Raluca Elena Buia, Danilo Cavapozzi, Giacomo Pasini
and Irene Simonetti

15 What is the future of (remote) work?

Key points

- Among the individuals who worked continuously since the start of the COVID-19 pandemic, around 22% of men and 30% of women were working remotely in both waves of the SHARE Corona survey.
- Only 10% of the workers in our sample were initially working remotely, and then moved back to their usual workplace.
- Remote work adoption varied depending on the technical feasibility of performing a job remotely.

1 Introduction

In this paper, we describe the evolution of remote working ("working from home") after the start of the COVID-19 pandemic by exploiting the panel dimension of the SHARE Corona survey. The first wave of this survey was mainly collected between June and the beginning of August 2020, whereas the second round was conducted in the same period in 2021. Combining the data drawn from the two waves, we can observe the remote working experiences of the respondents from the start of the pandemic until the interview in the second wave. The aim of our analysis is to understand whether the adoption of remote working among older workers was a short-term reaction to the start of the pandemic, or whether it continued over a longer time horizon, suggesting a persistent change in the organisation of work.

"Working from home" has been an important solution for mitigating the dramatic economic impact of the sanitary emergency created by the COVID-19 pandemic. Countries rapidly adopted measures to enable and/or facilitate this type of working arrangement, which allowed for the continuation of economic activity while reducing social contact, and, in turn, the risk of contagion. Once the shortage of personal protective equipment (PPE) had been overcome and the lockdown measures had been replaced by physical distancing measures more compatible with in-place work activities, remote work could be used as an option available to workers and firms to replace standard workplace organisation. Recently, an increasing number of studies have analysed various aspects of telework. On the

https://doi.org/10.1515/9783111135908-015

one hand, remote working allows workers to eliminate commuting times as well as transportation costs, and to have more flexibility in the organisation of their activities within and outside the labour market. Firms that allow their employees to work remotely can reduce costs related to the maintenance and the utilisation of plants, buildings, and offices. On the other hand, individuals who work from home might be more exposed to stress and mental health problems (Bertoni et al., 2021, Sandoval-Reyes et al., 2021). Moreover, this working modality may be characterised by a lack of communication and of social interaction, which could lead to increased difficulties and lower efficiency in occupations for which teamwork is important (Sostero et al, 2020). Furthermore, firms that allow remote work face agency problems generated by the difficulties in supervising the efforts of employees who are not under the direct control of their supervisors. This may be why some companies, such as Goldman Sachs or Apple, have stepped back from full remote work, and have opted for hybrid models in which employees are required to spend some days working in the office.

2 Data

In our empirical analysis, we focus on individuals aged between 50 and 70 who worked continuously throughout the pandemic. We do this by selecting respondents who participated in both waves of the Corona survey, were employed or self-employed when the COVID-19 crisis started, and did not experience any interruption of their employment activity up to the time of the second wave. Our sample consists of 3940 individuals, 57% of whom were women. Their average age in 2021 was 61 for men and 59.8 for women.

This sample is clearly selected, as the COVID-19 crisis had a massive impact on the labour market and employment stability. Indeed, among the respondents aged 50–70 who were working at the start of the pandemic and were interviewed in both Wave 1 and Wave 2 of the survey, 17.73% reported in the first wave that they had become unemployed, been laid off, or had been forced to close their business at least temporarily due to the COVID-19 crisis. In the same sample, 10.67% of the respondents reported that they had experienced work interruptions between Wave 1 and Wave 2. Notably, 5.99% of respondents reported experiencing job interruptions both between the start of the pandemic and Wave 1 and between Wave 1 and Wave 2. As a result, the sample that will be used in our main analysis is likely not representative of the overall population of workers at the start of the pandemic. However, focusing on the respondents who were working continuously is necessary to analyse the evolution over time of the utilisation of telework, as it

enables us to rule out the effects of the pandemic on job interruptions and job changes, which were potentially related to the feasibility of performing the job remotely and to the individuals' skills in coping with remote work.

The information collected in the two waves of the SHARE Corona survey allows us to monitor the dynamics of respondents' remote work patterns since the beginning of the pandemic. The main outcome of our analysis is a variable identifying four alternative patterns of remote work adoption: (i) working only at the usual workplace in both Wave 1 and Wave 2; (ii) working only at the usual workplace in Wave 1 and working remotely in Wave 2; (iii) working remotely in Wave 1 and working only at the usual workplace in Wave 2; and (iv) working remotely in both Wave 1 and Wave 2. For the sake of simplicity, in our analysis, the utilisation of remote work in a given wave indicates that individuals were either working from home only or were combining teleworking and working at the usual workplace.

3 Results

Overall, 41% of the individuals in our sample were working remotely since the beginning of the pandemic (conversely, 59% of workers were continuously performing their job at the usual workplace). However, we notice substantial heterogeneity in the timing of teleworking adoption and across countries. About 26% of respondents were working remotely in both waves. As shown in Figure 1, this percentage was higher in the Netherlands, Luxembourg, Belgium, and France; and was lower in Bulgaria, Cyprus, Latvia, and Spain. Around 10% of the respondents were working from home between the outbreak of the pandemic and the Wave 1 of the survey, but were working at the usual workplace between Wave 1 and Wave 2. This implies that for about one-fourth (10% over the sum of 26% and 10%) of the individuals who were teleworking at the beginning of the pandemic, this work arrangement was temporary, and was later discontinued. The share of respondents who switched from working remotely to working at the usual workplace might represent cases in which remote working was not found to be a successful work arrangement from the individuals' or the firms' perspective. Workers might prefer to work at the usual workplace in order to have a clearer distinction between their labour and non-labour market activities, or to enjoy social interactions with colleagues. Firms might prefer to have workers coming to the usual workplace in order to have direct control over their efforts. Finally, 5% of workers in the sample carried out their job at the usual workplace between the outbreak of the pandemic and Wave 1, but were teleworking between Wave 1 and Wave 2. Jobs that were per-

formed at the usual workplace between the outbreak of the pandemic and Wave 1 were typically jobs in sectors deemed "essential" for economic activity, and were allowed by governments to keep their production process at the workplace. Alternatively, these jobs may not have been immediately convertible to a remote work setting due to their content and their degree of teleworkability (Sostero et al., 2020). However, it is worth noting that the time period between the two waves of the Corona surveys is about one year. The finding that around 8% (5% over the sum of 59% and 5%) of the individuals who continued to work in person at the start of the pandemic were able to switch to teleworking in such a limited time span is encouraging, as it demonstrates the potential solutions that future ICT (Information and Communications Technology) infrastructures can provide for the online organisation of work.

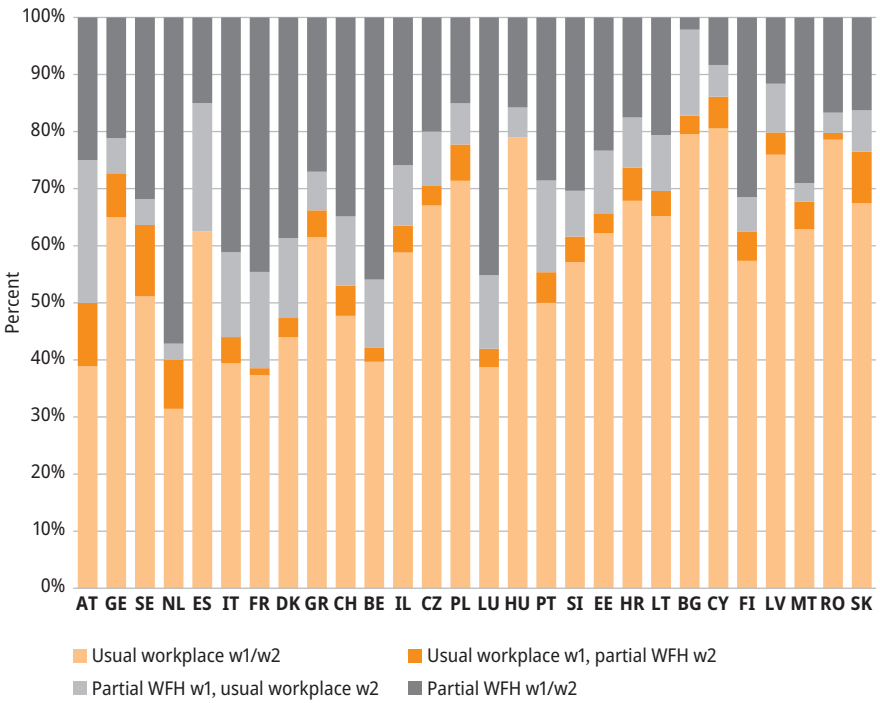

Figure 1: The dynamics of remote work utilisation among older workers.
Source: SHARE Corona (W1& W2), release 8.0.0.

It might be argued that gender-related differences were driving the dynamics of the adoption of teleworking, as women might have had a higher propensity to work from home than men in response to the need to reconcile their labour mar-

ket activities and family responsibilities. For instance, teleworking may have helped women meet the need or the demand to provide informal care to older parents/relatives or to (grand)children at home due to school closures and quarantine restrictions. However, while the percentage of female workers who engaged in teleworking was large (45%), a sizeable share men worked remotely as well (36%). This cross-gender difference was largely explained by the differential in the probability of having worked remotely continuously since the beginning of the pandemic, which was 30% for women and 22% for men. Note that around one-fourth of women and one-third of men who were teleworking at the outbreak of the pandemic later transitioned back to the usual workplace. Finally, the percentage of individuals who switched to remote working between Wave 1 and Wave 2 was around 5% for both men and women.

As we argued above, we expect that the adoption of remote working also depends on job characteristics. If a job requires physical manipulations or in-person interactions among individuals, the probability of performing it remotely is clearly lower. Following Brugiavini et al. (2022), we exploit the ISCO-08 three-digit classification of occupations available in SHARE to describe job contents according to their level of teleworkability and required social interactions. The ISCO-08 classification allows us to match the jobs carried out by SHARE respondents with the detailed job descriptions collected by the Bureau of Labour Statistics O*NET survey data 2018. The first index we consider ranks jobs according to the technical feasibility of performing them remotely (teleworkability), and it reflects the importance of computer-based tasks in the job. This index ranges between zero and one, representing the lowest and the highest levels of teleworkability, respectively. The second index reflects the extent to which social interaction and physical contact are usually needed to carry out the job. This index captures heterogeneity across jobs related to the physical proximity and the intensity of interactions with other persons, such as colleagues and/or the public. We expect this dimension to be extremely relevant for explaining the adoption of remote working during the pandemic, as social interaction and in-person contact were risk factors driving the contagion (Lewandowski, 2020), particularly when vaccines were not available. However, even in "normal times", the greater the need for social interaction between individuals that characterises the job content, the lower the probability is that the job can be done remotely, or the more the quality of the output is affected when the job performed "at a distance". This index is defined to vary between zero and one, indicating the lowest and the highest levels of interactions required by the job, respectively. Brugiavini et al. (2022) described the construction of both indicators in detail.

Figure 2 reports the median levels of these two indicators in the nine job categories defined by the ISCO-08 majors (one-digit classification). The orange bars refer to teleworkability. Managers and clerical support workers carry out the jobs

with the highest level of teleworkability. In these two groups, the median of the index is, respectively, equal to 0.97 and one. The degree of teleworkability of the job performed by professionals and technicians is lower, but is still substantial. In the remaining job categories, the median of the index is equal to zero. In all these occupations (for instance, plant and machine operators), the adoption of remote working clashes with job characteristics that prevent the job from being done online. When we look at the grey bars, we can see the heterogeneity across job categories in the level of social interaction required. The level is higher for service

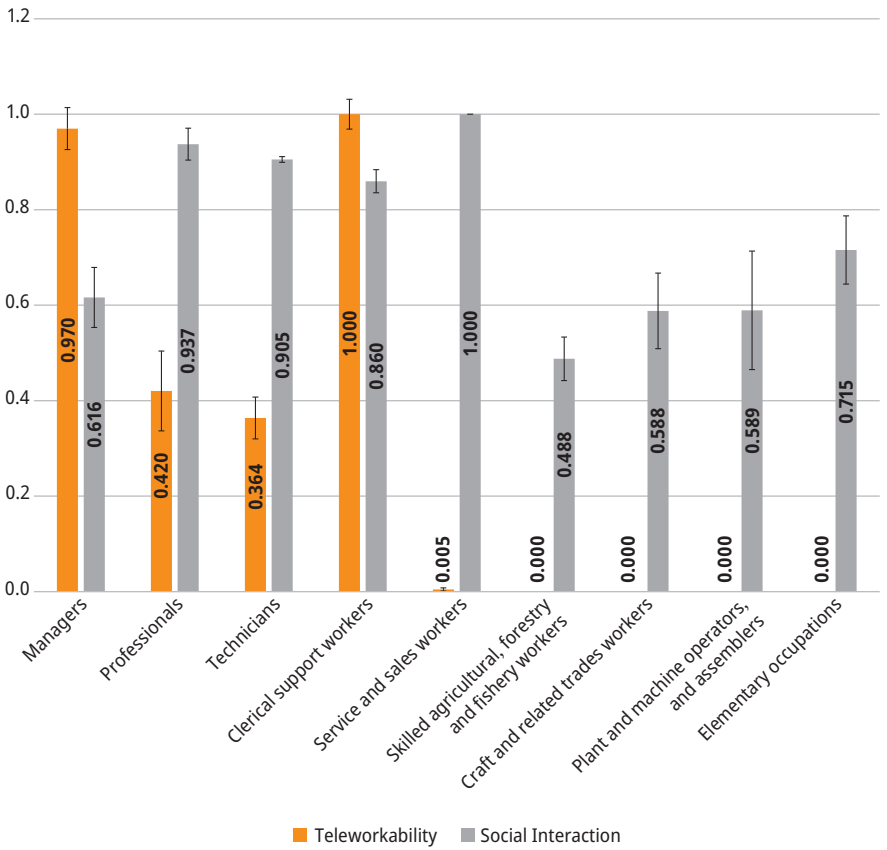

Figure 2: Remote work feasibility and social interaction at work indexes (median values) by occupation.
Note: Confidence intervals (95% level) in the graph are computed by running quantile regressions. Whenever confidence intervals are not shown, they turn out to collapse on the median point estimate due to limited sample variability.
Source: SHARE Waves 1 to 8, release 8.0.0; SHARE Corona (W1 & W2), release 8.0.0.

and sales workers, professionals, technicians, and clerical support workers; while it is lower for agricultural workers. Finally, it is worth noting that the differences in these two indicators across and within job groups clearly show that they are not redundant and capture different job dimensions. As an example, managers perform a job that is almost fully teleworkable, but the level of social interaction required is among the lowest, and is comparable to that for craftsmen and plant operators, whose jobs are difficult to perform online due to technical barriers. Moreover, within the category of clerical workers, there are jobs with a high level of both teleworkability and social interaction. The above considerations may help to partially explain the cross-gender differences in the adoption of remote working discussed above. A large share of women are involved in occupations in the public sector (clerks), which managed to quickly adapt to the pandemic conditions by adopting telework, in part because in most European countries these occupations were subject to some forms of remote work regulation even before the start of the pandemic. By contrast, jobs belonging to major 7-"Craft and related trade workers" or 8-"Plant and machine operators . . .", which have low levels of telework suitability and medium levels of social interaction, tend to be more male-dominated.

Figure 3 shows how the actual adoption of remote working in our sample varied across job groups identified by the ISC0-08 one-digit classification of occupations. If we look at professionals, we note that 33% of them continuously carried out their job at the usual workplace (this percentage was 59% in the overall sample), and 48% of them (versus 26% in the overall sample) continuously worked remotely since the beginning of the pandemic. Analogous patterns are found for managers, technicians, and clerical support workers. As shown in Figure 2, in all of these job categories, the technical feasibility of performing the work remotely is high, and, with the exception of managers, the level of social interaction required is also high. Finally, it should be noted that for these workers, the probability of working remotely at the start of the pandemic and then "coming back" to the usual workplace was always higher than the probability of experiencing the opposite pathway. This suggests some inertia in work organisation, and a preference of firms to restore the usual "in place" work arrangements. If we look at the other job categories (majors 5 to 9), we see that all are characterised by a very low suitability for teleworking, and that the great majority of individuals in these groups were continuously working at the usual workplace since the start of the pandemic. In particular, conditional on keeping on working, more than 89% of the craftsmen, plant, and machine operators, as well as the workers employed in elementary occupations, were always working at the usual workplace. When interpreting these results, it is important to keep in mind the nature of our selected sample. We are considering a sample of workers who did not experience any job

interruptions, and the probability of stopping working at least temporarily since the start of the pandemic was relatively high for these job categories. For example, for majors 5 and 7 to 9, the percentage of individuals who experienced work interruptions up to the Corona Wave 1 interview was between 20–25%, compared to 10–17% for individuals in the first four one-digit ISCO-08 categories. This pattern is clearly attributable to these jobs lacking the conditions that would make it technically feasible to perform them remotely (Brugiavini et al., 2022). According to this descriptive evidence, the technical remote feasibility index is a strong predictor of the diffusion of remote working. Regardless of the level of social interaction a job requires, if the technical feasibility of performing the job online is negligible, the workers who do the job will not be able to telework.

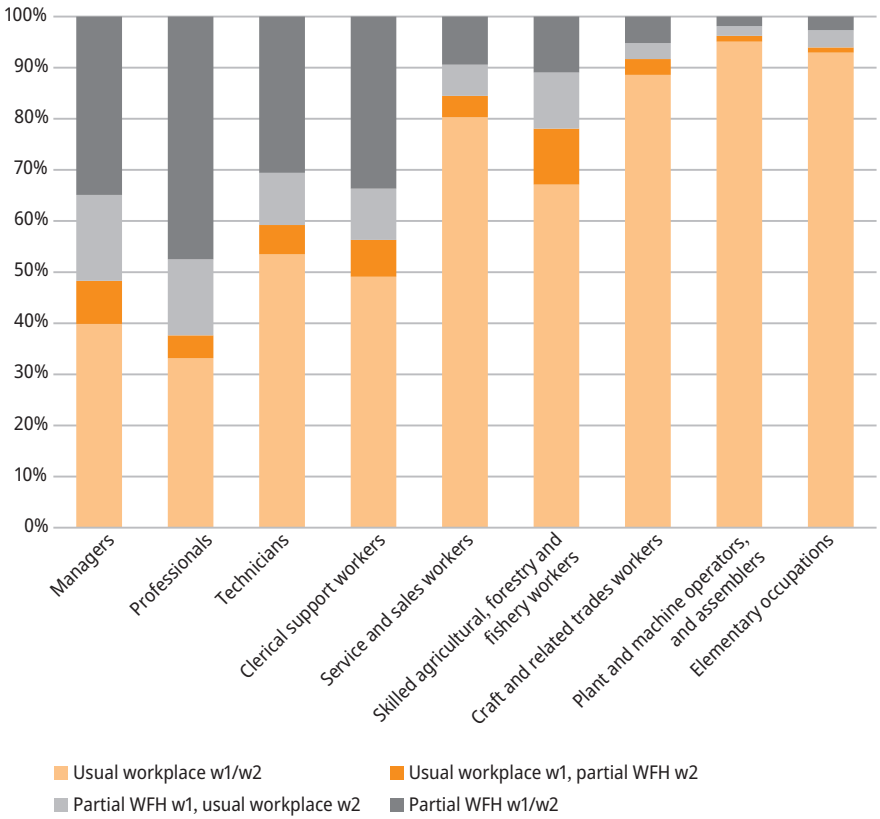

Figure 3: The dynamics of remote work utilisation among older workers by occupation.
Source: SHARE Waves 1 to 8, release 8.0.0; SHARE Corona (W1 & W2) release 8.0.0.

4 Conclusions

We combined data from the first two waves of the SHARE Corona Survey to analyse the dynamics of the diffusion of remote working arrangements among older workers. Around one-fourth of the workers in our sample worked remotely continuously since the beginning of the pandemic. This percentage varied somewhat by gender (30% for women and 22% for men). Moreover, this share hid the heterogeneity across occupations depending on the technical feasibility of performing the job remotely. Whereas the percentage of workers who were steadily adopting teleworking was found to be about 40% among managers, professionals, technicians, and clerical support workers; this share was at most 11% for less skilled occupations that are very difficult to perform remotely. Finally, it is worth noting that only 10% of workers in our sample were initially working remotely and then returned to the usual workplace. Our findings suggest that in occupations in which remote working was technically feasible, it was still being practiced by a sizeable share of workers more than one year after the start of the pandemic. Thus, it is difficult to classify remote working as a short-term arrangement dictated by the pandemic emergency. On the one hand, this calls for further research investigating the effects of the protracted utilisation of remote work on the labour and non-labour market outcomes of older workers. On the other hand, policy actions are needed to provide older workers with the necessary knowledge to deal successfully with this increasingly common working arrangement.

References

Bertoni, M., Cavapozzi, D., Pasini, G. and Pavese, C. (2021). Remote Working and Mental Health during the First Wave of COVID-19 Pandemic, IZA Discussion Paper, No. 14773.

Brugiavini, A., Buia, R. E. and Simonetti, I. (2022). Occupation and working outcomes during the Coronavirus Pandemic. *European Journal of Ageing*, *19*(4), 863–882. doi:10.1007/s10433-021-00651-5

Lewandowski, P. (2020). Occupational Exposure to Contagion and the Spread of COVID-19 in Europe, IZA Discussion Paper, No. 13227.

Sandoval-Reyes, J., Idrovo-Carlier, S. and Duque-Oliva, E.J. (2021). Remote Work, Work Stress, and Work–Life during Pandemic Times: A Latin America Situation, *International Journal of Environmental Research and Public Health*, 18(13):7069. doi:10.3390/ijerph18137069

Sostero, M., Milasi, S., Hurley, J., Fernandez-Macias, E. and Bisello, M. (2020). Teleworkability and the COVID-19 Crisis: A New Digital Divide?, JRC Working Papers on Labour, Education and Technology 2020-05, Joint Research Centre (Seville site).