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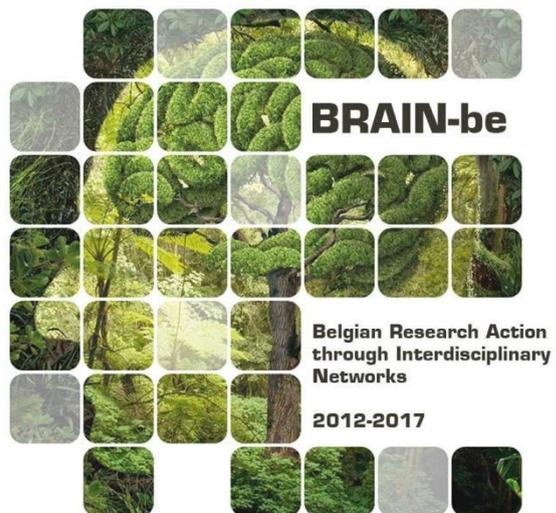
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FACTAGE

Fairer ACTIVE AGEing for Europe

Mikkel Barslund (CEPS)

Axis 4: Federal public strategies



NETWORK PROJECT

FACTAGE

Fairer ACTIVE AGeing for Europe

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ABSTRACT

Context

FACTAGE starts from the premise that there is substantial scope for increasing the length of average working lives and active ageing in its many facets, but realising this potential requires paying careful attention to questions of equality concerning the elderly, not least prospectively. Furthermore, there is the fundamental issue of how to adapt the requirement to work longer with intergenerational distribution concerns.

The central concept guiding FACTAGE, namely well-being in later life, will reflect multiple dimensions, especially pension income, employment, health, work-life balance and subjective well-being.

Based on multidisciplinary research, FACTAGE will provide evidence on policy approaches across EU countries that are favourable to extending working careers and improving well-being in later life, whilst also generating wider societal, micro- and macroeconomic benefits.

FACTAGE has a strong focus on broad stakeholder outreach and has engaged in multiple forms of consultation and interaction with stakeholders throughout the life-cycle of the project.

Objectives

FACTAGE aims to generate and disseminate findings in response to the following questions:

- How do levels in (healthy) life expectancy differ across socio-economic groups in EU countries?
- How do the pension and labour market policy measures designed to expand working lives (current and future) interact with these trends in mortality and healthy life expectancy?
- What role is played in that process by the different institutional arrangements within EU member states?
- How do differential longevity gains and longer working careers affect (in)equality in the experience of ageing and well-being among older people?
- How do longer working lives and grandparental childcare affect labour supply.

Conclusions

Here we emphasize 7 sets of findings.

- A method was developed to estimate socio-economic differences in life-expectancy based on the EU-SILC database. This will allow for within EU cross-country comparison in the level and development of socio-economic differences in life-expectancy.
- Addressing socio-economic differences in life-expectancy via the pension system is complicated by the fact that health and age of death varies a lot within socio-economics groups.
- A structured literature survey showed that inequalities in life expectancy and healthy life expectancy LE and in HE by level of educational attainment at age 50 are large but varies across EU countries.
- Results suggest that longer working lives may perpetuate unequal divisions of domestic labour, though more research is needed to clearly disentangle cause and effect as well as covering additional countries.
- Employment rates among people aged 50-64 years have increased significantly in many countries in the past two decades. However, many indicators of labour market conditions have remained relatively static. Disaggregating by gender and employment rarely changes the conclusion. As an example, we find little evidence that increasing the employment rate of the 55-59-year olds relative to the 45-49-year olds has led to increases in part-time, temporary and self-employment in general.
- Grandmothers (on average) reduce their employment quite substantially upon becoming grandmothers; as a mirror of that, daughters labour is supply is considerably higher when grandparental care is available. Both findings have implications for the total labour supply effect of increasing retirement ages as this likely lowers potential childcare by grandparents.
- Increasing on the job satisfaction – by providing better working conditions – only has a small effect on length of working live of senior workers (aged 50-64). The primary reason is that a large majority of worker are already very satisfied or satisfied with their job. Those with lower job satisfaction, though, would work longer if job satisfaction could be improved.

Keywords: Older workers, inequality, labour market, life expectancy, pensions

1. INTRODUCTION

More active ageing is an unmistakable trend across the EU Member States, even in times of economic crisis and austerity. It is attributed to a steady extension of working careers since the mid- to late 1990s, and due mainly to the closing of pathways to early retirement and better labour market incentives towards longer working careers. Yet, there remains a gap in terms of a comparative assessment of the impact of policy reforms on inequalities in later life. One objective of is to address the issue.

FACTAGE starts from the premise that there is substantial scope for increasing the length of average working lives and active ageing in its multifaceted form; *but* realising this potential requires careful attention to equity concerns at older ages, not least prospectively. Furthermore, there is the fundamental issue as to how to adapt the obligation to work longer with intergenerational distribution concerns.

The past decades have witnessed a sharp rise in life expectancy and decline in mortality. For some countries, there is evidence that this development has not come along with a narrowing of the social gradient of mortality, morbidity or disability. Nonetheless, there remains a need for internationally comparable data on differential mortality. Recently an attempt has been made by Eurostat to publish figures on mortality differentials by educational level in an internationally comparable way; necessary data was not available for all EU Member States and moreover, calculation is based on unlinked cross-sectional data which come with particular quality issues. Making headway in assessing the extent of differential mortality is of key importance.

At the same time, nationally and internationally, working environments continue their transformations, expanding into new and often knowledge- or technology-driven industries, diversifying into new forms of contractual and working arrangements. These transformations challenge older workers' capacity to remain active and sustain their productivity. They impact on their health, but also change skill needs, remuneration and time use through new demands on employability and presentism. Each in turn again affects multiple dimensions of active ageing and well-being.

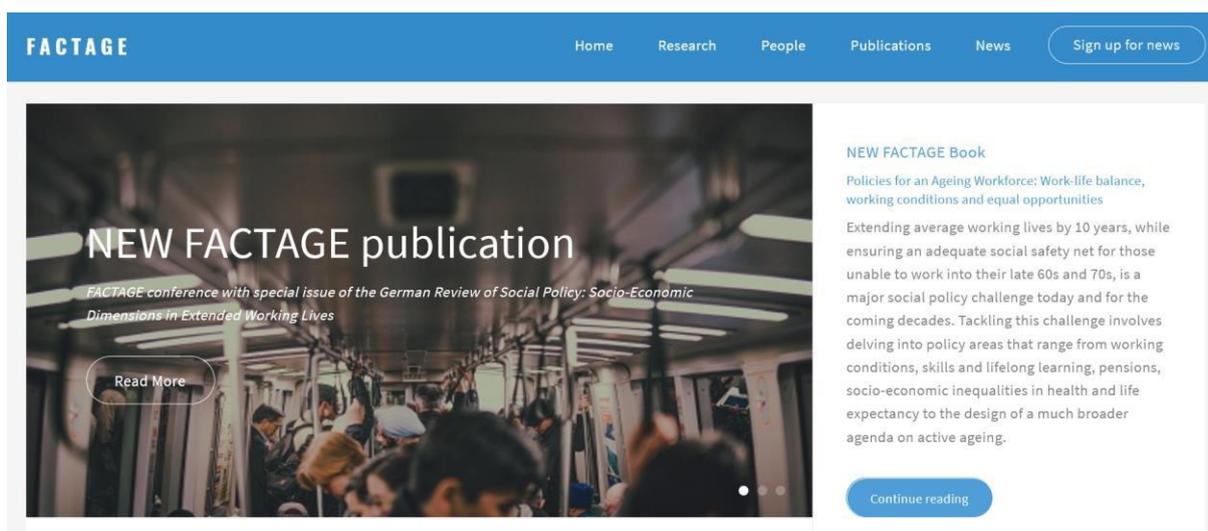
Whilst concerning workers of all ages, new economic and labour markets may disproportionately affect older workers, as the most rapidly growing section of the workforce that also faces the greatest challenges in accommodating (to) change and that is too often excluded from new economic opportunities. Yet, the active integration and utilisation of older workers' expertise is a significant resource for Europe's economy and the stabilising of the European welfare system.

However, these newly emerging pressures create new challenges for managing life inside and outside the workplace that are especially problematic for older people, interacting with a range of social, domestic and personal. Against this background, we are observing a polarisation between older people, including those that remain economically active even beyond the statutory retirement age because they *can* against those who *must*, and others that are forced out, threatening to cement social and labour market inequalities, with potentially far reaching repercussions for societal equity and cohesion.

Policy reforms in Europe that seek to respond to the increasing fluidity of economic and social life face challenges of fairness and equity. Reforms that have started to bring positive outcomes with respect to extension of work careers are sometimes understood to be less favourable to new cohorts of retirees than to those already in retirement. A converse outcome of such a belief is that most people take on retirement at the earliest possibility despite monetary bonuses available for the extension of working careers.

FACTAGE has looked at labour market outcomes, the employment and retirement options of older people, well-being and retirement policy, labour supply and intergenerational care arrangements, within family division of work in light of increasing pension ages as well as how to estimate socio-economic differences in health and life-expectancy from harmonised EU level data sources.

All results and outreach activities are available from the FACTAGE website: www.factage.eu



The screenshot shows the FACTAGE website homepage. The top navigation bar is blue with the FACTAGE logo on the left and links for Home, Research, People, Publications, and News on the right. A 'Sign up for news' button is also present. The main content area features a large image of a crowded train interior. Overlaid on this image is the text 'NEW FACTAGE publication' in large white letters. Below this, in smaller white text, is 'FACTAGE conference with special issue of the German Review of Social Policy: Socio-Economic Dimensions in Extended Working Lives'. A 'Read More' button is positioned at the bottom left of the image. To the right of the image, there is a text block titled 'NEW FACTAGE Book' with a sub-heading 'Policies for an Ageing Workforce: Work-life balance, working conditions and equal opportunities'. The text describes the challenge of extending average working lives by 10 years and the need for a broader agenda on active ageing. A 'Continue reading' button is located at the bottom right of this text block.

2. STATE OF THE ART AND OBJECTIVES

FACTAGE will generate and disseminate evidence related to the following questions: What are differential levels in (healthy) life expectancy across socio-economic groups in the EU countries? How do the pension and labour market policy measures designed to expand working lives (current and prospectively) interact with these trends in mortality and healthy life expectancy? What role do different institutional arrangements within EU Member States play in that process? How do differential longevity gains and longer working careers affect (un)equal experiences of ageing and well-being among older people? Which policies and institutional settings can promote fairness within and between generations? And, at the same time further expand working lives? Our aim is to provide a toolbox for and implement a comparative assessment of differential mortality risks, health and labour market inequalities. It will recommend evidence-based policy scenarios for a more equitable allocation of labour and retirement across populations and generations.

3. METHODOLOGY

The FACTAGE project relied primarily on structure literature surveys and a quantitative methodological approach analysing secondary national and EU level data sources within the fields of economics, demography, sociology, and political science. Furthermore, the project included methodological research on how to utilise existing EU data sources to estimate socio-economic differences in life expectancy.

4. SCIENTIFIC RESULTS AND RECOMMENDATIONS

This section describes the findings and recommendations from a number of studies conducted within the FACTAGE project.

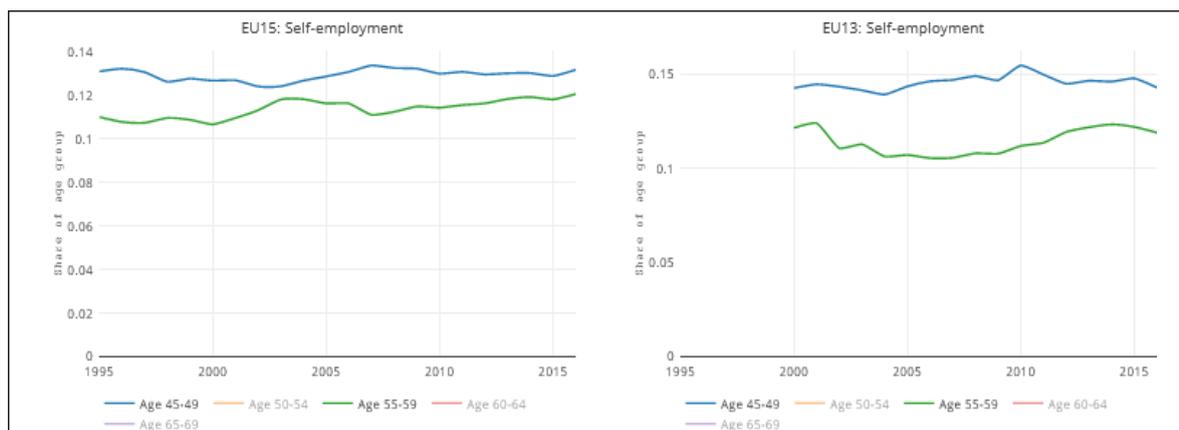
Changing labour markets: factors related to longer working lives and well-being.

Changing labour market conditions for older workers: differences across education, occupations and sector of employment

A number of studies were conducted to look at changing labour market conditions of older workers. A general EU wide descriptive study looked at labour market outcomes for older workers relative to younger cohorts in EU labour markets since 1995. This period is characterised by a strong policy focus on extending working lives across Europe. This has resulted in an increasing share of 55-64-year olds being in employment. The study found that in broad terms, viewed at the EU level, employment rates

of 5-year cohorts aged 50+ have shifted with around five years over the past two decades. However, comparing the 45-49-year old cohort with the ten years older 55-59-year old cohort, the older cohort has an employment rate close to that of the 45-49-year olds 20 years ago. In that sense, 60 is almost like the new 50. The second part of the analysis then turned to investigate to what extent the expansion of labour market participation by older cohorts in the EU has resulted in convergence with younger cohorts in several other labour market outcome indicators taken from the OECD's ageing scoreboard (e.g., hiring rates, (long term) unemployment, part-time employment). The evidence here is more mixed, and there is no clear picture of convergence of older cohorts' outcomes to those of younger cohorts. However, the absolute differences are also often small. In fact, many indicators of labour market conditions have remained relatively static. Disaggregating by gender and employment rarely changes the conclusion. We also find little evidence that increasing the employment rate of the 55-59-year olds relative to the 45-49-year olds has led to increases in part-time, temporary and self-employment in general.

Self-employment in EU15 and EU13



Source: Authors' calculations based on EU-LFS. See Barslund, M. & Schomaker, L. 'Trends in labour market outcomes across older cohorts in EU labour markets: Is 60 the new 50?'

Note: Share of employees being self-employed. Data for additional cohorts available here: www.factage.eu/data-explorer.html

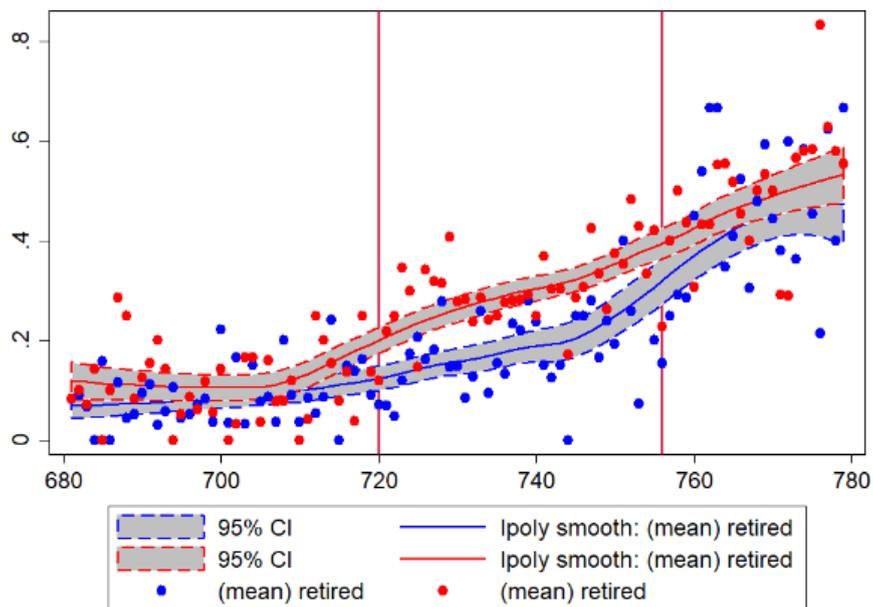
Another study looked in more detail at changing labour market conditions in Germany, Austria and the UK. The study found that recent developments of push and pull factors result in new forms of inequalities for older individuals, thereby influencing employment probability the elderly across countries studied in different ways. In particular for Germany there has been an increase in flexible working arrangement at older ages.

Analysis of the association between longer working lives and general well-being.

In most European countries, citizens will have to work longer before they are eligible to receive public pensions over the coming decades. An interesting question is therefore to what extent longer working lives have an impact on general well-being. This is a difficult question to approach empirically because

there may be reverse causality at play (those less happy in general may be less happy with their jobs and may therefore tend to retire earlier; or those happier in general have more ‘utility’ of time outside work or may therefore) and there is a risk of not controlling for all confounders (which affect both the propensity to retire early/work longer and general well-being. Furthermore, there is an issue of data availability since the relevant age interval is narrow and the sample size may therefore be small in conventional surveys.

Share of women retired at each age in years (Panel A) and by months (Panel B)



Source: Author’s calculations based on GSOEP and SHARE survey data. See Mikkel Barslund and Malte Jacob Rattenborg, ‘Effect of Early Retirement on Subjective Wellbeing and Health: Evidence from a German Early Retirement Reform’

Notes: Panel A shows the proportion retired at yearly ages by those born before (red dots) and after (blue dots) 1 January 1952. Panel B disaggregate the figure in Panel A to age by months. The red and blue lines are smoother polynomial regression with confidence intervals given by the dotted lines.

We approached the question by studying the effect of working beyond the age of 60 on self-assessed health and life satisfaction in Germany in the period of 2010-13. The research design exploits an early retirement reform that changed the early retirement age of eligible women from 60 to 63 years. The reform applied only to women born after 1 January 1952. We utilise this in a so-called fuzzy regression discontinuity design, drawing on data from the German Socio-Economic Panel and the SHARE survey. The reform generates a relevant statistically significant discontinuous jump in the probability of retirement upon turning 60. Instrumental regression point estimates – comparing women born before and after 1 January 1952 – suggest that earlier retirement led to improvement in self-assessed health and life satisfaction at ages 60 to 62 years old, though our estimates are not significant at conventional levels. We also explore impact heterogeneity via sample split on education and obtain suggestive

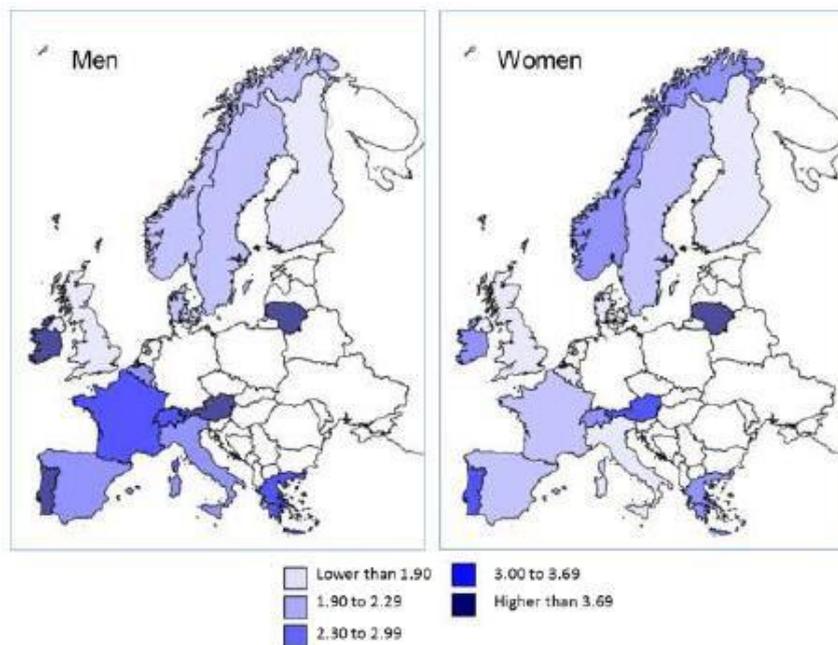
evidence that women with high educational attainment improve their life satisfaction relative to the joint specification. For the group of women with low educational attainment the discontinuity generated by the reform is less strong and the point estimate on life satisfaction is small with large standard errors.

In another study based on data for Austria, panel data from the Community Statistics on Employment and Living Conditions (EU-SILC) found that people who were satisfied with their work were more likely to experience a decrease in life satisfaction after retirement. Conversely, the situation is improving for those people who were rather dissatisfied before retirement. In any case, this finding suggests a differentiated view of the discussion on retirement age and can serve as a starting point for further studies.

Review of socio-economic divergences in life expectancy and healthy life expectancy

Another outcome of WP2 was a systematic review of the literature on socio-economic divergences in life and healthy life expectancy at the point of retirement (or relevant older ages) (see also WP4). The results show that, across Europe, people in a more advantaged position can expect to live longer lives, more years in good health and less in bad health, and therefore a smaller percentage of their lives in bad health. Thus, this population is more likely to reach retirement age in good health than those in a worse social position, and this usually happens along the whole social scale. Inequalities in LE and in HE by educational level are highly consistent, showing that people at age 50 with a lower educational attainment had shorter lives and in poorer health than those with a higher educational level, both in men and women. Similar results were found when analysing social class or occupation. Social inequalities in LE and HE of elderly population were observed across all countries, although they seemed to be higher in some regions than in others.

Figure: Inequalities (absolute differences in years) in LE at age 65 by education in Europe.



Source: see below.

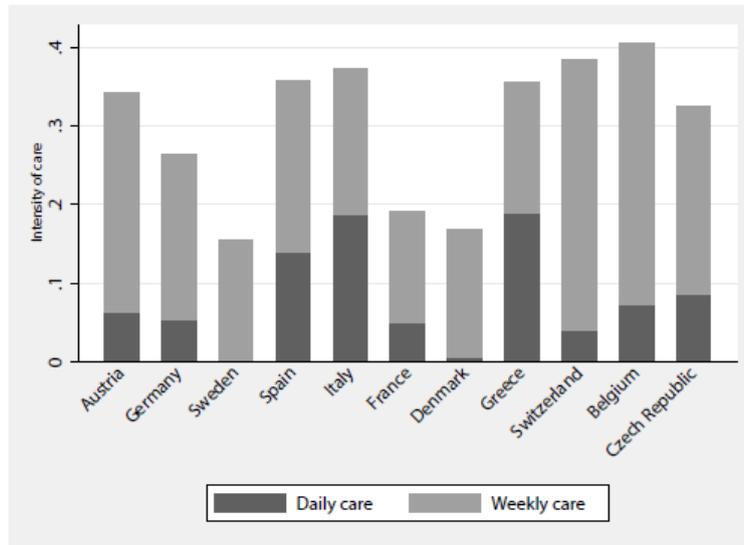
Further results are available in the FACTAGE report: Review of socio-economic inequalities in life expectancy and health expectancy in Europe, Isabel Mosquera, Yolanda González-Rábago, Unai Martín and Amaia Bacigalupe. Available on the FACTAGE website.

Changing labour markets – emerging inequalities

Longer working lives and grandparental childcare

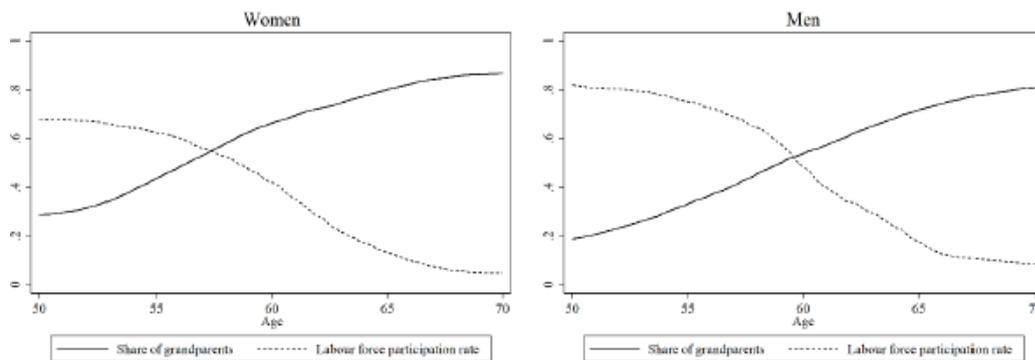
Grandparental childcare is prevalent throughout Europe (see figure). In the context of the policy drive to increase the length of working lives for people aged 55+ this may have several implications. Less time may be available to provide grandparental childcare as the effective retirement age increases; or conversely increasing retirement ages may be less effective in generating labour supply because grandparents choose to devote time to grandparenting. If mothers are more likely to care of their children than fathers, less grandparenting may affect gender equality on the labour market, as mothers devote less time for work and more for childcare. Moreover, what happens will depend on institutional arrangements – e.g., level and quality of public childcare provision – and societal norms.

Figure: Care Intensity Levels across Countries in 2015



Source: SHARE database wave 6. Grandparental Childcare and Parent’s Labour Supply: Evidence from Europe, M. Barslund, L Schomaker, *Sozialer Fortschritt* 68 (4), 371–391

Figure: Grandparenting and labour force participation. Sample: SHARE waves 1, 2, 4, 5, 6, 7. Individuals aged 50-70 who have at least one child aged 14 or older. Calibrated individual weights are applied.



Source: Backhaus, A., & Barslund, M. (2019). *The effect of grandchildren on grandparental labour supply: Evidence from Europe* (No. 31). EconPol Working Paper.

As with many of these questions, establishing cause and effect is far from straightforward. In two studies we focus on causal effects in questions related to grandparenting. The first study was devoted to answer the question whether the arrival of a grandchild affects grandparents labour supply. The results showed that it does, for grandmothers. Becoming a grandmother is causally related to much lower employment rates. This is an important result because it shows that grandchildren can alter labour supply of grandparents (given institutional arrangements).

The second part of this research theme looked at the effect of grandparental care on mother's labour supply. Results showed that mothers with access to grandparental childcare were more likely to work. No effect was found for fathers. The size of the effect of grandparental childcare differs across countries but is relevant in size for most of the 12 EU countries studied. The effect is largest for pre-school age children, but still estimated at 8 percentage points for women with children in the age group of 8 – 10 years. There is some evidence for a larger effect for mothers with low educational attainment, though the difference is not large. These findings suggest that the ongoing policy drive to extend working lives for workers in the age group 55 – 64 years could affect labour market attachment of mothers by limiting time available for grandparental childcare. Increased availability of kindergarten and nursery services can dampen the effect on mother's labour supply but not alleviate it completely.

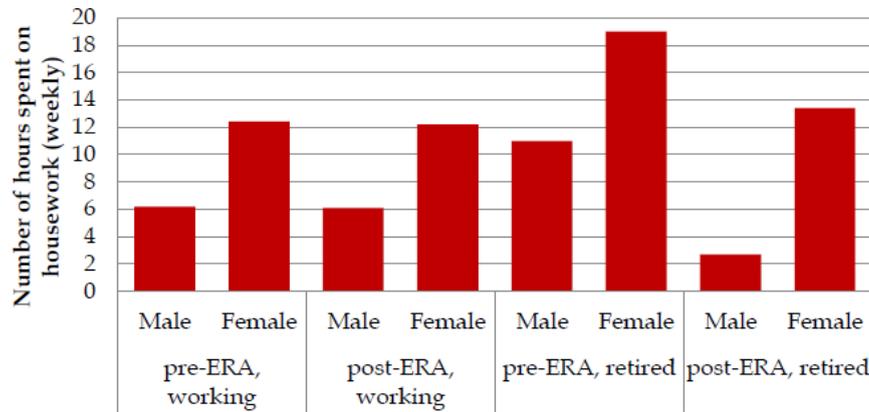
Domestic relationships in extended working life household

One study investigated how longer working lives (higher statutory pension ages or reduced pathways to early retirement affects domestic divisions of labour. Gendered domestic divisions of

labour continue to be one of the most persistent barriers to gender equality. Despite the increase in female labour market participation, women still carry out more domestic work than men, limiting their ability to act on an equal footing within the workplace. It is therefore of interest to look at what happens as working lives get longer.

In this study we focus on the UK, using data from Understanding Society, a longitudinal survey following around 40,000 households. The study finds that the contribution men and women make to household domestic chores remains consistently unequal upon extending working life. The results suggest that working longer may perpetuate unequal divisions of domestic labour, though more research is needed to clearly disentangle cause and effect as well as covering additional countries.

Hours spent per week on housework for coupled men and women, by working status (pre and post retirement)



Note: ERA = Effective Retirement Age.

Source: Understanding Society (2016), authors' calculations.

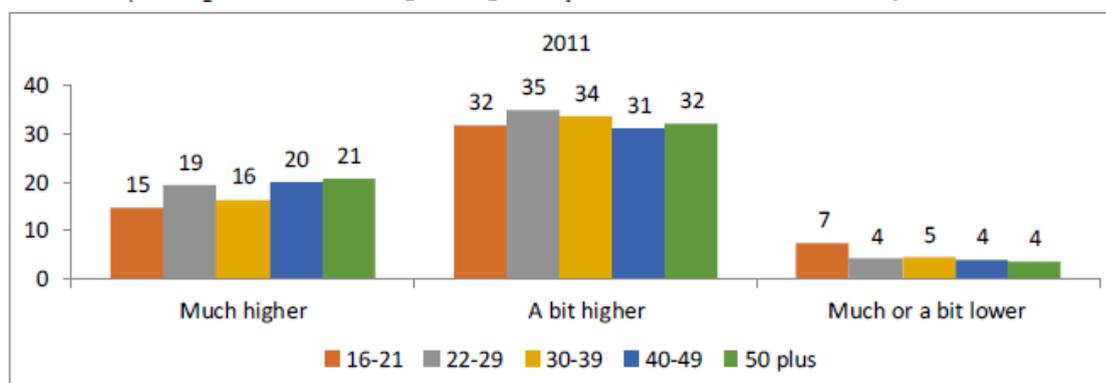
Source: See Barslund M. (Ed.), (2019). *Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities*. CEPS. Open access book.

Skills mismatch among older workers

Two studies looked at skills mismatch among older workers. One looked at data from the UK whereas the other used the PIAAC data from Austria, Germany, Belgium (Flanders), Spain and England. In general, older worker – while having lower overall level of skills – tend to more prone to overuse their skills than younger generations. This implies that there is less potential risk of skill loss. The percentage of workers between 50-65 underusing their skills was low at between 5 and 7 percent in the 5 territories considered.

The other study uses a linked employer-employee survey from British workplaces to study skill mismatches. They find that a slightly larger percentage of workers aged 50+ report their skill to be 'much higher' than needed for the job. But the differences between cohorts are small. Workers are generally less satisfied with their job if they feel their skills are mismatched with what is needed on the job, but no differences in how skills mismatches affect job satisfaction across ages.

Perception of skill mismatch among employees in 2011 by age - percentage of workers reporting how their skills relate current job needs



Source: 2011 Workplace Employment Relations Surveys.

Source: See Barslund M. (Ed.), (2019). *Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities*. CEPS. Open access book.

Comparative Assessment of Differential Health and Mortality

Improving the measurement of socio-economic mortality differentials

Socio-economic differences in mortality have been known to exist for a long time. The poor usually die young. This has potential implications for the fairness of pension reforms, public health and social policy. Despite its importance, several European countries cannot provide official data on mortality by socio-economic status. Measurement of socio-economic differentials in mortality (and life-expectancy) requires good data of deaths linked to socio-economic indicators (e.g., educational attainment). Such quality data is not available in all EU countries, and for those where it is, not in a harmonised way. The research evidence which is available is not easily comparable between countries because of technical data problems.

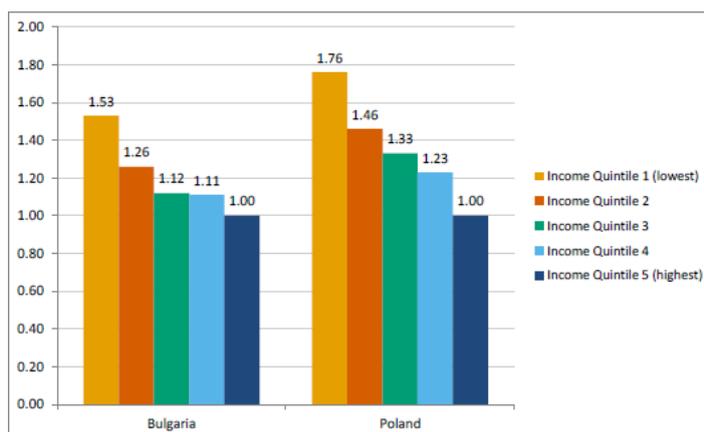
An important achievement of this WP is the development of a methodology to measure socio-economic mortality differentials that can be applied uniformly in around 30 countries, based on the harmonized EU SILC longitudinal data.

A feasibility study by Statistics Austria in the FACTAGE project demonstrates that this gap can be closed by better use of harmonized longitudinal microdata from EU-SILC (Community Statistics on Income and Living Conditions). By its design, EU-SILC measures socio-economic inequality, and the assessment shows that comparative mortality estimation from EU-SILC longitudinal data is technically possible.

A new and relatively easy approach to obtain comparative European figures based on harmonized survey sample data was developed as part of this work package.

Example results: Income-Related Mortality Confirmed also for Poland and Bulgaria.

Statistics Austria estimated mortality hazard ratios by income for Poland and Bulgaria. These countries were chosen because death counts and relative mortality figures indicate good data quality, and the scientific literature on differential mortality in Bulgaria and Poland is scarce.

Mortality hazard ratios by income quintile in Bulgaria and Poland

Source: Statistics Austria. FACTAGE policy brief: “ Estimating Differential Mortality from EU-SILC Longitudinal Data – a Feasibility Study”, Johannes Klotz and Tobias Göllner (2017). Available here: https://www.factage.eu/pubs/pubs_FACTAGE_Estimating_Differential_Mortality.html

NB: Unweighted data. Estimates refer to respondents aged 35-79 at the time of the survey and are controlled for age and sex. Income means equivalized disposable household income.

In Bulgaria, people in the lowest income quintile have a mortality risk 1.53 times as high as people in the highest income quintile. The relative mortality disadvantage in the lowest income quintile is even greater in Poland, where mortality risk is 1.76 times as high as in the highest quintile.

These are the first estimates of the over-mortality of those affected by poverty have also been presented for countries such as Poland or Bulgaria. A key finding is that the over-mortality of those affected by poverty in these countries is hardly different from that of those affected by poverty in Western Europe. The fact that poverty in Eastern and Western Europe is almost equally discriminatory is surprising in that far more people in Eastern Europe are affected by absolute poverty than in Western Europe.

The researchers further provide recommendations for improving the devised method. Notably, it is recommended that Eurostat should drop certain restrictions in the User Database, most importantly the grouping of all survey respondents aged 80 and over into one age category and the grouping of months into quarters. Also, all weighting variables transmitted to Eurostat (cross-sectional and longitudinal) should be made accessible in the User Database.

Several activities formed part of this research effort:

- As part of this work a high-level workshop was held in Austria over two days to assess the international research frontier in estimation of socio-economic mortality differences.
- Statistics Austria hosted a training session in April 2018 in Vienna about the produced method. Theoretical aspects of differential mortality estimation were combined with hands-on exercises in a computer lab.
- R computer code to make the estimations has been made available to other researcher via conference presentations and through Github (see also the FACTAGE website).

Further information is available in the FACTAGE Policy Brief “Estimating Differential Mortality from EU-SILC Longitudinal Data – a Feasibility Study” by Johannes Klotz and Tobias Göllner, Statistics Austria, Vienna. The policy brief together with other material is available here: https://www.factage.eu/pubs/pubs_FACTAGE_Estimating_Differential_Mortality.html.

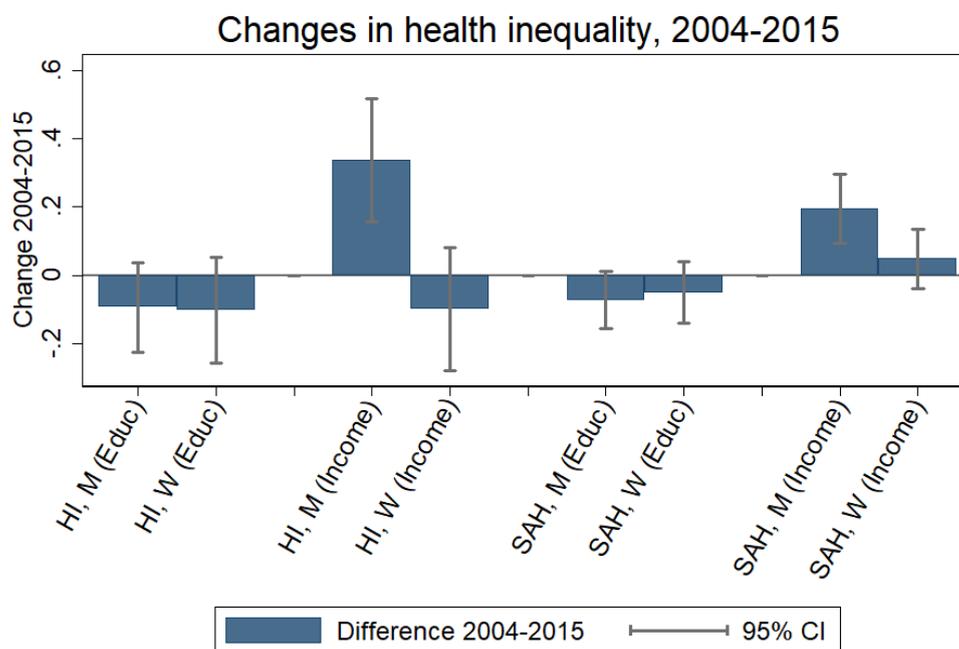
Inequalities, the life-course and pension systems

Recent trends in socioeconomic health inequalities among old-age groups across Europe

One contribution to this work packages explored to what extent socio-economic differences in health have increased from 2004 to 2015. Socio economic status was measured by three education (ISCED0-2, ISCED3-4 and ISCED5+) and household income (quintiles). The period was dictated by the availability of the SHARE data. The study looked at a composite index of health indicators for the age group of 50 to 75 year olds for nine EU countries covered by the rounds of SHARE data collection.

The study confirmed the findings in WP2 of substantial health inequalities in both 2004 and 2015 for both men and women; however, the study also documents sustained improvements in health for both men and women across socioeconomic groups. The trends in health inequalities observed over the period show more distinct patterns. Health inequalities between groups with low and high educational attainment have remained constant. However, comparing trends in groups divided by household income indicates that health inequality for men has widened markedly, whereas this is not the case for women.

Changes in health inequality



Note: SHARE data waves 1 and 6. Countries are AT, BE, DE, DK, ES, FR, IT, CH & SE

Source: Barslund, M & Ludolph, L. (2020) 'Recent trends in socioeconomic health inequalities among old-age groups across Europe'

Inequalities in health and life-expectancy: what implications for the pension system?

Socio-economic differences in health and life-expectancy at age of retirement imply that on average individuals from one socio-economic group, say highly educated, can expect to have more (healthy) years as pensioners. This raises the question of fairness of the pension system. Can it be made more fair by, for example, introducing differentiated pension ages.

Two contributions were made relating to this debate.¹ One thoroughly discussed the impact of socio-economic differences in life expectancy on the fairness of pension systems. The starting point of the considerations was the notion of actuarial fairness that requires – loosely speaking – a correspondence between total contributions and total benefits. Short-lived individuals should thus be treated differently from long-lived individuals and either pay less contributions or receive higher benefits. Normative concepts of fairness based, for example, on responsibility-sensitive egalitarianism confirm this conclusion. The strong, stable and highly significant correlation between lifetime income and life

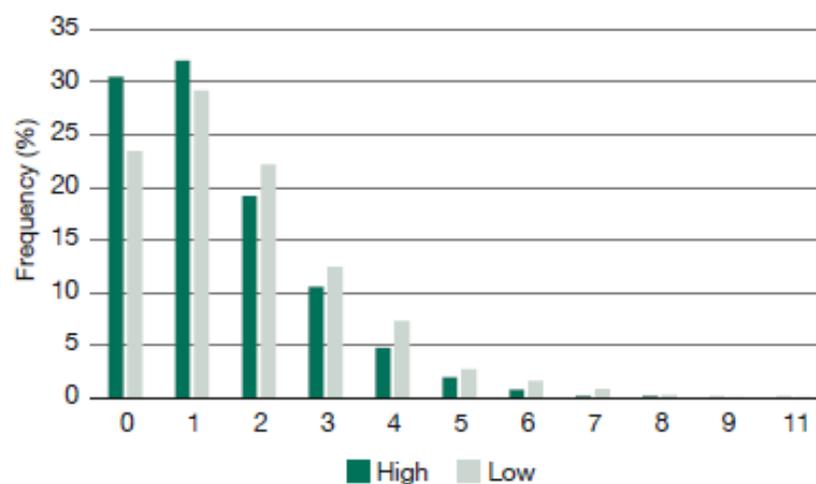
¹ Barslund, M. (2020). Pension Systems in the EU—Some Policy Issues. *Intereconomics*, 55(2), 69-72, and Klotz, J. and Göllner, T. (eds.) 2019), *Differential Mortality: Estimation and Implications for Pension Systems*, FACTAGE Working Paper

expectancy could therefore be used to implement a fair pension system. The contribution also acknowledges a number of challenges in practical implementation.

Another contribution deal with something that the first contribution did not cover. This is the fact that while health and life-expectancy differ in predictable ways across e.g., education, this is so only on *average*. Within each socio-economic group there is *large* variation in health at older ages and life-expectancy. If differentiated statutory retirement ages were introduced in the pension system, many people in good health (and low socio-economic status) would be able to retire earlier, whereas people in bad health (but with high socio-economic status) would have to work longer. Depending on individual well-being is measured and weighted, the pension system may not end up much fairer, if at all.

Such concerns would have to be taken into account in the search for a fairer pension system.

Number of chronic diseases by educational attainment in EU countries among 60-64 year olds



Note: 'High' and 'low' refer to high educational attainment (ISCED 3+) and low educational attainment (ISCED 0-2) respectively.

Source: SHARE data wave 6, pooled sample for the countries AT, DE, SE, ES, IT, FR, DK, GR, BE, CZ, PL, PT, SI and HR.

Source: Barslund, M. (2020). Pension Systems in the EU—Some Policy Issues. *Intereconomics*, 55(2), 69-72.

Education and Training in the UK: Inequalities over the life course

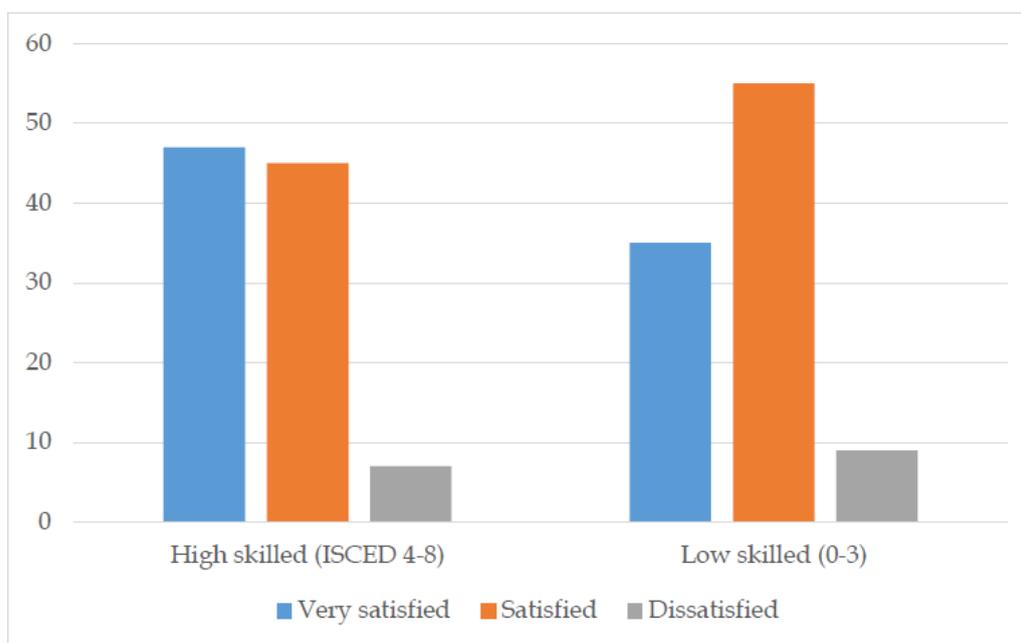
Investment in training is one factor identified as being important for employers looking to accommodate older workers in the workplace. This study follows the lives of around 18,000 people born in England, Scotland and Wales in a single week of 1958, to explore the extent of the receipt of work-related training over the life cycle. The study finds that training declined with age and was

undertaken more by men than women at all ages and more by people with higher qualifications and in less physically demanding jobs. Furthermore, workers with low or no qualifications, working in the most physically demanding jobs expect to stay in work the longest and would therefore benefit the most from undertaking work-related training in later life, yet they are by far the least likely to receive regular training over the life course. Employers need to focus more on the work-related training for these workers to give them the opportunity to be more productive in later life work.

Working conditions and retirement: how important are HR policies in prolonging working life?

One study looked at the relationship between job satisfaction and the length of working lives. The study found a strong positive correlation between working conditions and overall job satisfaction, in particular between the latter and being very satisfied with each of the following specific elements related to job satisfaction physical workload, time pressure, autonomy, availability of support in difficult situations, recognition, perceived adequacy of salary, promotion prospects, and job security. This suggests that improving working conditions could potentially also improve aggregate job satisfaction. The data show existing levels of job satisfaction among older workers to be very high, and this holds across educational groups (See figure).

Given this already high level of job satisfaction, and the fact that being very satisfied with working conditions does not necessarily imply a wish to extend working life, shows that there may be a natural limit to how far better, age-friendly workplaces can lead to extended working lives.

Job satisfaction and educational attainment, 50-59 year olds

Source: SHARE data waves 1, 2, 4, 5 and 6.

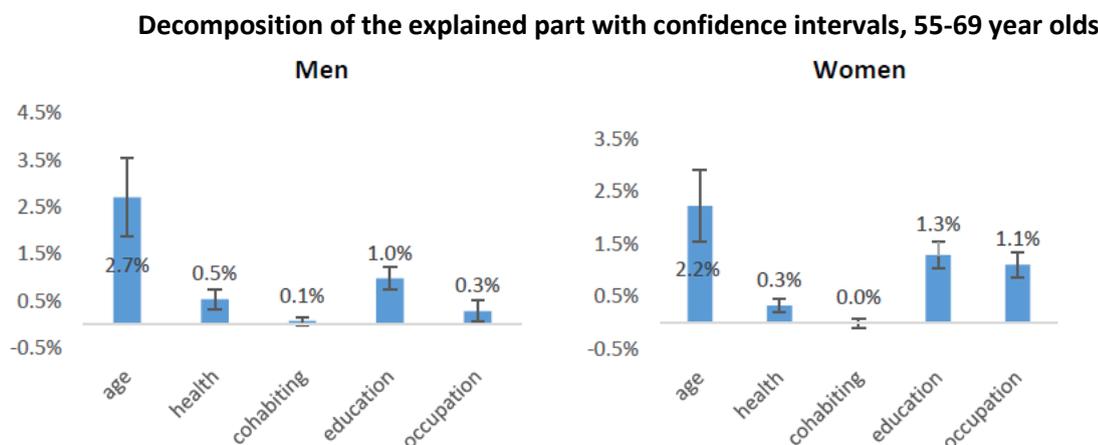
Source: See Barslund M. (Ed.), (2019). *Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities*. CEPS. Open access book.

Relating the number of years worked to job satisfaction in a regression analysis framework controlling for gender, age, educational level and country confirms that, on average, the effect on actual retirement ages of better working conditions and, in turn, higher job satisfaction may be small. Over a range of different econometric specifications, older workers aged 50 to 54 who express a high level of satisfaction with their job tended to retire between 9-12 months later than workers in the same age group who are dissatisfied with their jobs. The effect is somewhat higher for women and high-skilled workers. At the individual level, this effect is, of course, substantial, but because it would apply to relatively few individuals (who are currently less satisfied with their workplaces), the average effect is much smaller. In a hypothetical counterfactual situation where all older workers are very satisfied with their job, people would, on average, work around three months longer before retiring than they presently do.

Drivers of longer working lives in the period 2004-2015

One study looked at driver of longer working lives in the period 2004-2015. The period was limited by the SHARE data availability. The focus was on (changes) in determinants for employment of 55-69 year olds. In particular, it looked at age structure, health changes, family structure (cohabiting), education and occupational structure. These variables explained around 30 percent of the increase

in employment rates in the age group, or a just short of 5 percentage points for both men and women.



Note: 95% confidence intervals indicated.

Source: See Barslund M. (Ed.), (2019). *Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities*. CEPS. Open access book.

The change in age structure makes up half or more than half (for men) of the increase in employment. Labour market participation is much higher in the younger part of the age span 55 to 69 years than among the older members of this age group. Hence, while European populations have generally aged, the age composition within the 55-69 age group has actually shifted towards the younger part of the age span. The second most important factor of those considered here is the improvement in educational attainment. However, education alone only explains around 1 percentage point of the increase, i.e., less than 10% of the overall change in activity rates. Changes in occupational structure, i.e., the shift from manufacturing jobs to jobs in the service sector, play a role that is almost equal in size to that played by education for women, whereas this is much less pronounced for men. Better health explains only a negligible part of the increase in labour market participation rates. This is in line with research showing that health status is seldom a limiting factor in retirement decisions. These results are indicative of early retirement and pension policies being a significant driver of longer working lives.

Active ageing and de-standardisation of retirement transitions

A study investigated how labour market and pension measures associated with active ageing influenced retirement behaviour in Austria and Germany. With focus on two conservative welfare states and the study evaluated how individuals respond to comparable pension scheme changes. Using data from the Survey of Health, Ageing and Retirement in Europe (SHARE), findings point to

increasing average actual retirement ages in both countries. Findings indicate that early retirement becomes less important, while working until pension age has gained in significance. In particular, findings point towards greater de-standardisation of retirement transitions, though to a different extent across the two countries. Whereas gender differences in retirement timing are still prevalent in Austria, in line with traditional conservative welfare state characteristics, it was found that Germany exhibits lower gender differences, but instead displays strong inequalities between education groups. The authors argue that social risks emerge in Germany that are usually found in liberal welfare states and that this trend may be reinforced by retirement policies that focus on “pushing” individuals out of employment. The study contributes to the understanding of how individuals respond to national policy incentives when making retirement transitions.

5. DISSEMINATION AND VALORISATION

FACTAGE has had a strong focus on broad stakeholder outreach with multiple forms of consultation and interaction with stakeholders throughout the life-cycle of the project. Specific examples of outreach, dissemination, and valorisation includes academic conference in Vienna, Berlin, London and Brussels, policy workshops in Vienna and Brussels, training workshops to disseminate research tools in Vienna, presentations at academic conferences (hosted by others), presentations at policy focused events, academic publications, writing for wider audiences as well as media interviews.

Below is a full list of our outreach activities:

Activity or event	Date
ESRC stakeholder event, London Audience: Policymakers/politicians, Postgraduate students, Third sector organisations	March 2017
JPI networking event, London	March 2017
Blog post/article in The Conversation (Andreas Cebulla) Available here: https://theconversation.com/theres-a-yawning-gap-i-n-the-plan-to-keep-older-australians-working-119013	2019
Workshop: Gender Inequalities in Extending Working Lives Programme here: https://www.niesr.ac.uk/events/gender-inequalities-extending-working-lives	September 2018
Conference: Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities (Brussels). Joint event with Eurofound. See programme here: https://www.ceps.eu/ceps-events/policies-for-an-ageing-workforce-work-life-balance-working-conditions-and-equal-opportunities/	24.01.2018
Workshop: Ageing and Productivity Workshop, CEPS, Brussels Programme here: https://www.ceps.eu/ceps-events/productivity-in-ageing-societies-what-impact-on-the-economy/	February 2017
Workshop at Statistics Austria in Vienna on Socioeconomic inequalities	March 2017
Half day workshop in Brussels: Are longer working lives for all? Exploring Emerging inequalities (CEPS, Brussels) See: https://www.factage.eu/news.html	April 2017

2-day training course: FACTAGE Training on Differential Mortality Estimation from EU-SILC Longitudinal Data (Statistics Austria, Vienna) See: https://www.factage.eu/news.html	April 2018
Lunch Seminar: Work-life Balance for Older Women Workers See: https://www.factage.eu/news.html	July 2018
Conference: Socio-Economic Dimensions in Extended Working Lives (Berlin, joint with Society for Social Progress and Deutsche Rentenversicherung Bund) See: https://www.factage.eu/news.html	May 2019
FACTAGE conference Ageing, health and well-being (CEPS, Brussels) See: https://www.factage.eu/news.html	June 2019

Presentations	Date
31st meeting of the Inter-Ministerial Working Group FTI-AG3 "Quality of Life and Demographic Change" – (Statistics Austria)	14.03.2016
FACTAGE Steering Committee Meeting (Statistics Austria, 2 presentations)	17.10.2016
Advisory Board for Population Statistics (Statistics Austria 1 presentation)	24.11.2016
FACTAGE Expert Workshop on Differential Mortality (Statistics Austria, 2 presentations)	15.03.2017
Conference: "Is a Longer Working Life for Everyone?" (Statistics Austria, 2 presentations)	26. 04.2017
EU-SILC-NutzerInnenkonferenz (Statistics Austria, Poster session))	13.06.2017
Wednesday seminar within the Federal Institute of Statistics Austria (Statistics Austria, 1 presentation)	27.09.2017
German-Austria-Swiss demographic Meeting 2017 (DACH) - Tobias Göllner - <i>Estimating Differential Mortality from EU-SILC Longitudinal Data - A Feasibility Study.</i>	16.10.2017
„AGENTA Final Conference: Economic Consequences of Population Ageing and Intergenerational Equity” (Statistics Austria, 1 Poster session)	21.11.2017
Conference: „Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities“ (Statistics Austria, 1 presentation)	24.01.2018

FACTAGE Training to estimate differential mortality of EU-SILC longitudinal data (1.5 days, Statistics Austria)	25.04.2018
Conference: "Use of R in Official Statistics" (Statistics Austria, 1 presentation)	14.09.2018
Conference: "Gender Inequalities in Extending Working Lives" (Statistics Austria, 2 presentations.)	26.09.2018
Pre-Conference Workshop "Estimating Mortality Risks by Socioeconomic Status from EU-SILC Longitudinal Data" (1 day)	06.03.2019
Conference: "6 th European User Conference for EU-Microdata" (Statistics Austria, 1 presentation)	07.03.2019
Conference: "Socio-Economic Dimensions in Extended Working Lives" (Statistics Austria, 1 presentation)	25.04.2019
Flexible working, job pressures and extending working lives", CIPD Applied Research Conference. Programme: https://events.cipd.co.uk/events/arc/	January 2020
"Education and Training in the UK: Inequalities over the life course" at the Ageing, Health and Wellbeing conference, CEPS, Brussels.	June 2019
"Work-life imbalance in extended working lives" at Socio-Economic Dimensions in Extended Working Lives conference, Berlin	April 2019
"Til work do us part? Domestic relationships in extended working life households", at the workshop "Gender Inequalities in Extending Working Lives", NIESR. Programme here: https://www.niesr.ac.uk/events/gender-inequalities-extending-working-lives	September 2018
Presentation on 'Skill mismatch among older workers and workplace performance in Britain', WPEG Annual Conference. Programme here: https://www.sheffield.ac.uk/economics/events/wpeg/conference/2018-programme	2018
Presentation on 'Skill mismatch among older workers and workplace performance in Britain' at the conference "Is a longer working life for everyone? Exploring emerging inequalities among older workers", CEPS. Programme here: https://www.ceps.eu/events/longer-working-life-everyone-exploring-emerging-inequalities-among-older-workers	April 2017
Presentation on 'Skill mismatch among older workers and workplace performance in Britain' at the workshop "Skill mismatch: measurement issues and consequences for innovative and inclusive societies", Torino, June 29-30, 2017.	June 2017

<p>Programme here: https://www.sisp.it/in-evidenza/workshop-on-skill-mismatch-measurement-issues-and-consequences-for-innovative-and-inclusive-societies-torino-june-29-30-2017</p>	
<p>Presentation on Work-life or ‘work versus life’ in older age at the conference “Is a longer working life for everyone? Exploring emerging inequalities among older workers”, CEPS.</p> <p>Programme here: https://www.ceps.eu/ceps-events/is-a-longer-working-life-for-everyone-exploring-emerging-inequalities-among-older-workers/</p>	April 2017
<p>Presentation on ‘Til work do us part? – extending working lives and domestic relationships” at the conference Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities (Brussels). Joint event with Eurofound.</p> <p>See programme here: https://www.ceps.eu/ceps-events/policies-for-an-ageing-workforce-work-life-balance-working-conditions-and-equal-opportunities/</p>	Jan 2018
<p>FACTAGE researcher Andreas Backhaus presented the paper “The Effect of Grandchildren on Grandparental Labour Supply: Evidence from Europe” at UC Louvain on 22 October 2019.</p>	Oct 2019
<p>FACTAGE researcher Andreas Backhaus has presented his joint work with FACTAGE coordinator Mikkel Barslund at the 31st Conference of the European Association of Labour Economists (EALE), which took place September 19-21 at Uppsala University. The paper “The Effect of Grandchildren on Grandparental Labour Supply: Evidence from Europe” was presented in the Session on Retirement and Care.</p>	Sept 2019

6. PUBLICATIONS

The FACTAGE output includes a long list of academic publications and working papers/manuscripts. Some of these are still going through the publication process.

Most recent publication (just out) is Backhaus, A., & Barslund, M. (2021). The effect of grandchildren on grandparental labour supply: evidence from Europe. *European Economic Review*, 103817. It is available here: <https://www.sciencedirect.com/science/article/pii/S0014292121001598>.

Title	Type
<p>Skills Mismatch, Earnings and Job Satisfaction among Older Workers. <i>Sozialer Fortschritt</i>, Vol. 68 (2019), Iss. 4: pp. 339–370. https://elibrary.duncker-humboldt.com/journals/id/21/vol/68/iss/1802/art/10266/</p> <p>A working paper version is available on the FACTAGE website: https://www.factage.eu/pubs/FACTAGE%20Skill%20mismatch%20research%20report%20STAT.pdf</p>	Peer reviewed article
<p>Klotz, J., Göllner, T. and Gärtner, K. (2018). 'Case Study: The Impact of Retirement on Subjective Well-Being in Austria - An Analysis of National EU-SILC Data'.</p> <p>FACTAGE working paper available here: https://www.factage.eu/pubs/FACTAGE_STAT_D2-2_Report_The%20Impact%20of%20Retirement%20on%20Subjective%20Well-Being%20in%20Austria.pdf</p>	Working paper
<p>Klotz, J. & Göllner, T. (2017). Estimating Differential Mortality from EU-SILC Longitudinal Data. A Feasibility Study. FACTAGE Working Paper available here: https://www.factage.eu/pubs/pubs_FACTAGE_Estimating_Differential_Mortality.html</p> <p>A methodological user guide for this paper was published here: Göllner, Tobias; Klotz, Johannes, 2019, "Editing EU-SILC UDB Longitudinal Data for Differential Mortality Analyses. SAS code and documentation.", https://doi.org/10.11587/ZOObKE, AUSSDA, V1</p>	Working Paper Austrian Social Science Data Archive
<p>Klotz, J. and Göllner, T. (2019). Differential Mortality: Estimation and Implications for Pension Systems. FACTAGE Working Paper Available here: https://www.factage.eu/pubs/FACTAGE_STAT_D4-2_Report_final.pdf</p>	Working Paper
<p>Klotz, J. and Göllner, T. (2019). Estimating Differential Mortality from EU-SILC Longitudinal Data Additional Technical Information.</p> <p>FACTAGE Working Paper available here: https://www.factage.eu/pubs/FACTAGE_STAT_D4-3_Report_final.pdf</p>	Working Paper
<p>Göllner, T., and Klotz, J. (2018). Editing EU-SILC UDB Longitudinal Data for Differential Mortality Analyses. SAS code and documentation. FACTAGE Working Paper available here: https://www.factage.eu/pubs/FACTAGE_STAT_EU-SILC_UDB_mortality-analyses-macros.pdf</p> <p>SAS and R computer code to implement the methods in the paper are available here:</p>	Working paper

https://github.com/TobiasGold/FACTAGE-method_Mortality	Computer code
Cebulla A, Hudson-Sharp N, Stokes L, Wilkinson D. (2019). Work-life imbalance in extended working lives: domestic divisions of labour and partners' perceptions of job pressures of non-retiring older workers. <i>Sozialer Fortschritt (German Review of Social Policy)</i> , 68(4), pp. 289-311.	Peer reviewed article
Barslund M. (Ed.), (2019). <i>Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities</i> . CEPS. Available here: https://www.ceps.eu/ceps-publications/policies-for-an-ageing-workforce/	Open Access Book
Fechter (2019): Propensities to work at an old age: Acknowledging differences in Active Ageing? Executive Summary. Available here: https://www.factage.eu/pubs/Executive%20Summary_CF.pdf	Summary
Fechter (2019): Propensities to work at an old age: Acknowledging differences in Active Ageing? Dissertation. Available here: https://www.factage.eu/pubs/FACTAGE_framework.pdf	Book, PhD Dissertation
Fechter, C. and Sesselmeier (2017). Research Report on the Changing Labour Market Conditions for Older Workers. Available here: https://www.factage.eu/pubs/Uni%20KO-L_Research%20report%20D2-1.pdf	Research report
Barslund, M. & Schomaker, L. (2020) 'Trends in labour market outcomes across older cohorts in EU labour markets: Is 60 the new 50?'	Research Report
Fechter, C. and Sesselmeier (2017). Changing Labour Market Conditions for Older Workers. Policy Brief Available here: https://www.factage.eu/pubs/Uni%20KO-L_Policy%20Brief%20D2-4.pdf	Policy Brief
Fechter, C. and Sesselmeier, D. (2019). Socio-Economic Dimensions in Extended Working Lives. <i>Sozialer Fortschritt</i> , Vol. 68 (2019), Iss. 4: pp. 253–254.	Journal article
Fechter, C. (2019a). New Modes, New Challenges? The Influence of Extended Working Lives on the Late Employment Phase in Germany. <i>Sozialer Fortschritt</i> , Vol. 68 (2019), Iss. 4: pp. 313–338.	Journal article
Haupt, M., Sesselmeier, W. and Yollu-Tok, A. (2018). The nudging concept and retirement provision – the view to Sweden. <i>Quarterly bulletins on economic research</i> 2/2018, 17-31.	Journal article
Fechter, C./Weiland, A. (2019): Life-course perspectives on late careers: Benefits from prolonging working lives? <i>Work, Ageing and Retirement</i> , submitted for review.	submitted for review

Schmidhuber, L./Fechter, C./Schroeder, H./Hess, M. (2019): Pension reforms and retirement transitions in Germany and Austria: On or off the institutional path? Submitted Journal of European Public Policy,	Working paper
Backhaus, A., & Barslund, M. (2021). The effect of grandchildren on grandparental labour supply: evidence from Europe. <i>European Economic Review</i>	Peer reviewed
Barslund, M & Ludolph, L. (2020) 'Recent trends in socioeconomic health inequalities among old-age groups across Europe'	Working paper
Mikkel Barslund and Malte Jacob Rattenborg, (2020) 'Effect of Early Retirement on Subjective Wellbeing and Health: Evidence from a German Early Retirement Reform'	Working Paper
Barslund, M. (2020). Pension Systems in the EU—Some Policy Issues. <i>Intereconomics</i> , 55(2), 69-72.	Open access publication

7. ACKNOWLEDGEMENTS

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