



Deliverable Number: D4.4

Deliverable Title: Refined labour market analyses of 2nd round SCS and Wave 9

Work Package: 4

Deliverable type: R

Dissemination status: PU

Submitted by: SHARE Central

Authors: Agar Brugiavini

Date Submitted: July 2024

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under project ID 101015924.





www.share-project.org

SHARE, the Survey of Health, Ageing and Retirement in Europe, is a research infrastructure for studying the effects of health, social, economic and environmental policies over the life-course of European citizens and beyond. From 2004 until today, 616,000 in-depth interviews with 160,000 people aged 50 or older from 28 European countries and Israel have been conducted. Thus, SHARE is the largest pan-European social science panel study providing internationally comparable longitudinal micro data, which allows insights in the fields of public health and socio-economic living conditions of European individuals, both for scientists and policy makers. SHARE has global impact since it not only covers all EU member countries in a strictly harmonized way but additionally is embedded in a network of sister studies all over the world, from the Americas to Eastern Asia. Considering its focus on people aged 50 and older, international orientation, and thematic coverage, SHARE is perfectly suited to provide data on respondents' health, economic, and living situation all across Europe and Israel before and during the ongoing COVID-19 crisis.

Therefore, the aim of this project is to analyse and evaluate the non-intended consequences of the epidemic control decisions to contain the COVID-19 pandemic in 27 European countries using data from SHARE, and to devise improved health, economic and social policies with a transdisciplinary and international team of SHARE researchers from different European research institutions. To reach these aims, several objectives will be pursued: identify healthcare inequalities before, during and after the pandemic; understand the lockdown effects on health and health behaviours; analyse labour market implications of the lockdown; assess the impacts of pandemic and lockdown on income and wealth inequality; mitigate the effects of epidemic control decisions on social relationships; optimise future epidemic control measures by taking the geographical patterns of the disease and their relationship with social patterns into account; better manage housing and living arrangements choices between independence, co-residence or institutionalisation.

Please cite this deliverable as:

Deliverable 4.4 of the SHARE-COVID19 project funded under the European Union's Horizon 2020 research and innovation programme GA No: 101015924.

Available at: <https://www.me-share.eu/share-covid19/>

Labour market implications of the Covid-19 Pandemic.

Evidence from Share Data.

Julien Bergeot, Agar Brugiavini, Irene Mammi and Davide Raggi

Ca' Foscari University of Venice

Paper based on the results from Work package 4 of the Share-Covid19 Project

Abstract

This survey paper is based on the recent advances in research done within Work Package 4 of the Share-Covid19 project. The focus is on the results which relate to concrete implications and the emerging possible policy recommendations. It presents the most compelling results on the consequences of the pandemic and of the containment measures on medium- and long-term labour market outcomes. It discusses the future of remote work for older workers and the relevance of IT skills and other characteristics in mitigating unemployment risk for older workers.

1. Introduction

This is a survey paper based on the recent advances in research done within Work Package 4 of the Share-Covid19 project. The focus is on the results which relate to concrete implications and the emerging possible policy recommendations.

There are several domains of investigation which are interconnected within Work Package 4.

- (i) First, we report results on the consequences of the pandemic and of the containment measures on medium- and long-term labour market outcomes. These range from working for pay, to retirement to also providing care with no corresponding compensation (informal care).
- (ii) We also consider the effects of the protracted utilisation of remote work on the labour and non-labour market outcomes of older workers, thanks to the new waves of the Share-data which became available, particularly wave 9.
- (iii) We explore the future of "remote working", considering also the sectors/occupations where remote work/telework may become a prevalent work arrangement, taking into account gender differences.
- (iv) We report results on the role of the skills of individuals in the Information Technology domain in mitigating unemployment risk for older workers. In this context we highlight the role of the digital transition and green transition for older workers.

The results we report take advantage of the full timing of the Share Survey: the "pre Covid" core-waves up to wave 7 and part of wave 8, which contain the panel information, the Share-Corona waves 1 and 2, of the years 2020 and 2021 respectively, and the "post Covid" wave 9.

It should be recalled that Share also contains the Sharelife component, which allows the researchers to use information of older individuals going back to their childhood.

2. Labour market transitions and labour market outcomes after the Covid pandemic

After analysing the short-term implications of the pandemic in 2020, especially the work interruptions reported by individuals aged 50 and over who were previously working, the latest results of the Share-Covid-19 research, look at the medium-term and long-term effects of the pandemic and the more general lessons which could emerge from such experience.

Once the wave 9 of SHARE (collected in 2022) became available, researchers have been able to study the chance to be active in the labour market for the population aged 50 and over, until 2022, taking into account the labour market and social policy measures that were applied during the Corona crisis. These research analyses transitions across labour market states over several years: from work into retirement, unemployment, being a homemaker between round 1 of SHARE Corona and the regular wave SHARE collected in 2022. Of particular relevance is the heterogeneity of these transitions by individual characteristics, such as: occupation, characteristics of the job, gender, age, health status, presence and length of work interruptions in the first wave of Covid. The effect of containment measures on working patterns of older workers, and how this depends on the vulnerability of workers is of particular relevance: for example, an important issue is whether having job interruptions during the first wave of the pandemic has had detrimental consequences on the labour market position in 2022.

2.1 Transitions into retirement or out of the labour force

A first relevant issue is the transition into retirement (or to other states) which took place during the Corona-virus pandemic and afterwards. In particular, a comparison can be drawn between transitions into retirement during/immediately after the pandemic for people belonging to different birth cohorts. The focus is on the differences for people at the same age, but belonging to different birth-cohorts, i.e. with different birth years. In doing so it is important to take account of the various pension reforms that vary across European countries over the years: these generate differences in eligibility conditions and in generosity of the pension benefits. Hence, what is observed is a combination of the incentives of the pension system in place and of the incentives due to the pandemic.

Brugiavini, Gao and Mammi (2024) observe that restrictions and disruptions adopted by governments during the pandemic, had a substantial impact on the labour market (as also reported by Cribb et al., 2021 for the UK, Brugiavini et al 2024). Since older people face several challenges: age-related job market biases, changes in work conditions, increased caregiving responsibilities, and concerns about health, their retirement responses are complex.

The empirical investigation carried out by Brugiavini, Gao and Mammi shows that, for people who are far from the statutory retirement age (SRA), the behaviour pre pandemic (wave 5 to wave 7) and post pandemic (wave 7 to wave 9) does not show substantial differences (Table 1). For individuals closer to the SRA the difference is instead significant between the pre

Covid cohorts and the post Covid ones, especially in the case of females, as after the pandemic it is more likely to transit from work to retirement (85.23% versus 77.51%).

But it is important to understand what exactly prompted such changes and which characteristics are more relevant than others. The Authors perform a number of regressions which take account of different possible determinants of a differential behaviour, including health status, job characteristics ..., along with a control for the eligibility conditions, which take into account the prevailing legislation.

Table 1. Transitions from work to various labour market states, according to the distance to statutory eligibility ages for retirement (SRA)

	Whole sample		Females		Males	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
<i>Panel A: 6-10 years before SRA initially</i>						
From W5 to W7: working initially						
Working	2,730	74.00	1,421	74.20	1,309	73.79
Retired	573	15.53	268	13.99	305	17.19
Out of labour force	386	10.46	226	11.80	160	9.02
From W7 to W9: working initially						
Working	1,637	71.64	870	73.05	767	70.11
Retired	396	17.33	173	14.53	223	20.38
Out of labour force	252	11.03	148	12.43	104	9.51
<i>Panel C: 0-2 years prior to SRA initially</i>						
From W5 to W7: working initially						
Working	189	19.59	81	17.96	108	21.01
Retired	748	77.51	353	78.27	395	76.85
Out of labour force	28	2.90	17	3.77	11	2.14
From W7 to W9: working initially						
Working	120	12.40	53	9.76	67	15.76
Retired	825	85.23	471	86.74	354	83.29
Out of labour force	23	2.38	19	3.50	4	0.94

Source: Brugiavini, Gao and Mammi (2024)

Of the several results presented in Brugiavini, Gao and Mammi (2024), a particularly relevant one is the introduction of a proxy for “increased insecurity”, which is obtained by the answer to a question on how difficult it is to “make ends meet”, i.e. to have enough resources to get

to the end of the month¹. Table 2 is a summary of the results of a regression (linear probability model) explaining the probability to retire: while it is more likely to retire early after the pandemic (the positive sign of the variable “post” which indicates post pandemic years), for people who are insecure it is preferable to postpone retirement, especially after the pandemic (the coefficient of the variable capturing the differential behaviour of people who are insecure after the pandemic gives a value of -0.037). This result has also been found in the UK on the twin data set “ELSA” (Kung et al. 2023).

Overall this line of research suggests that the Covid pandemic had an impact on the transitions from work to other labour-market states, particularly retirement: while the immediate impact has been a tendency to retire earlier, possibly also favoured by firms in specific sectors, the medium-term effect is to delay retirement, mostly in response to an increased economic insecurity which might have induced people to stick to their job.

Table 2. Estimates of the probability to transit from work to retirement, (SRA is statutory retirement age)

	Full sample	Male	Female
VARIABLES	Retirement	Retirement	Retirement
Post _{t-1}	0.082***	0.051	0.100***
YbeforeSRA _{t-1}	-0.016***	0.025	-0.018
Post _{t-1} #c.YbeforeSRA _{t-1}	-0.010***	-0.007**	-0.013***
Financial insec _{t-1}	-0.018**	-0.025**	-0.012
Post _{t-1} # Financial insec _{t-1}	-0.037*	-0.069**	-0.008
Controls	Yes	Yes	Yes
Country FE	Yes	Yes	Yes

Source: Brugiavini, Gao and Mammi (2024). Stars indicate the level of significance of the explanatory variables

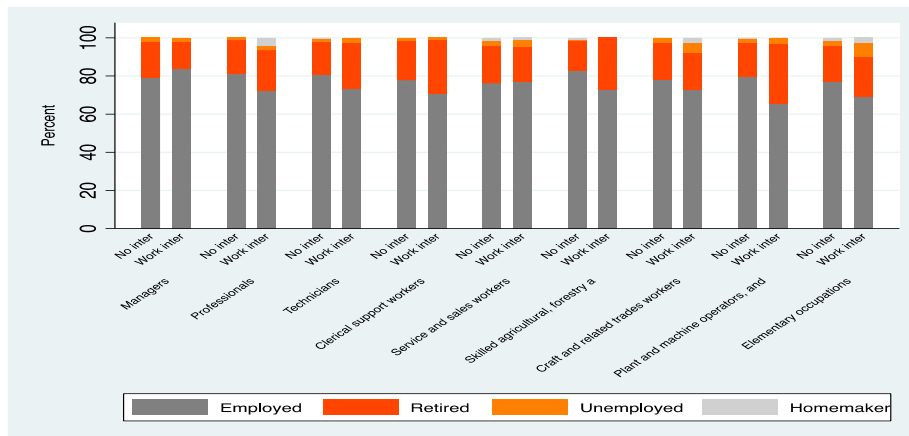
2.2 The importance of work interruptions and of job retention schemes for labour market activities

There exists building evidence that work interruptions due the pandemic (and related to lockdown measures and social distancing) had huge effects on the ex post outcomes for people, not just in terms of working. The team involved in this line of research, within the Share-Covid project had already examined the dynamics due to the pandemic. More recently, by making use of wave 9, it has been possible to examine whether some persistence in the labour market impact could be detected. At a first sight, it is still noticeable a “job-type

¹ The question is “Thinking of your household's total monthly income, would you say that your household is able to make ends meet...”. Financial insecurity is a binary variable coded as one if the respondent reports having some or great difficulty making ends meet, and zero otherwise.

gradient” in such effect. Figure 1 shows the prevalence of the different labor market states for people who were working before the pandemic (say in 2019), who then could have experienced a work interruption (in 2020) and are observed in 2022. The results are presented for different occupations as codified by the ISCO-code, at the most aggregate level, i.e. for ten possible occupational groups².

Figure 1. Percentage distribution of different labour market states for people who suffered work interruptions vs people who did not, by occupation. Year 2022.



Source: Brugiavini A., Buia RE., Ferrari I., Gao Y., Simonetti I., «The evolution of (post) pandemic labour market outcomes of older workers in Europe»

One should think of the occupational gradient as going from occupations with higher level of education and higher cognitive requirements to occupations with limited cognitive requirement and- normally – low education (elementary occupations). For almost all occupations (apart from the first case “managers”), respondents who suffered work interruptions are more likely to exit their jobs. This pattern was observed also in previous waves of the Share-Corona survey, but it is now confirmed on longer time-span. In order to get a better grasp of such effects regression analyses were performed by Brugiavini et al (2024). A summary of these results is presented in Figure 2 as “odds ratios”³

The determinant of the transitions from “working” to being retired or “not employed” are tele-workability of the job, gender and age, education level (HS=high school), IT skills, besides the “work interruption in CATI1”, i.e. work interruption in 2020⁴. An important innovation in the research agenda was introduced in the last few months by generating a variable named “Percent of GDP spent on Job-Retention Schemes”. Job Retention Schemes are a broader set of policies than the Short-Term Employment Aid “STEA”, which was already

² The occupational groups are obtained thanks to an important innovation of Share: the “job coder”, which automatically assigns to respondents, who report a textual description of their job, a numerical code, this is generated according the “ISCO” international standards.

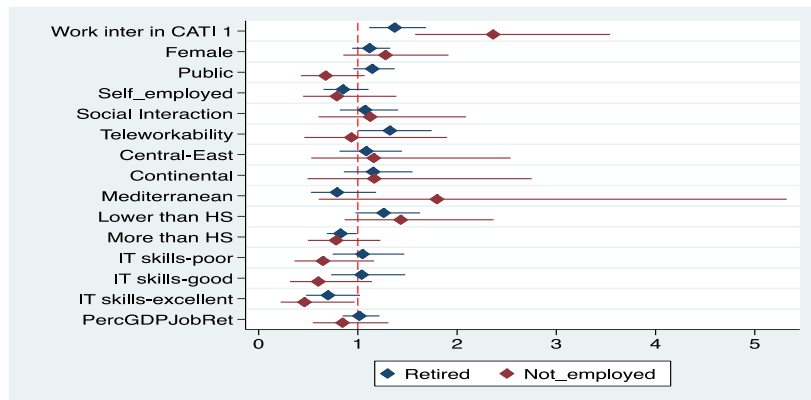
³ Odds ratios are based on logistic regressions: the reference case is centered at value “1”, variables which exhibit values above 1 indicate a higher likelihood. The bars around the dots/diamonds indicate a confidence interval, i.e. a measure of precision.

⁴ Not employed in this regression includes people who are unemployed, homemakers and other not employed cases.

analysed in this research team. This new variable (%JRS) is the change in the percentage of money locally spent on job retentions schemes by the different governments.

Figure 2

Explaining transitions out of work in the medium-term, all sample. Year 2022.



Source: Brugiavini A., Buia RE., Ferrari I., Gao Y., Simonetti I., «The evolution of (post) pandemic labour market outcomes of older workers in Europe »

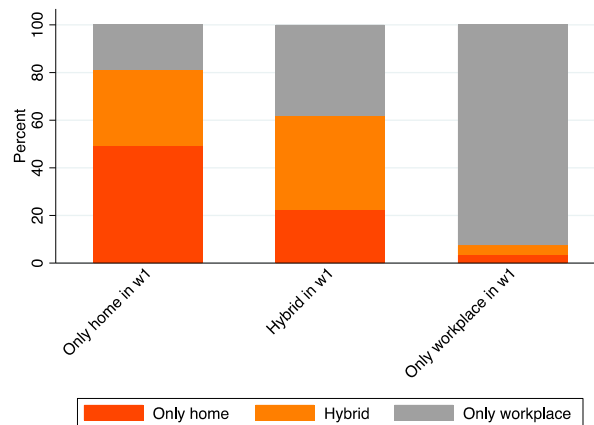
Transitions into retirement (blue diamond) do not show particular effects of the different explanatory variables, in comparison with the reference case: the strong effects that had been registered in the previous wave (from 2019 to 2020) are much less prominent in the medium term. This is line with what it was discussed in section 2.1. On the other hand, transition in “not employed” are still strongly affected by interruptions suffered in 2020, they are more important for females and, interestingly, good or excellent IT skills as well as a higher %JRS have a mitigating effect on transiting from work to not employed.

The team has devoted more attention to the variable %JRS trying to compare workers who suffered job interruptions and those who did not. For transition into retirement, the difference between those who experienced interruptions and those who did not, becomes less and less relevant both in the short run and in the long run as %JRS increases. For transitions into “non employed”, as the percentage of JRS expenditures increases, there is a mitigating effect in the short-run (smaller difference), but in fact an increase in the likelihood of transiting out of work in the long run (a “perverse effect”). This is in line with work done by Börsch-Supan et al. (2023) and more recently repeated on wave 9, who show that when focusing on STEA (Short Term Employment Aids), which are a subset of Job Retention Schemes mostly devoted to support the unemployed, an increase in STEA has a positive effect on the probability of becoming unemployed. Their interpretation is that, similarly to what happens during the financial crisis, these specific aids help also workers in firms which might have closed down in any case. In other words the STEA has a delay effect of becoming unemployed for many workers in the age group 50 and beyond.

2.3 The role of remote work

An important aspect of the research of this team has been to explore the role of working remotely for workers aged 50 and over. This is a crucial question in studying the green transition and the digital transition coupled with population ageing. While in the previous waves of Share the evidence was scanty, due to the shock caused by the pandemic, working from home became a frequent behaviour observed in our sample. Looking at what happened in 2022 we can see important “persistent” patterns.

Figure 3. The dynamic of remote work utilization



Source: Buia RE., Brugiavini A. «Remote work: how much of it will remain? », 2024

Figure 3 shows the composition of working arrangements in three classes “working only at home”, “Hybrid” or “working only at the workplace”, considering the position in wave 1 of the Share-Corona survey. Obviously, these results are for people who continued working in 2020 and are working in 2022. Figure 3 shows that 50% of those who were working from home are still working from home and only 20% are only-at-the-workplace. At the other extreme those who were only at the workplace in wave 1 largely remained in that position. Hence, *prima facie* evidence suggests that those who experience working from home in wave 1 are very likely to still work from home or in hybrid form. Once again, the type of work performed is important as shown in Figure 4, where remote work (first panel) is more prominent amongst more prestigious occupations.

In order to understand the mechanisms behind this result a new regression analysis was performed by Brugiavini and Buia (2024) that compared a similar specification to what previously done in 2021 and 2023 from the entire team. Figure 5 shows only the case of working from home as odds ratios distinguishing the two Share-Corona Surveys. The results show that women and workers with higher IT skills are more likely to be working from home, jobs which allow for tele-workability also are associated with higher likelihood. It is clear that working from home mostly depends on the technical feasibility of performing a job remotely, but also on the characteristics of the worker. Brugiavini and Buia (2024) also study if working from home had an effect on the hours of work: this has been a heated debate during the pandemic, and it is an important issue if one wants to think of a shift for older workers into working from home. The estimates obtained by the authors show that, those adopting remote work report a significant change in the hours worked: the majority reports working more hours, but a non-negligible number of workers reports working less hours.

Figure 4. Composition of remote work utilization

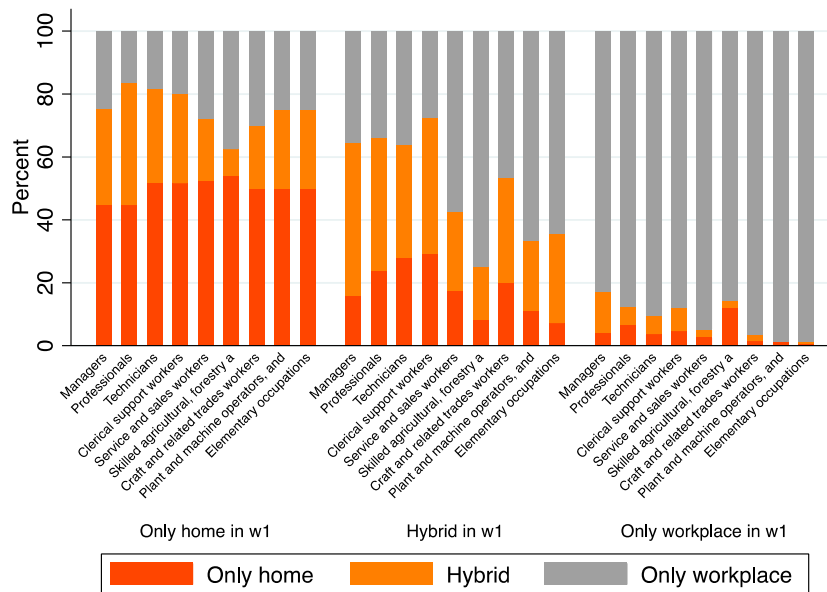
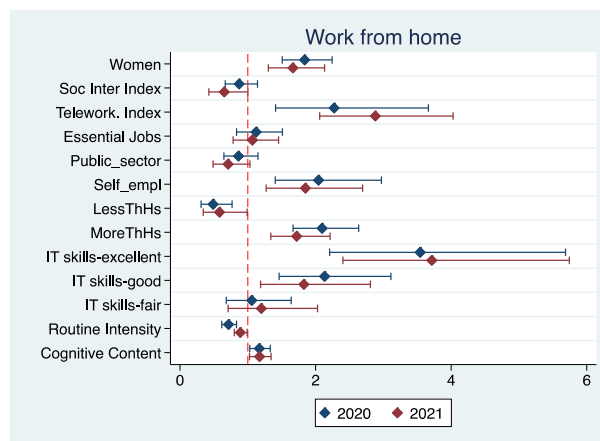


Figure 5. Estimated odds ratios of working from home



Source: Brugiavini A. and RE Buia (2024) «Remote work: how much of it will remain? »

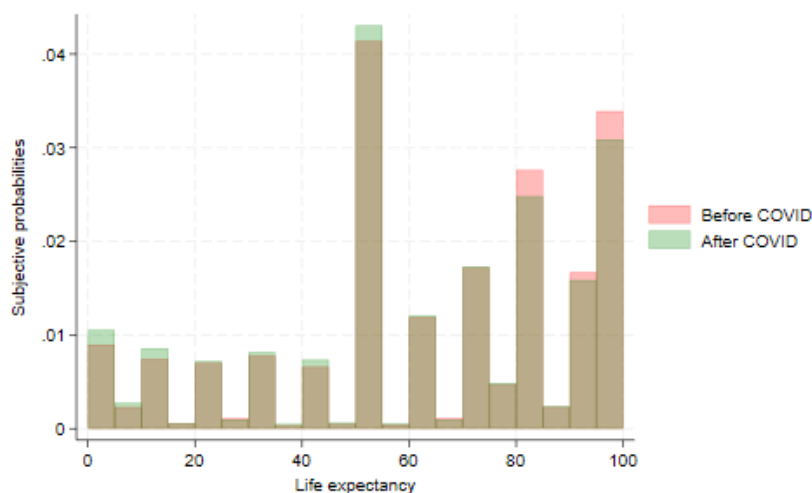
3. Related Research

The team has analysed other important domains related to work, to labour market activities and non-labour market activities and pensions.

One of these lines of research looks at how people may be affected in their economic decisions by a different perception about their longevity. This is particularly important for pension-related research because the decision whether to retire or not may depend on expected longevity, but also the implicit value of one’s pension may depend on life expectancy. Bergeot, Brugiavini and Raggi (2024) look at this issue trying to understand how people have changed their expectations, probably also based on the “consensus” opinion within a peer-group. We know that this very important for people in the age-group 50 and over, as their decisions might be influenced by their peers.

Figure 6 shows the distribution of subjective survival probabilities available in Share, distinguishing before the Covid pandemic and after Covid.

Figure 6. Distribution of subjective survival probabilities



Source: Bergeot, Brugiavini and Raggi, 2024

Figure 6 shows that after the pandemic more respondents report lower life expectancy: once this result will be confirmed the team will be able to provide a more precise evaluation method of their „pension wealth“, i.e. of the present discounted value of future pension right. To provide the intuition: a reduction in expected survival might will reduce the present value of future pension rights and might induce people to retire earlier, in order to collect their pension as soon as possible and therefore make up for the lost years.

As we argued activities of older people cannot be confined to working activities: an important contribution from this team has been to look at the interaction between non-market activities and work. In this domain an overwhelming evidence shows the role of people aged 50 and over in caring activities, especially in favour of older parents. Bassoli and Brugiavini (2024) use the Share-Corona data (wave 1 and wave2) plus wave 9 to document the informal caring activities performed by older people in response to the "rationing" effect produced by the lockdown policies on formal care. They show that the typical caregiver is a woman aged between 50 and 65. While this is a stylised fact, an interesting and novel result of their investigation is that there exists a "reserve of care" when the activities are related to informal *personal care*, which is not limited to non-working women. This is not the case for men: working women in the age group 50 to 65 exhibit a higher probability of being engaged in informal personal care than non-working men, other things being equal.

4. Final considerations

This paper has highlighted some relevant results of research carried out under Work Package 4 of the Share-Covid-19 project. The main points are as follows.

- (i) Retirement transitions related to the Covid pandemic are more likely for those near pensionable age, but « economic insecurity » leads to a delay in retirement post Covid.
- (ii) Work interruptions during the first wave of the pandemic are associated with higher probabilities of retiring, becoming unemployed or homemakers in the short term, but the effect on retirement is less relevant in the long term. There are more permanent effects on other transitions from work to „non employment“ states.
- (iii) Job retention schemes helped during the pandemic but seem to be associated to higher likelihood of moving out of the labour force in the long run, this result is in line to what found for Short Term Employment Aid policies.
- (iv) The use of remote work or hybrid arrangements is still important after several years post pandemia, and the future of working arrangements may be particularly relevant for workers in this age-group.
- (v) Good and excellent IT skills have a mitigation effect against transiting into unemployment, even when controlling for education.
- (vi) The pandemic may have created insecurity also in terms of expected longevity, which might in turn induce people to retire earlier than planned
- (vii) Because of the emergency situation caused by the pandemic and the lockdown measures, many people in the age group 50 to 65 had to provide informal care to their older parents. These caregivers are typically women and even when working they are still very likely to perform caring activities.

A general message is that one has to carefully consider the joint effect of welfare regimes and shocks (like the ones generated by the Corona virus), plus labour hoarding policies and other policies. There are “unintentional effects” of *ad hoc* policies which affect the labour market participation of older workers

References

- Bassoli E. and A. Brugiavini (2024) Unequal care provision: evidence from the Share-Corona Survey. *forthcoming Review of Economics of the Household*
- Bassoli, E., Belloni M., Brugiavini A. and Gao Y. (2023) "12 Did the pandemic change retirement trends?". *Social, health, and economic impacts of the COVID-19 pandemic and the epidemiological control measures: First results from SHARE Corona Waves 1 and 2*, edited by Axel Börsch-Supan, Anita Abramowska-Kmon, Karen Andersen-Ranberg, Agar Brugiavini, Agnieszka Chłoń-Domińczak, Florence Jusot, Anne Laferrère, Howard Litwin, Šime Smolić and Guglielmo Weber, Berlin, Boston: De Gruyter, pp. 129-140. <https://doi.org/10.1515/9783111135908-012>
- Bergeot J., A. Brugiavini, D. Raggi, (2024), The Effect of the Covid-19 Pandemic on Longevity Expectations, mimeo, *Ca' Foscari University of Venice*
- Börsch-Supan, Axel, Kutlu-Koç, Vesile and López-Falcón, Diana. (2023) "13 Short-time employment aid during the COVID-19 lockdown: Short and long-run effectiveness". *Social, health, and economic impacts of the COVID-19 pandemic and the epidemiological control measures: First results from SHARE Corona Waves 1 and 2*, edited by Axel Börsch-Supan, Anita Abramowska-Kmon, Karen Andersen-Ranberg, Agar Brugiavini, Agnieszka Chłoń-Domińczak, Florence Jusot, Anne Laferrère, Howard Litwin, Šime Smolić and Guglielmo Weber, Berlin, Boston: De Gruyter, pp. 141-148. <https://doi.org/10.1515/9783111135908-013>
- Brugiavini A, Buia RE, Simonetti I. (2021) Occupation and working outcomes during the Coronavirus Pandemic. *European Journal of Ageing*, Oct 8;19(4):863-882. doi: 10.1007/s10433-021-00651-5
- Brugiavini A., Buia RE., Ferrari I., Gao Y. and Simonetti I. (2023) "14 Work interruptions and medium-term labour market outcomes of older workers during the COVID-19 pandemic". *Social, health, and economic impacts of the COVID-19 pandemic and the epidemiological control measures: First results from SHARE Corona Waves 1 and 2*, edited by Axel Börsch-Supan, Anita Abramowska-Kmon, Karen Andersen-Ranberg, Agar Brugiavini, Agnieszka Chłoń-Domińczak, Florence Jusot, Anne Laferrère, Howard Litwin, Šime Smolić and Guglielmo Weber, Berlin, Boston: De Gruyter, pp. 149-162. <https://doi.org/10.1515/9783111135908-014>
- Brugiavini A., Buia R.E. (2024), Working arrangements at older ages, mimeo, *Ca' Foscari University of Venice*
- Brugiavini A., Buia R.E., Cavapozzi D. and Simonetti I., (2024) "How do the hours worked react to remote working", mimeo, *Ca' Foscari University of Venice*
- Buia RE., Cavapozzi D., Pasini G. and Simonetti I. (2023) "15 What is the future of (remote) work?". *Social, health, and economic impacts of the COVID-19 pandemic and the epidemiological control measures: First results from SHARE Corona Waves 1 and 2*, edited by Axel Börsch-Supan, Anita Abramowska-Kmon, Karen Andersen-Ranberg, Agar Brugiavini, Agnieszka Chłoń-Domińczak, Florence Jusot, Anne Laferrère, Howard Litwin, Šime Smolić and Guglielmo Weber, Berlin, Boston: De Gruyter, pp. 163-172. <https://doi.org/10.1515/9783111135908-015>
- Brugiavini A., Gao Y. and Mammi I., (2024) Trends in Retirement Before and During the Pandemic, mimeo, *Ca' Foscari University of Venice*
- Cribb, J et al. (2021). 'The labour market during the pandemic' London: The IFS

Kung, C. S., Zhu, J., Zaninotto, P., & Steptoe, A. (2023). Changes in retirement plans in the English older population during the COVID-19 pandemic: The roles of health factors and financial insecurity. *European Journal of Ageing*, 20(1), 22.