Final Report

FACTAGE

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1 General Information

1.1 Acronym of the collaborative project

FACTAGE

1.2 Full title of the project

Fairer Active Ageing for Europe

1.3 Project duration

Planned start date	01/05-2016
Actual start date (of earliest starting national partner)	01/05-2016
Planned end date	01/05-2019
Actual end date (of latest ending national partner)	31/10-2020

1.4 Project coordinator

Name	Mikkel Barslund
Institution	Centre for European Policy Studies
Country	Belgium
Email	mikkelbarslund@gmail.com
Funding Organisation	BELSPO (Belgian Science Foundation)
Duration project participation	October 2016 – Oct. 2020

1.5 Project Partners

Partner 2

Name of Principal Investigator	Johannes Klotz
Institution	Statistics Austria
Country	Austria
Email	Tobias.Goellner@statistik.gv.at
Funding Organisation	
Duration project participation	01/06-2016 to 31/05-2019

Partner 3

Name of Principal Investigator	Lucy Stokes
Institution	NIESR
Country	United Kingdom
Email	l.stokes@niesr.ac.uk
Funding Organisation	
Duration project participation	01/09-2016 – 01/03-2020

Partner 4

Name of Principal Investigator	Werner Sesselmeier
Institution	University Koblenz-Landau
Country	Germany
Email	sesselmeier@uni-landau.de
Funding Organisation	
Duration project participation	01-07-2016 – 30/06-2019

Partner 5

Name of Principal Investigator	Amaia Bacigalupe
Institution	University of the Basque Country
Country	Spain

Email	amaia.bacigalupe@ehu.es
Funding Organisation	
Duration project participation	01-04-2016 – 31/03-2020

Please insert further tables to add more partners, as appropriate.

1.6 Project budget

Please add the budget of the overall project (total budget) and the budget per partner in Euros.

	Funds awarded	**Actual spend**
Total Budget	**€904,430**	**€N/A**

	Funds awarded	**Actual spend**
CEPS	€211,050	€211,050
Statistics Austria	€256,852	€257,900
NIESR	GBP 158,533	GBP 158,533
University Koblenz-Landau	€143,536	€143,536
University of the Basque Country UPV/EHU	€50,000	€50,000

Please insert further rows of the table to add more partners, as appropriate.

2 Plain English Abstract

More active ageing is an unmistakable trend across the EU Member States It is attributed to a steady extension of working careers since the mid-1990s, and due mainly to the closing of pathways to early retirement and better labour market incentives towards longer working careers. FACTAGE starts from the premise that there is still 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.

There remains a gap in terms of a comparative assessment of the impact of policy reforms on inequalities in later life and on fairness between generations. In addressing these two issues, FACTAGE will generate and disseminate evidence on 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?

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.

The focus is on countries represented in the consortium: Austria, Belgium, Germany, Spain, and the UK as well as other selected EU countries where data is more readily available. The concept of well-being in later life will reflect multiple dimensions, including pension incomes and health.

3 Achievements

Please complete the tables below which are intended to capture details of the achievements of the project as a whole, as well as achievements of the individual work packages. There is also space to highlight where you have had to deviate from your original work plans and why. This information will help us in anticipating problems that may be experienced by award holders in future joint calls. This section is for internal use and the information you provide will not be published.

3.1 Summary of Work Packages

WP	Title
WP 1	Scientific Coordination and project management
WP 2	Changing labour markets: factors related to longer working lives and well-being
WP 3	Changing labour markets – emerging inequalities
WP 4	Comparative Assessment of Differential Health and Mortality
WP 5	Scenarios for equitable longer working lives and retirement
WP 6	Dissemination

3.2 Achievements

Achievements of the Project
Please describe the achievements of the overall project. There is space to elaborate on the achievements of individual work packages separately afterwards. Please consider the main objective and aim of the call in your answer (the JPI MYBL secretariat can provide this if required). You should also explain whether the project is *finalised in line with* the work plan set out in your original application and if the project *achieved its expected results* as set out in your original work plan (max 3 pages).
Below we link the research findings to the overall research questions in the original call for proposals (the questions in italic are from the original call text). The different parts of the research programme are collected under each of the four original heading: modern work factors, longer working life and inequality, health challenges and caring responsibilities. **(iv) Caring responsibilities** *Relevant research questions for this topic include:* - *How do caring responsibilities affect retirement decisions?* - *What are the consequences for family care when older people work longer?* We address the issue of caring from the point of view of grandparental childcare (See WP3 below). An emerging literature looks at to what extent having grandchildren affect – causally – retirement decisions. We find that it does, but only for women. Men, who become grandfathers, do not adjust their labour supply. This is the first causal result for 10 EU countries (there is one previous study for Austria). The study has two main implications. In the longer term, having less grandchildren – as fertility decreases work its way through generations – will increase labour supply of older workers. It has indirect implications for the potential effectiveness of increasing retirement ages in increasing the

length of working lives for potential grandparents. On the other hand, how will longer working lives (reduced possibilities of retiring early) affect grandparental childcare and parents' behaviour.

This second question is addressed in a second study on the same theme. This study looked at how parents' labour supply is affected by the availability of grandparental childcare. It turns out that it is important for mothers' labour supply, but not for fathers. This suggest that longer working lives of grandparents may lead to less labour supply by mothers limiting the effect on aggregated labour supply. And that domestic gender inequalities may increase as more women withdraw fully or partially from the labour market. The body of research may also have implications for fertility decisions. Couples may be less likely to have children (or having less children) if grandparental childcare is not available (due to demand for longer working lives).

A number of studies covered various aspect of the themes of '*longer working life & inequality*' and '*health challenges*'.

(i) Longer working life & Inequality

- *How far do policies to extend working life impact differently on different groups of people, considering differences including gender, occupation, education, disability, family status, migrant status, and age cohort? How do such policies affect factors like life expectancy, quality of life, health, and retirement?*
- *What strategies and policies for extending working life ensure that all older people are fairly treated?*

(ii) Health challenges

- *What are the consequences of raising formal retirement and pension ages for a worker's health, work ability, work motivation and quality of life?*
- *What technologies or strategies for organising work and managing health conditions are effective at reducing premature retirement?*
- *What strategies are effective in helping older people to maintain a valued and significant contribution to society, through paid or unpaid activity?*

A part of work package 4 was dedicated to improving measures of socio-economic differences in mortality risk. An important question related to fairness of pension systems and labour market policies of older people is to what extent there are differences in health and life-expectancy. A new method was developed for measuring such differences based on EU-SILC. This is relevant in order to have a harmonised source of such calculations and for countries where no administrative data exists to investigate socio-economic difference in mortality and health. Training was organised for National Statistical Institutes (and other interested researchers). Computer code has been published to facilitate easy access for researchers.

Complementary to work in WP4 a comprehensive literature was done related to published articles documenting differences in healthy life expectancy and life-expectancy. Using SHARE data, a third study looked at trends in socio-economic differences in health of people aged between 50 and 85 years. The study found some evidence that the socio-economic gap in health has widened for men, but not for women.

The implications of the findings above for fairness in the pension system was explored in two contributions. One lays out in great detail the rationale and different methodologies for evaluating fairness when it comes to pension system and socio-economic differences in life-expectancy. In many pension systems differences in life-expectancy lead to (large) differences in return to public pension accumulations / savings. An important point, made in the second study, is that while average socio-economic differences in health and life-expectancy exist there are large differences within socio-economic groups. This implies that it is at the individual level difficult to predict who will live longer at, say, age 65. This makes it difficult in practice to implement more perceived fairness in the pension system.

A study addressed the question of whether working longer affect health and well-being using German data and found suggestive evidence that earlier retirement led to improvement in self-assed health and life satisfaction at ages 60 to 62 years old.

Could longer working lives lead to new inequalities in domestic relationships? This was the question asked by a study conducted on UK data. The suggestive evidence is that it may, though more analysis is needed to properly disentangle cause and effect.

In relation to increasing retirement ages, longer working lives and fairness and study comparing Germany and Austria pointed towards greater de-standardisation of retirement transitions and an emergence of social risks in Germany that are usually found in liberal welfare states.

(iii) Modern work factors

- *How far, and in what ways, are current changes in the way work is organised and managed (including employers' incentives and disincentives) improving or restricting opportunities for people to work longer?*
- *How can the management and organisation of work be most effective in enabling people to work longer?*

Three studies addressed this theme from the angle of skills mismatches among older workers and the relationship between work satisfaction and longer working lives. Two studies looked at skills mismatch among older workers with data from the UK and 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. However, in the UK 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.

The last study linked work satisfaction to length of working life and found that workers very satisfied with their jobs are likely to work longer than those not satisfied. However, importantly, most older workers were either satisfied or very satisfied, leaving relatively little margin for working lives to expand as a consequence of higher work satisfaction.

Achievements WP 1

Please describe the achievements of work package 1 in relation to the initially planned objectives (max. 2 pages).

Scientific Coordination and project management

WP 1 was dedicated to coordination and project management. In particular, day to day management of FACTAGE coordinated by the PI together with his team. The team kept track of the progress of work packages, deliverables, and milestones. It organized the Steering Committee (SC) meetings (invitation, agenda, meeting minutes) and oversaw those decisions were followed up. In WP1 was also where the liaising with JPI and the overall coordination between partners took place. The PI also represents the consortium externally and towards the JPI-MYBL.

The Steering Committee also looks after timely accomplishment of deliverables and milestones, and their quality and correspondence with objectives. It settles potential disagreements between partners and decides on actions to implement these decisions in accordance with the Consortium Agreement drawn up prior to commencement of the project. The Steering Committee coordinates between the WPs.
In term of tangible output, an internal review plan was set up early in the project phase (as foreseen) in the proposal.
Cooperation was good and as part of the preparation and execution of the project new research partnerships were formed.

Achievements WP 2

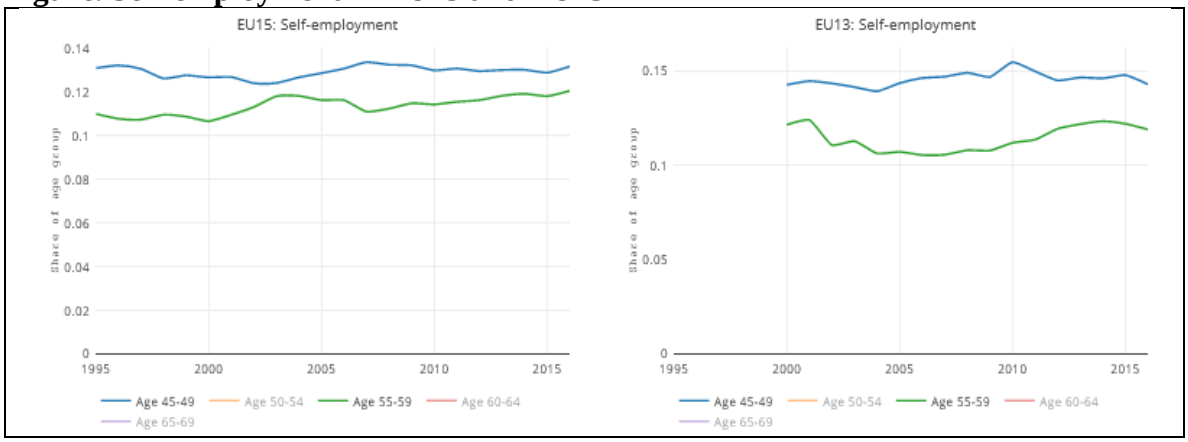
Please describe the achievements of work package 2 in relation to the initially planned objectives (max. 2 pages).

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, sixty 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 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.

Figure. Self-employment in EU15 and EU13



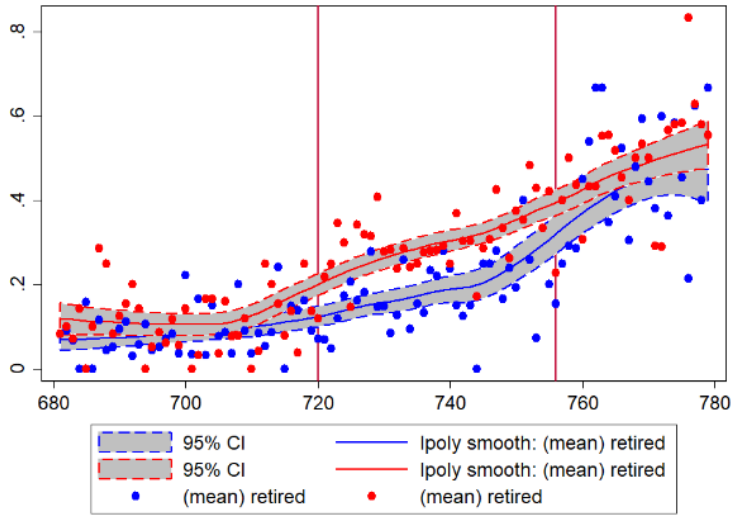
Source: Authors' calculations based on EU-LFS.
Note: Share of employees being self-employed. Data for additional cohorts available here: www.factage.eu/data-explorer.html

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 propensities 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.

Figure: 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.

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

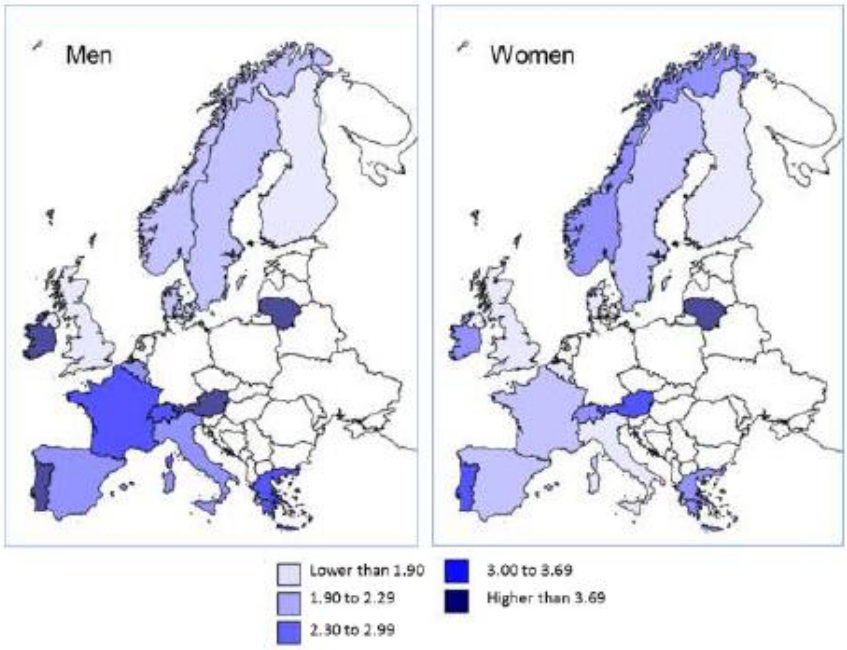
from 60 to 63 years. The reform applied only to women born after 1 January 1952. We utilise this in a so-called fuzzy regression discontinuity design, drawing on data from the German Socio-Economic Panel and the SHARE survey. The reform generates a relevant statistically significant discontinuous jump in the probability of retirement upon turning sixty. Instrumental regression point estimates – comparing women born before and after 1 January 1952 – suggest that earlier retirement led to improvement in self-assed 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 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.

Socio-economic divergences in life expectancy and healthy life expectancy

Two other outcomes of WP2 were 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) and a paper about the analysis of the inequalities in life expectancy in the Spanish population over the age of 65 according to educational level. Regarding the review, 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 were 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.

Regarding the paper about inequalities in life expectancy in the Spanish population over the age of 65, a cross sectional study was done, and life expectancy and healthy life expectancy were calculated combining mortality, health, and population data. Main results showed that people aged 65 and over with a lower educational level had shorter lives, with fewer years of good health and more years of poor health. Women lived longer, but with proportionally more years of poor health.

***Figure:** Life expectancy, life expectancy in good health, years of life in poor health and percentage of life expectancy in good health by sex and educational level. Population Spaniard aged 65 and over, 2012*

	Estadística de mortalidad (2012)		Encuesta Nacional de Salud de España (2011/12)	
	Total	Tasa de mortalidad/1000 habitantes	Total	Buena salud autopercibida (%)
Hombres				
Primarios o inferiores	107.059	55,97	1.289	44,6
Secundarios (1ª etapa)	28.164	35,91	493	55
Secundarios (2ª etapa)	10.906	34,67	210	60
Superiores	15.384	31,5	231	66,3
Mujeres				
Primarios o inferiores	134.828	44,14	2.400	31,2
Secundarios (1ª etapa)	26.142	26,39	861	47,5
Secundarios (2ª etapa)	7.336	23,90	237	58,5
Superiores	7.073	22,10	175	69,8

Tabla 2
Esperanza de vida, esperanza de vida con buena salud, años de vida con mala salud y porcentaje de esperanza de vida con buena salud por sexo y nivel de estudios. Población española de 65 y más años, 2012

	Esperanza de vida	Esperanza de vida con buena salud, años (IC95%)	Años de vida con mala salud	Esperanza de vida con buena salud (%)
Hombres				
Primarios o inferiores	18,17	7,97 (7,50-8,45)	10,20	43,8
Secundarios (1ª etapa)	19,26	9,50 (8,64-10,34)	9,76	49,3
Secundarios (2ª etapa)	19,68	10,26 (8,82-11,82)	9,42	52,1
Superiores	20,39	12,53 (11,24-13,83)	7,87	61,4
Diferencia entre extremos (absoluta)	2,23	4,56	−2,33	17,6
Diferencia entre extremos (relativa)	12,2%	57,1%	−22,9%	40,0%
Mujeres				
Primarios o inferiores	22,42	6,73 (6,33-7,13)	15,69	30,0
Secundarios (1ª etapa)	23,69	10,19 (9,44-10,97)	13,50	43,0
Secundarios (2ª etapa)	24,75	12,58 (10,92-14,46)	12,17	50,8
Superiores	24,72	13,54 (11,87-15,22)	11,19	54,8
Diferencia entre extremos (absoluta)	2,31	6,81	−4,50	24,8
Diferencia entre extremos (relativa)	10,3%	101,2%	−28,7%	82,4%

Source: Martín U, Domínguez-Rodríguez A, Bacigalupe A. Social inequalities in health in the older population: an insight into the debate on delayed retirement age in Spain from a public health perspective. Gac Sanit. 2019 Jan-Feb;33(1):82-84

Achievements WP 3

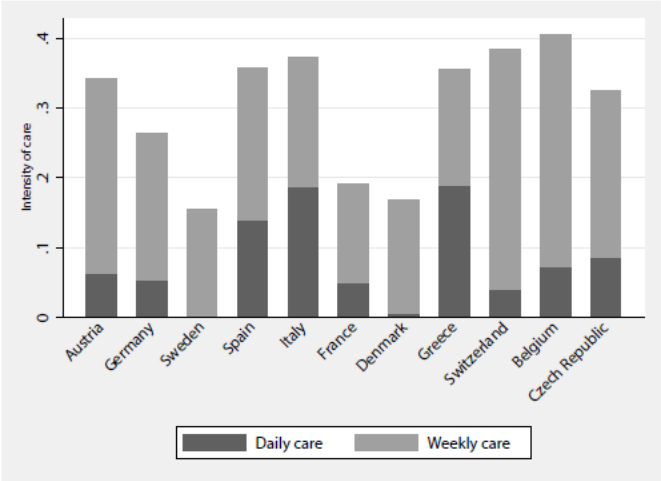
Please describe the achievements of work package 3 in relation to the initially planned objectives (max. 2 pages).

WP3: Changing labour markets – emerging inequalities

Longer working lives and grandparental childcare

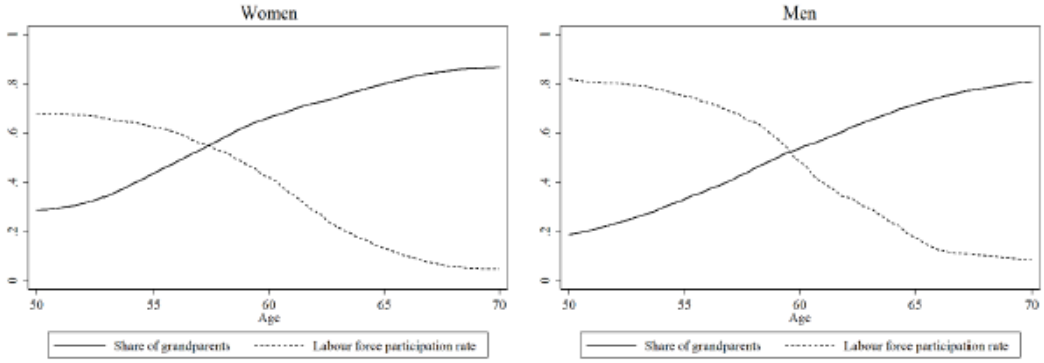
Grandparental childcare is prevalent throughout Europe (see figure). In the context of the policy drive to increase the length of working lives for people aged 55+ this may have several implications. Less time may be available to provide grandparental childcare as the effective retirement age increases; 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

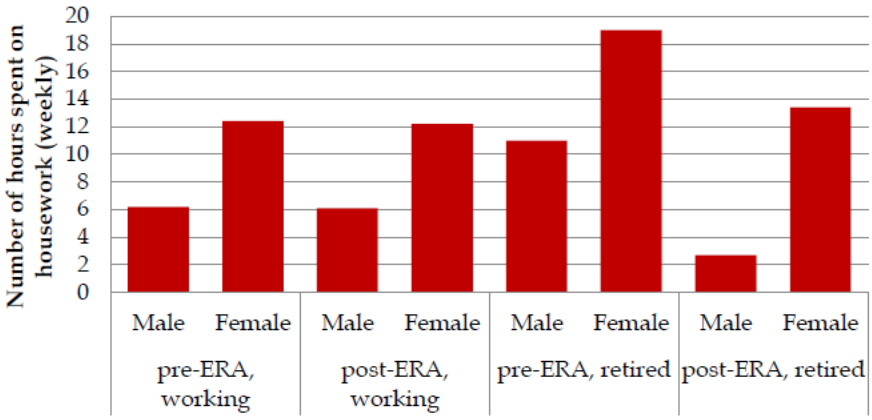
a larger effect for mothers with low educational attainment, though the difference is not large. These findings suggest that the ongoing policy drive to extend working lives for workers in the age group 55 – 64 years could affect labour market attachment of mothers by limiting time available for grandparental 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.

Figure: *Hours spent per week on housework for coupled men and women, by working status (Pre and post retirement)*



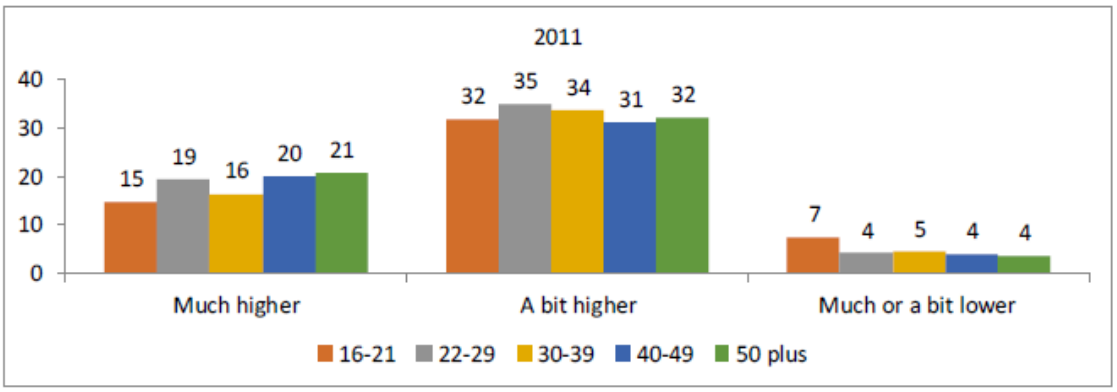
Note: ERA = Effective Retirement Age.
Source: Understanding Society (2016), authors' calculations.

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 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.

Figure: *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.

Achievements WP 4
Please describe the achievements of work package 3 in relation to the initially planned objectives (max. 2 pages).

WP Title: 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.

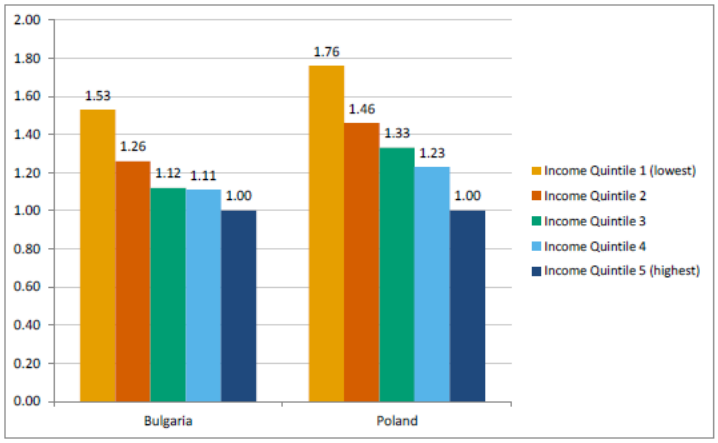
A feasibility study by Statistics Austria in the FACTAGE project demonstrates that this gap can be closed by better use of harmonized longitudinal microdata from EU-SILC (Community Statistics on Income and Living Conditions). By its design, EU-SILC measures socio-economic inequality, and the assessment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

Figure: 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
Note: 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.

Other studies related to WP2 can be found on the FACTAGE website: www.factage.eu

Achievements WP 5

Please describe the achievements of work package 3 in relation to the initially planned objectives (max. 2 pages).

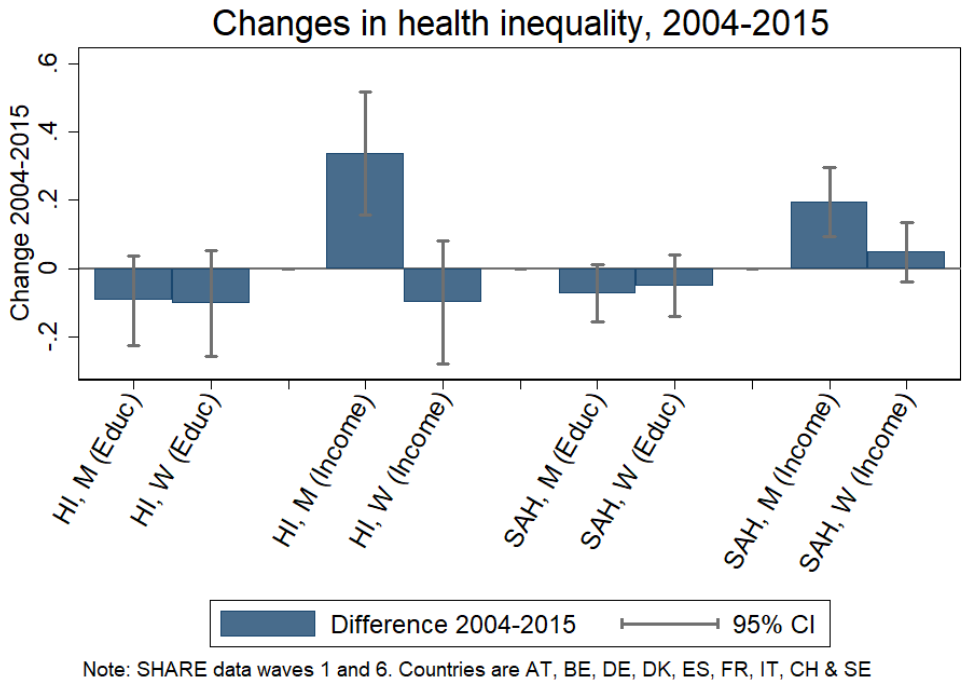
Inequalities, the life-course, and pension systems

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.

Figure: Changes in health inequality



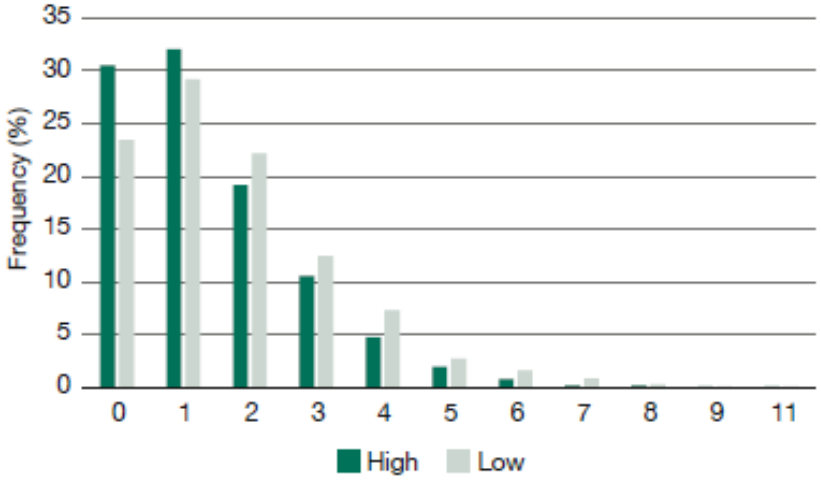
Note: SHARE data waves 1 and 6. Countries are AT, BE, DE, DK, ES, FR, IT, CH & SE

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. 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 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.

Figure: 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.

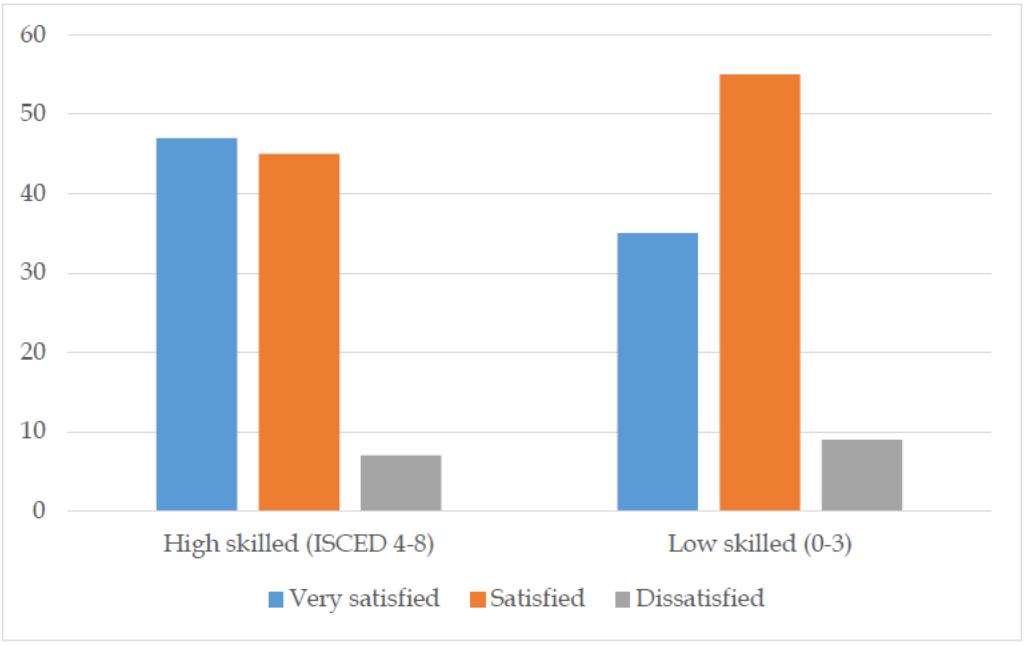
Working conditions and retirement: how important are HR policies in prolonging working life?

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.

Figure: ***Job satisfaction and educational attainment, 50-59 year olds***



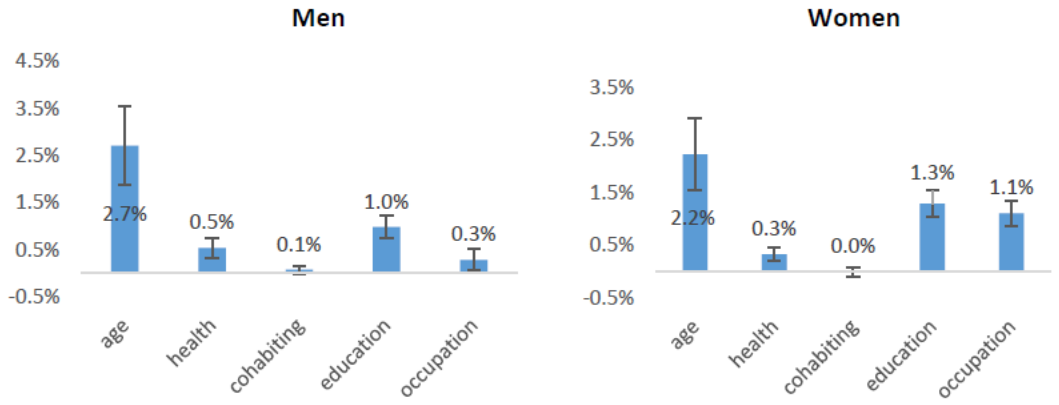
Source: SHARE data waves 1, 2, 4, 5 and 6.

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.

Figure: Decomposition of the explained part with confidence intervals, 55-69 year olds



Note: 95% confidence intervals indicated.

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 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.

Conferences and published book

Two conferences were held as part of this work package. One, '*Policies for an Ageing Workforce: Work-life balance, working conditions and equal opportunities'*, was held in cooperation with Eurofound and resulted in the publication of an edited e-book with the same name.

A second conference was titled *'Ageing, health and well-being'.*

Both events had speakers external to the FACTAGE project as well as FACTAGE speakers and were very well attended. (See further details on the FACTAGE website).

Achievements WP 6
Please describe the achievements of work package 3 in relation to the initially planned objectives (max. 2 pages).

WP6: Dissemination

WP6 was the anchor for FACTAGE's dissemination strategy. The following activities were part of this work package:

- FACTAGE project website (www.factage.eu)
- Half day workshops on various topics related to the research agenda of FACTAGE
- Liaising with other EU funded projects and initiatives, including sister project in the JPI More Year Better Lives Programme

- Final international project conference
- The project website was live from Month 3 of the project and has been updated throughout with publications, activities, and news.
- Half day conferences were organised on:
  Productivity in ageing societies – what impact on the economy?
  Are longer working lives for all? Exploring Emerging inequalities
  Work-life Balance for Older Women Workers (Lunch seminar)
  Gender Inequalities in Extending Working Lives
  Descriptions of each of these events are available on the website in the News section.
- There was extensive activity around the different MYBL sister projects. Concretely, this meant that researchers from Extend presented at FACTAGE event and there was a joint panel arranged at the 11th European Public Health Conference (see the FACTAGE website).

Final conference:

The final conference was held in Berlin in cooperation with Society for Social Progress and Deutsche Rentenversicherung Bund with the title: *Socio-Economic Dimensions in Extended Working Lives.*

The conference had speakers from the FACTAGE project as well as external contributors.

The full programme is available on the FACTAGE website in the news section.

Figure: Programme for the final conference held in Berlin

Programme:

10.00am–10.15am	Welcome address	Gundula Roßbach
10.15am–10.55am	Longer working and demographic change: Implications and open questions	Martin Brussig
10.55am–11.35am	Work-life balance in older age: links to domestic divisions of labour and happiness	Lucy Stokes
11.35am–12.15pm	Skills mismatch, earnings and job satisfaction among older workers	Jakob Peterbauer
1.00pm–1.40pm	Grandparental childcare and parent's labour supply: Evidence from Europe	Mikkel Barslund
1.40pm-2.20pm	Labor market effects of early retirement reforms	Rebecca Schrader
2.50pm –3.30pm	New modes, new risks? The influence of extended working lives on the late employment phase in Germany	Charlotte Fechter
3.30pm –4.10pm	Labor market and distributional effects of an increase in the retirement age	Anna Hammerschmid
4.10pm –4.30pm	Closing comments	Werner Sesselmeier

Source: Screenshot from the FACTAGE website.

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Please insert further tables to add more work packages, as appropriate.

3.3 Deviations from the original work plan

Please describe any significant deviations from the original work plan at the level of the overall project and each individual work package. Describe how any deviations differ from the original plan and give clear reason(s) for the deviation(s) or anything not achieved to date.
The work plan was broadly followed as envisaged. Where we could not get as far as we had prior to starting the research programme we expanded on other elements. Two specific areas where we had hoped to make more progress were ‘modern work factors and non-standard work’ and ‘inequalities in well-being at ages around retirement”. We did do work on these topics (cf. above), but we did not get as in-depth as we had hoped for. In both cases the cause of missing progress was insufficient data. In general, data is thin on non-standard work (e.g., platform work) and when it comes to older workers or workers nearing retirement it is close to non-existent. Data on well-being is available in a number of different surveys. However, in our preliminary analysis based on European Social Survey and SHARE the sample sizes got too small when we zoomed in on the relevant age group and divided the sample in educational attainment groups. Lack of data on non-standard work was to be expected at the outset, however, it is also an area where a lot of research is going on and new data sets are emerging. When it comes to the data on well-being, this is something that can only really be discovered when doing the actual work.

4 Key Findings and Recommendations

Please describe the key high-level findings of the research for each work package (max. four key findings per work package) and highlight recommendations associated with each key finding (e.g., recommendations for policy or practice).

WP 1	
Key findings	**Recommendations**
Project management	

WP 2	
Key findings	**Recommendations**
Labour market outcomes for older vs younger cohorts 1995-2016: Employment rates of older workers have increased markedly in most EU countries. However, many indicators of labour market conditions - e.g., hiring rates, (long term) unemployment, part-time employment – have remained rather static. 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. Another study argues that for Germany there has been an increase in flexible working arrangement for older workers.	Nothing specific.
Longer working lives and subjective wellbeing: we did not find statistically significant results related to whether longer working lives lead to lower health and well-being in Germany.	Nothing specific.
Systematic review of the literature on socio-economic divergences in life and healthy life expectancy at the point of retirement (or relevant	Nothing specific

older ages) (see also WP4) and a paper about the analysis of the inequalities in life expectancy in the Spanish population over the age of 65 according to educational level. Large socio-economic differences in life-expectancy and healthy life-expectancy across Europe. More detailed analysis available for Spain.	

WP 3	
Key findings	**Recommendations**
Longer working lives and grandparental childcare: 1) 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). 2) 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.	Pay attention to the effect on mother's labour market participation from longer working lives of grandparents.
Domestic relationships in extended working life households: For the UK, 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.	Nothing specific.

Skills mismatch among older workers: 1) 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. 2) In the UK, the study finds 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.	There is little reason to worry that older workers are not using their skills/are employed in positions underusing their skills.

WP 4	
Key findings	**Recommendations**
Improving the measurement of socio-economic mortality differentials: An important achievement of this WP4 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.	Nothing specific.
One study 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. 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	Nothing specific.

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.	

WP 5	
Key findings	**Recommendations**
Recent trends in socio-economic inequalities among old-age groups across Europe: 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.	Nothing specific.
Inequalities in health and life-expectancy: what implications for the pension system? Two articles discussed the challenges of adjusting for health inequalities via the pension system.	Nothing specific.
Education and Training in the UK: Inequalities over the life course	Nothing specific.

One study from the UK 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.	
Working conditions and retirement: how important are HR policies in prolonging working life? 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.	Nothing specific.
Drivers of longer working lives in the period 2004-2015 Better health explains only a negligible part of the increase in labour market participation rates for older workers. 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.	Nothing specific.

WP 6	
Key findings	**Recommendations**
Website: www.factage.eu	
Half-day workshops: Productivity in ageing societies – what impact on the economy? Are longer working lives for all? Exploring Emerging inequalities Work-life Balance for Older Women Workers (Lunch seminar) Gender Inequalities in Extending Working Lives	
Final international conference	

5 Milestones

Please describe the milestone(s) for each work package and indicate when you achieved each milestone, leaving the final column blank if the milestone was not achieved.

WP	Milestone	Date achieved
WP 1	*Explicit milestones were not specified in the proposal*	
	The proposal and work plan did not specify specific milestones. Work was planned as part of the project coordination.	

Please insert further rows to add more deliverables, as appropriate.

6 Deliverables

Please describe the deliverable(s) for each work package and indicate when you achieved each deliverable, leaving the column blank if the deliverable was not achieved. In addition, please report the dissemination level (i.e., public, confidential) and the format of the deliverable (e.g., report, video). Please collate copies of all the deliverables in a ZIP-file and submit the file along with this report. Please name the individual items in the ZIP-file identically to the deliverable names in the table below to enable easy identification.

WP	Deliverable name	Date achieved	Dissemination level	Format	Attached
WP 1	Website: see www.factage.eu		Public	Website	No
	Skills Mismatch, Earnings and Job Satisfaction among Older Workers. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 339–370. https://elibrary.duncker-humblot.com/journals/id/21/vol/68/iss/1802/art/10266/		Public		Yes
	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'.		Public	Pdf	Yes
	Klotz, J. & Göllner, T. (2017). Estimating Differential Mortality from EU-SILC Longitudinal Data. A Feasibility Study. FACTAGE Working Paper		Public	Pdf	Yes
	Klotz, J. & Göllner, T. (2017). *Policy Brief*: Estimating Differential Mortality from EU-SILC Longitudinal Data. A Feasibility Study. FACTAGE Working Paper		Public	Pdf	Yes
	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		Public	Pdf	Yes
	Klotz, J. and Göllner, T. (2019). Differential Mortality: Estimation and Implications for Pension Systems. FACTAGE Working Paper		Public	Pdf	Yes
	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.		Public	Pdf	Yes

	Sozialer Fortschritt (German Review of Social Policy), 68(4), pp. 289-311.				
	Barslund M. (Ed.), (2019). *Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities.* CEPS.		Public	Pdf	Yes
	Fechter (2019): Propensities to work at an old age: Acknowledging differences in Active Ageing? Executive Summary.		Public	Pdf	Yes
	Fechter (2019): Propensities to work at an old age: Acknowledging differences in Active Ageing? Dissertation.		Public	Pdf	Yes
	Fechter, C. and Sesselmeier (2017). Research Report on the Changing Labour Market Conditions for Older Workers.		Public	Pdf	Yes
	Fechter, C. and Sesselmeier, D. (2019). Socio-Economic Dimensions in Extended Working Lives. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 253–254.		Public	Pdf	Yes
	Fechter, C. (2019a). New Modes, New Challenges? The Influence of Extended Working Lives on the Late Employment Phase in Germany. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 313–338.		Public	Pdf	Yes
	Haupt, Marlene; Sesselmeier, Werner; Yollu-Tok, Aysel (2018) : Das Nudging-Konzept und die Altersvorsorge: der Blick zu knuff und puff in Schweden, Vierteljahrshefte zur		Public	Pdf	Yes

	Wirtschaftsforschung, ISSN 1861-1559, Duncker & Humblot, Berlin, Vol. 87, Iss. 2, pp. 17-31, https://doi.org/10.3790/vjh.87.2.17				
	Schmidthuber, L., Fechter, C., Schröder, H., & Hess, M. (2021). Active ageing policies and delaying retirement: Comparing work-retirement transitions in Austria and Germany. Journal of International and Comparative Social Policy, 37(2), 176-193. doi:10.1017/ics.2021.1		Public	Pdf	Yes
	Martín U, Domínguez-Rodríguez A, Bacigalupe A. Social inequalities in health in the older population: an insight into the debate on delayed retirement age in Spain from a public health perspective. Gac Sanit. 2019 Jan-Feb;33(1):82-84		Public	Pdf	Yes
	Mosquera I, González-Rabago Y, Martín U, Bacigalupe A. Socio-Economic Inequalities in Life Expectancy and Health Expectancy at Age 50 and over in European Countries. Insights for the Debate on Pension Policies Sozialer Fortschritt, 68 (2019), 255 – 288		Public	Pdf	Yes
	Barslund, M. (2020). Pension Systems in the EU—Some Policy Issues. Intereconomics, 55(2), 69-72.		Public	Pdf	Yes
	Backhaus, A., & Barslund, M. (2021). The effect of grandchildren on grandparental labor supply: evidence from Europe. European Economic Review, 137, 103817.		Public	Pdf	Yes

	Barslund, M., Bauknecht, J., & Cebulla, A. (2019). Working conditions and retirement: How important are HR policies in prolonging working life? Management Revue, 30(1), 120-141.		Public	Pdf	Yes
	Barslund, M. & Schomaker, L. (2020) 'Trends in labour market outcomes across older cohorts in EU labour markets: Is 60 the new 50?'		confidential	Pdf	Yes
	Barslund, M & Ludolph, L. (2020) 'Recent trends in socioeconomic health inequalities among old-age groups across Europe'		confidential	Pdf	Yes
	Mikkel Barslund and Malte Jacob Rattenborg, (2020) ' Effect of Early Retirement on Subjective Wellbeing and Health: Evidence from a German Early Retirement Reform'		confidential	Pdf	Yes
	Barslund, M and Schomaker, L. Grandparental Childcare and Parent's Labour Supply: Evidence from Europe. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 371–391.		Public	Pdf	Yes

Please insert further rows to add more deliverables, as appropriate.

7 Outputs

7.1 Publication list

Please list the publications that resulted from the funded project and indicate which type of publication (e.g., peer reviewed article, book/book chapter, review, communication in scientific congress, dissertation, other).

Title	Type
Skills Mismatch, Earnings and Job Satisfaction among Older Workers. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 339–370. https://elibrary.duncker-humblot.com/journals/id/21/vol/68/iss/1802/art/10266/ A working paper version is available on the FACTAGE website: https://www.factage.eu/pubs/FACTAGE%20Skill%20mismatch%20research%20report%20STAT.pdf	Peer reviewed article
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'. 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	Working paper
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 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	Working Paper Austrian Social Science Data Archive
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	Working Paper

Klotz, J. and Göllner, T. (2019). Estimating Differential Mortality from EU-SILC Longitudinal Data Additional Technical Information. FACTAGE Working Paper available here: https://www.factage.eu/pubs/FACTAGE_STAT_D4-3_Report_final.pdf	Working Paper
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 SAS and R computer code to implement the methods in the paper are available here: https://github.com/TobiasGold/FACTAGE-method_Mortality	Working paper 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. *Sozialer Fortschritt (German Review of Social Policy)*, *68*(4), pp. 289-311.	Peer reviewed article
Barslund M. (Ed.), (2019). *Policies for an ageing workforce: Work-life balance, working conditions and equal opportunities.* 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

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. Sozialer Fortschritt, 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. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 313–338.	Journal article
Haupt, Marlene; Sesselmeier, Werner; Yollu-Tok, Aysel (2018) : Das Nudging-Konzept und die Altersvorsorge: der Blick zu knuff und puff in Schweden, Vierteljahrshefte zur Wirtschaftsforschung, ISSN 1861-1559, Duncker & Humblot, Berlin, Vol. 87, Iss. 2, pp. 17-31, https://doi.org/10.3790/vjh.87.2.17	Journal article
Schmidthuber, L., Fechter, C., Schröder, H., & Hess, M. (2021). Active ageing policies and delaying retirement: Comparing work-retirement transitions in Austria and Germany. *Journal of International and Comparative Social Policy*, *37*(2), 176-193. doi:10.1017/ics.2021.1	Journal article
Martín U, Domínguez-Rodríguez A, Bacigalupe A. Social inequalities in health in the older population: an insight into the debate on delayed retirement age in Spain from a public health perspective. Gac Sanit. 2019 Jan-Feb;33(1):82-84	Journal article
Mosquera I, González-Rabago Y, Martín U, Bacigalupe A. Socio-Economic Inequalities in Life Expectancy and Health Expectancy at Age 50 and over in European Countries. Insights for the Debate on Pension Policies Sozialer Fortschritt, 68 (2019), 255 – 288	Journal article
Mosquera I, González-Rabago Y, Bacigalupe A. Reforms in the Spanish pension system and social inequality: what does life expectancy tell us? Revista del Ministerio de Trabajo y Economía Social	submitted for review
Barslund, M. (2020). Pension Systems in the EU—Some Policy Issues. *Intereconomics*, *55*(2), 69-72.	Journal article
Backhaus, A., & Barslund, M. (2021). The effect of grandchildren on grandparental labor supply: evidence from Europe. *European Economic Review*, *137*, 103817.	Journal article

Barslund, M., Bauknecht, J., & Cebulla, A. (2019). Working conditions and retirement: How important are HR policies in prolonging working life? *Management Revue, 30*(1), 120-141.	Journal article
Barslund, M. & Schomaker, L. (2020) 'Trends in labour market outcomes across older cohorts in EU labour markets: Is 60 the new 50?'	Research Report
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 and Schomaker, L. Grandparental Childcare and Parent's Labour Supply: Evidence from Europe. Sozialer Fortschritt, Vol. 68 (2019), Iss. 4: pp. 371–391.	Journal article

Presentations at (scientific) conferences and symposia, including JPI MYBL activities

Please list the presentations at (scientific) conferences and symposia that resulted from the funded project.

Presentation	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
Review of socio-economic inequalities in life expectancy and healthy life expectancy in Europe (Statistics Austria, 2 presentations)	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 - *Estimating Differential Mortality from EU-SILC Longitudinal Data - A Feasibility Study.*	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: “6th 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. 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	June 2017
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. Programme here: https://www.ceps.eu/events/longer-working-life-everyone-exploring-emerging-inequalities-among-older- workers	April 2017
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. See programme here: https://www.ceps.eu/ceps-events/policies-for-an-ageing-workforce-work-life-balance-working-conditions-and-equal-opportunities/	Jan 2018

7.2 Communications, public engagement activities and knowledge exchange events

Please list the communications, public engagement activities and knowledge exchange events where results from the funded project were shared with specific audiences, including the general public.

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)	2019

Available here: https://theconversation.com/theres-a-yawning-gap-i n-the-plan-to-keep-older-australians-working-119013	
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

8 Impact

8.1 Scientific impact

Describe the nature of the major scientific impacts of your results, i.e., the addition to the current state of knowledge (new data, new methods, new perspective, confirmation of theses, first transnational approach). Describe to what extent the scientific impact has been promoted through the international and comparative perspective of the various members of the consortium (max. 2 page).
Here we emphasize several central findings from the FACTAGE project: • A structured literature survey showed that inequalities in life expectancy (LE) and healthy life expectancy (HE) by level of educational attainment at age 50 are large but varies across EU countries. The structured survey also revealed that for a number of EU countries socio-economic differences in LE and HE at age 50 (or 65) have not been systematically studied (or such studies have not been published in peer-reviewed journals). The data requirements to make good inferences on such socio-economic differences are considerable, and this data may not be readily available in some EU countries. • The finding above led to the development of a method 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 based on a harmonised data base. This does not in itself lead to more accurate estimates but does facilitate better cross-country comparisons. It also allows for assessment in differences for countries where no prior estimates are available. The method is thoroughly documented, and replication files as well as a statistical package are available as open-source software. • Two deliverables contributed to the conceptual discussion about differences in life-expectancy and its interaction with the pension system. One deliverable made the point that given the considerable socio-economic differences in life-expectancy, there are substantial differences in the return individuals receive on 'pension savings' (this can be individual or collective via labour market pension systems). In this sense (most) pension systems are not fair. The other deliverable made the point that, at least within educational groups, say, low and high educational attainment there is considerable diversity in age of actual death. Hence, 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. • Results suggest that longer working lives may perpetuate unequal divisions of domestic labour. In many countries, women's length of working life has either increased more than that for men or is set to do so in the future. For this deliverable data was only available for the UK. As the authors acknowledge, more research is needed to clearly disentangle cause and effect as well as the need to cover different countries and retirement systems in the future.

- 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 stable. 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 – each address in one of two deliverables – 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 lives of senior workers (aged 50-64). The primary reason is that a large majority of workers (in employment) are already very satisfied or satisfied with their job. Those with lower job satisfaction, though, would work longer if job satisfaction could be improved. The implication of this finding is not the working conditions do not matter, they do for those experiencing worse working conditions, but that we should not expect a drive for better working conditions to significantly drive up employment among older workers. The deliverable did not address important secondary effects, such as the fact that poor working conditions can lead to health problems and early withdrawal from the labour force.

8.2 Societal impact

Describe the impact of the results on different target groups (e.g., health professionals, policy makers, patients), including the pathway to reaching this impact. Describe how the results have been or will be used, disseminated, and implemented by each target group, including beyond the lifetime of the project (max. 2 page).

The main societal impact lies in improved knowledge of the phenomena studied as part of the project. In EU countries where socio-economic differences in life-expectancy have not yet been examined due to lack of data, the project has provided a toolbox for how to provide such estimates based on EU-SILC data. While this data is not immediately publicly available, it is made available for research institutions. They will therefore be equipped with the ability to inform policy makers of trends in socio-economic differences in life-expectancy. For countries where this has been studied the project provides information of the state-of-the-art through the structured survey of estimates of socio-economic differences in life-expectancy.

Other parts of the project have a more informative character which can inform public policy discussions and highlight trade-offs in policy making.

9 Data Management and Data Sharing

Describe how this project contributes to sustainable data and research infrastructures, including a description of the sustainability of the research results within the wider research community. Please take into account the FAIR data Principles and indicate if your project (partly) contributes to these principles (max. 1 page).
No new data sets were produced as part of the project. All researchers are committed to make computer code and clear descriptions of necessary steps to replicate analysis presented as part of the project.

Publicly-funded research data are valuable, long-term resources that, where practical, should be made available for secondary scientific research. Some funders expect that all data created or repurposed during the lifetime of a grant will be made available for re-use or archiving, recognising that some research data are more sensitive than others. If you have created or repurposed data as part of your project and it has been made available for re-use or archiving, please use the table below to indicate where it can be accessed and who it can be accessed by.

Dataset	**Available for**	**Available at**
Name of the dataset	Who can access the data?	Link to the dataset (if applicable)
No new data sets were produced.		

10 Collaboration

10.1 Collaboration within the project

Are the academic collaborations within this project new or were these existing collaborations? How did you involve the different academic partners in the project?
Only two institutes (of the five involved) had worked together prior to writing the proposal. There were collaborations related to the book published. Academic cooperation revolved around joint presentations and feedback between partners.

10.2 Collaboration with Stakeholders

Are the collaborations with stakeholders within this project new or were these existing collaborations? How did you involve the different stakeholders in the project?
Partners knew of most of the stakeholders prior to the project. We consulted, via our events in Brussels, Berlin, Vienna, and London a very wide set of stakeholders. In addition, we interacted with many more stakeholder through presentations at conferences and events.

10.3 Collaboration with Patients and the Public

How did you involve patients and/or the public in the project? Were patients and the public actively involved in research design and delivery? Did decisions about the research include the patient and public perspective Note, when we refer to patient and public involvement in research, we mean research being carried out with and by patients and the public, not to, for or about them (see, www.invo.org.uk). We do not mean patient and public engagement, where research information is presented or disseminated to patients and the public.
No patients or public were involved in the research.

10.4 Collaboration with other JPI MYBL projects

Please describe any connections, bilateral meetings, knowledge exchange etc. between your project and other JTC projects funded by the JPI MYBL.
We had regular exchanges with the EXTEND project, a joint panel with all sister projects as well as some exchanges with individual researchers from other projects. In general, within our project, our perception was that we had a good idea of what other researchers were doing in the sister projects. In my view, this worked much better than when H2020, or projects from the FP7 programme were running in parallel.

10.5 Collaboration with other European/national projects

Please describe actual and intended collaborations with other European/national projects (e.g., collaboration with related projects not funded by JPI MYBL).
No additional cooperation with other projects other than JPI funded projects were intended from the outset apart from attending and speaking at conference. As part of the FACTAGE project a joint conference was organised together with Eurofound.

10.6 Added value of the International Consortium

Please describe the added value of working as an international consortium, compared to project partners each working separately at the national level. In what way and to what extent did the international cooperation in the project help to broaden your perspective on demographic change in Europe and beyond?
International cooperation primarily adds value in terms of detailed knowledge sharing among participants from different countries. At the scientific level this is primarily related to knowledge of measurement/surveys and data sources as well as advanced knowledge of analysis (however, analysis will eventually also be distributed via English language publications). From a societal perspective, knowledge is shared about implemented policies, how they work, and particularly, unintended side effects.

11 What can we do for you?

11.1 What can we do for you?

What can we do to help you to amplify your message? How can we help you to connect to the right people/stakeholders (e.g., to share your research results)? How can we help you to add value to your results?
JPI was very helpful in arranging conferences and contacts to stakeholders. More impact could be achieved by targeting stakeholders more narrowly. This could be done by joint project events which only concentrate on a narrow topic (within this call, an example could be the theme of caring).

11.2 Feedback for JPI MYBL

Please provide any feedback arising from this project so we can improve our procedure for any future joint calls.
JPI did a lot to connect the different projects together. More could be done by reserving part of the budget for joint conferences. It may also be an idea to allow for much more focused, but smaller, projects, while still keeping the international dimension. These narrow projects could be defined on concrete policy problems from member states. To keep the scientific focus, projects should be asked to inform aspects of the policy issue.