third wave SHARELIFE (2008/09)[10]. Although SHARELIFE includes respondents from the first and the second wave, it deviates from the regular modules and inquires retrospectively on the life history. Information is provided on e.g. childhood living conditions, employment history and marital history. Havari and Mazzonna (2011) have confirmed the internal plausibility and historical adequacy of the SHARELIFE data. Variables that concern the employment history are provided by SHARELIFE. The dependent variable net worth as well as all socio-economic variables originate from the second wave of SHARE[11].

The sample includes 5,007 men and 4,516 women from 13 countries. While the gender imbalance in favour of men seems unusual for these older cohorts, this is due to availability of data and non-missing information about employment history. In SHARELIFE, 12,158 men (15,482 women) provided data about their employment between the ages 15 and 60. When matching Socio-demographic information and economic variables from the second SHARE wave, 1,372 (1,607) respondents could not be matched. In the next step, to exclude younger household members and frail respondents, I consider only those respondents between the ages of 50 and 80. This leads to a reduction of 782 (1,632) respondents. Because I am studying the accumulative effects of labour market participation, I consider

[10] The wealth data covers the situation before the financial crisis and subsequent recession. Therefore, the results do not apply necessarily for the wealth developments after the year 2007.
[11] Although the employment history is surveyed after the dependent variable, the chronology of events is in the correct order. Since SHARELIFE does not provide current information and only retrospective events, it cannot be used to analyse wealth and other sociodemographic variables in this wave. SHARELIFE re-interviewed only respondents of wave 1 and 2; hence, wave 4 and 5 are not consistently usable with SHARELIFE.

only retirees in my analyses as their employment has finished. In this step, a large share of the women, who perceive themselves as homemakers, are also eliminated from the sample. I define retirement as a self-perceived category and, hence, exclude other categories (i.e. unemployed and inactive). This leads to a sample consisting of more men (5,664) than women (5,129). Including only persons with non-missing information in the multivariate analyses, I arrive at the sample of 5,007 men and 4,516 women.

3.5.2 Variables and operationalisation

The variables are operationalised as follows. *Net worth* is composed of real and financial assets minus mortgage and liabilities. Real assets comprise the value of the main residence, other real estate, own business and cars. Financial assets are included in the form of bank accounts, bonds, stocks, mutual funds, retirement accounts (RA), savings and life insurance. The lowest and top 1% are excluded to reduce outliers, and the values are ppp-adjusted to 2007 euros, since the majority of interviews was held in this year. Net worth is measured at the household level. I apply an inverse hyperbolic sine (IHS) transformation that offers the advantages and interpretation of a logarithmic transformation, but it is also defined for zeros and negative values (Johnson, 1949; Pence, 2006).

Disadvantages in employment history are operationalised by summing the *years of part-time employment*, *unemployment* and *inactivity* between the ages of 15 to 60. Inactivity as a labour market status was coded if the individual was not employed, unemployed, in schooling or retired in the respective year. Thus, I observe the complete employment history of the respondents. Unemployment and part-time employment are known to have negative effects on income and job mobility (Ellwood, 1982; Gangl, 2004; Fouarge & Muffels, 2008, 2009; Chauvel, 2010; Brandt & Hank, 2014) and are therefore considered as disadvantages for the career trajectories as well as for the monetary accumulation. Since labour market inactivity is also a form of joblessness without earned income, it may also be potentially harmful. As for the disadvantages, I am further testing how the sum of *years in lower occupation* are related to wealth in old age. On the other hand, *years in higher occupations* are considered as advantages. Savage et al. (2013) demonstrate that economic resources are distributed along class lines and, more importantly, that type of economic capital differs between classes. Occupations are proxies for class membership and are operationalised by using the ISCO-88 major categories from SHARELIFE. I coded categories from 1-3 (6-9) as higher (lower) occupations and summed the overall years in these categories across the employment history. Since experience of disadvantageous employment statuses and employment in lower occupations could be correlated, these are analysed separately.

Moreover, as an advantage across the job history, I select accumulating *years in self-employment,* as having an own business is presumably tied to advantages in wealth and can even reflect intergenerational transmission of advantages. Dunn and Holtz-Eakin (2000) found that self-employment of sons is related to parental self-employment, even more than on own wealth. They identified the transmission of a taste of entrepreneurship as well as financial means that significantly shape the self-employment of sons. *Inheritances and gifts* are intergenerational advantages from social or familial background and add to the social stratification by transferring resources (money, housing, valuable goods) to the next generation. Therefore, I add a dummy to assess whether an inheritance or gift, valued at 5,000 euros or more today, has ever been received[12]. This variable was assessed at the household level.

I further include age, gender, educational level, cohort, number of children, household size, retirement length, immigrant background and marital status as Socio-demographic control variables. Age is centred on the whole sample before introduction to the analyses to avoid collinearity with employment years. *Marital status* is decisive in the possibility to pool resources like wealth and to accumulate it. Hence, I evaluate relationship information including whether a person lives with a married or registered partner, has never married, is divorced or widowed. *Educational level* was recoded from the ISCED classification into lower, medium and high education. Further, individual *old age income,* composed of public, occupational and private pensions, as well as disability pensions, unemployment benefits and any social assistance, is added as a control. The variable *retirement length,* measured in years since retirement, captures whether wealth has been used up since retirement. Table 3-4 in the Appendix provides descriptive information about the variables and sample. All respondents are retired.

3.5.3 Analytical strategy

Wealth in a shared household is a common good and provides benefits to all household members, even if members did not contribute to the wealth equally. Hence, the impact of single life courses is difficult to assess. Although some surveys (e.g. SOEP) investigate individual wealth holdings, the majority of surveys collects wealth data at the household level. This complicates the research endeavour of determining the role of individual employment history in wealth accumulation. More so, because the careers of men and women are composed differently and therefore are difficult to pool together. While men mostly experienced a full-time employment career, women of older cohorts experienced transitions in and out of the labour market more frequently. However, these two career trajectories could be interdependent in a traditional household. Women's careers could be unstable in a male breadwinner

[12] Complete question: Not counting any large gift we may have already talked about, have you or your husband/wife/partner ever received a gift or inherited money, goods, or property worth more than 5000 euros?

household; however, this might not be disadvantageous for the common economic situation. To disentangle several factors that could impact wealth on different levels, I compute multiple linear regressions to identify under which circumstances employment history has a profound effect for wealth variation.

I first compute several ordinary least squares (OLS) regression models with the pooled data of SHARE and then with subgroups using the main specification as follows:

$$y_{ihs} = \beta_0 + \beta_1 X_i + \beta_2 Z_i + \theta_c + \varepsilon_i$$

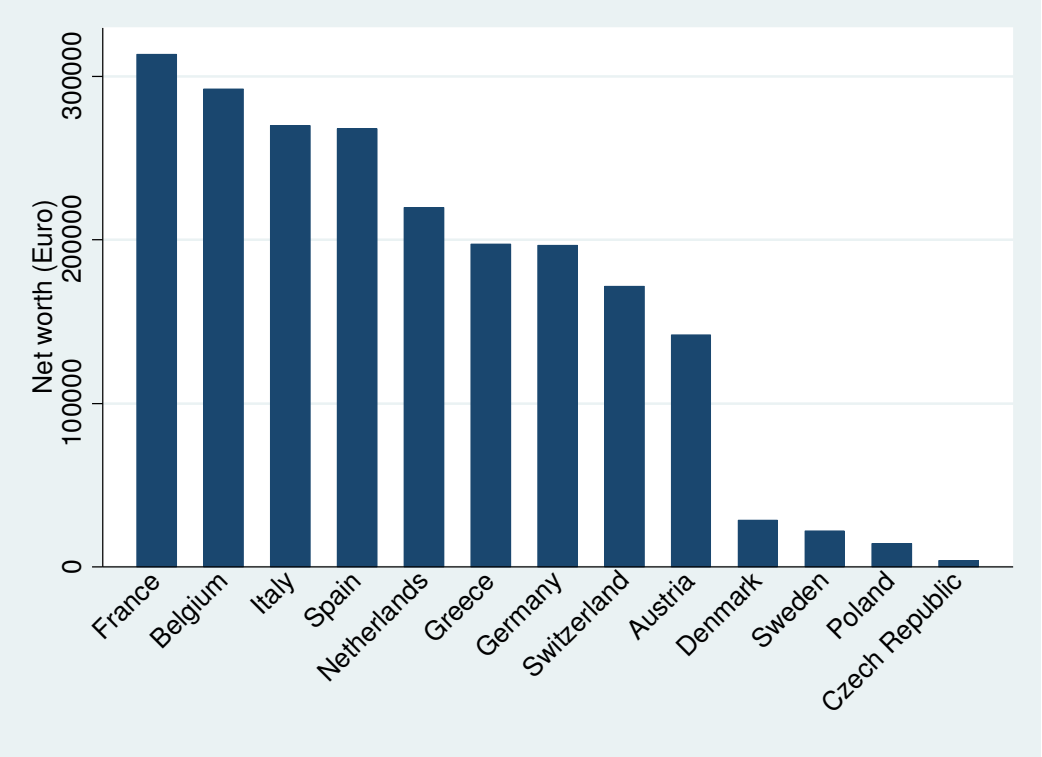
The left-hand side variable y_{ihs} indicates the inverse hyperbolic sine transformed household wealth. X_i are the individual measures of advantages and disadvantages of employment history. The set of variables included in Z_i are controls. I include country fixed effects $\theta_c$where the analyses are not split by country, since country variation is expected to be large. Lastly, an error term is added.

3.6 Results

3.6.1 Descriptive results

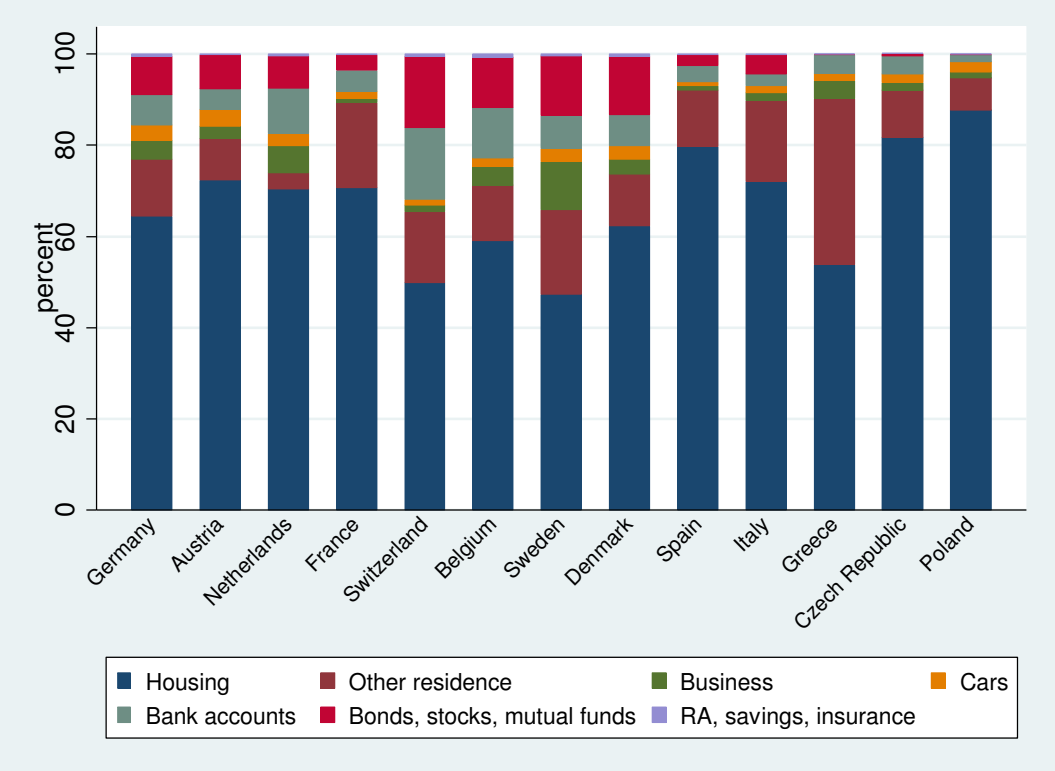
Figure 3-1 exemplifies the difference in wealth rates across the 13 countries. Similar to results of previous research, Denmark and Sweden as well as Poland and the Czech Republic have the lowest wealth holdings. It was expected that the Southern European countries have the highest wealth. Although respondents in Italy and Spain accumulated more assets than in Germany, Austria and Switzerland, it is France and Belgium which display the highest wealth values. Figure 3-2 presents more detailed information on the type of wealth holdings. With the exception of Switzerland and Sweden, the majority of wealth holdings in all other countries consists of the own housing. In Greece, also a second residence presents almost 40% of a household's wealth. Further, financial assets are of particular importance in Switzerland, Belgium, Sweden and Denmark, where individuals rely on savings in bank accounts and investments in bonds and stocks. Notable is the absence of these in Greece, the Czech Republic and Poland. However, savings in retirement accounts and insurances do not play a significant role in any of the countries.

Figure 3-1: Net worth across countries



Note: Ppp-adjusted and exchange rate adjusted values in 2007 euros.

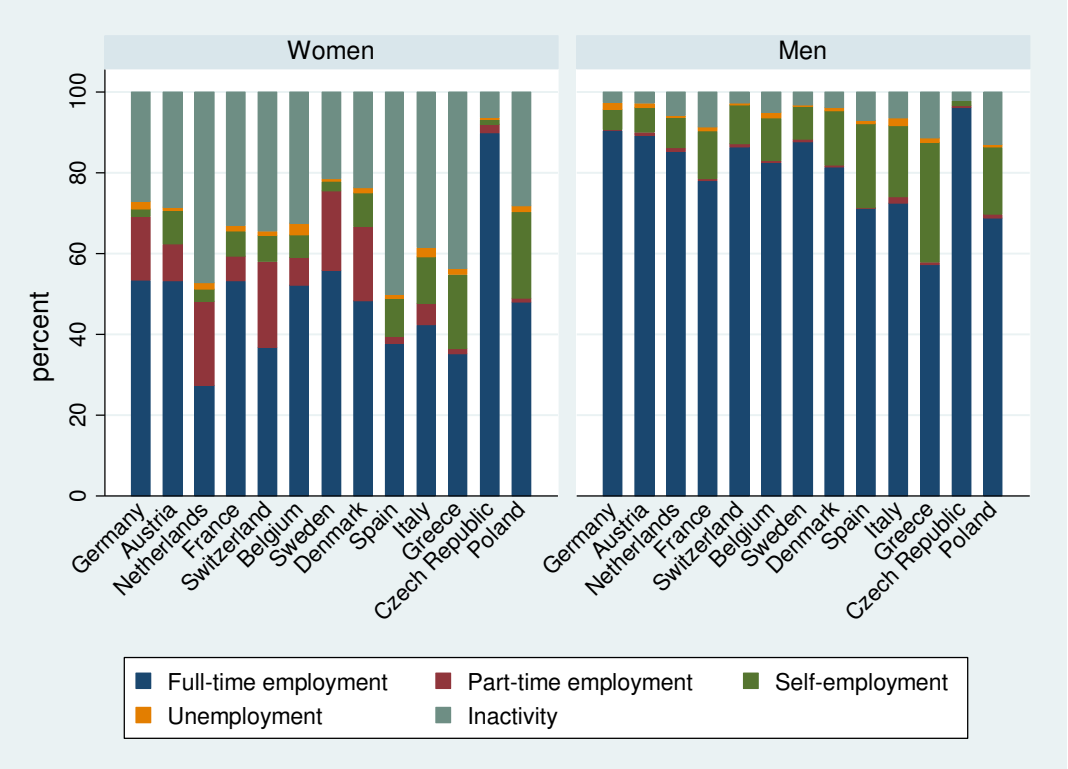
Figure 3-2: Distribution of wealth components



Although the wealth rates in Figure 3-1 showed a mostly consistent picture with previous research, no clear demarcation divides wealth type holdings across Northern, Southern and continental welfare regimes. The only difference is found in the far lower relevance of financial assets in Spain and Italy and Greece and the Eastern countries. In Figure 3-3, the differences in employment history of men and women are displayed. According to the expectations, women experience more non-employment and part-time employment, while men's careers are marked by full-time employment. Also men are more frequently self-employed than women.

A fair share of women in continental countries like Germany, the Netherlands and Switzerland work in part-time employment, while women in Southern European countries have low levels of full-time employment or drop out of the labour market completely. This could be a result of labour market and family policies that facilitate or prevent women's employment with caring obligations (Kammer et al., 2012). In the sample of men, more incidences of self-employment are found in Italy, Spain and Greece than in other countries. Polish men experience the largest share of inactivity overall. Part-time employment is not relevant in the male population. Surprisingly, being inactive is more common than being unemployed in both samples.

Figure 3-3: Employment history of men and women



Although I portray the employment history of men and women separately, these are interconnected in the sample population. About 75% of the respondents are married or cohabitating, however, employment information on both spouses are present only for 4,056 respondents of the sample, which results in 1,821 couples with non-missing information. Therefore, I can identify whose employment has larger effects on the common household wealth in the next subsection.

3.6.2 Multivariate results

Table 3-1 displays a series of regression analyses of wealth with different samples. I will discuss mainly the results of the employment history as well as the effect of inheritance or gift reception and the old age income of the individual. The first two columns in Table 3-1 show the relation of wealth and men's employment history. The first model includes the accumulated years of part-time employment, unemployment, inactivity and self-employment. For men, non-employment is significantly and negatively associated to wealth. In other words, every additional year of unemployment reduces wealth in old age by eight percent and by two percent in the case of inactivity. Although I expected that self-employment would be an advantage in wealth accumulation, there is no evidence to support this in the male sample. The second model repeats the analyses with years spent in higher or lower occupations. Occupations in the "middle range" serve as reference. Here, I can identify a cumulative effect of the advantage of higher occupations for men. According to the expectations, the reception of an inheritance or gift leads to a benefit in wealth accumulation. Further, higher old age income is positively related to wealth as well as medium and higher education. However, being unmarried, having children or having an immigrant background shows negative effects.

In the sample of women, however, I only find a significant effect of employment history negatively related to working in lower occupations. Noticeable in the women's sample is the non-significance of old age income, but a higher contribution of inheritances to wealth. The results for women suggest that they are more vulnerable because their assets are rather inherited than accumulated with own labour. These results are supported by Models 5 and 6. Also women are more disadvantaged when they are unmarried and even more so when they are divorced. The results of Model 2 emphasise that women have lower wealth when they have children and if they are born outside the country of residence. The coefficients of disadvantages are higher than those of men. As discussed in the empirical strategy section, with the division of samples by gender, only the average effects of women's and men's employment history can be shown. However, as wealth is a household commodity, it is worthwhile to evaluate the joint employment history. Therefore, Models 5 and 6 only include couples whose employment history is complete for both spouses. In order to identify the contribution of every spouse, I interacted the years of every labour market disadvantage and advantage with the male spouse. This

strategy allows to determine whether the unemployment of the wife or the husband is related to household wealth. The effect of women's (non-)employment years is the respective main effect.

Models 5 and 6 show that within the couple, it is rather the labour market disadvantages of men that lead to a reduction in wealth than women's adverse employment. Across the couples, it is the experience of part-time employment or unemployment of men that is negatively associated with household wealth. While the effect of inheritances is still strong, the effect is lower than in the analyses were conducted separately by gender. This finding could indicate that employment history gains in importance if households received a larger amount of money. Therefore, I split households into those that have received an inheritance worth 5,000 euros (or more) or not. It becomes clear that indicators of disadvantage across the career do not show significant estimates for these households that received additional money. Additionally, the advantage of working in higher occupations still benefits the wealth in old age. While the assessed disadvantages are not relevant for these households, the advantages are beneficial. Although it is beyond the scope of the paper to further analyse this effect, receiving an inheritance is indicative of having family who can provide for the next generation. In other words, experiencing the advantage of inheritance and having access to higher occupations could be interrelated (Pfeffer & Hällsten, 2012), since well-off families could provide both, and these advantages accumulate between generations. For households that did not receive any money, the disadvantages in employment history are significant. Particularly unemployment as well as lower occupations show significant effects. Moreover, negative effects of being unmarried, having children and having an immigration background are stronger for households without inheritances or gifts. Yet the advantage of higher occupations remains significant also for households that did not receive additional money through inheritances and gifts. In conclusion, not only the presence of disadvantages across the history of employment plays a significant role for wealth generation and accumulation, but also the household-related factors that moderate these disadvantages.

Table 3-1: Analyses of employment history

	Model 1: Men	Model 2: Men	Model 3: Women	Model 4: Women	Model 5: Couples	Model 6: Couples	Model 7: Inherited	Model 8: Inherited	Model 9: Never inherited	Model 10: Never inherited
	Coefficient (SE)									
Years part-time employed	-0.01		0.00		0.00		-0.00		0.01	
	(0.01)		(0.01)		(0.01)		(0.01)		(0.01)	
*male spouse					-0.05**					
					(0.02)					
Years unemployed	-0.08**		-0.02		-0.02		-0.00		-0.05**	
	(0.03)		(0.01)		(0.01)		(0.01)		(0.02)	
*male spouse					-0.06*					
					(0.03)					
Years econ. inactive	-0.02*		-0.00		-0.00		-0.00		-0.00	
	(0.01)		(0.00)		(0.01)		(0.00)		(0.00)	
*male spouse					-0.02					
					(0.02)					
Years self-employed	0.01		-0.01		-0.00		-0.00		0.00	
	(0.01)		(0.01)		(0.01)		(0.00)		(0.01)	
*male spouse					0.00					
					(0.01)					
Years lower occupation		-0.00		-0.01**		0.00		-0.00		-0.00*
		(0.00)		(0.00)		(0.00)		(0.00)		(0.00)
*male spouse						-0.00				
						(0.00)				
Years higher occupation		0.01***		0.01		0.00		0.01*		0.01***
		(0.00)		(0.01)		(0.00)		(0.00)		(0.00)
*male spouse						0.01**				
						(0.00)				

Inheritance >5000	0.64***	0.65***	0.77***	0.76***	0.58***	0.57***				
	(0.07)	(0.07)	(0.10)	(0.10)	(0.09)	(0.09)				
Old age income	0.20**	0.17**	0.07	0.08	0.15*	0.13*	0.06	0.04	0.13	0.11
	(0.08)	(0.06)	(0.08)	(0.08)	(0.08)	(0.06)	(0.05)	(0.04)	(0.09)	(0.07)
Household size	0.07*	0.07*	0.03	0.02	0.10***	0.10***	0.04	0.04	0.04	0.05
	(0.03)	(0.04)	(0.07)	(0.07)	(0.02)	(0.02)	(0.09)	(0.09)	(0.04)	(0.04)
Age	-0.03	-0.04	0.07	0.06	-0.00	-0.01	0.04	0.04	0.01	0.01
	(0.02)	(0.02)	(0.05)	(0.05)	(0.03)	(0.04)	(0.05)	(0.05)	(0.03)	(0.03)
Age²	0.00	0.00	-0.01***	-0.01***	-0.00	-0.00	-0.00	-0.00	-0.00*	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Male							-0.05	0.08	-0.02	0.09
							(0.06)	(0.06)	(0.12)	(0.13)
Marital status (Ref.: Married)										
Never married	-0.76**	-0.76**	-1.61***	-1.60***			-0.72**	-0.69**	-1.36***	-1.35***
	(0.30)	(0.31)	(0.29)	(0.28)			(0.26)	(0.25)	(0.27)	(0.27)
Divorced/	-0.48**	-0.50**	-1.21***	-1.22***			-0.72***	-0.71***	-1.07***	-1.07***
Widowed	(0.17)	(0.16)	(0.22)	(0.22)			(0.14)	(0.13)	(0.19)	(0.19)
Number of	-0.09**	-0.08**	-0.15***	-0.16***	-0.15**	-0.14*	-0.04	-0.03	-0.15***	-0.15***
children	(0.03)	(0.03)	(0.03)	(0.03)	(0.06)	(0.07)	(0.03)	(0.03)	(0.03)	(0.03)
Education (Ref.: Low)										
Middle	0.33***	0.25***	0.33**	0.23	0.33***	0.30***	0.31*	0.24***	0.36***	0.25**
	(0.06)	(0.06)	(0.12)	(0.14)	(0.08)	(0.08)	(0.07)	(0.07)	(0.08)	(0.09)
High	0.69***	0.47***	0.72***	0.55***	0.60***	0.49***	0.58***	0.39***	0.80***	0.56***
	(0.07)	(0.08)	(0.15)	(0.14)	(0.09)	(0.09)	(0.09)	(0.09)	(0.11)	(0.10)
Immigrant	-0.34*	-0.38**	-0.48***	-0.49***	-0.22	-0.24	-0.32*	-0.30**	-0.45***	-0.48***
	(0.19)	(0.17)	(0.15)	(0.15)	(0.14)	(0.14)	(0.15)	(0.14)	(0.12)	(0.12)

Country										
(Ref.: Germany)										
Austria	0.10**	0.10*	0.56***	0.52***	-0.05	-0.07	0.15*	0.16*	0.34***	0.36***
	(0.04)	(0.05)	(0.16)	(0.15)	(0.05)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)
Netherlands	0.30***	0.23***	0.69***	0.57***	0.30***	0.24***	0.49***	0.43***	0.38***	0.31***
	(0.03)	(0.03)	(0.09)	(0.10)	(0.08)	(0.07)	(0.03)	(0.04)	(0.06)	(0.06)
France	1.06***	0.96***	1.30***	1.20***	1.12***	1.04***	0.99***	0.94***	1.23***	1.15***
	(0.04)	(0.03)	(0.09)	(0.07)	(0.07)	(0.04)	(0.06)	(0.05)	(0.09)	(0.06)
Switzerland	0.17***	0.10***	0.09	0.03	-0.30***	-0.32***	0.00	-0.08**	0.07	0.04
	(0.04)	(0.03)	(0.07)	(0.06)	(0.04)	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)
Belgium	0.94***	0.87***	1.19***	1.14***	0.79***	0.75***	0.78***	0.78***	1.17***	1.08***
	(0.04)	(0.03)	(0.08)	(0.08)	(0.03)	(0.03)	(0.04)	(0.05)	(0.07)	(0.05)
Sweden	-1.42***	-1.61***	-1.98***	-2.01***	-1.66***	-1.74***	-1.99***	-2.12***	-1.73***	-1.84***
	(0.19)	(0.15)	(0.15)	(0.14)	(0.15)	(0.12)	(0.11)	(0.08)	(0.17)	(0.12)
Denmark	-1.27***	-1.32***	-1.47***	-1.46***	-1.36***	-1.41***	-1.56***	-1.60***	-1.51***	-1.53***
	(0.19)	(0.16)	(0.16)	(0.15)	(0.14)	(0.12)	(0.11)	(0.09)	(0.17)	(0.13)
Spain	1.25***	1.24***	1.86***	1.80***	1.33***	1.31***	0.96***	0.94***	1.59***	1.57***
	(0.06)	(0.07)	(0.14)	(0.15)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.13)
Italy	0.98***	0.92***	1.57***	1.47***	1.11***	1.03***	0.71***	0.67***	1.37***	1.31***
	(0.05)	(0.05)	(0.15)	(0.10)	(0.07)	(0.08)	(0.11)	(0.09)	(0.08)	(0.05)
Greece	0.78***	0.81***	1.39***	1.29***	0.59***	0.55***	0.44***	0.44***	1.20***	1.16***
	(0.05)	(0.04)	(0.17)	(0.12)	(0.10)	(0.05)	(0.10)	(0.08)	(0.10)	(0.05)
Czech Republic	-2.45***	2.64***	-2.46***	-2.42***	-2.84***	-2.97***	-3.28***	-3.39***	-2.33***	-2.43***
	(0.36)	(0.28)	(0.38)	(0.32)	(0.35)	(0.25)	(0.28)	(0.23)	(0.35)	(0.24)
Poland	-2.02***	-2.13***	-2.66	-2.71***	-2.32***	-2.44***	-2.62	-2.68	-2.47***	-2.52***
	(0.19)	(0.17)	(0.30)	(0.25)	(0.20)	(0.16)	(0.22)	(0.19)	(0.16)	(0.14)
N	5,007	5,007	4,516	4,516	3,702	3,702	3,027	3,027	6,496	6,496
R^2	0.42	0.41	0.40	0.40	0.53	0.52	0.48	0.48	0.38	0.38

Note: ***p<=0.010; **p<=0.050; *p<=0.100, robust standard errors clustered by country. Controls also include household size, retirement length and cohort.

Disadvantages of employment history show significant effects in the analyses thus far, however, the largest part of the explained variation in wealth in Table 3-1 stems from the country membership. While Figure 3-1 indicated that France, Belgium and the Southern European countries have larger wealth and Eastern European countries are mostly excluded from wealth accumulation, Figure 3-3 shows that also employment patterns vary across countries and that certain labour market statuses are more present in some countries and less in other countries. Even though the country fixed effects control for relevance of wealth, they cannot outline differential effects of employment history in the country. Model 5 and 6 as well as Fig. 3 inform us that employment patterns diverge between genders, therefore Table 3-3 and 3-4 show couples' employment divergence by country.

Wealth has a high variation across countries that could be related to the welfare state design (Alessie et al., 2013; Möhring, 2015). Therefore, I grouped the countries loosely by the extended welfare regime typology of Esping-Andersen (1990) and Ferrera (1996) to identify similarities of disadvantages in the respective welfare regime type. I again interacted gender with employment history, therefore Tables 3-2 and 3-3 include only couples. The coefficients represent disadvantages of each gender in the household. The positive relation of inheritances (and less often income) prevails across the country samples. While the contribution is higher in the Conservative countries and Denmark, inheritances and gifts are not related to wealth in old age in countries like Sweden, the Southern regimes and Poland. Income is not related to wealth in the Netherlands, Switzerland, Belgium, Sweden, Spain, Greece and the Eastern countries. So, contrary to Semyonov and Lewin-Epstein (2013) the present study finds differential results of the effect of income and inheritances for wealth. The reasons of these opposing results could be the inclusion of the employment history that could represent not only monetary disadvantages of lower or no income, but also non-monetary accumulative disadvantages of adverse employment trajectories.

Indeed, the employment trajectories are related to different outcomes in the countries. While unemployment or inactivity is negatively associated to men's careers in Conservative countries, the opposite emerged for women. Part-time employment or non-participation has positive estimates for women in Germany, Austria, France and Sweden. This could be a case of reverse causality, where lower participation is possible for women in wealthier households. In the Southern European countries, the potential disadvantages in employment history are not relevant for wealth in Spain and only male unemployment in Italy and part-time employment in Greece. Also, in the Czech Republic and Poland, disadvantages of male part-time employment and economic inactivity show negative household wealth results. However, self-employment in Greece and Poland is negatively related to wealth, while self-employment is significantly positive in the Netherlands, France, Belgium, Denmark and Italy. Table 3-3 further depicts the very divergent results by occupational years in the career. Oddly, experience of lower and higher occupations is related to lower wealth in Germany. However, men working in lower occupations have lower wealth in Austria and France. Even if they worked in higher occupations, men

still have lower wealth in Spain. In Denmark, Italy and the Eastern European countries, working in higher occupations makes a difference to wealth accumulation. Looking at the R^2 value, the specifications can explain between 17% and 33% of the variation of wealth. However, in the Czech Republic, a mere 8% can be explained. So while the relevance of wealth is fluctuating throughout Europe, its accumulation does not only rely on employment patterns and inheritances.

Table 3-2: Cumulative effects of labour market experience by country for couples

	DE	AT	NL	FR	CH	BE	SE	DK	ES	IT	GR	CZ	PL
	Coefficient (SE)												
Years part-time employed	0.01*	0.02	-0.02	0.02*	-0.01	-0.00	0.01	0.01	-0.02	0.00	-0.02*	-0.03	0.11
	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)	(0.02)	(0.06)
*male	-0.27		-0.15	0.00	0.08	-0.01	0.05	-0.04		-0.06	-0.02**	-0.12***	-0.15
	(0.20)		(0.10)	(0.02)	(0.14)	(0.02)	(0.11)	(0.06)		(0.09)	(0.01)	(0.02)	(0.11)
Years unemployed	-0.00	0.06	-0.11***	0.05*	-0.07	0.00	0.03*	-0.00	-0.04	-0.02	-0.04	0.01	-0.08
	(0.03)	(0.09)	(0.03)	(0.02)	(0.12)	(0.02)	(0.02)	(0.05)	(0.05)	(0.03)	(0.05)	(0.03)	(0.07)
*male	-0.10**	-0.02	-0.34***	0.04	-2.10*	0.07*	-1.21	-0.11	-0.07	-0.07**	-0.03	-0.04	-0.07
	(0.05)	(0.15)	(0.10)	(0.06)	(1.24)	(0.04)	(1.41)	(0.11)	(0.12)	(0.03)	(0.06)	(0.28)	(0.14)
Years econ. inactive	0.03**	0.04*	0.01	0.00	0.04***	0.00	0.00	-0.01	0.00	0.01	-0.00	-0.01	-0.05**
	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
*male	-0.02	0.02	0.01	0.00	-0.04*	-0.01	-0.01	-0.04	0.01	-0.02	0.00	-0.02	-0.09***
	(0.04)	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)	(0.06)	(0.03)	(0.03)	(0.01)	(0.01)	(0.04)	(0.03)
Years self-employed	-0.06	0.01	0.03**	0.02*	0.01	0.01	-0.00	0.02**	-0.01	0.02***	-0.02**	0.02	-0.03**
	(0.06)	(0.03)	(0.01)	(0.01)	(0.03)	(0.01)	(0.10)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)
*male	0.02	0.02	0.03*	0.01	0.04	0.02***	0.02**	0.03***	-0.01	0.01*	-0.01**	0.03	-0.04**
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.04)	(0.02)
Inheritance >5000	0.77***	0.96**	0.99***	0.64***	1.68***	0.53***	0.53	0.81***	0.34	0.15	0.11	0.42**	-0.02
	(0.21)	(0.43)	(0.35)	(0.14)	(0.60)	(0.17)	(0.34)	(0.24)	(0.27)	(0.14)	(0.22)	(0.17)	(0.61)
Old age income	0.41**	1.01	0.03	0.24**	0.45	-0.08	0.28	0.39**	0.05	0.49***	0.01	0.04	0.18
	(0.20)	(0.64)	(0.20)	(0.10)	(0.40)	(0.11)	(0.34)	(0.16)	(0.24)	(0.12)	(0.11)	(0.14)	(0.20)

Household	0.47	0.15	-0.23	0.37***	0.25	0.16	-1.89	0.31**	0.00	0.09	0.18	0.01	0.23*
size	(0.36)	(0.11)	(0.65)	(0.10)	(1.45)	(0.14)	(1.94)	(0.15)	(0.10)	(0.08)	(0.12)	(0.12)	(0.12)
Age	0.17*	-0.08	-0.29*	-0.09	-0.58*	-0.06	0.40	-0.01	0.02	-0.10**	0.14**	0.09*	0.01
	(0.10)	(0.11)	(0.18)	(0.06)	(0.31)	(0.06)	(0.32)	(0.09)	(0.07)	(0.05)	(0.06)	(0.05)	(0.11)
Age²	-0.01	0.01	0.01	0.01	0.02	-0.00	-0.02	-0.01	-0.00	0.00	-0.01**	0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.00)	(0.02)	(0.00)	(0.02)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Number of	-0.41**	-0.19	-0.07	-0.17**	0.21	-0.03	0.08	-0.02	-0.13**	-0.21***	0.21**	0.14*	-0.51***
children	(0.19)	(0.17)	(0.18)	(0.08)	(0.26)	(0.07)	(0.16)	(0.03)	(0.05)	(0.07)	(0.09)	(0.08)	(0.19)
Education													
(Ref.: low)													
Middle	-0.27	0.68**	0.52*	0.25	0.38	0.53***	0.51	0.28	0.04	0.31**	-0.17	0.14	-0.23
	(0.32)	(0.33)	(0.34)	(0.16)	(0.54)	(0.15)	(0.38)	(0.26)	(0.32)	(0.14)	(0.26)	(0.16)	(0.37)
High	0.37	0.59	0.64*	0.57***	-0.17	0.60***	0.87***	0.81***	0.72**	0.70***	0.30	0.06	-0.06
	(0.30)	(0.47)	(0.43)	(0.22)	(0.86)	(0.30)	(0.34)	(0.25)	(0.30)	(0.17)	(0.24)	(0.21)	(0.42)
Immigrant	-0.07	-0.90	1.08**	0.13	0.51	-0.10	-0.83*	0.99***	0.64	0.18	-0.00	-0.43	-0.81
	(0.24)	(0.67)	(0.51)	(0.27)	(0.50)	(0.30)	(0.42)	(0.23)	(0.63)	(0.42)	(0.57)	(0.38)	(1.23)
N	337	147	148	366	115	368	305	309	105	454	215	467	366
R^2	0.25	0.23	0.26	0.22	0.33	0.18	0.17	0.26	0.22	0.19	0.21	0.08	0.20

Note: ***p<=0.010; **p<=0.050; *p<=0.100, robust standard errors clustered by household. Controls also include household size, retirement length and cohort.

Table 3-3: Cumulative effects of labour market experience by country for occupational years for couples

	DE	AT	NL	FR	CH	BE	SE	DK	ES	IT	GR	CZ	PL
						Coefficient (SE)							
Years lower	-0.02*	-0.01	0.01	-0.01	-0.03	0.00	0.01	0.01	-0.01	0.01***	-0.01***	0.00	0.02
occupation	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.01)	(0.02)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)
*male	-0.01**	-0.02*	0.00	-0.01*	-0.04	0.00	-0.01	-0.00	-0.00	0.00	-0.01**	0.00	0.02
	(0.01)	(0.01)	(0.01)	(0.00)	(0.03)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Years higher	-0.02**	0.01	-0.01	-0.00	-0.01	-0.01	0.02	0.01	-0.04**	0.01	0.01	0.01**	0.03*
occupation	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
*male	-0.02*	-0.00	0.00	-0.00	0.01	0.00	0.01	0.02***	-0.03	0.01*	0.01	0.01	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.03)	(0.00)	(0.01)	(0.01)	(0.01)
Inheritance	0.81***	0.94**	0.99***	0.61***	1.68***	0.55	0.53	0.84***	0.43	0.19	0.11	0.43**	0.06
>5000	(0.21)	(0.41)	(0.36)	(0.14)	(0 .55)	(0.17)	(0.34)	(0.25)	(0.34)	(0.14)	(0.22)	(0.17)	(0.63)
Old age	0.19	0.85*	0.01	0.25***	-0.10	-0.12	0.27	0.29*	0.08	0.36***	0.10	0.01	0.29
income	(0.12)	(0.45)	(0.19)	(0.08)	(0.31)	(0.10)	(0.31)	(0.16)	(0.21)	(0.13)	(0.10)	(0.14)	(0.20)
Household	0.40	0.27**	-0.06	0.34***	0.67	0.17	-1.97	0.37**	-0.03	0.08	0.16	-0.00	0.19
size	(0.38)	(0.12)	(0.68)	(0.10)	(1.58)	(0.13)	(1.97)	(0.16)	(0.09)	(0.07)	(0.10)	(0.12)	(0.12)
Age	0.20*	-0.04	-0.15	-0.08	-0.34	-0.06	0.49	0.02	0.01	-0.11**	0.13*	0.10*	-0.10
	(0.11)	(0.11)	(0.19)	(0.06)	(0.32)	(0.06)	(0.35)	(0.10)	(0.07)	(0.05)	(0.07)	(0.05)	(0.12)
Age^2	-0.01	0.01	0.00	0.01*	0.01	-0.00	-0.02	-0.01	-0.00	0.00	-0.01**	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.00)	(0.02)	(0.00)	(0.02)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
Number of	-0.41**	-0.12	0.01	-0.16**	0.39	-0.03	0.08	-0.03	-0.12***	-0.21***	0.21**	0.15*	-0.54***
children	(0.19)	(0.14)	(0.20)	(0.08)	(0.28)	(0.07)	(0.15)	(0.15)	(0.05)	(0.07)	0.08)	(0.08)	(0.19)

Education													
(Ref.: low)													
Middle	-0.39	0.64*	0.39	0.22	0.35	0.54	0.19	0.27	-0.00	0.33**	-0.26	0.04	0.29
	(0.32)	(0.38)	(0.35)	(0.16)	(0.52)	(0.15)	(0.26)	(0.27)	(0.32)	(0.14)	(0.28)	(0.17)	(0.44)
High	0.20	0.31	0.46	0.48*	0.27	0.59	0.39**	0.55*	1.36**	0.75***	0.10	-0.18	0.17
	(0.31)	(0.47)	(0.47)	(0.27)	(0.84)	(0.20)	(0.22)	(0.30)	(0.55)	(0.20)	(0.25)	(0.24)	(0.49)
Immigrant	-0.14	-0.84	0.83*	0.10	0.39	-0.09	-0.84**	1.10***	0.14	0.16	0.16	-0.43	-0.90
	(0.25)	(0.61)	(0.46)	(0.25)	(0.52)	(0.29)	(0.42)	(0.30)	(0.24)	(0.42)	(0.51)	(0.38)	(1.17)
N	337	147	148	366	115	368	305	309	105	454	215	467	366
R^2	0.23	0.22	0.15	0.21	0.34	0.16	0.16	0.23	0.27	0.15	0.20	0.08	0.14

Note: ***p<=0.010; **p<=0.050; *p<=0.100, robust standard errors, clustered by household. Controls also include household size, retirement length and cohort.

3.7 Discussion

In line with previous research, I found that employment history is related to wealth in old age. Particularly, the disadvantages of non-employment and part-time employment show clear negative effects under different configurations. Hence, the first hypothesis can be confirmed. Additionally, periods of self-employment are mostly associated to higher wealth in old age. Even though, this does not apply to all samples, it shows that the advantages can be distinguished from the disadvantages. Therefore, the second hypothesis can also be confirmed. Advantages in form of inheritances or gifts play a large role in wealth accumulation. The analyses revealed that an inheritance can protect from employment disadvantages across the life course. While they have positive effects in general, the chance to receive larger amounts of money might not be equally distributed. Household composition is therefore crucial for wealth and confirms the third hypothesis. This also becomes clear if we look at couples to identify whose disadvantages contribute to wealth disadvantages. In the older cohorts in this study, women's labour market participation is quite unstable or marked by no or non-standard employment. Therefore, I assumed that they will be more disadvantaged overall and contribute to the household disadvantage. In contrast to expectations, disadvantages of men are more crucial than women's disadvantages. Therefore, the fourth hypothesis has to be rejected.

Next, I split the sample to observe differences between countries, since wealth rates differ heavily between them. In Conservative countries, employment history and inheritances explain a fair share of wealth variation in the countries. Men's labour is especially crucial for wealth accumulation, whereas women can even benefit if they do not need or want to pursue employment. For the Socio-democratic countries, the results suggest that the disadvantages do not have lasting effects, however advantages like self-employment are positively associated to wealth. The results for the Southern countries are quite heterogeneous, and although disadvantages and advantages matter, they are possibly dependent on the household structure. Finally, the results of the Eastern countries do not show a clear picture and confirm that these countries are difficult to compare, because the employment rates of men and women are uniformly high in the Czech Republic, while in Poland, female and male non-participation is high. Additionally, the welfare states are differently composed, which could be a reason why disadvantages in Poland show extensive effects.

This paper contributes to the existing literature in several ways. As studies on determinants of wealth in a sociological context and theoretical framework are rare, I add to this literature by showing that access to wealth varies by family background and success in the labour market. Furthermore, a longitudinal perspective is added to previous research on wealth based on SHARE data (Semyonov & Lewin-Epstein, 2013; Skopek et al., 2014), and I investigated how the employment history relates to other economic resources besides pensions (Möhring, 2015). This study does, however, have some limitations. Receipt of inheritances was observed; still, the true share of intergenerational transfers is hard to estimate since

they heavily influence accumulation at different points in time (Kessler & Masson, 1989). In this perspective, the use of a dummy is restricted in its interpretability but also takes this bias into account. Additionally, parents also pass on other resources or characteristics like preferences for savings. This means that advantages could be even higher due to family background. Even though I analysed the cumulative effect of disadvantages, they could play only a minor role depending on which point in time they are experienced. Hence, the disadvantage could be overcome if it is early and brief. As I use retrospective data, it is not possible to identify the causal direction. Therefore, it could be the case that persons are selected into unemployment. On the other hand, literature indicates that unemployment leaves a scar and has negative effects, even later in life. The relation of self-employment and wealth could also be similarly reversed. As Dunn and Holtz-Eakin (2000) have shown, a penchant for self-employment and also starting capital could benefit opening an own business.

Last but not least, the insignificance of women's disadvantages could be an artefact of traditional male breadwinner couples. For future generations, this constellation seems very unlikely. Hence, disadvantages nowadays could affect both partners in a couple. The expansion of literature on household polarisation indicates that non-employment and non-standard employment might be an increasing problem of households and not only individuals (Bernardi, 1999; Gregg et al., 2010; Gornig & Goebel, 2016; Horemans, 2016). This is also supported by fact that inheritance or gift receipt makes a difference in employment related disadvantages of households. Risks of non-employment and non-standard employment vary therefore not only at the individual level, but also on the household level.

3.8 Appendix

Table 3-4: Sample statistics

Variable		Men		Women	
	Range	Mean (%)	SD	Mean (%)	SD
Part-time employment years	0 – 46	0.26	2.27	3.74	8.45
Self-employment years	0 – 46	5.39	12.30	3.33	9.85
Unemployment years	0 – 43	0.43	1.72	0.64	2.84
Inactive years	0 – 46	2.46	6.16	11.48	13.93
Lower occupation years	0 – 46	21.17	18.84	11.42	15.35
Higher occupation years	0 – 46	9.68	15.26	5.10	11.51
Logged old age income	2.40 – 13.17	8.75	1.45	8.01	1.51
Age	50 – 80	69.04	5.96	68.40	6.43
Retirement length	0 – 58	9.37	6.63	10.12	7.60
Number of children	0 – 12	2.24	1.37	2.19	1.39
Household size	1 – 10	2.23	0.91	1.95	1.01
Inheritance >5000 Euro	0/1	(32.31)		(31.20)	
Education					
Lower	0/1	(49.17)		(54.07)	
Middle	0/1	(31.72)		(31.55)	
High	0/1	(19.11)		(14.37)	
Marital Status					
Married	0/1	(85.76)		(61.38)	
Never married	0/1	(3.93)		(5.49)	
Divorced/Widowed	0/1	(10.31)		(33.13)	
Immigrant	0/1	(5.25)		(6.33)	
N		5,007		4,516	

4 Increases in well-being after transition to retirement for unemployed. Catching up with formerly employed persons[13]

Abstract

This paper examines the extent to which well-being levels change in the transition to retirement depending on transitioning from being employed, unemployed, or economically inactive. Whereas transitioning from employment to unemployment has been found to cause a decrease of subjective well-being with more time spent in unemployment, it is not clear to which extent transitioning from unemployment to retirement affects well-being levels. We use two waves of the Survey of Health, Ageing and Retirement in Europe monitoring respondents transitioning to retirement and use life satisfaction as well-being measure. We portray well-being scores before and after retirement and then identify unbiased effects of the retirement transition using a First Difference model. Results indicate that being unemployed before retirement is associated with an increase in life satisfaction, but presents mainly a catching-up effect compared to employed persons transitioning to retirement. Retirement from labour market inactivity, especially sick leave, does not lead to significant changes in well-being. Findings are robust to selection into unemployment and country differences. As well-being of unemployed persons recovers after transitioning to retirement, especially the currently unemployed population should be supported to prevent detrimental consequences of economically unfavourable conditions and lower well-being.

[13] Submitted as Ponomarenko, Leist and Chauvel to *Ageing & Society*

4.1 Introduction

Unemployment in older age is of great concern for policy makers and individuals. While chances of re-employment are decreasing with age, some policies facilitate entry to retirement to withdraw older unemployed persons from the labour market. Consequently, unemployed persons are not any longer under pressure to fit the social norm of working, but they are also deprived of the benefits of employment or accept to exit the labour market under deductions. Whereas the short- and long-term negative effects of unemployment for the non-retired population are well-established in the literature, not much known though is about the effects of unemployment in the transition to retirement. Although retirement could lead to improvements in well-being due to being relieved from an unfavourable status, it may also be possible that scarring effects of unemployment extend beyond retirement, and that it takes time until well-being of formerly unemployed retired people catches up with those formerly employed. Even less is known about transitioning to retirement after a period of labour market inactivity. Therefore, we compare subjective well-being of non-employed and employed seniors in order to find if scarring effects of joblessness prevail in retirement. In the following, we will review three strands of research regarding scarring effects of unemployment, well-being in the transition to retirement, and well-being of economically inactive persons, in order to derive the research questions.

4.1.1 Scarring effects of unemployment and well-being

The first strand of research relevant for our research question is focusing on the scarring effects of trauma and negative life events, suggesting that negative events extend their consequences well beyond the life phase in which the event occurs and across the life course. This notion is closely related to the theory of cumulative disadvantages, which assumes that early disadvantages will have a long-term irreversible negative effect across the life course (Dannefer, 1987; Merton, 1988; Arulampalam et al., 2001; DiPrete & Eirich, 2006). Following this assumption, initial disadvantage prevents access to future resources and therefore leads to inequalities between individuals. This concept has been widely applied to unemployment, because (especially involuntary) unemployment could be a break in a career, possibly increasing the risk of future unemployment (Ellwood, 1982; Chauvel, 2010; Brandt & Hank, 2014), downward job or income mobility (Arulampalam, 2001; Gangl, 2006; Chauvel & Schröder, 2014), and stigmatization or social exclusion (G. Blau et al., 2013). According to this literature, unemployment scarring should be mainly relevant in the working ages, because unemployment decreases future employment possibilities by stigmatizing and signalling low skills and productivity to potential employers, resulting in re-employment in underqualified jobs with wage penalties. These disadvantages could be accumulating over time. Hence, unemployment and associated re-employment difficulties bear the risk of employment-related monetary disadvantages on the long run. Further,

unemployment also has negative impact on health and subjective well-being. Numerous studies have demonstrated the detrimental effects of unemployment on physical and mental health (Clark & Oswald, 1994; Gallo et al., 2006; Alavinia & Burdorf, 2008; Jefferis et al., 2011; Berchick et al., 2012; Daly & Delaney, 2013; Mandemakers & Monden, 2013; Strandh et al., 2014). Firstly, this could be a result of the immediate income loss or scarring-related wage penalty. On the other hand, non-monetary disadvantages like loss of social network, stigmatization or loss of identity can diminish well-being as well. Prior research revealed negative effects of unemployment on well-being proxied by life satisfaction, depression or happiness (Winkelmann & Winkelmann, 1998; Clark et al., 2001; Abolhassani & Alessie, 2013; Riumallo-Herl et al., 2014). In several studies, this effect was still persistent even if the respondents overcame the situation of unemployment and were reemployed (Clark et al., 2001; Strandh et al., 2014). These negative consequences equal a true scarring effect, because it cannot be reversed and could possibly cumulate over time.

In line with the theory of scarring effects and cumulative disadvantages, negative effects of unemployment are reinforced with multiple periods of unemployment and extend beyond working age, as they increase prevalence of depression and anxiety in retirement (Zenger et al., 2011). While future job prospects might not be relevant for the subjective well-being of the older population, an unemployment scar might lead to both monetary and non-monetary disadvantages. First, disadvantages in pension accumulation might affect level of living in retirement. Second, unemployment experiences are deviating from the social norm of work, which provides social status, identity and social participation (van der Noordt et al., 2014).

Further, effects of the transition to retirement should differ with regard to the reasons for unemployment, specifically if retiring from voluntarily chosen unemployment compared to involuntary unemployment. Here, studies are scarce although several have investigated the well-being effects of voluntarily chosen retirement compared to forced retirement. Involuntary retirement is associated with lower well-being levels compared with voluntary retirement in two studies of the German Socio-Economic Panel (Bonsang & Klein, 2012; Abolhassani & Alessie, 2013) with the second study including unemployed persons to involuntary retirement, but both studies coming to the same conclusions. Data of the United States Health and Retirement Study show that retirees forced to retire show lower well-being compared to voluntarily retiring persons (Bender, 2012). Therefore, we first hypothesize that well-being in retirement of unemployed persons will be lower compared to well-being of retired, formerly employed persons.

4.1.2 The beneficial effects of the transition to retirement

The well-being effect of the retirement transition has been under scrutiny in ageing research. Several competing theories are employed to cover the transition to retirement and its effect on well-being. Role

theory assumes that social status is connected with a role that defines the socially normalized behaviour of the role owner (George, 1993). According to role theory, the transition to retirement might have negative effects for the individual. Firstly, because the individual will lose its role as worker and therewith connected roles (as provider, as a professional etc.) that are linked to social status and self-perception. The entry to retirement is tied to a new role, which could be a substitution for the lost role. However, as a retiree, a decrease in status could be anticipated (Wang, 2007). Additionally, the future role is unknown and unclear, which creates uncertainty and hence decreases subjective well-being. On the contrary, for persons who deviate from the social norm of work, like the unemployed, the entry to retirement means a return to the mainstream role among age peers and might trigger an increase in subjective well-being.

Furthermore, continuity theory is often applied when analysing the retirement transition (Atchley, 1989). Continuity theory is at first concerned with the accommodation of change and, hence, concentrates on the adjustment process that follows retirement (Atchley, 1989; Wang, 2007). It claims that ones' identity and self-perception is quite constant and that individuals will try to maintain similar structures and a similar lifestyle compared to before retirement. Therefore, continuity theory projects that adjustment to retirement will lead to maintenance of psychological well-being. Only mal-adjustment can impair well-being after retirement. The third approach that is often called upon is the life-course theory. Originating in child development studies, it assumes that transitions in life depend on the "*historical time and place, the timing of lives, linked or interdependent lives* and *human agency*" (Elder, 1998, p.4). For the retirement transition, this means that the transition will depend on life-course context of the individual, especially earlier transitions in childhood and adolescence (Elder et al., 2003). Foremost, the success of transition could be dependent on the employment history, the marital situation and the timing of the transition (Kim & Moen, 2002). Moen et al. (2001) further stressed the gendered context of the retirement transition as employment history varies substantially for men and women of older cohorts.

The following studies put these theories to the test and find differential effects of retirement with regard to gender, labour market status and retirement timing. Whereas men seem to benefit from the retirement transition in terms of subjective well-being, women did not show statistically significant increases in well-being after retiring (Kim & Moen, 2002; Antonova et al., 2015). The strongest increase was found for men with particular low well-being prior to retirement. Kim and Moen (2002) did not find evidence that *linked lives*, i.e. conjoint employment status of a couple, is associated with changes of well-being in the transition to retirement. Pinquart and Schindler (2007) identified an overall increase in life satisfaction, which varies by pre-retirement trajectories, e.g. being unemployed before retiring was associated with an increase in well-being. With a similar model, Wang (2007) found that early retired persons first experience a decrease in well-being but an increase after some time. In sum, these studies show that the transition to retirement is a rather adaptive process with non-linear patterns and with different trajectories for different groups (Pinquart & Schindler, 2007; Wang, 2007). They show that

role theory, continuity theory and life course theory have their merit in explaining subgroup behaviour. Persons, who leave the labour market under unfavourable conditions express an increase in well-being, although it might not be stable. Persons, who are prepared for the retirement transition experience largely no change in well-being. Therefore, it is important to make a distinction between groups of retirees.

While many studies show that entry to retirement is largely beneficial for individual well-being, most studies do not control for the endogeneity of retirement, hence if retirement is anticipated and therefore appreciated. However, a short list of studies uses an Instrumental Variables approach to control for endogeneity of retirement and they confirm that retirement increases financial and subjective well-being of older persons, controlling for legal retirement incentives (Latif, 2011; Fonseca et al., 2014; Mokyr Horner, 2014). Comparing employed and unemployed older adults and in line with the notion of scarring effects, Hetschko et al. (2013) found a significant increase in life satisfaction upon retirement for both retiring persons formerly employed and formerly unemployed, although initial life satisfaction levels of the formerly unemployed are lower compared to formerly employed person and stay lower over time. We therefore hypothesize that the transition to retirement is beneficial for unemployed persons, and well-being increases after transitioning to retirement of formerly unemployed persons.

4.1.3 Negative effects of labour market inactivity

Having discussed the negative effects of unemployment and involuntary retirement on well-being, it is highly likely that also labour market inactivity could pose a threat for individual well-being. Labour market inactivity includes all persons who are not classified as employed or unemployed (Eurostat, 1999). We will consider homemakers and persons on sick or disability leave as labour market inactive persons and exclude retirees from this definition. Labour market inactivity is not equal to unemployment in general, because inactivity could be voluntary. Nonetheless, having a job is a major source of identity formation, social status, participation in the society and access to material resources and, therefore, crucial for well-being (van der Noordt et al., 2014; Hagler et al., 2015). Thus, joblessness might also be negative for well-being outside the active labour force. Erlinghagen and Knuth (2010) emphasised that the study of labour market inactive persons allows drawing more precise conclusions about the effects of voluntary and involuntary joblessness. Following this argument, persons who label themselves not working due to permanent disability or sickness (and have been employed at least once in their life) are also included in the analyses. We assume that joblessness plays a role in lower well-being in this group of respondents, even when health is controlled for, because economically inactive persons are (like unemployed persons) excluded from the labour market, and this could be associated with stigmatization or identity incompleteness. Nevertheless, only few studies

investigate the negative effects of labour market inactivity on subjective well-being. Economic inactivity besides unemployment had a negative impact on mental health of prime age workers in 5 countries (OECD, 2008). Economically inactive and disabled men and women as well as female homemakers reported lower well-being levels compared with employed men and women (Stam et al., 2015). However, two studies examining (mostly female) homemakers and their happiness and life satisfaction showed higher happiness levels of homemakers compared to employed women (Mikucka, 2011; Treas et al., 2011). It is unclear in these latter cross-sectional studies, however, whether women have worked prior to their current status as a homemaker, and there might be a selection bias among homemakers (Mikucka, 2011). Following these studies with mixed evidence, well-being changes of economically inactive persons in the transition to retirement will be investigated without specific assumptions.

4.2 Method

4.2.1 Data

The Survey of Health, Ageing and Retirement in Europe is a longitudinal survey examining the lives of the older European population at age 50+ and has been described in detail elsewhere (Börsch-Supan & Jürges, 2005). Since 2004, five waves have been published with more than 85,000 respondents and their partners in 19 countries. This study is following persons who participated in wave 2 (2006/07) and 4 (2011/12), because the indicators for this study were not available or consistent through the all the waves. In wave 1 life satisfaction was not assessed. Wave 3 (SHARELIFE) was dedicated to assessing life histories of the respondents and did not assess life satisfaction[14]. The inclusion of wave 5 data led to a large drop in sample size and was not considered in these analyses. To provide answers to the research questions postulated, a very specific sample was retained. Individuals who self-categorised themselves as in employment or non-employment (excluding retirement) at the first observed period (wave 2) and who categorised themselves as retired at wave 4 were included in the analysis. Thus, all individuals who were and stayed retired, employed or non-employed to begin with, i.e. did not undergo a transition from labour market to retirement, were excluded. Only persons with an employment record were included. Hence, even the inactive persons in wave 2 can retire and have pension claims. The panel structure of the data set allows it to obtain data before and after retirement of the respondents. For the present analysis, the sample consists of 2,168 participants with non-missing

[14] Analyses of frequency showed that most transitions to retirement were taking place after wave 3 (i.e. after 2009/10), and taking into account labour market status reported in wave 3 did not change the result pattern.

information aged between 50 and 70 (at wave 2) from 12 different countries of the SHARE survey. The remainder of the section will introduce and describe the dependent and independent variables.

Life satisfaction was used as dependent variable and mirrors the general evaluative aspect of well-being. On an 11-point scale, where 0 is the lowest and 10 the most positive value, the respondent is asked to evaluate his or her life satisfaction in general without specific time frame. *Labour market status* before retirement is constructed via the self-assessed "current job situation" (retirement, employment or self-employment, unemployment (and looking for work), permanently sickness/disability, homemaker). Consequently, retirement was also self-reported. Results were overall stable when retirement was defined by receipt of private, occupational or private pension. Participants who have never worked have been excluded from the sample. Time-variant control variables are financial resources, *chronic conditions* and partnership. Financial resources include logarithmised and ppp-adjusted real and financial *household wealth*, as well as logarithmised, ppp-adjusted and equivalised *household income* as provided by SHARE. *Chronic conditions* is a proxy for objective health. It is constructed by summing the number of chronic conditions a respondent has been diagnosed with e.g. heart attack, diabetes, high cholesterol, high blood pressure and others. *Living with partner* shows if a partner is present in the household. Time invariant variables are *gender* and e*ducation.* Educational levels are recoded from the ISCED 97 to low (no education, primary, lower secondary), medium (upper secondary, post-secondary) and high (first and second stage tertiary). As retirement is a potential endogenous event, it is necessary to control for the possibility to enter retirement. However, with the data at hand it is not entirely possible to control for the exact retirement scheme a respondent can make use of. Therefore, we control if receipt of different types of pensions is influencing the transition, namely receipt of *public, occupational* or *private pension* in wave 4.

Means and percentages in the analyses are shown in Table 4-1 and Table 4-2. They are pooled for the 12 countries (Austria, Germany, Sweden, Netherlands, Spain, Italy, France, Denmark, Switzerland, Belgium, Czech Republic and Poland). In Table 4-1 we compare the change in means of the dependent and control variables at the first observation t=0 (wave 2) and at the following observation t=1 (wave 4), when respondents had already retired. The means are calculated for every period separately. Hence, we compare life satisfaction of the unemployed and inactive with the life satisfaction of the employed at t=0 (and then at t=1). A first descriptive result shows that life satisfaction of the formerly non-employed is lower than that of employed persons before and after retirement. Secondly, life satisfaction is higher for all groups after retirement. Confirming earlier studies, life satisfaction is lowest for unemployed persons before retirement, but increases the most. The number of reported chronic conditions is the highest for persons that are permanently disabled/sick, but this decreases after retirement. In all other groups, this number is higher after retirement.

Table 4-1: Descriptive Statistics of means by employment status

Labour Market Status	Employed		Unemployed		Permanently Disabled/Sick		Homemaker	
Means (SE)	t=0	t=1	t=0	t=1	t=0	t=1	t=0	t=1
Life Satisfaction	8.08 (0.14)	8.20 (0.14)	6.94 (0.19)	7.48 (0.15)	7.10 (0.29)	7.49 (0.14)	7.65 (0.23)	7.90 (0.14)
Chronic Conditions	1.10 (0.04)	1.25 (0.04)	1.55 (0.13)	1.68 (0.10)	2.49 (0.22)	2.37 (0.08)	1.43 (0.08)	1.62 (0.13)
Household Wealth/10000	21.56 (5.41)	22.05 (5.69)	19.47 (4.81)	17.31 (3.98)	13.55 (4.40)	11.56 (3.44)	27.84 (2.21)	30.38 (5.28)
Eq. Household Income/1000	15.48 (3.98)	19.66 (5.40)	13.88 (3.14)	16.21 (4.18)	11.40 (3.44)	14.33 (4.77)	19.66 (3.57)	22.49 (3.77)
N	1,506		212		262		351	

Table 4-2: Descriptive Statistics of percentages by employment status

Labour Market Status	Employed		Unemployed		Permanently Disabled/Sick		Homemaker	
Percentages	t=0	t=1	t=0	t=1	t=0	t=1	t=0	t=1
Males	54.0		46.2		48.1		1.7	
Living with Partner	83.2	81.34	76.4	72.2	77.9	72.5	85.2	79.8
Low Education	31.2		47.2		47.7		58.7	
Middle Education	39.3		36.8		38.2		29.6	
High Education	29.5		16.0		14.1		12.7	
Public Pension		83.6		84.0		96.6		87.8
Occupational Pension		28.4		11.8		20.6		14.2
Private Pension		10.6		6.1		5.7		4.6
N	1,506		212		262		351	

The mean value of household wealth and income is highest for employed persons and homemakers and lowest in the group of respondents that identify themselves as permanently disabled/sick. This could be due to failure to accumulate wealth because of lack of regular income or higher spending on health costs. Household income is increased for all groups upon retirement. Regarding the distribution of educational levels, fewer employed persons have a lower educational degree compared to non-employees, where almost 60% of the older homemakers only have a primary school certificate. Next to higher risk of non-employment of lower educated persons, this could be a cohort effect because females belonging to the 1920s to 1950s cohorts probably received less schooling than their male peers. In addition, the groups of unemployed persons, disabled persons and homemakers have the lowest share of higher educational levels. Women constitute the larger share of the non-employed group, and almost all homemakers are women. The receipt of different pension schemes indicates if respondents were able to contribute to other types of old age provisions than public pension. Unemployed persons less often receive occupational pension, compared to employed persons. Economically inactive persons initially express lower well-being than their employed peers, and this difference remains stable after retirement.

4.2.2 Analytical strategy

In a first step, we determine the well-being disadvantage of non-employed persons before and after retirement. To assess the difference in life satisfaction between employed and non-employed and across time, we perform two linear ordinary least squared (OLS) regressions using specification Eq. 1.

$$LS_{it} = \propto + \beta_1 UNEM_{i,t=0} + \beta_2 DIS_{i,t=0} + \beta_3 HOME_{i,t=0} + \delta' X_{it} + \varepsilon' Y_i + c_j + \varepsilon_i \quad \text{(Eq. 1)}$$

Our specification includes on the left-hand side of the equation LS_{it}, which is life satisfaction of the respondent i at time t. On the right side, dummy variables indicate whether a person has been unemployed, or labour market inactive before retirement compared to employment. Time-variant variables are subsumed under the vector X_{it} and refer to financial resources, health level and partnership at time t. Vector Y_i combines time-invariant information on gender, educational level and pension scheme. Lastly, c_j denotes the country fixed effects and ε_i the individual error term.

Although Eq. 1 offers insights about the average differences of life satisfaction between labour market statuses, the estimates are probably influenced by individual and country level heterogeneity. A potential bias of reporting heterogeneity (Kok et al., 2012) can be addressed with a First Difference (FD) approach since we dispose of two waves of a panel study. In a FD specification, only individual change of the outcome y between t and t-1 is observed, thus before and after retirement. The advantage of this procedure is to capture the transition to retirement and hereby eliminating unobserved heterogeneity of life satisfaction levels. To analyse the change of subjective well-being of non-employed, we employ the

same dummy variables which show the change of well-being for each non-employment group. We model the change upon retirement by subtracting life satisfaction at t=0 (employed or non-employed) from life satisfaction at t=1 (retired). Additionally, we need to control for changes that might affect well-being between these two time points, e.g. worsening health or income situation. Therefore, we control for any changes in wealth, income, marital status and health upon retirement. The FD transformation requires time variant variables to be present in deltas (i.e. changes). This concerns the dependent variable, as well as *household wealth, household income* and *chronic conditions*. The delta of *living with a partner* indicates change in two directions. Either a person reported being single in the first observation and reported being in a partnership in the second observation or the other way around. The latter was experienced in 119 cases, where the first was experienced in 19 cases. Therefore, Δ*living with a partner* has been recoded to a dummy equal to one if a person left the household and equal to zero if no change occurred or a partner joined the household. Time-invariant variables are differenced out.

$$\Delta LS_i = \propto + \beta_1 UNEM_{i,t=0} + \beta_2 DIS_{i,t=0} + \beta_3 HOME_{i,t=0} + \delta' \Delta X_i + \Delta v_i \quad \text{(Eq. 2)}$$

Eq. 2 is therefore the first differenced equivalent of Eq. 1. The change in life satisfaction of respondent i is ΔLS_i. On the right side, the constant $\propto$ captures the trend effect of the change to retirement. The dummy variables of non-employment are included to identify differences between labour market statuses, differenced time-variant variables are subsumed under the vector ΔX_i and Δv_i is now the error term. In order to achieve unbiased results, we include some robustness tests with different configurations of Eq. 2. First, we differentiate between reasons of non-employment to determine potential endogeneity of being joblessness. Secondly, since Eq. 2 cannot include country fixed effects, we apply interaction effects to obtain information of country variation of the results.

4.3 Results

4.3.1 Multivariate results

Table 4-3 shows separate estimations of life satisfaction when respondents were employed or non-employed (t=0) and when they have identified themselves as retired (t=1). Table 4-3 and 4-4 include the same respondents whose information is complete for both analyses. The results of Model 1 and Model 2 show a strong disadvantage in life satisfaction for non-employed individuals before and after retirement. The highest disadvantage, but also the highest reduction in life satisfaction is displayed by unemployed respondents. Although the coefficients are almost halved in the second model, unemployed persons experience the largest negative coefficient among the non-employed. Individuals who are sick or disabled also report significantly lower life satisfaction than employed, however slightly lower than unemployed persons.

Table 4-3: Disadvantages in life satisfaction before and after retirement

	Model 1	Model 2	Model 3
	t=0	t=1	Δt=1-0
		Coefficient (SE)	
Labour market status			
(Ref. employed)			
Unemployed	-0.83*** (0.13)	-0.46*** 0.16)	0.39** (0.16)
Permanently disabled/sick	-0.50*** (0.14)	-0.44** (0.16)	0.27 (0.24)
Homemaker	-0.29 (0.16)	-0.13 (0.12)	0.12 (0.12)
Chronic condition	-0.17*** (0.03)	-0.13*** (0.03)	
ΔChronic condition			-0.04 (0.05)
Household wealth	0.07*** (0.02)	0.03 (0.02)	
ΔHousehold wealth			0.05 (0.03)
Household income	0.02 (0.02)	0.05 (0.05)	
ΔHousehold income			-0.03 (0.03)
Living with partner	0.55*** (0.10)	0.52*** (0.08)	
ΔLiving with partner			-0.71** (0.31)
Male	-0.07 (0.06)	-0.01 (0.07)	
Education (Ref. Low)			
Middle	0.20* (0.10)	-0.05 (0.07)	
High	0.18 (0.14)	0.02 (0.09)	
Pension (Ref. public pension)			
Occupational pension		0.08 (0.10)	
Private pension		-0.42*** (0.13)	
Country (Ref. Germany)			
Austria	-0.41*** (0.03)	-0.02 (0.03)	
Netherlands	0.18*** (0.04)	-0.11** (0.05)	
France	-0.39*** (0.03)	-0.66*** (0.03)	
Switzerland	0.44*** (0.04)	0.16** (0.05)	
Belgium	-0.15*** (0.02)	-0.38*** (0.03)	
Sweden	0.64*** (0.06)	0.51*** (0.15)	
Denmark	0.82*** (0.06)	0.68*** (0.13)	
Spain	-0.43*** (0.07)	-0.40*** (0.06)	
Italy	-0.20*** (0.05)	-0.44*** (0.04)	
Czech Republic	-0.32** (0.13)	-0.22 (0.23)	
Poland	-0.67*** (0.10)	-0.19 (0.15)	

Constant	6.73*** (0.35)	7.29*** (0.64)	0.19** (0.07)
N	2,168	2,168	2,168
R^2	0.20	0.13	0.02

Note: ***p<0.01; **p<0.05; *p<0.10, robust standard errors clustered by country

Earlier research was not able to find consistent effects of inactivity for subjective well-being. Table 4-3 suggests that this could be due to very different reasons for being inactive. Model 1 and 2 also reiterate results from past research that life satisfaction levels are quite different for persons with health problems, married or cohabitating partners, educational and financial resources. We further observe considerable level differences between countries. Despite the disadvantage of being non-employed before retirement, we can only obtain average estimates. In the next step, we apply the FD model (Model 3) to identify the change in life satisfaction that is caused by the retirement transition itself.

Model 3 shows the results of the analysis of life satisfaction in the transition to retirement. Hence, we can assess if life satisfaction is changing upon retirement or if disadvantages of the formerly non-employed are scarring into the retirement. In Model 3, formerly unemployed persons experience a significant increase in life satisfaction. This effect size of 0.39 is very similar to the increase in life satisfaction of formerly unemployed in Hetschko et al. (2013). The labour market inactive homemakers and jobless seniors due to disability or sickness however show non-significant but positive coefficients. While entry to retirement decreases the individual disadvantage of formerly unemployed, retiring is not leading to significant changes of well-being for the inactive. The change in time variant variables has no significant effect on the change in well-being, except for living with partner: The loss of a partner (possibly due to mortality or separation) leads to lower life satisfaction. Model 3 confirms the positive effect of retirement for all labour market statuses, because also the constant captures an average positive trend that includes formerly employed.

4.3.2 Robustness of the results

Table 4-3 showed that unemployed persons report lower well-being compared to employed persons before and after retirement. However, persons retiring from unemployed experience significantly higher well-being gains than other groups. Since we cannot rule out potential endogeneity – unemployment could be voluntary or involuntary and voluntarily unemployed could differ significantly from involuntarily unemployed persons – we split the group of unemployed into involuntary unemployment ("closing of the work place" or "laid off") and voluntary unemployment ("voluntarily resigned" or "temporary job finished") to approach unemployment as exogenous event (Schröder, 2013). In Table 4-4, Model 4 shows the same effects as Model 3 with the only difference being the split in reasons of

unemployment. The differentiation of reasons of unemployment matters in the magnitude of the effect, but not in the direction. Involuntarily unemployed express lower increase in life satisfaction, but an increase nonetheless. The effect of voluntarily unemployed is not significant, indicating that the change to retirement is not affecting those who left the labour market on purpose. Although, the other results are significant and plausible, caution is warranted here as the cell sizes of voluntary unemployment (61 cases) and involuntary unemployment (121 cases) are quite small. The attempt to identify causes of disability and reasons for being a homemaker leads to even smaller cell sizes as these variables are not available for all inactive persons in this sample. In 72 of 190 cases, work is the reason for a disability or permanent sickness. The separation into work induced disability and other shows similar sized coefficients as of unemployed, but they are not significant. Homemakers are a highly selective group. They are almost exclusively females and being a homemaker depends as well on the personal traits and on the financial and health situation. To partially control for this, homemakers are grouped to voluntary homemakers if the respondent replied being a homemaker due to duties as caregiver or having enough family income to stay out of the labour market (50 cases) and other (301 cases). Although numbers are at the limits of meaningful results, for completeness, models were also computed with these samples. Voluntary homemakers show a non-significant decrease in life satisfaction after retirement, but homemakers due to health issues, displacement or other show a non-significant increase in life satisfaction. Models 4 to 6 validate that change of well-being is only relevant for persons that were unemployed before retirement. Hence, the next robustness tests include only persons retiring from unemployment.

Like individual level difference, country level effects are eliminated by the first differencing and hence the increase of life satisfaction of the formerly unemployed could vary among countries. Although Table 4-3 includes country fixed effects, it could be the case that the change in well-being varies in magnitude or even direction and hence impact the average means. Multilevel regression models could be used to account for country variation; however, they will be probably biased due to the small N on the country level as well as the non-random selection of countries. As the individual level and country level sample are very small a multilevel regression is not recommended here. However, Möhring (2015) demonstrated how the advantages of multilevel models to retrieve a random intercept can be easily replicated with micro-macro interactions that control for country level heterogeneity without violating the independency assumption. Therefore, in Model 7 Eq. 2 is enhanced by interactions of formerly unemployed with country. The interpretation of the country variation requires the addition main effect and the interaction. The coefficients show that change in life satisfaction of formerly unemployed is different in the magnitude, but not in the direction (except for Sweden and Belgium). This means, that although to a varying degree, in almost all countries the change in life satisfaction upon retirement is positive.

Table 4-4: Robustness analysis of change in life satisfaction upon retirement

Coefficient (SE)	Model 4	Model 5	Model 6	Model 7
Labour market status (Ref. employed)				
Unemployed		0.39** (0.16)	0.39** (0.15)	0.88*** (0.02)
Unemployed: involuntary	0.36** (0.13)			
Unemployed voluntary	0.42 (0.36)			
Permanently disabled/sick	0.27 (0.25)		0.27 (0.25)	
Disability/sickness: due to work		0.43 (0.33)		
Disability/sickness: other		0.21 (0.22)		
Homemaker	0.12 (0.12)	0.12 (0.12)		
Homemaker: Voluntary			-0.31 (0.24)	
Homemaker: Other			0.18 (0.14)	
ΔChronic condition	-0.04 (0.05)	-0.04 (0.05)	-0.04 (0.05)	-0.04 (0.05)
ΔHousehold wealth	0.05 (0.03)	0.05 (0.03)	0.05 (0.03)	0.02 (0.02)
ΔHousehold income	-0.03 (0.03)	-0.03 (0.03)	-0.03 (0.03)	-0.01 (0.03)
ΔLiving with partner	-0.71** (0.30)	-0.72** (0.30)	-0.71** (0.29)	-0.95*** (0.23)
Unemployed				
*Germany (Ref.)				
*Austria				2.10*** (0.05)
*Netherlands				-0.60** (0.04)
*France				-0.62*** (0.02)
*Switzerland				-0.33*** (0.03)
*Belgium				-1.03*** (0.04)
*Sweden				-1.35*** (0.04)
*Denmark				-0.28*** (0.04)
*Spain				0.45*** (0.03)
*Italy				-0.43*** (0.02)
*Czech Republic				-0.44*** (0.05)
*Poland				-1.14*** (0.06)

Constant	0.19** (0.06)	0.19** (0.06)	0.19** (0.06)	0.12*** (0.02)
N	2,144	2,168	2,168	1,611
R^2	0.02	0.04	0.04	0.05

Note: ***p<0.01; **p<0.05; *p<0.10, robust standard errors clustered by country, Model 7 also includes main effects of country.

4.4 Discussion

4.4.1 Explanation of findings

Past research has indicated that unemployment has long-term negative effects, but it has been only rarely questioned whether the scarring effects of joblessness extend beyond working age and can still be found in retirement. This paper analysed the possible persistence of negative effects of non-employment on well-being after transitioning to retirement. Using data available from the panel sample of two waves of the Survey of Health, Ageing and Retirement in Europe, we tested if the transition to retirement is different for employed and non-employed persons. Thus, the present analyses included only those persons who were active or inactive in the labour market at the first observation and in retirement at the following observation. Using models that capture the change upon retirement for different groups, the results are in line with the literature claiming a beneficial role of retirement transitions. Confirming findings by Hetschko et al. (2013), we find that life satisfaction of unemployed person is initially lower compared to the employed, but increases upon retirement. The present study confirms and extends those findings by using a European sample and differentiating reasons of joblessness. Persons, who have been unemployed experience a significant increase in well-being after retirement. This could however not be confirmed for economically inactive persons. Their disadvantage, even if smaller in size, does not improve upon retirement. Earlier studies have shown that unemployment and "permanently sick or disabled" are categories with similar demographic profiles and that self-identification of being economically inactive or unemployed in survey data could be dependent on institutional settings, leading to under- or overestimating frequency of these concepts in a country (Erlinghagen & Knuth, 2010). Our study however tentatively suggests that those permanently sick or disabled are indeed using these self-report labels for a reason as they do not seem to benefit equally from retirement compared with persons economically inactive for other reasons.

Earlier evidence suggested that the transition to retirement for jobless people could leave a livelong scar with disadvantages even increasing with time. However, although non-employment is associated with monetary and health disadvantages (Table 4-1), the transition to retirement is perceived positively only by formerly unemployed. These results support role theory, showing that transitioning from a non-

conformist identity (being unemployed when the majority is employed) to a more conformist identity (i.e. all people are retired, see Hetschko et al. (2013)) will be beneficial. Since we control for monetary factors, the increase in well-being can be a result of status gain in a setting where social norms to work might not apply anymore (Stam et al., 2015). For economically inactive, this hypothesis does not hold. The results rather suggest that heterogeneity could be larger than assumed in this category. Further, being inactive might have higher social acceptance than being unemployed. This implies that role dissonance of inactive is lower than of unemployed. However, absolute disadvantages of health and financial resources still impact overall well-being.

4.4.2 Strengths and limitations of the study

The strengths of the study include the use of several robustness checks to address selection issues with advanced multivariate methods. In the main analyses, we retrieve well-being scores before and after retirement, but we also obtain unbiased transition scores. The latter are further diversified by reasons for joblessness. While FD models are useful for causal analyses they cannot identify the country variation. As the SHARE is composed of different countries, we used interaction effects with the country variable to account for country heterogeneity. Interactive effects varied across countries in magnitude but not in the direction of the effect.

Limitations of the study comprise the availability of only two waves that include life satisfaction indicators preventing the possibility to address well-being levels more closely and for a longer period after retirement. As Pinquart and Schindler (2007) showed, the increase in post-retirement well-being could be due to a dip before retirement and could be followed by a dip sometime after retirement. With a panel followed over a longer period of time, retirement patterns and associated well-being patterns could be examined, thereby both acknowledging non-linear trajectories and the increasing de-standardization of retirement transitions (Fasang, 2012). Additionally, it is not easily accomplished to specify the exact time of the retirement. As we observe a window of almost five years, we cannot catch the peak of well-being increase after retirement. However, it is likely that this increase might be not durable. Therefore, we cannot precise the shape of well-being development as the study by Pinquart and Schindler (2007) does. Although we differentiated by reasons of non-employment, the length of the last non-employment period could have been crucial for the retirement transition. Further research with larger samples should test the effect of the duration of unemployment (i.e. if there is a dose-response relationship with well-being before and after retirement) and possible interaction effects of duration of unemployment with gender, and longer-term effects (>2 years) of the transition to retirement.

Our study was especially concerned with well-being in the transition to retirement of formerly unemployed and economically inactive persons. The entry into retirement could be a relief for

unemployed persons at first, but one has to bear in mind that non-employment is associated with lower earnings, fewer possibilities for social participation, less wealth and lower health. These factors can have lasting effects on well-being in the ongoing of the retirement phase. It is therefore advisable to consider economic and health outcomes beyond well-being when examining the effects of the transition to retirement of unemployed persons. This study looks on the transition to retirement, but could not follow individuals closely and well into retirement. It would be beneficial to follow retirees several years into retirement to study if this increase is stable or only a honeymoon phase like suggested by Mokyr Horner (2014). Therefore, retirement of unemployed persons might not be the first solution to policy makers to combat negative effects of unemployment and labour market inactivity for older workers.

4.5 Conclusions

Our findings show that although scarring effects of unemployment are visible, well-being levels of unemployed persons increase in the transition to retirement. Evidence presented here suggests that scarring effects of unemployment do not necessarily extend beyond retirement age. Although well-being levels of unemployed persons are increasing significantly, they are barely converging to the levels of formerly employed persons. Hence, unemployment scarring is especially important to address in the non-retired population. Even if the transition to retirement increases levels of well-being, cumulative disadvantages on other variables can persist even through retirement in the long run, for example bad health, lower retirement savings and smaller networks. Further studies are necessary to monitor well-being of retired, formerly unemployed persons more closely, for a longer period of time, and with a wide range of economic, health, and well-being measures. If replicated, findings suggest that suffering through unemployment may be restricted to a limited amount of time and may be alleviated with retirement. Policies should aim in particular at supporting the currently unemployed population to prevent detrimental consequences of losses in income, compromised health, and lower well-being.

5 Discussion

5.1 Findings and contributions

The empirical studies of this thesis demonstrated the importance of employment biography for retirement. Using three empirical approaches to life-course research, they related career disruptions to subjective and financial well-being in old age. In the first study two methodological strategies were employed. The first aimed to provide an overview of career differentiation, with an emphasis on non-employment and part-time employment. The results showed that women's careers are much more volatile and differentiated then men's careers. The analyses of subjective well-being, however, revealed that these career instabilities are more consequential for men, while women are less often affected. Furthermore, the analyses provided evidence for an accumulative effect of career disadvantages in retirement. However, the effects were not uniform across all types of disadvantages. In the male sample, unemployment disadvantages accumulated towards old age, and recurring unemployment throughout the career was related to lower subjective well-being. The length of the unemployment episodes was not significant though. Additionally, exposure to labour market inactivity before retirement was related to lower well-being. Similar results of inactivity are obtained for women. In the case of part-time employment, the results presented no clear evidence for a disadvantage. Women did benefit from frequent part-time episodes, but they are harmed with longer exposure to part-time employment. In line with the framework of cumulative advantages and disadvantages, the results supported the assumption of life-course differentiation. They also confirmed the accumulation of disadvantages and their relation to well-being in old age. Another contribution of the first study is the inclusion of different types of disadvantages and the adverse effects of labour market inactivity and part-time work. Even though both labour market statuses are not necessarily involuntary, they represent a deviation from the full-time employment career and they are, next to unemployment, related to lower subjective well-being in old age. This means that disruption in the career, either voluntary or involuntary, can have negative long-term associations. In each study, the analyses were not only performed on the pooled sample of countries in SHARE, but also enhanced by country comparisons. Earlier research demonstrated that employment biographies vary significantly between the 13 countries in SHARE. Therefore, it was necessary to include country analyses and evaluate the results according to country context. The main findings of the first study confirmed that female labour participation varies much stronger between welfare regimes than men's career patterns. The study presented also the analyses of subjective well-being by welfare regimes differences. The general results were largely repeated in these subsamples.

The second study related accumulation of disadvantages to financial well-being in the form of wealth. The main results confirmed, also for this inequality measure, that women's instable employment

biographies were not necessarily associated with wealth disadvantages. This was particularly the case if only individual employment history was examined. Since household wealth is a common good, the major task of the second study was to evaluate the joined contribution of partners' employment history in a household. The results demonstrated that non-employment of men was detrimental in most of the configuration for wealth accumulation, either from an individual or a household perspective. Women's contribution to wealth accumulation was mostly found in case of lower occupational employment. The results further suggested that women's instable employment biography was possibly cushioned in a traditional male breadwinner constellation. This conclusion was supported by looking at the contribution of income and inheritances to wealth in old age. In the female sample, inheritances constituted the largest part of the wealth in retirement, while own income was not significant. The second study also discussed the relations of social structure and employment disadvantage. The analyses illustrated that households without any gift or inheritance receipt were disadvantaged in case of non-employment and lower occupational careers. However, this was not the case in households, which have received some money. Additionally, advantages were significant in these households. The analyses showed that while individual employment history is crucial for wealth accumulation, household composition can be interrelated with it and moderate the relationship of employment biography and wealth. Hence, the second study exemplified that individual (dis)advantage can be amplified with structural (dis)advantages. The comparative aspect was particularly important in the second study, since wealth rates and distribution show large variation between countries. Therefore, the analysis of the household dynamics was also applied in country samples. The findings firstly reflected the gendered employment biographies in the countries, but also the relevance of wealth. Since, the accumulation of wealth is not only affected by individual and household factors, the variation on the country level has to be investigated more closely in future research.

All three empirical studies aimed to investigate the long-term negative effects of employment disadvantages in retirement. The first two studies related life-course disadvantages to financial and subjective well-being in retirement. Even though the results confirmed earlier research and found accumulative effects of non-employment and part-time work, the used statistical methods are not able to disentangle the causal direction. The retrospective data used in these studies does not allow to control for individual heterogeneity and therefore cannot exclude reverse causation. The third empirical study attempted to overcome this issue and used the prospective elements of the SHARE data. It investigated non-employment scarring of subjective well-being and examined if these disadvantages persist into retirement. The third study discussed several possible mechanisms of post-retirement scarring as well as the relevance of the retirement transition. The findings showed that non-employment disadvantages were large before retirement and they continued after retirement. However, the immediate retirement transition narrowed the gap between formerly unemployed and formerly employed retirees. For inactive persons, the results were slightly different and varied by subgroup. Disabled persons did not perceive a

change upon retirement, while homemakers' subjective well-being was statistically not different from (formerly) employed. Hence, the scarring effects of involuntary non-employment remains even in retirement. In the third study the country difference was not in the main focus of analyses because the analytical method eliminates country level heterogeneity. Yet in the robustness tests, it was confirmed that only the well-being of formerly unemployed increased upon retirement and this effect is found in all countries to a varying degree.

The findings of the empirical studies add to the literature on ageing heterogeneity in several ways. Following the approaches by Elder (1998), O'Rand (1996) and Ferraro et al. (2009), a life-course perspective was applied to study ageing and old age. It comprised a dynamic view of ageing that attributes importance to the sequences, transitions and variability of individual experiences. Hence, the first and second empirical study investigated the life-course from youth to retirement. Using a complete employment history, they tested some of the accumulation mechanisms discussed in the theoretical framework. The findings confirmed that disadvantages accumulate through ill-timing in the life course, through exposure length and through relation with social structure. The studies complemented this life-course perspective of ageing and related outcomes of life-courses to the old age. In accordance with Dannefer (1987), they studied the life-course as a determinant of old age well-being. The third study did not include the accumulative aspect of disadvantages, but it contributed findings to the scarring literature by focusing on the retirement transition. As elaborated in section 1.4, scarring defines rather a persistent than an accumulative effect of employment disadvantages. In study 3, this persistence showed to be disadvantageous not only for the future career and well-being, but also into another life phase.

5.2 Limitations and potentials for future research

The empirical studies are situated in the framework of life-course analyses and demonstrate accumulative and scarring effects of non-employment and atypical employment. Some issues could not be addressed either due to data availability or in favour of parsimony. The limitations of the single empirical studies have been discussed in the respective sections. In this section I want to highlight conceptual weaknesses. The first refers to the interpretation of disadvantages as causal effects. Even though the use of the complete employment history is an advantage compared to other studies of cumulative (dis)advantages, the comprehensiveness goes along with the reduction of detailed information about the life course. This includes the type of labour market inactivity, voluntariness of transitions as well as health or living conditions. Circumstances of joblessness cannot be investigated and therefore the interpretability of the causal relation is difficult. Furthermore, the retrospective nature of SHARELIFE does not allow to draw conclusions about the causal direction of associations. Well-

being indicators of study 1 and 2 have been surveyed later than the life-course events and therefore disadvantages cannot be studies as exogenous.

The second limitation concerns development of disadvantages. Study 3 showed that the disadvantages of non-employment could be mitigated by the retirement transition. This means for the first two studies that the true scarring effect of adverse career patterns is unknown with such a model. Without using prospective data, the long-term effect could be biased in either direction. That is, disadvantages could be alleviated or even increased after the retirement transition. Study 3 circumvented this limitation and used a model that eliminated individual heterogeneity. However, it did not include the experience of earlier disadvantages and could only make assumptions about the immediate retirement transition. Both approaches add to the study of cumulative advantages, but could be combined in a prospective survey with many decades of observations. To the best of my knowledge no such rich data sources exists for comparative data on ageing and retirement.

Furthermore, the aspect of human agency and resilience falls short in the conceptualisation and application of the life-course perspective. Throughout the different concepts and studies, disadvantage accumulation is largely studied as exposure. Schafer et al. (2009) pointed to the lack of *human agency* in the current concepts of cumulative (dis)advantage. Within Cumulative inequality theory, they underlined that resilience of the individual could explain when adversities do not accumulate. Hence, they proposed *resource activation* as possible counteraction to disadvantage accumulation. However, appropriate indicators for individual resilience have yet to be developed and tested with longitudinal life-course data. Therefore, resilience could not be tested in this thesis. First, because indicators have to be formalised and secondly due the preference for more parsimonious models. In future research this aspect needs more consideration.

Counteractions on a macro level could be social policies that reduce the negative impact of social risks. A large body of literature is devoted to study the effectiveness of policy measures in reducing employment disruptions and their consequences. Several governmental actions aim at reducing occurrence and length of joblessness. For example, countries implement active and passive policy measures against unemployment. Hence, career differentiation could not only be a result of individual factors, but also due to levels of decommodification. This aspect was not elaborated in the studies of employment biography, because it added another level of complexity to the life-course analyses. Since employment biography is historical data, analyses of current social policies may be difficult in the explanation of past events. Even though the empirical studies addressed labour market differences between countries and welfare regimes, social policy measures were not implemented in the analyses. However, one possible interrelation of pension policy and wealth was discussed, but it was not the main focus of the study of the employment biography and wealth accumulation. Previous research was not able to fully disentangle the relationship of wealth accumulation and pension policies. Hence, the

question if wealth is only a substitute for ungenerous pension systems remains. It will gain even further attention as governments enforce multi-pillared pension systems. This relation affects the relevance of employment history. If disadvantages of joblessness and atypical employment are not compensated by pension systems, private wealth investment becomes a crucial in factor in social inequality. Therefore, wealth remains to be a black box. Its contribution to social inequality will nevertheless be an important research topic in the future.

6 Conclusion

This thesis aimed to demonstrate how life-course processes are related to ageing and old age. Using the theoretical framework of cumulative advantages and disadvantages, the findings of the different empirical studies offered several illustrations of life-course differentiation and explanations for old age heterogeneity. They showed that disadvantage accumulation occurs across the life course through various mechanisms and that it is related to retirement well-being. This means that the well-being in old age and transition to retirement depend on the success during the working lives. These findings do not only matter for the disadvantaged individual, but they have societal and political implications. In times of economic insecurity and welfare retrenchment this development can be critical. If the welfare state cannot intervene in the disadvantage occurrence or mitigate long-term effects, socio-economic inequality in old age can increase and widen the gap between the 'haves and the have-nots' (Merton, 1968). Further, the findings add to the debate on sustainability of pension systems. In ageing societies, the political pressure of longer working lives leads to rising retirement ages. However, an increase in retirement age can only be effective if life courses are not destabilised by joblessness and atypical work or older persons are not marginalised in the labour market. The findings further suggest that destabilisation can occur at each career stage. Early disadvantages may alter the individual career pattern, while instabilities before retirement affect the retirement transition and subsequent health and financial resources. Therefore, attention of policy makers should be directed at all age groups.

The theoretical introduction showed that cohorts age in historical context. Most of the respondents in the samples are born between 1940 and 1950, which are usually referred to as *baby boomers*. They grew up in the post-war economic booms, which benefited them in many ways. Hence, it is possible that they could draw on many resources and might be coping better with adversities. This is exemplified in the lower disadvantage of women, even if their careers are more unstable. However, it is unclear if retirees of the future can draw on such prosperous times. The assessment of a 'normal' life course, labour markets and their requirements, but also gender roles are changing constantly. However, the observed changes are facing towards longer educational periods, longer working lives, but at the same time to less stable employment patterns. With increasing destabilisation of the employment career, the negative effects of non-employment and atypical employment could aggravate for current and future cohorts. Nowadays youth is confronted with many labour market demands as e.g. higher educational certificates, flexibility and mobility in their jobs. Additionally, the stability of their employment trajectories and careers is challenged by insecure working conditions, atypical employment patterns and lower returns to education. Hence, the career as a source of (un)well-being will remain in the centre of sociological attention.

7 References

Aassve, A., Billari, F. C., & Piccarreta, R. (2007). Strings of Adulthood: A Sequence Analysis of Young British Women's Work-Family Trajectories. *European Journal of Population, 23*, 369-388.

Abbott, A., & Hrycak, A. (1990). Measuring Resemblance in Sequence Data: An Optimal Matching Analysis of Musicians' Careers. *American Journal of Sociology, 96* (1), 144-185.

Abbott, A., & Tsay, A. (2000). Sequence Analysis and Optimal Matching Methods in Sociology. *Sociological Methods & Research, 29* (1), 3-33.

Abolhassani, M., & Alessie, R. (2013). Subjective Well-Being Around Retirement. *De Economist, 161*, 349–366.

Aisenbrey, S., & Fasang, A. E. (2010). New Life for Old Ideas: The "Second Wave" of Sequence Analysis. Bringing the "Course" Back Into the Life Course. *Sociological Methods & Research, 38* (2), 420-462.

Alavinia, S. M., & Burdorf, A. (2008). Unemployment and retirement and ill-health: a cross-sectional analysis across European countries. *International Archives of Occupational and Environmental Health, 82*, 39-45.

Alessie, R., Angelini, V., & van Santen, P. (2013). Pension wealth and household savings in Europe: Evidence from SHARELIFE. *European Economic Review, 63*, 308-328.

Antonova, L., Aranda, L., Pasini, G., & Trevisan, E. (2014). Migration, family history and pension: the second release of the SHARE Job Episodes Panel. In SHARE (Ed.), *Working Paper Series* (Vol. 18-2014).

Antonova, L., Belloni, M., Meschi, E., & Pasini, G. (2015). The effect on mental health of retiring during the economic crisis. In C. F. U. o. Venice (Ed.), *The Working Paper Series* (Vol. No. 10/WP/ 201 5).

Anyadike-Danes, M., & McVicar, D. (2010). My Brilliant Career: Characterizing the Early Labor Market Trajectories of British Women From Generation X. *Sociological Methods & Research, 38* (3), 482-512.

Arulampalam, W. (2001). Is Unemployment really Scarring? Effects of Unemployment Experience on Wages. *The Economic Journal, 111* (475), 585-605.

Arulampalam, W., Gregg, P., & Gregory, M. (2001). Unemployment Scarring. *The Economic Journal, 475* (111), 577-584.

Atchley, R. C. (1989). A continuity theory of normal aging. *The Gerontologist, 29* (2), 183-190.

Bannier, C. E., & Neubert, M. (2016). Actual and perceived financial sophistication and wealth accumulation: the role of education and gender *Discussion Paper Series* (Vol. 1605): Gutenberg School of Management and Economics.

Beham, B., Präg, P., & Drobnič, S. (2012). Who's got the balance? A study of satisfaction with the work–family balance among part-time service sector employees in five western European countries. *The International Journal of Human Resource Management, 23* (18), 3725-3741.

Bender, K. A. (2012). An analysis of well-being in retirement: The role of pensions, health, and 'voluntariness' of retirement. *The Journal of Socio-Economics, 41*, 424-433.

Berchick, E. R., Gallo, W. T., Maralani, V., & Kasl, S. V. (2012). Inequality and the association between involuntary job loss and depressive symptoms. *Social Science & Medicine, 75*, 1891-1894.

Berghammer, C. (2014). The return of the male breadwinner model? Educational effects on parents' work arrangements in Austria, 1980–2009. *Work, employment and society, 28* (4), 611-632.

Bernardi, F. (1999). Does the Husband Matter? Married Women and Employment in Italy. *European Sociological Review, 15* (3), 285-300.

Bernardi, F., Layte, R., Schizzerotto, A., & Jacobs, S. (2000). Who Exits Unemployment? Institutional Features, Individual Characteristics, and Chances of Getting a Job. A Comparision of Britain and Italy. In D. Gallie & S. Paugam (Eds.), *Welfare Regimes and the Experience of Unemployment in Europe* (pp. 219-239). Oxford: Oxford University Press.

Biegert, T. (2011). Patterns of Non-employment. Labor Market Institutions and Employment Performance of Social Groups. In MZES (Ed.), *Working Paper* (Vol. 145).

Biemann, T., Fasang, A. E., & Grunow, D. (2011). Do Economic Globalization and Industry Growth Destabilize Careers? An Analysis of Career Complexity and Career Patterns Over Time. *Organization Studies, 32* (12), 1639-1663.

Biemann, T., Zacher, H., & Feldman, D. C. (2012). Career patterns: A twenty-year panel study. *Journal of Vocational Behaviour, 81*, 159-170.

Billari, F. C., & Piccarreta, R. (2005). Analyzing Demographic Life Courses through Sequence Analysis. *Mathematical Population Studies, 12*, 81-106.

Blau, G., Petrucci, T., & McClendon, J. (2013). Correlates of life satisfaction and unemployment stigma and the impact of length of unemployment on a unique unemployed sample. *Career Development International, 18* (3), 257-280.

Blau, P. M., & Duncan, O. D. (1967). *The American Occupational Structure*. New York: John Wiley & Sons.

Blázquez Cuesta, M., & Moral Carcedo, J. (2014). Women's part-time jobs: "Flexirisky" employment in five European countries. *International Labour Review, 153* (2), 269-292.

Bonsang, E., & Klein, T. J. (2012). Retirement and subjective well-being. *Journal of Economic Behavior & Organization, 83*, 311-329.

Börsch-Supan, A., & Jürges, H. (2005). *The Survey of Health, Aging, and Retirement in Europe – Methodology*. Mannheim: Mannheim Research Institute for the Economics of Aging.

Bover, O. (2010). Wealth Inequality and Household Structure: U.S. vs Spain. *Review of Income and Wealth, 56* (2).

Brandt, M., Deindl, C., & Hank, K. (2012). Tracing the origins of successful aging: the role of childhood conditions and social inequality in explaining later life health. *Social Science & Medicine, 74* (9), 1418-1425.

Brandt, M., & Hank, K. (2014). Scars that will not Disappear: Long-term Associations between Early and Later life Unemployment under Different Welfare Regimes. *Journal of Social Policy, 43* (4), 727-743.

Brugiavini, A., Cavapozzi, D., Pasini, G., & Trevisan, E. (2013). Working life histories from SHARELIFE: a retrospective panel. In SHARE (Ed.), *Working Paper Series* (Vol. 11-2013).

Brzinsky-Fay, C. (2007). Lost in Transition? Labour Market Entry Sequences of School Leavers in Europe. *European Sociological Review, 23* (4), 409-422.

Brzinsky-Fay, C., Kohler, U., & Luniak, M. (2006). Sequence analysis with Stata. *The Stata Journal, 6* (4), 435-460.

Cai, L., Law, V., & Bathgate, M. (2014). Is Part-time Employment a Stepping Stone to Full-time Employment? *Economic Record, 90* (291), 462-485.

Chauvel, L. (2010). The Long-Term Destabilization of Youth, Scarring Effects, and the Future of the Welfare Regime in Post-Trente Glorieuses France. *French Politics, Culture & Society, 28* (3), 74-96.

Chauvel, L., & Schröder, M. (2014). Generational Inequalities and Welfare Regimes. *Social Forces, 92* (4), 1259-1283.

Christelis, D., Jappelli, T., Paccagnella, O., & Weber, G. (2009). Income, wealth and financial fragility in Europe. *Journal of European Social Policy, 19* (4), 359-376.

Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and Leads in Life Satisfaction: A test of the baseline hypothesis. *The Economic Journal, 118*, 222-243.

Clark, A. E., Georgellis, Y., & Sanfey, P. (2001). Scarring: The Psychological Impact of Past Unemployment. *Economica, 68*, 221-241.

Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *The Economic Journal, 104*, 648-659.

Crystal, S., & Shea, D. (1990). Cumulative Advantage, Cumulative Disadvantage, and Inequality Among Elderly People. *The Gerontologist, 30* (4), 437-443.

Crystal, S., Shea, D., & Reyes, A. M. (2016). Cumulative Advantage, Cumulative Disadvantage, and Evolving Patterns of Late-Life Inequality. *Gerontologist,* 10.1093/geront/gnw056.

Daly, M., & Delaney, L. (2013). The scarring effect of unemployment throughout adulthood on psychological distress at age 50: Estimates controlling for early adulthood distress and childhood psychological factors. *Social Science & Medicine, 80*, 19-23.

Dannefer, D. (1987). Aging as Intracohort Differentiation: Accentuation, the Matthew Effect, and the Life Course. *Sociological Forum, 2* (2), 211-236.

Dannefer, D. (2003). Cumulative Advantage/Disadvantage and the Life Course: Cross-Fertilizing Age and Social Science Theory. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 58* (6), 327-337.

Dannefer, D. (2009). Stability, Homogeneity, Agency: Cumulative Dis/Advantage and Problems of Theory. *Swiss Journal of Sociology, 35* (2), 192-210.

Dewilde, C. (2012). Lifecourse determinants and incomes in retirement: Belgium and the United Kingdom compared. *Ageing and Society, 32* (4), 587-615.

Diener, E. (1984). Subjective Well-Being. *Psychological Bulletin, 95* (3), 542-575.

DiPrete, T. A., & Eirich, G. M. (2006). Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments. *Annual Review of Sociology, 32*, 271-297.

Dorsett, R., & Lucchino, P. (2014). Explaining patterns in the school-to-work transition: An analysis using optimal matching. *Advances in Life Course Research, 22*, 1-14.

Dunn, T., & Holtz-Eakin, D. (2000). Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links. *Journal of Labor Economics, 18* (2), 282-305.

Ebbinghaus, B. (2006). *Reforming Early Retirement in Europe, Japan and the USA*: Oxford University Press.

Ebbinghaus, B. (2015). Demografische Alterung und Reformen der Alterssicherung in Europa – Probleme der ökonomischen, sozialen und politischen Nachhaltigkeit. *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 67*, 325-348.

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.

Eggs, J. (2013). Unemployment Benefit II, Unemployment and Health *IAB Discussion Paper* (Vol. 12).

Elder, G. H. (1994). Time, Human Agency, and Social Change: Perspectives on the Life Course. *Social Psychology Quaterly, 57* (1), 4-15.

Elder, G. H. (1998). The Life Course as Developmental Theory. *Child Development, 96* (1), 1-12.

Elder, G. H., & George, L. K. (2016). Age, Cohorts, and the Life Course. In M. J. Shanahan, J. T. Mortimer, & M. Kirkpatrick Johnson (Eds.), *Handbook of the Life Course* (Vol. II, pp. 59-85): Springer.

Elder, G. H., Kirkpatrick Johnson, M., & Crosnoe, R. (2003). The Emergende and Development of the Life Course Theory. In J. T. Mortimer & M. J. Shanahan (Eds.), *Handbook of the Life Course*. New York: Kluwer Acadamic/Plenum Publishers.

Elder, G. H., & Rockwell, R. C. (1979). The Life-Course and Human Development: An Ecological Perspective. *International Journal of Behavioural Development, 2*, 1-21.

Ellwood, D. (1982). Teenage Unemployment: Permanent Scars or Temporary Blemishes? In R. B. W. Freeman, David A. (Ed.), *The Youth Labor Market Problem* (pp. 349-390). Chicago: University of Chicago Press.

Elzinga, C. H., & Liefboer, A. C. (2007). De-standardization of Family-Life Trajectories of Young Adults: A Cross-National Comparison Using Sequence Analysis. *European Journal of Population, 23*, 225-250.

Erikson, R., & Goldthorpe, J. H. (2010). Has social mobility in Britain decreased? Reconciling divergent findings on income and class mobility. *The British Journal of Sociology, 61* (2), 211-230.

Erlinghagen, M., & Knuth, M. (2010). Unemployment as an Institutional Construct? Structural Differences in Non-Employment between Selected European Countries and the United States. *Journal of Social Policy, 39* (1), 71-94.

Esping-Andersen, G. (1990). *The Three Welfare-State Regimes*. Princeton, New Jersey: Princeton University Press.

Eurostat. (1999). Labour force survey: Methods and definitions, 1998 Edition: Office for Official Publications of the European Communities.

Fasang, A. E. (2012). Retirement Patterns and Income Inequality. *Social Forces, 90* (3), 685-711.

Fasang, A. E., Aisenbrey, S., & Schömann, K. (2013). Women's Retirement Income in Germany and Britain. *European Sociological Review, 29* (5), 968-980.

Fasang, A. E., Geerdes, S., & Schömann, K. (2012). Which type of job mobility makes people happy? A comparative analysis of European welfare regimes. *International Sociology, 27* (3), 349-383.

Ferraro, K. F., & Pylypiv Shippee, T. (2009). Aging and Cumulative Inequality: How Does Inequality Get Under the Skin? *The Gerontologist, 49* (3), 333-343.

Ferraro, K. F., Pylypiv Shippee, T., & Schafer, M. H. (2009). Cumulative Inequality Theory for Research on Aging and the Life Course. In V. L. Bengtson, D. Gans, N. M. Putney, & M. Silverstein (Eds.), *Handbook of Theories of Ageing* (2nd ed., pp. 413-433). New York: Springer Publishing Company.

Ferrera, M. (1996). The 'Southern Model' of Welfare in Social Europe. *Journal of European Social Policy, 6* (1), 17-37.

Fitzgerald, K. G. (2006). The Effect of Military Service on Wealth Accumulation. *Research on Aging, 28* (1), 56-83.

Fonseca, R., Kapteyn, A., Lee, J., Zamarro, G., & Feeney, K. (2014). A Longitudinal Study of Well-Being of Older Europeans: Does Retirement Matter? *Journal of Population Ageing, 7*, 21-41.

Fouarge, D., & Muffels, R. (2008). Part-time Work and Childbirth in Europe: Scarring the Career or Meeting Working-time Preferences? In R. Muffels (Ed.), *Flexibility and Employment Security in Europe* (pp. 223-254): Edward Elgar Publishing Ltd.

Fouarge, D., & Muffels, R. (2009). Working Part-time in British, German and Dutch Labour Market: Scarring for the Wage Career? *Schmollers Jahrbuch, 129*, 217-226.

Frick, J. R., & Grabka, M. M. (2009). Zur Entwicklung der Vermögensungleichheit in Deutschland. *Berliner Journal für Soziologie, 19* (4), 577-600.

Gallo, W. T., Bradley, E. H., Dubin, J. A., Jones, R. N., Falba, T. A., Teng, H.-M., & Kasl, S. V. (2006). The Persistence of Depressive Symptoms in Older Workers Who Experience Involuntary Job Loss: Results From the Health and Retirement Survey. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 61* (4), 221-228.

Gangl, M. (2004). Welfare States and the Scar Effects of Unemployment: A Comparative Analysis of the United States and West Germany. *American Journal of Sociology, 109* (6), 1319-1364.

Gangl, M. (2006). Scar Effects of Unemployment: An Assessment of Institutional Complementarities. *American Sociological Review, 71*, 986-1013.

Gauthier, J.-A., Widmer, E. D., Bucher, P., & Notredame, C. (2010). Multichannel Sequence Analysis Applied to Social Science Data. *Sociological Methodology, 40*, 1-38.

George, L. K. (1993). Sociological Perspectives on Life Transitions. *Annual Review of Sociology, 19*, 353-373.

Goldthorpe, J. H. (2012). Back to Class and Status: Or Why a Sociological View of Social Inequality Should Be Reasserted. *Revista Espanola de Investigaciones Sociologicas, 137*, 201-216.

Gornick, J. C., Sierminska, E., & Smeeding, T. M. (2009). The income and wealth packages of older women in cross-national perspective. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 64* (3), 402-414.

Gornig, M., & Goebel, J. (2016). Deindustrialisation and the polarisation of household incomes: The example of urban agglomerations in Germany. *Urban Studies,* 10.1177/0042098016669285.

Grabka, M. M. (2015). Income and wealth inequality after the financial crisis: the case of Germany. *Empirica, 42* (2), 371-390.

Grabka, M. M., Marcus, J., & Sierminska, E. (2015). Wealth distribution within couples. *Review of Economics of the Household, 13* (3), 459-486.

Gregg, P., Scutella, R., & Wadsworth, J. (2010). Reconciling workless measures at the individual and household level. Theory and evidence from the United States, Britain, Germany, Spain and Australia. *Journal of Population Economics, 23*, 139-167.

Groh-Samberg, O., & Hertel, F. R. (2011). Laufbahnklassen. Zur empirischen Umsetzung eines dynamisierten Klassenbegriffs mithilfe von Sequenzanalysen. *Berliner Journal für Soziologie, 21*, 155-154.

Grunow, D., Hofmeister, H., & Buchholz, S. (2006). Late 20th-Century Persistence and Decline of the Female Homemaker in Germany and the United States. *International Sociology, 21* (1), 101-131.

Hagler, M., Hamby, S., Grych, J., & Banyard, V. (2015). Working for Well-Being: Uncovering the Protective Benefits of Work Through Mixed Methods Analysis. *Journal of Happiness Studies,* 10.1007/s10902-015-9654-4.

Havari, E., & Mazzonna, F. (2011). Can we trust older people's statements on their childhood circumstances? Evidence from SHARELIFE. In SHARE (Ed.), *Working Paper Series*.

Hetschko, C., Knabe, A., & Schöb, R. (2013). Changing identity: Retiring from unemployment. *The Economic Journal, 124*.

Hofäcker, D., & Chaloupková, J. (2014). Patterns of Family Life Courses in Europe – between Standardisation and Diversity. A Cross-national Comparison of Family Trajectories and Life Course Norms in European Countries. *Comparative Population Studies, 39* (3), 559-586.

Hofäcker, D., Stoilova, R., & Riebling, J. R. (2013). The Gendered Division of Paid and Unpaid Work in Different Institutional Regimes: Comparing West Germany, East Germany and Bulgaria. *European Sociological Review, 29* (2), 192-209.

Horemans, J. (2016). Polarisation of Non-standard Employment in Europe: Exploring a Missing Piece of the Inequality Puzzle. *Social Indicators Research, 125*, 171-189.

Huang, Q., & Sverke, M. (2007). Women's occupational career patterns over 27 years: Relations to family of origin, life careers, and wellness. *Journal of Vocational Behavior, 70*, 369-397.

Hurd, M., Michaud, P.-C., & Rohwedder, S. (2012). The Displacement Effect of Public Pensions on the Accumulation of Financial Assets. *Fiscal Studies, 33* (1), 107-128.

Hyde, M., Wiggins, R. D., Higgs, P., & Blane, D. B. (2003). A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19). *Aging & Mental Health, 7* (3), 186-194.

Jefferis, B. J., Nazareth, I., Marston, L., Moreno-Kustner, B., Ángel Bellón, J., Svab, I., . . . King, M. (2011). Associations between unemployment and major depressive disorder: Evidence from an international, prospective study (the predict cohort). *Social Science & Medicine, 73* (11), 1627-1634.

Johansson, G., Huang, Q., & Lindfors, P. (2007). A life-span perspective on women's careers, health, and well-being. *Social Science & Medicine, 65*, 685-697.

Johnson, N. L. (1949). Systems of Frequency Curves Generated by by Methods of Translation. *Biometrika, 36* (1/2), 149-176.

Kammer, A., Niehues, J., & Peichl, A. (2012). Welfare regimes and welfare state outcomes in Europe. *Journal of European Social Policy, 22* (5), 455-471.

Karagiannaki, E. (2015). The Impact of Inheritance on the Distribution of Wealth: Evidence from Great Britain. *Review of Income and Wealth,* 10.1111/roiw.12217, n/a-n/a.

Kessler, D., & Masson, A. (1989). Bequest and Wealth Accumulation: Are Some Pieces of the Puzzle Missing? *Journal of Economic Perspectives, 3* (3), 141-152.

Kim, J. E., & Moen, P. (2002). Retirement Transitions, Gender, and Psychological Well-Being: A Life-Course, Ecological Model. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 57*, 212-222.

Kogan, I., & Weißmann, M. (2013). Immigrants' initial steps in Germany and their later economic success. *Advances in Life Course Research, 18*, 185-198.

Kohli, M. (1994). Institutionalisierung und Individualisierung der Erwerbsbiographie. In U. Beck & E. Beck-Gernsheim (Eds.), *Riskante Freiheiten. Individualisierung in modernen Gesellschaften* (pp. 219-244). Frankfurt am Main: Suhrkamp.

Kok, R., Avendano, M., Bado d'Uva, T., & Mackenbach, J. (2012). Can Reporting Heterogeneity Explain Differences in Depressive Symptoms Across Europe? *Social Indicators Research*.

Kolb, K., Skopek, N., & Blossfeld, H.-P. (2013). The Two Dimensions of Housing Inequality in Europe. Are High Home Ownership Rates an Indicator of Low Housing Values? *Comparative Population Studies, 38* (4), 1009-1040.

Laslett, P. (1987). The Emergence of the Third Age. *Ageing and Society, 7* (2), 133-160.

Latif, E. (2011). The impact of retirement on psychological well-being in Canada. *The Journal of Socio-Economics, 40*, 373-380.

Layte, R., Levin, H., Hendrickx, J., & Bison, I. (2000). Unemployment and Cumulative Disadvantage in the Labour Market. In D. Gallie & S. Paugam (Eds.), *Welfare Regimes and the Experience of Unemployment in Europe* (pp. 153-174). Oxford: Oxford University Press.

Lyberaki, A., Tinios, P., & Papadoudis, G. (2013). Retrospective explanation of older women's lifetime work involvement: Individual paths around social norms. *Advances in Life Course Research, 18*, 26-45.

Madero-Cabib, I. (2015). The life course determinants of vulnerability in late careers. *Longitudinal and Life Course Studies, 6* (1), 88-106.

Madero-Cabib, I., & Fasang, A. E. (2016). Gendered work–family life courses and financial well-being in retirement. *Advances in Life Course Research, 27*, 43-60.

Mandemakers, J. J., & Monden, C. W. S. (2013). Does the effect of job loss on psychological distress differ by educational level? *Work, employment and society, 27* (1), 73-93.

Manzoni, A., Härkönen, J., & Mayer, K. U. (2014). Moving On? A Growth-Curve Analysis of Occupational Attainment and Career Progression Patterns in West Germany. *Social Forces, 92* (4), 1285-1312.

Manzoni, A., & Mooi-Reci, I. (2001). Early Unemployment and Subsequent Career Complexity: A Sequence-Based Perspective. *Schmollers Jahrbuch, 131*, 339-348.

Manzoni, A., Vermunt, J. K., Luijkx, R., & Muffels, R. (2010). Memory Bias in Retrospectively Collected Employment Careers: A Model-Based Approach to Correct for Measurement Error. *Sociological Methodology, 40* (39-73).

McGrath, D. M., & Keister, L. A. (2008). The Effect of Temporary Employment on Asset Accumulation Processes. *Work and Occupations, 35* (2), 196-222.

Merton, R. K. (1968). The Matthew Effect in Science. The reward and communication systems of science are considered. *Science, 159* (3810), 56-63.

Merton, R. K. (1988). The Matthew Effect in Science, II: Cumulative Advantage and the Symbolism of Intellectual Property. *Isis, 79* (4), 606-623.

Mikucka, M. (2011). Homemaking and women's well-being in Europe. Effect of divorce risk, selection and dominating gender-role attitudes. In CEPS (Ed.), *Working Papers* (Vol. 09): CEPS.

Modigliani, F. (1988). The Role of Intergenerational Transfers and Life Cycle Saving in the Accumulation of Wealth. *Journal of Economic Perspectives, 2* (2), 15-40.

Moen, P., Kim, J. E., & Hofmeister, H. (2001). Couples' Work/Retirement Transitions, Gender and Marital Quality. *Social Psychology Quaterly, 64* (1), 55-71.

Möhring, K. (2015). Employment Histories and Pension Incomes in Europe. *European Societies, 17* (1), 3-26.

Möhring, K. (2016). Life course regimes in Europe: Individual employment histories in comparative and historical perspective. *Journal of European Social Policy, 26* (2), 124-139.

Mokyr Horner, E. (2014). Subjective Well-Being and Retirement: Analysis and Policy Recommendations. *Journal of Happiness Studies, 15* (1), 125-144.

Nurius, P. S., Prince, D. M., & Rocha, A. (2015). Cumulative Disadvantage and Youth Well-Being: A Multi-Domain Examination with Life Course Implications. *Child Adolesc Social Work J, 32* (6), 567-576.

O'Rand, A. M. (1996). The Precious and the Precocious: Understanding Cumulative Disadvantage and Cumulative Advantage Over the Life Course. *The Gerontologist, 36* (2), 230-238.

O'Rand, A. M. (2006). Stratification and the Life Course. Life Course Capital, Life Course Risks, and Social Inequality. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (6th ed.). Boston: Academic Press.

OECD. (2008). Are All Jobs Good for your Health? The Impact of Work Status and Working Conditions on Mental Health *Employment Outlook*. Paris: OECD.

Ozturk, G., & Gallo, W. T. (2013). Effect of Job Loss on Wealth Accumulation of Older Workers. In C. E. Office (Ed.). CUNY School of Public Health at Hunter College: U.S. Departement of Labour (DOL).

Painter, M. A. (2010). Get a job and keep it! High school employment and adult wealth accumulation. *Research in Social Stratification and Mobility, 28* (2), 233-249.

Pallas, A. M., & Jennings, J. L. (2009). Cumulative Knowledge about Cumulative Advantage. *Swiss Journal of Sociology, 35* (2), 211-219.

Pascall, G., & Manning, N. (2000). Gender and social policy: comparing welfare states in Central and Eastern Europe and the former Soviet Union. *Journal of European Social Policy, 10* (3), 240-266.

Pence, K. M. (2006). The Role of Wealth Transformations: An Application to Estimating the Effect of Tax Incentives on Saving. *Contributions to Economic Analysis & Policy, 5* (1), 1-24.

Percheski, C. (2008). Opting Out? Cohort Differences in Professional Women's Employment Rates from 1960 to 2005. *American Sociological Review, 73*, 497-517.

Pfeffer, F. T., & Hällsten, M. (2012). Mobility Regimes and Parental Wealth: The United States, Germany, and Sweden in Comparison *Research Report* (Vol. 12-766). Population Studies Center Research.

Pinquart, M., & Schindler, I. (2007). Changes of Life Satisfaction in the Transition to Retirement: A Latent-Class Approach. *Psychology and Aging, 22* (3), 442-455.

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.

Riumallo-Herl, C., Basu, S., Stuckler, D., Courtin, E., & Avendano, M. (2014). Job loss, wealth and depression during the Great Recession in the USA and Europe. *International Journal of Epidemiology, 43* (5), 1508-1517.

Roelfs, D. J., Shor, E., Davidson, K. W., & Schwartz, J. E. (2011). Losing life and livelihood: A systematic review and meta-analysis of unemployment and all-cause mortality. *Social Science & Medicine, 72* (840-545).

Ryder, N. B. (1965). The cohort as a concept in the study of social change. *American Sociological Review, 30* (6), 843-861.

Sabbath, E. L., Mejía Guevara, I., Glymour, M. M., & Berkman, L. F. (2015). Use of Life Course Work–Family Profiles to Predict Mortality Risk Among US Women. *American Journal of Public Health, 150* (4), 96-102.

Savage, M., Devine, F., Cunningham, N., Taylor, M., Li, Y., Hiellbrekke, J., . . . Miles, A. (2013). A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment. *Sociology, 47* (2), 219-250.

Schafer, M. H., Pylypiv Shippee, T., & Ferraro, K. F. (2009). When Does Disadvantage Not Accumulate? Toward a Sociological Conceptualization of Resilience. *Swiss Journal of Sociology, 35* (2), 231-253.

Schröder, M. (2013). Jobless now, sick later? Investigating the long-term consequences of involuntary job loss on health. *Advances in Life Course Research, 18*, 5-15.

Schröder, M. (Ed.). (2011). *Retrospective Data Collection in the Survey of Health, Ageing and Retirement in Europe. SHARELIFE Methodology*. Mannheim: MEA.

Semyonov, M., & Lewin-Epstein, N. (2013). Ways to Richness: Determination of Household Wealth in 16 Countries. *European Sociological Review, 29* (6).

Sierminska, E. M., Frick, J. R., & Grabka, M. M. (2010). Examining the gender wealth gap. *Oxford Economic Papers, 62* (4), 669-690.

Simonson, J., Romeu Gordo, L., & Titova, N. (2011). Changing employment patterns of women in Germany: How do baby boomers differ from older cohorts? A comparison using sequence analysis. *Advances in Life Course Research, 16*, 65-82.

Skopek, N. (2015). *Wealth as a Distinct Dimension of Social Inequality* (Vol. 14). Bamberg: University of Bamberg.

Skopek, N., Buchholz, S., & Blossfeld, H.-P. (2014). National patterns of income and wealth inequality. *International Journal of Comparative Sociology, 55* (6), 463-488.

Skopek, N., Kolb, K., Buchholz, S., & Blossfeld, H. P. (2012). Einkommensreich – vermögensarm? Die Zusammensetzung von Vermögen und die Bedeutung einzelner Vermögenskomponenten im europäischen Vergleich. *Berliner Journal für Soziologie, 22*, 163-187.

Stam, K., Sieben, I., Verbakel, E., & de Graaf, P. M. (2015). Employment status and subjective well-being: the role of the social norm to work. *Work, employment and society, 30* (2), 309-333.

Strandh, M., Winefield, A., Nilsson, K., & Hammarström, A. (2014). Unemployment and mental health scarring during the life course. *European Journal of Public Health, 24* (3), 440-445.

Tophoven, S., & Tisch, A. (2016). Employment trajectories of German baby boomers and their effect on statutory pension entitlements. *Advances in Life Course Research, 30*, 90-110.

Treas, J., van der Lippe, T., & ChloeTai, T.-o. (2011). The Happy Homemaker? Married Women's Well-Being in Cross-National Perspective. *Social Forces, 90* (1), 111-132.

UN. (2015). World Population Prospects: The 2015 Revision, Key Findings and Advance Tables *Working Paper* (Vol. ESA/P/WP.241): United Nations, Department of Economic and Social Affairs, Population Division.

van der Noordt, M., IJzelenberg, H., Droomers, M., & Proper, K. I. (2014). Health effects of employment: a systematic review of prospective studies. *Occupational & Environmental Medecine, 71* (10), 730-736.

Wahrendorf, M. (2014). Previous employment histories and quality of life in older ages: sequence analyses using SHARELIFE. *Ageing and Society, 35* (09), 1928-1959.

Wang, M. (2007). Profiling Retirees in the Retirement Transition and Adjustment Process: Examining the Longitudinal Change Patterns of Retirees' Psychological Well-Being. *Journal of Applied Psychology, 92* (2), 455-474.

Warren, T. (2006). Moving Beyond the Gender Wealth Gap: On Gender, Class, Ethnicity, and Wealth Inequalities in the United Kingdom. *Feminist Economics, 12* (1-2), 195-219.

Wheaton, B., & Reid, S. (2008). The Role of Timing vs. Duration in the Cumulative Work History Effects of Job Exits and Nonemployment on Women's Mental Health. *Advances in Life Course Research, 13*, 195-232.

Whelan, C. T., & McGinnity, F. (2000). Unemployment and Satisfaction: A European Analysis. In D. Gallie & S. Paugam (Eds.), *Welfare Regimes and the Experience of Unemployment in Europe* (pp. 286-306). Oxford: Oxford University Press.

WHO. (2002). Active Ageing: A Policy Framework. http://apps.who.int/iris/bitstream/10665/67215/1/WHO_NMH_NPH_02.8.pdf.

Wiggins, R. D., Higgs, P., Hyde, M., & Blane, D. B. (2004). Quality of life in the third age: key predictors of the CASP-19 measure. *Ageing and Society, 24*, 693-708.

Winkelmann, L., & Winkelmann, R. (1998). Why Are the Unemployed So Unhappy? Evidence from Panel Data. *Economica, 65*, 1-15.

Wu, L. (2000). Some Coments on "Sequence Analysis and Optimal Matching Methods in Sociology: Rewiew and Prospect". *Sociological Methods & Research, 29* (1), 41-64.

Wulfgramm, M., & Fervers, L. (2015). Unemployment and subsequent employment stability: does labour market policy matter? *Socio-Economic Review, 13* (4), 791-812.

Zähle, T., Möhring, K., & Krause, P. (2009). Erwerbsverläufe beim Übergang in den Ruhestand *WSI Mitteilungen* (Vol. 11, pp. 586-695).

Zenger, M., Brähler, E., Berth, H., & Stöbel-Richter, Y. (2011). Unemployment during working life and mental health of retirees: Results of a representative survey. *Aging & Mental Health, 15* (2), 178-185.