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# Working more and less hours, profiling old European workers during first wave of COVID-19 pandemic, evidence from SHARE data

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## Abstract

This study contributes to the discussion about the impact of the COVID-19 pandemic on the working hours and on the workplace by older workers, aged between 55 and 64. Our aim is to find the factors associated with working more and less hours during the first wave of the pandemic among older workers in Europe. We use data collected by SHARE Corona Survey during the summer of 2020. We estimate two logistic regressions on working more and less hours using a set of individual controls, workplace and a country lockdown control. Our findings show that male workers are less likely to work more hours; older workers are more likely to work less hours; more educated workers work more hours and not less; people with difficulty to meet ends are more often working less hours; worsening of health during the pandemic is associated with working more hours; working home or both home and usual work place are correlated with working more and working less hours. The contribution of this work comes from additional knowledge about the profile of older workers and their changed hours of work during a first wave of COVID-19 in Europe.

Key words: working hours, older workers, logistic regression, Europe, pandemic COVID-19

## **1. Introduction**

The impact of the first wave of the COVID-19 pandemic on the labour market (from about March to September 2020), the working hours, and the workplace is undoubtedly significant. The national and local lockdown measures forced an induced recession which has resulted in increased unemployment and a reduction in the number of working hours (Adams-Prassl et al. 2020; Baert et al. 2020; Botelho et al. 2020; ILO 2020; Lemieux et al. 2020; Pouliakas and Branka 2020; Redmond and McGuinness 2020; von Gaudecker et al. 2020). However, the impact on the labour environment is heterogeneous, depending on the job and worker characteristics. Some sectors registered a high increase in unemployment; others saw changes in the working hours and changes in the place of work (Dias et al. 2020; Lemieux et al. 2020). In general, there was a decrease in working hours because of short-time work schemes, temporary layoffs, sick leave, usage of vacation time (Lemieux et al. 2020). But in some sectors, such as assisting and caring for others, working hours increased because of the additional workloads; or because of the work format, such as working online (Alipour et al. 2020; Okubo 2020).

In fact, the pandemic allowed to identify three segments of workers: i) one group includes office-type occupation where people tend to be highly educated, work home-office hours and be non-essential, ii) the other group includes labour-intensive activity, mainly manual, with social interactions and mainly essential workers (Lemieux et al. 2020; von Gaudecker et al. 2020), and iii) the third group is composed by dispensable workers who are in position to be laid-off. The first and second group of workers may face an increase in the number of working hours (or feel no change), while third group

is more likely to become unemployed. But within the first group of workers, variety of working time is expected as some workers may choose or be induced to work less hours using vacation time, sick leave or other sort of absence scheme; or they may need to work longer hours to fulfil the assigned tasks. As for the second group of workers, who have been labelled, in general, as essential workers, it is expected that they will continue to work as usual.

Research on the impact of COVID-19 on the labour market tends to focus on single countries such as Canada (Dias et al. 2020; Lemieux et al. 2020), Korea (ILO 2020), UK (Blundell and Machin 2020), Japan (Kikuchi et al. 2021) and USA (Cominetti 2021; Cowen 2020; Bui et al. 2020; Jacobson et al. 2020; Li and Mutchler 2020); and in Europe, Netherlands (von Gaudecker et al. 2020), Ireland (Redmond and McGuinness 2020); Belgium (Baert et al. 2020) or on a group of countries (Adams-Prassl et al. 2020; Botelho et al. 2021).

Focusing on micro-data studies, it may be worth to refer some of them. The study for Canada performed by Lemieux et al. (2020) uses microdata obtained from the Labour Force Survey. These authors use individual characteristics such as gender, age, children and province to find the features which explain the reduction of working hours and the increase of job losses in the country. They found that the loss of hours and employment were more likely in young or low paid workers and gender had a mixed effect. Based on a survey data for Netherlands, the called LISS panel survey, von Gaudecker et al. (2020) used the individual characteristics to explain the change of working hours during the first wave of the pandemic. They found that people with no work or working less hours had lower levels of education; self-employed workers were

more likely to face no working or less working hours, and people with higher level of education and higher wages were more likely to work from home. In the UK, a very focused work was performed by Blundell and Machin (2020) who studied the impacts of COVID-19 crisis on self-employment. One of their findings was that the largest reductions in self-employment hours and income happened among lower-income people and older individuals without employees. These authors are found that a significant share of self-employed workers have felt that their health was at risk while working during the coronavirus crisis. For the USA workers, while Cowen (2020) was worried about the short-effects of Covid-19 on US worker transitions, Bui et al. (2020) and Li and Mutchler (2020) tried to provide some evidence on the impact of COVID and the consequent recession on older workers. The first analysis found a decline in labour-force participation, an increase in job absence and a decrease in hours worked, particular in vulnerable populations. The later analyses, done in USA for older workers, find that unlike previous recession, COVID-19 and subsequent recession affected disproportionately older workers and women, who faced higher unemployment rates. Adam-Prassl et al. (2020) performed a comparative analysis for US, UK and Germany using real-time surveys. They concluded that within countries the impacts are highly unequal and they increased existing inequalities; these authors also concluded that women and less educated workers are more likely to be negatively affected. Lastly, Pouliakas and Branka (2020) used data from CEDEFOP European Skills and Jobs Survey which allowed analysing the effects of the pandemic on the labour market of 27 European countries. Their conclusions are just aligned with other studies: women, older workers, low educated people, self-employed or working in micro-firms are more likely to lose jobs or working hours.

It is noteworthy that none of these empirical studies have considered the role of the worker health in the impact on the working hours or potential lay-off. In fact, little is known about the role that health has played in older workers and their decisions about working. It may be that older workers decided to work less hours as a health protection mechanism or because they experienced an health deterioration; or it could be that they decided to work longer because they could do it from home, without risk of getting ill, or because they needed to compensate household budget losses.

In an aging European society, people benefit longer lives and they are motivated to work longer and postpone retirement. Retirement pensions may provide a real income lower than that obtained by a working payment, which motivates older people to keep working longer; or governments set higher pension ages or limit the possibilities of early retirement making people choose to have a longer working life. Thus, the importance of older workers in the European labour market.

The economic crisis that emerged from COVID-19 has resulted in increasing unemployment rates. In fact, it has been highlighted that the unemployment and other negative employment effects may be described as a U-shaped line which places the highest burden on younger and older workers (Cominetti 2021).

Our concern goes for older adults who tend to take longer, if ever, to find a new job when becoming unemployed; when they find a new job, it pays a lower earn; and people under difficult labour market conditions may consider retiring earlier. This scenario may also pressure some old workers to work longer hours to avoid unemployment. On the other hand, the pandemic scenario itself may be leveraging additional working hours in some occupations, which older workers may be well-fitted

to perform, or the contrary, may not be healthy enough to work those longer hours (Avendano and Cylus 2019).

The purpose of a study is to provide some results for an older population across Europe (and Israel) and contribute to the discussion about the impact of COVID-19 on the labour market, working hours, and workplace. We aim find the profile of people who report to work more and/or less by considering socioeconomic and characteristics of the worker as well as his/her workplace. We also aim to check the possible influence of lockdown measures decided by governments on the changed working hours.

To achieve this purpose, we collect data from SHARE Corona Survey and estimate two logistic regressions. Our main findings suggest that the level of education, the household budget and the place of work influence the additional or decreased working hours by older workers during the first wave of the pandemic. Our analysis contributes to the analyses about the effects of the pandemic on the labour market and especially it contributes to the discussion of European policies on active ageing (European Commission 2020).

## **2. Materials and Methods**

### **2.1 Population survey and sample**

We have used the Preliminary Wave 8 Release 0 data set of the SHARE Corona Survey released on December 2020 for 26 European countries plus Israel<sup>1</sup>. Data was collected via Computer-Assisted Telephone Interviews (CATI) in the SHARE COVID-19 Survey

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<sup>1</sup> Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland

between June and August 2020. Methodological issues for the data collection are available in Scherpenzeel et al. (2020). The full description, availability, and updates of SHARE are available on the project website (SHARE 2020) (Börsch-Supan 2020 a, b; SHARE 2020). We restricted our sample people aged between 55 and 64 years old to focus on the usual last 10 years of labour activity in the labour market.

## **2.2 Variables**

### **Dependent variables**

We consider two dependent variables which obtained from the following questions on the survey:

i) " Did you increase your working hours since the outbreak of Corona? (including overtime)". The answer is 'Yes' or 'No'. This variable is named 'Morehours'.

ii) " Did you reduce your working hours since the outbreak of Corona?". The answer is 'Yes' or 'No'. In the situation where the respondent became unemployed, was laid off, or had to close their business then the answer is 'Yes'. This variable is named 'Lesshours'.

These two variables are not completely exclusive. It may happen that a respondent may give a positive answer to both of them because they could refer to different weeks in the period of reference. It should also be noticed that the reduction of working hours includes people who have stopped working because of unemployment, layoff or business closure.



## **Independent variables**

The available independent variables were considered according to previous work (for instance, Adams-Prassl et al. 2020; Lemieux et al. 2020; von Gaudecker et al. 2020). These include socioeconomic and health, workplace, and government response to the pandemic. Independent variables description is presented in Table 1.

Concerning the variable 'income', it was adjusted to purchasing power parities using the converting rates provided by SHARE survey. We have used the current rates for 2017 and Germany takes value 1 has the reference country.

Concerning the variable difficulty to make ends meet, represented by 'dif\_makends', it is obtained from the survey question "Thinking of your household's total monthly income since the outbreak of Corona virus, would you say that your household is able to make ends meet with great difficulty, with some difficulty, fairly easily, or easily?". We have taken the answers 'with great difficulty' and 'with some difficulty' to mean that the household budget can barely cover expenses. This variable captures the difference between money revenue and household expenditures. So, people facing a short or negative difference will report finding great or some difficulty making ends meet. This is not a numeric variable but an ordered variable.

Concerning the workplace there are three possibilities accounted for: 'work only from home', 'work only as usual', and 'work both at home and at the workplace'. There are three dummy variables which consider these three possibilities but 'work only as usual' is taken as reference category.

We have used a variable to capture how people felt about the change in their health called 'worse\_health'. For this purpose, the survey question "If you compare your health with that before the outbreak of Corona, would you say your health has improved, worsened, or stayed about the same" gives that information. The variable takes value 1 if respondent felt that his health got worse after the beginning of the pandemic.

Concerning the variable "no\_lockdown". The concept of lockdown is not defined by WHO. So, we take it as a general measure used by governments during the pandemic. A general definition was provided by Mboera et al. (2020) and it includes: (i) geographical containment; (ii) home confinement; and (iii) the closure of social, educational and economic activities, and prohibition of mass gatherings. To our analysis, we have considered the information provided by the Corona virus Government Response Tracker (2020) to identify the countries that did not impose such restrictive measures during the first wave at a national level.

Table 1: Independent variables

Variables	Description
<b>Demographic</b>	
male	Dummy variable. Takes value 1 if male; 0 if female.
age	Number of years old in 2020.
education	Number of years of education.
<b>Income</b>	
hh_income	Natural logarithm of total household income per person before the pandemic outbreak.
dif_makends	Dummy variable. Takes value 1 if respondent says it is difficult to make ends with the household monthly income; 0 otherwise.
<b>Workplace</b>	
work_home	Dummy variable. Takes value 1 if works only from home; 0 otherwise.
work_both	Dummy variable. Takes value 1 if works from home and from usual workplace; 0 otherwise.
work_usual	Reference category (work only in the usual place).
<b>Health</b>	

worse_health	Dummy variable. Takes value 1 if health got worse during the pandemic; 0 otherwise.
Government response	
no_lockdown	Dummy variable. Takes value 1 if government response to COVID-19 during the first wave of the pandemic does not include a national lockdown; 0 otherwise. Countries without lockdown: Malta, Latvia, Hungary and Sweden.

### 2.3 Empirical strategy

Firstly, descriptive statistics are presented. Secondly, we describe the results obtained from the estimation of two logistic regressions, one for 'working more hours' and the other for 'working less hours'.

Estimated results are presented by coefficients and by average marginal effects (represented by  $dydx$ ). The marginal effects are the difference in predictive margins and the corresponding Stata command is 'margins, dydx(.)', which gives the change in the probability of the dependent variable when there is a unitary change of the independent variable (Williams 2012). The variance-covariance matrix estimator is a sandwich estimator based on countries clustering to correct for country heterogeneity. A VIF test is done for testing multicollinearity, the pairwise and tetrachoric (for binary variables) correlations are computed as pre-diagnostic testing. Post-estimation testing is also performed. We use a *linktest*, and Hosmer and Lemeshow's goodness-of-fit test for model specification. All the empirical results were obtained using STATA.15.

### 2.4. Model and hypothesis

The estimated model is given by the following equation:

$$\begin{aligned}
 & \textit{Working hours more or less}_i \\
 & = \beta_0 + \beta_1 \textit{Individual controls}_i + \beta_2 \textit{No\_Lockdown}_i + \varepsilon_i
 \end{aligned}$$

and *Working hours more or less*<sub>*i*</sub> =  $\begin{cases} 1 & \text{if } \textit{Working hours more or less}_i > 0 \\ 0 & \text{if } \textit{Working hours more or less}_i \leq 0 \end{cases}$

where  $\beta$ s are the parameters to be estimated and  $\varepsilon$  is the error term.

The hypotheses we aim to test are the following:

H1 – demographic hypothesis: older workers, females, and less educated workers are less likely to work longer hours and more likely to work less hours.

H2 – income hypothesis: workers with lower incomes or difficulty to meet ends are more likely to work less hours and less likely to work more hours.

H3 – health hypothesis: test the existence of some association; a priori it is not possible to establish a possible correlation.

H4 – workplace hypothesis: workers working home or both home and the usual workplace are more likely to work longer hours, and also more likely to work less hours.

H5 – lockdown hypothesis: in countries with no lockdown policy there is no effect on the numbers of working hours.

### **3. Results**

#### **3.1 Descriptive statistics**

The sample used, after removing all missing data, comprises 2,963 Europeans (Table A1, in appendix, presents the responses by countries) who were employed or self-employed before the pandemic and 278 (nearly 10%) of them got unemployed during the first wave of the pandemic.

The sample considered includes about 39.6% of men; the average age is equal to 59.9 years old (where the minimum-maximum and standard deviation values are 56-64 and 2.4); the average number of years' schooling is 13.3; the mean monthly income, adjusted by purchasing power parity, per individual is about €1,435; around 5.9% of respondents (163 people) report having worse health since the outbreak; and circa 24.5% of respondents (679 people) declare problems making ends meet.

In Table 2 shows the places where people have been working since the outbreak. From this table we may infer that about 19% of people have a job that is mainly an office-type or intellectual-type of occupation and slightly more than 62% seem to be in the group of essential and social workers as they have continued to work in the usual workplace.

Additionally, descriptive information on the sample set out that 21.1% (583 people) reported 'reduced working hours', which includes those who were laid off, became unemployed, or closed business; and 14.4% (398 people) reported 'increased working hours'.

Table 2: Workplace since the outbreak

	number	%
Worked at home only	531	19.2
Worked at the usual workplace	1,734	62.8
Worked from home and at the usual workplace	497	18.0
Total	2,762	

### 3.2 Estimation results

Tables A2, A3 and A4, in appendix, show the pairwise and tetrachoric correlation and VIF test. The VIF test indicates the absence of multicollinearity as VIF values are under 10.

Table 3 presents the logistic regressions results explaining working 'more' and 'less' hours and it present the margins computed at the mean level of all the independent variables, the *p-value* is identical for both coefficients and margins.

First, the results obtained for working 'more hours' during the first wave of the pandemic. They show that women or those who are better educated are associated with the likelihood of working more hours. But people facing hard time to make ends meet are less likely to report working more hours. Additionally, working only from home or from both home and the usual workplace also increases the likelihood of working extra hours. Lastly, people reporting worsening of health during the pandemic are more likely to report working more hours.

Concerning the results obtained for working 'less hours', we found that gender has no significant effect, older people and lower levels of education are associated with working less hours. People finding difficulty to make ends meet report more often working less hours. Similarly, working from both home and usual workplace is related to working fewer hours but the marginal effects are different. The stronger marginal effect in working more or less hours is found for working uniquely from home.

We have also estimated the marginal effects on working more or less hours resulting from the workplace and the age. Graphs A1 and A2, in appendix, show that working from home has a positive effect and it tends to be constant or slightly increasing as

people get older, while working from the usual place has a negative effect on the changed hours of work and it gets more negative as people get older.

Finally, we also found that in countries where governments did not impose a national lockdown, people are less likely to report working less hours. It is worth to recall that working less hours includes becoming unemployed, being laid off, or closing businesses.

Relating to goodness-of-fit testing, both logistic estimations seem to be well-specified and fitting well data.

Table 3: Coefficients and margins for logistic estimations

	MORE HOURS WORK			LESS HOURS WORK		
	Coef	dy/dx		Coef	dy/dx	
male	-0.184	-0.021	*	0.008	0.001	
age	0.016	0.002		0.034	0.005	***
education	0.049	0.006	***	-0.050	-0.008	***
hh_income	0.067	0.008		0.157	0.025	
dif_meetends	-0.511	-0.055	***	0.530	0.092	***
worse_health	0.557	0.077	***	-0.094	-0.015	
work_home	0.840	0.116	***	0.583	0.103	***
work_both	0.502	0.065	***	0.470	0.082	***
work_usual	reference category			reference category		
no_lockdown	-0.162	-0.018		-0.541	-0.076	
_cons	-4.039		***	-4.095		***
Number of obs	2761			2760		
Wald chi2(Prob > chi2)	152.24 (0.000)			84.26 (0.000)		
Pseudo R2	0.049			0.028		
LogLikelihood	-1,080.771			-1,383.571		
linktest	significant			significant		
Hosmer-Lemeshow						
chi2 (Prob > chi2)	3.48(0.901)			6.73(0.566)		

Note:\*\*\* p<0.01, \*\* p<0.05, \*p<0.10; dy/dx for factor levels is the discrete change from the base level.

Summing up the results and checking our hypotheses, we obtain the following.

Hypothesis H1 is partially verified: male workers are less likely to work more hours; older people are more likely to work less hours; more educated workers are more likely to work longer hours and less likely to work less hours

Hypothesis H2 is partially confirmed: income has no statistical significance and people with difficulty to meet ends are less likely to work more hours but more likely work less hours.

Concerning hypothesis H3, results indicate that there is an association between reporting worse health during the pandemic and working more hours.

Hypothesis H4 is confirmed: workers working from home, either uniquely or jointly with usual workplace, are more likely to work longer hours, but also more likely to work less hours;

Finally, hypothesis H5 is not verified as the estimated coefficient has no statistical significance.

#### **4. Discussion**

This research contributes to our understanding of the impacts of COVID-19 pandemic in the labour market and in the workplace, specifically for older adults. It explores data collected by SHARE-COVID during the summer of 2020 and uses a sample of older workers aged on average 59.9 years old, who have not yet reached retirement age, but they are nearly there if we take 65 as a reference age.

Few empirical works have been published discussing this topic, mainly because of the scarcity of data, especially for older active people. Our works is a cross-country analysis



which includes all EU countries and Israel during the first wave of the pandemic; Pouliakas and Branka (2020) have also included 27 countries in their analysis.

The macroeconomic effect of COVID-19 pandemic on the labour market is to increase unemployment and to decrease the number of working hours (ILO 2020; Botelho et al. 2020; Cominetti 2021) due to short-time work schemes, temporary lay-offs, sick leave, and the use of holiday time. But some groups of workers saw an increase in the number of working hours due to a higher workload or to a change to telework (Okubo 2020; Alipour et al. 2020). The general trend in the labour market seems to be a U-shape effect of employment burden across age, such that younger and older workers carry most burden.

The results found in our analysis are, in general, in line with those presented by previous evidence such as Adams-Prassl et al. (2020), Lemieux et al. (2020), Bui et al. (2020) and von Gaudecker et al. (2020), despite the different data approaches followed by those researchers.

Our main findings show that men are less likely to work more hours; the older the worker, the more probably is to work less hours; education favours working more hours and not less hours; people with short household budgets and finding difficulty to make ends meet are less prone to work more hours, but more prone to work less hours; working home or both home and usual workplace is associated with working more hours and working less hours, although magnitude of the effect is stronger for those working uniquely from home. Finally, we found no significant effect associated with lockdown measures on the hours worked.

Concerning the gender differences found in our analysis. We obtained that women tended to report working more hours but no significant result was found for working less hours. However, in Canada and in UK, women tend to lose more working hours than men (Bui et al., 2020; Lemieux 2020). It may be that in terms of older workers in Europe, women tend to work more hours when employed. This may not happen when we consider all the group of employed people in a country, or younger groups of employed individuals. Considering our sample is mainly of older employed women, it may be that results are capturing the effect of women working in health, education, and social care provision, who faced higher workloads during the pandemic. It may also be that women working from home find it more difficult to separate family and work time (Tavares 2017).

Concerning age, it is known that younger and older workers are facing higher difficulties in the labour market (Bui et al. 2020; Blundell and Machin 2020; Cominetti 2021). We found that as people get older, they are more likely to work less hours. Reporting fewer working hours may indicate unemployment, lay off, or closing businesses which may mean that older people may be more likely to get unemployed during the pandemic. But it could also be that older workers are choosing to work less as a protection mechanism of their health and avoid risky situations. However, the marginal effect is not very strong meaning that ageing *per se* is not a driver of the decrease of working hours. To some extent this result could be expected as working performance may be age related. Older workers are not expected to work more hours, and under tough conditions it may be expected that they work less hours. However, in certain circumstances, less hours are due to the use of accumulated holidays, sick leave, other acceptable reasons to be absent from work.

From the education point of view, people with higher levels of education tend to report more hours of work, and lower levels of education tend to report more often less hours of work, as also found by von Gaudecker et al. (2020), Adams-Prassl et al. (2020) and Pouliakas and Branka (2020). This is to some extent expected because, on the one hand, people with higher levels of education tend to have an office-type of job, on the other, people with less education are more easily dismissed and laid-off because of the type of job and labour contracts.

Relating the income, we found no effect associated with the hours of work as other studies (for instance, Lemieux 2020). Since our sample includes only older workers, it may be that income is not longer a driver for the number of working hours. The effective way of finding an association is through the household budget. Our results confirm this tendency where people finding difficulty to make ends meet are reporting less often working more hours and more often less hours. Despite the small magnitude of these effects, they are in line with results found for other workers. Lemieux (2020) reports that people with lower incomes have higher losses of working hours, but people in the top income quartile were also registering a lower number of hours. While people with lower incomes could be facing a forced decrease in the working hours, which might represent an undesired decrease in income, people with high income could be choosing to work less hours without suffering from some undesired fall in income.

One result that seems to be special in our analysis is related with health deterioration of older workers. We cannot establish a causal link but there is a positive association between working more hours and reporting a worse health since the COVID outbreak.

This result is interesting and worrisome as it has been noted before (Avendano and Cylus 2019; Blundell et al. 2016) and it may be related with both physical and mental health. Older workers have several physical/biological, psychological/mental, and social characteristics that influence their needs, expectations, and challenges (Brooke et al. 2013) which may contribute to their health vulnerability under stressful conditions. So reporting worsening of the health condition and working more hours should be an issue of concern. Not only because people are losing their health and they will need medical care, but also because a deterioration of health may contribute to retirement decisions (Blundell et al. 2016; Lum and Lightfoot 2003). Future research will focus on this potential effect of health deterioration during COVID pandemic on retirement decisions.

Concerning the working place, some research points to the effect of an increasing number of working hours was due to a change to telework and home-office practices (Okubo 2020; Alipour et al. 2020). Our findings suggest that telework and home-office practices are likely to increase the number of hours work, but also likely to decrease it. In some cases, there may be an increase in workload and some mix-up between family and work time (Tavares 2017), but in other cases people may have become more efficient or the workload was smaller, and thus required fewer hours of work. May be the difference comes from the type of occupation considered, may be people working in education found an increase workload and may be people working in consultancy found a decrease workload.

The large limitation of this work is data, not only the sample is small, some countries are under/over-represented, and there are many missing observations, but also there

are questions implying non-exclusive responses and/or conditional on previous questions, which explain some of the handling data difficulties. Additionally, it may be possible due to the format and timing of the survey to exist some bias, either selection, attrition or reporting bias. However, since bias can go in both directions of under and overestimation of the true effects and the end potential biases may be attenuated.

The second limitation refers to the specific timing of the data collection. It takes place on the first wave of the pandemic. SHARE data was collected between June and July 2020, that is, in the summer when the first COVID-19 wave was disappearing. The second wave started in the autumn that year. Additional studies will follow as more statistical data is released, as it will for SHARE Corona Survey new wave.

## **5. Conclusion**

Our results show that policy measures designed to mitigate the effects of COVID-19 in the labour market and in the workplace need to consider the heterogeneity of the workers (age, gender, education, income, type of workplace), specifically the older ones (Li and Mutchler 2020). In many situations, older people have lower levels of education, fewer skills to work from home, and lower levels of income. In the case of older workers, as remarked by Dias et al. (2020), the loss of good-job-matching makes it difficult to find alternatives post-pandemic crisis and this should be considered in policy measures. The other concern may be with older workers health, as it needs to be ensured that workers keep in good health to perform their work (Avenida and Cylus 2019), prevent early retirement decisions and contribute to the active ageing (European Commission 2020).

## **Declarations**

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### **Data availability statement**

Data supporting the findings of this study are publicly available in SHARE project at <http://www.share-project.org/>. Data availability is public and free upon registration.

### **Ethics approval and consent to participate**

By registering as SHARE users all non-EU users agree to comply with these European data protection laws. This self-commitment of the individual user is confirmed by the individual user's signature on the SHARE User Statement.

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## APPENDIX

Table A1: Countries and responses

Country	Nr Responses	%
Germany	254	9.19
Sweden	66	2.39
Spain	24	0.87
Italy	118	4.27
France	91	3.29
Denmark	255	9.23
Greece	41	1.48
Switzerland	90	3.26
Belgium	320	11.58
Israel	18	0.65
Czech Republic	74	2.68
Poland	153	5.54
Luxembourg	21	0.76
Hungary	18	0.65
Portugal	33	1.19
Slovenia	70	2.53
Estonia	371	13.43
Croatia	98	3.55
Lithuania	122	4.42
Bulgaria	77	2.79
Cyprus	20	0.72
Finland	156	5.65
Latvia	101	3.66
Malta	26	0.94
Romania	68	2.46
Slovakia	78	2.82
Total	2,763	100.00

Table A2: Pairwise correlations

	Morehours	Lesshours	age	education
Lesshours	-0.0859*			
age	0.0134	0.0281		
education	0.1148*	-0.0516*	-0.0098	
hh_income	0.0668*	0.0705*	-0.022	0.0956*

Note: \*significance level<0.05.

Table A3: Tetrachoric correlations

	Morehours	Lesshours	gender	dif_makends	worse_health	work_home
Lesshours	-0.2055*					
gender	-0.0758*	-0.0022				
dif_makends	-0.2132*	0.1325*	-0.0680*			
worse_health	0.1621*	0.0060	-0.2158*	0.1012*		

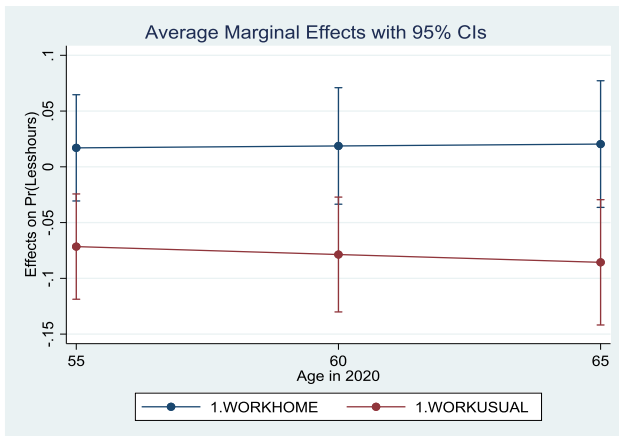
work_home	0.2770*	0.1265*	-0.1365*	-0.1854*	0.0816	
work_usual	-0.3022*	-0.1431*	0.0956*	0.3025*	-0.0826	-1.000

Note: \*significance level<0.05.

Table A4: VIF test

	VIF	1/VIF
gender	1.02	0.978939
age	1.01	0.990422
education	1.13	0.888880
hh_income	1.11	0.899575
dif_makends	1.08	0.925525
worse_health	1.01	0.989041
no_lockdown	1.05	0.953406
work_home	1.16	0.860511
work_both	1.15	0.870638
Mean VIF	1.08	

Graph A1: Marginal effect for working less hours given age and work place



Graph A2: Marginal effect for working more hours given age and work place

