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Engstler, Heribert; Romeu Gordo, Laura; Simonson, Julia

Veröffentlichungsversion / Published Version

Sammelwerksbeitrag / collection article

### Empfohlene Zitierung / Suggested Citation:

Engstler, H., Romeu Gordo, L., & Simonson, J. (2023). Effects of the Covid-19 Crisis on the work situations of people in middle and older working age. In J. Simonson, J. Wünsche, & C. Tesch-Römer (Eds.), *Ageing in Times of the COVID-19 Pandemic* (pp. 37-58). Wiesbaden: Springer VS. [https://doi.org/10.1007/978-3-658-40487-1\\_3](https://doi.org/10.1007/978-3-658-40487-1_3)

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# Effects of the Covid-19 Crisis on the Work Situations of People in Middle and Older Working Age

# 3

Heribert Engstler, Laura Romeu Gordo and Julia Simonson

## 3.1 Key Messages

**In the first phase of the Covid-19 crisis between March and June/July 2020, working people substantially reduced their working hours.** One fifth of middle-aged and older employees had to avail of the German government's furlough scheme (called *Kurzarbeit*, or short-time work), 5.1 per cent were given paid leave and one fifth reduced their working time credits and overtime. Almost half of the self-employed reduced their working hours or temporarily stopped working. The total weekly working time decreased by an average of two hours until June/July.

**The general reduction in working hours was accompanied by a substantial increase in working from home.** More than a quarter of employed persons aged 46 and over shifted partly to remote working or increased their hours spent working from home. As a result, the average number of hours worked at home doubled from 3.9 to 8.6 h per week for all employed persons aged 46 and over.

**However, not everyone experienced reductions in working hours: One sixth of employees (16.8 per cent) had to work more overtime than usual after the start of the Covid-19 crisis.** Employees in the public sector and key workers in so-called system-relevant professions were above the average in this regard.

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H. Engstler (✉) · L. Romeu Gordo · J. Simonson  
German Centre of Gerontology, Berlin, Germany  
e-mail: [heribert.engstler@dza.de](mailto:heribert.engstler@dza.de)

L. Romeu Gordo  
e-mail: [laura.romeu-gordo@dza.de](mailto:laura.romeu-gordo@dza.de)

J. Simonson  
e-mail: [julia.simonson@dza.de](mailto:julia.simonson@dza.de)

**Older workers aged 55 and over were less likely to be affected by changes in their working hours and were less likely to shift to working from home than those aged 46–54.** They were slightly less likely to have been put on the short-time working scheme (18.2 per cent vs. 21.9 per cent), they were less likely to have increased their overtime (13.0 per cent vs. 21.2 per cent) and they reported lower increases in working-from-home hours. In June/July 2020, only 36.1 per cent were doing all or part of their work from home compared to 41.1 per cent of those aged 46–54.

**In the months after the first lockdown began, women more frequently continued to work as before than men.** They were less likely to have been put on the short-time work scheme (17.4 per cent vs. 22.4 per cent), their weekly working hours did not decline as much (by 0.6 h for women vs. 3.0 h for men) and they more often continued to work in person rather than remotely. In June/July 2020, only 30.7 per cent of women but 45.0 per cent of men regularly worked from home.

**Labour force participation by retirees did not decline due to the Covid-19 crisis.** At 15.5 per cent, their employment rate in June/July 2020 was higher than in 2017. Only 8.9 per cent of those still in employment before March 2020 had to stop working in the following months because of the Covid-19 crisis.

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## 3.2 Introduction

In view of the rapidly increasing numbers of people infected with the novel coronavirus in Germany from February 2020 onwards and the worrying reports from China and European regions such as northern Italy and Catalonia, policymakers needed to take rapid action to reduce the infection rate and not overstretch the health system. From mid-March 2020, extensive pandemic-containment measures were enacted by the federal and state governments, including significant restrictions on economic activities, the education system, mobility and social contacts. Almost all educational institutions were closed, public transport in trade and services was largely stopped, cross-border passenger transport and mobility between federal states were severely restricted, and events were banned or limited to a few participants. Employers were encouraged to let their employees work from home as much as possible. Since many other countries also took measures to contain the pandemic at almost the same time, global economic activity was greatly reduced in a short time period and supply chains were interrupted.

Thus, Germany also experienced a rapid decline in the production and consumption of goods and services, which had an impact on employees' workloads and everyday working lives. In the second quarter of 2020, the number of people in employment in Germany fell, but the decline in the employment rate in this

country was much weaker than in most other EU member states (Eurostat 2020). The unemployment rate also rose comparatively moderately from 5.1 to 6.2 per cent between March and June 2020 (Westermeier 2020). The fact that there was no wave of redundancies in the companies is mainly due to labour market policy measures, especially the German government's furlough scheme (*Kurzarbeit* or short-time work). In this regard, the short-time allowance was improved and extended (Konle-Seidl 2020). In the first phase of the Covid-19 crisis, around 35 per cent of all businesses applied to avail of the short-time work scheme (Bellmann et al. 2020). Many self-employed workers were affected by decreasing numbers of orders and turnover losses, especially in sectors that could no longer open to the public. To alleviate financial hardship for self-employed people and to secure their livelihoods, state bridging assistance was granted to the self-employed and insolvency filing obligations were temporarily suspended. This, combined with the relaxation of pandemic-containment measures in summer 2020, helped to prevent a wave of bankruptcies among the self-employed during and after the first lockdown.

The effects on employment in the first months of the Covid-19 crisis were not only reflected in increases in the numbers availing of the short-time work scheme (Schröder et al. 2020) but also in a sharp decline in the volume of work—that is, the total number of hours worked (Frodermann et al. 2020). However, there are also employees whose working hours have increased—for instance, due to increased demand in the company or staff shortages, especially in the healthcare sector and in online commerce. Presumably, employees with increased working hours also included key workers who perform so-called system-relevant activities, the majority of whom are women (Koebe et al. 2020). In the Covid-19 crisis, therefore, workers likely experienced opposing changes in working hours, with different people being affected differently.

The second striking change in response to the Covid-19 pandemic was the increase in home-based work, i.e. the number of hours spent working from home (WFH). In a recent review of several empirical studies, Bonin et al. (2020) concluded that among all employees, WFH increased to about one-third by the summer of 2020 from one-fifth of employees previously. According to the study, more highly qualified and higher-income employees worked at home more often than average during the Covid-19 crisis. The findings on the gender-specific prevalence of WFH in the first months of the Covid-19 crisis are inconsistent. While Bonin et al. (2020: 101) found that more men than women used WFH, Frodermann et al. (2020) came to the opposite conclusion. According to a study by Möhring et al. (2020), men and women were roughly equally likely to work from home.

The aforementioned studies did not report any results on age differences in WFH. However, age differences are of interest, as a central motive for shifting to WFH was the hoped-for better protection against infection with the novel coronavirus. Since the risk of serious illness increases with age, companies may have particularly encouraged older workers to work more hours from home; likewise, older employees may have also wanted this more for themselves. The question of whether older self-employed workers responded to the health threat by withdrawing more to the home office should also be relevant. According to the findings of an online survey conducted by the Institute for Employment Research (IAB) (Westemeier 2020) in May 2020 among workers in standard employment with social security entitlements and those in marginal employment, older workers aged 50 and over performed less remote work than younger workers. However, the IAB study did not include civil servants, the self-employed and workers of retirement age.

For almost two decades, the proportion of people who continue to work after retirement has been increasing. Such retirees often perform part-time mini-jobs or are self-employed (Engstler et al. 2020). The Covid-19 pandemic and its economic consequences might have affected this group of employed people in two ways. On the one hand, mini-jobs can be cut more easily and quickly than core jobs in employment crises, and on the other hand, older people whose pension incomes are comparatively secure may decide more easily to forego employment in view of their increased risk of severe Covid-19. Therefore, it is appropriate to investigate whether there was a decline or even a collapse in labour force participation by pensioners after the onset of the Covid-19 crisis.

### *Research questions*

Against this background, this paper examines the extent to which employed persons in their mid-40s and older were affected by different changes in their work situations in the first months after the start of the Covid-19 crisis in Germany between March and June/July 2020. We are particularly interested in whether older workers aged 55 and over were affected to the same extent as middle-aged workers and whether there were gender differences.

Specifically, we will explore the following research questions:

- Short-time work: What were the proportions of employees in their mid-40s and older who availed of the short-time work scheme? Were there differences according to age and gender?
- Overtime: What were the proportions of employees in their mid-40s and over who worked more overtime than usual between March and June/July 2020? Were there differences by age and gender?

- Weekly working hours (WFH): How did the average weekly working hours of employed persons in their mid-40s and older change between March and June/July 2020? Were there differences by age and gender?
- Working from home: How did the average weekly working-from-home time of employed persons in their mid-40s and older change between March and June/July 2020? Were there differences by age and gender?
- Did the beginning of the Covid-19 crisis lead to a decline in labour force participation by retirees? How often did retired workers stop working because of the Covid-19 pandemic?

The results of this chapter are based on data from a paper–pencil short survey conducted in June/July 2020 as part of the German Ageing Survey (DEAS). The analyses included data from 1232 employed persons aged 46 and over who were not in receipt of a pension, as well as 3080 persons up to the age of 90 who were in receipt of a pension and who answered the question about working while retired.

The analyses considered the following possible job-related or professional changes:

- *Changes that occurred* in a person's working activities as an employed or self-employed person from mid-March: Respondents were presented with different lists of possible changes and events for employees and self-employed persons who were not in receipt of a pension.<sup>1</sup> In each case, the survey asked whether the respondent had experienced these changes and events. We concentrated on changes that concerned adjustments to working hours and the scope of work: short-time work, time off, unpaid leave, reductions of overtime and working time credits, increases in overtime, reductions and expansions of self-employment.
- Comparison of the current *weekly hours of work and WFH time* at the time of the survey with the amount of hours before the start of the Covid-19 crisis in mid-March: These hourly data were collected through self-reporting by the respondents; changes in working hours and WFH time (weekly hours of gainful employment worked at home) were determined from this.
- *Labour-force participation of pensioners*: All persons who reported being in receipt of a pension were asked whether they were currently employed. If they

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<sup>1</sup>For employed persons who indicated that they were both employees and self-employed, the changes in both activities were recorded.

answered this in the negative, the survey then asked whether they had given up previous gainful employment because of the Covid-19 crisis or whether they had not been gainfully employed before or during the crisis.

The survey investigated gender and age differences in the impact of short-time work, the need for more overtime, changes in weekly and WFH hours, and labour force participation in retirement through a descriptive comparison of women and men and of two age groups in each case (for non-retirees in employment: 46–54 years vs. 55 and over; for those in retirement: under 70 years vs. 70 and over).

To be able to determine whether existing gender and age differences could be attributed in whole or in part to differences in women's and men's occupational characteristics and age groups, we conducted multivariate analyses of the probability of short-time work, more overtime and more WFH to supplement the descriptive comparisons. The following control variables were included in the logistic regression models: educational level, sector, system relevance of the occupation and occupational status (only for analyses of WFH). Occupations were labelled as system relevant following the categorisation proposed by Koebe et al. (2020) (see Table A3.4 in the appendix).

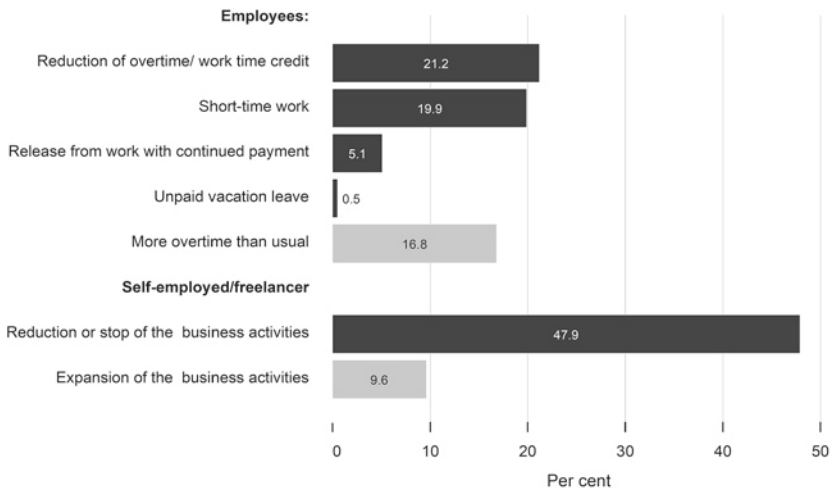
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### **3.3 Short-Time Work, Overtime and Weekly Working Hours in the First Months of the Covid-19 Crisis**

In the June/July 2020 German Ageing Survey (DEAS), only 4.2 per cent of the labour force aged 46 and over said they were registered as unemployed. However, many workers faced significant declines in the volume of work and hours worked after the start of the Covid-19 crisis in March 2020.

#### ***High prevalence of short-time work, reduction of working time credits and overtime***

One fifth of employees aged 46 and over (19.9 per cent) had to avail of the short-time work scheme (Fig. 3.1). Temporary leave from work was taken by 5.1 per cent. One fifth reduced overtime or working time credits. However, 16.8 per cent of employees worked more overtime—this particularly applied to employees in the public sector and in system-relevant occupations (cf. Table A3.2 in the appendix). Self-employed workers were substantially affected by declining earnings and changes in work. Almost half of the self-employed had to reduce their work or temporarily stop it altogether. Yet, one tenth of the self-employed even increased their working hours in the months after March.



**Fig. 3.1** Working time adjustment events experienced since March 2020 (in per cent).  
*Source* DEAS 2020 (n = 1300; persons aged 46 and over (not including pensioners)), weighted analyses

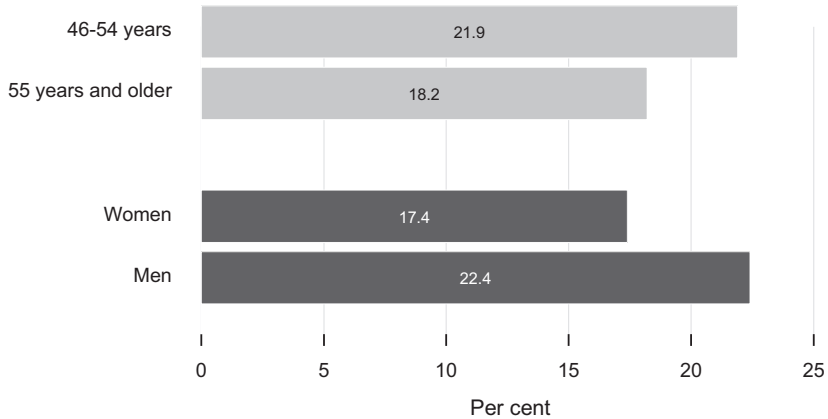
### 3.3.1 Age and Gender Differences in Short-Time Work

Older employees aged 55 and over were less likely to be forced into the short-time work scheme after the start of the Covid-19 crisis than employees in the middle working age range of 46 to 54. Men and women were also affected differently: women were less likely to avail of the short-time work scheme than men.

#### *Less short-time work among older employees and women*

The fact that women were less affected by short-time work was related, among other things, to the fact that they were more likely to work in the public sector than men and less likely to work in industry and skilled trades (see Table A3.1 in the Appendix), two sectors with high rates of short-time work. Women were also more likely to work in a systemically relevant job (ibid.). Taking these gender differences in occupational characteristics into account, gender had no independent significant effect on the likelihood of availing of the short-time work scheme (see Table A3.3 in the Appendix). In contrast, older employees aged 55 and over had a slightly lower risk of availing of the short-time work scheme, a difference that remains even when controlling for possible age differences in occupational characteristics (qualification, sector, system relevance) (Fig. 3.2).





**Fig. 3.2** Switch to short-time work after mid-March 2020 among employees by age and gender (in per cent). *Source* DEAS 2020 (n = 1134; employees aged 46 and over (not including pensioners)), weighted analyses. Age and gender differences are statistically significant.<sup>2</sup>

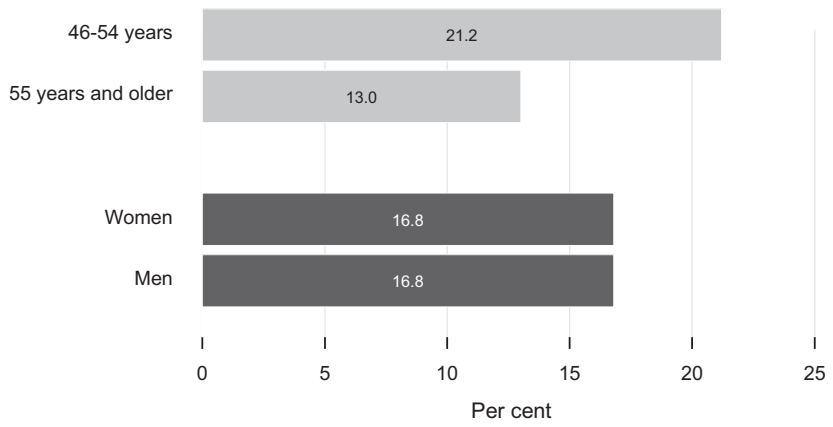
### 3.3.2 Age and Gender Differences in the Increase of Overtime Hours

As mentioned above, the Covid-19 crisis led to more work for some employees. 16.8 per cent stated that they had increased their working hours and had worked or were working more overtime than before. A comparison of two age groups showed that older workers aged 55 and over, at 13.0 per cent, were significantly less likely to have worked additional overtime than middle-aged workers, 21.2 per cent of whom reported an increase in their overtime (Fig. 3.3). In contrast, women and men reported working more overtime in equal numbers.

#### *Less frequent increases in overtime among older workers*

The fact that older employees were less likely to have increased their overtime hours after the start of the Covid-19 crisis cannot be explained by the different occupational characteristics of the two age groups. Even when controlling for the influences of qualifications, sector and system relevance, employees aged 55 and over still had a significantly lower probability of working increased overtime hours (see Table A3.3 in the appendix).

<sup>2</sup>Weighted group differences with a probability of error of less than 5 per cent are classified as statistically significant in this paper.



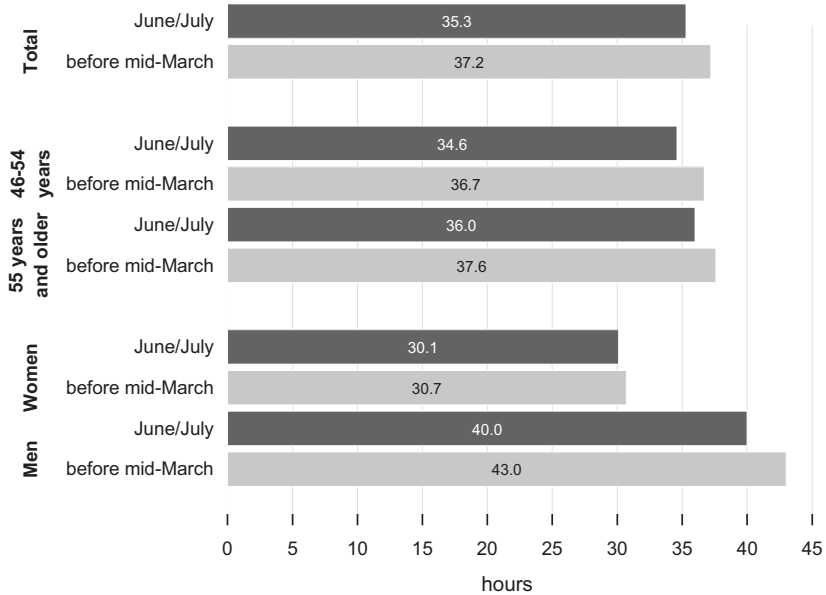
**Fig. 3.3** Employees with more overtime after mid-March 2020 by age and gender (in per cent). *Source* DEAS 2020 (n = 1137; employees aged 46 and over (not including pensioners)), weighted analyses. The age difference is statistically significant

**3.3.3 Sharper Declines in Average Weekly Working Hours for Men Than for Women**

Overall, employed persons aged 46 and over in June/July 2020 worked 35.3 h weekly, 1.9 h less on average than before the start of the Covid-19 crisis in mid-March (Fig. 3.4). 17.6 per cent were still working shorter hours in June/July than before mid-March, and 10.5 per cent were working longer hours. However, the majority of gainfully employed people (71.9 per cent) were working the same weekly working hours in June/July as before.

Among non-retirees aged 55 and over, weekly working hours were 36 h in June/July, about an hour higher than those aged 46–54. The decline in working hours after mid-March tended to be somewhat less substantial.

Women’s weekly working hours decreased less than those of men during this period. Men’s working hours fell by three hours, but women’s working hours only fell by 0.6 h and thus remained relatively stable in the first months after the lockdown. Nevertheless, due to the higher proportion of part-time workers, women worked fewer hours per week than men in June/July—30.1 h (women) versus 40 h (men).



**Fig. 3.4** Average weekly working time before mid-March and in June/July 2020 by age and gender (in hours). *Source* DEAS 2020 ( $n = 1187$ ; employed persons aged 46 and over (not including pensioners)), weighted analyses. Decrease in hours statistically significant for all groups; significant difference in the amount of decrease in hours between women and men; significant difference in weekly working hours in June/July between age groups and between women and men

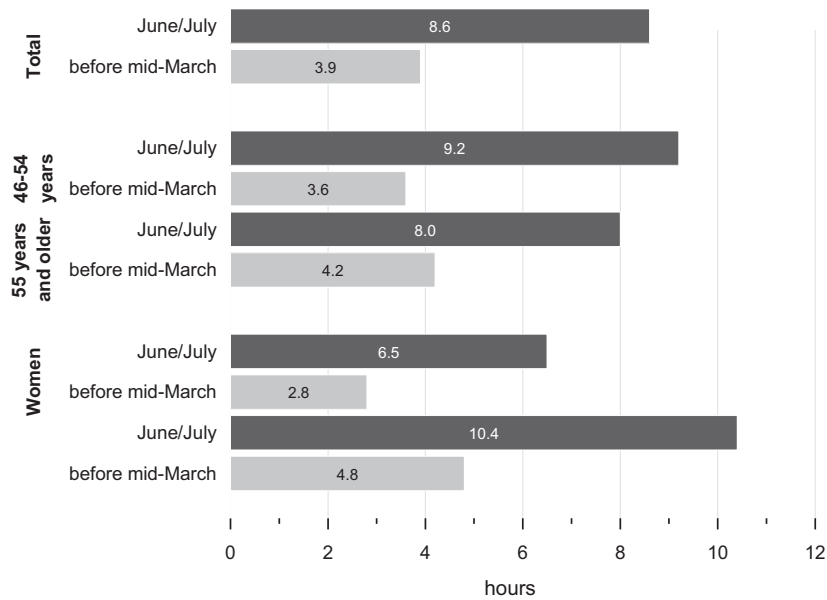
### 3.4 Changes in Time Spent Working From Home

#### *Doubling of working-from-home hours*

The pandemic-induced changes in working hours were accompanied by a significant increase in working-from-home (WFH) hours. 12.6 per cent of employed persons aged 46 and over started to do part of their professional work from home after mid-March, and another 14.1 per cent increased their previous WFH hours. In June/July 2020, 38.4 per cent were regularly working from home. Overall, this meant that weekly WFH hours doubled, from 3.9 h at the beginning of March to an average of 8.6 h in June/July 2020 (Fig. 3.5).

#### *Older workers worked from home less often*

Older workers were less likely to switch to working from home after the onset of the Covid-19 crisis and less likely to increase their WFH hours than middle-



**Fig. 3.5** Average weekly WFH hours before mid-March and in June/July 2020 by age and gender (in hours). *Source* DEAS 2020 (n = 1180; employed persons aged 46 years and older (not including pensioners)), weighted analyses. Increase in hours statistically significant for all groups; significant difference in the amount of increase in hours between age groups and between women and men; significant difference in home working hours in June/July between women and men

aged workers. Accordingly, older workers aged 55 and over had a lower increase in weekly working hours (from 4.2 to 8.0 h) than those aged 46–54 (from 3.6 to 9.2 h) (Fig. 3.5). In June/July 2020, 63.9 per cent of older people reported not working a single hour from home – compared to 58.9 per cent of 46–55-year-olds. This lower WFH rate and the rather small increase in this group after March compared to younger people is surprising, as one might have expected older workers in particular to switch to WFH to protect themselves against Covid-19. Age did not have a statistically significant influence on the likelihood of increasing WFH hours between March and June/July 2020, even after accounting for the occupational characteristics of the two age groups (see Table A3.3 in the Appendix).

***Substantial increase in WFH among men***

Even before the Covid-19 crisis, women in the age group under consideration (46 years and older) were less likely than men to work from home. Between March

and June/July, this gap increased even more. While 30.1 per cent of men started working from home or worked more hours from home, only 22.7 per cent of women did so. Between March and June/July, the WFH rate (proportion of those working from home at least one hour per week) among men increased from 32.2 to 45.0 per cent – for women, it increased from 21.7 to 30.7 per cent. WFH hour volumes also increased more on average for men than for women. For men it increased from 4.8 to 10.4 h per week; for women, it increased from 2.8 to 6.5 h (Fig. 3.5).

This difference in the increases in WFH cannot simply be attributed to differences in occupational characteristics between women and men. This is because, regardless of qualification, sector and system relevance, women were 7.4 percentage points less likely to switch to WFH and to work more hours from home after the onset of the Covid-19 crisis than before (see Table A3.3 in the Appendix).

Overall, it is evident that more women than men continued to work the same number of hours at the same place of work in the months after the first lockdown began. They less frequently reported working reduced hours; when they did, they reported lower reductions in working hours; and they continued to work in person at company sites more often than men.

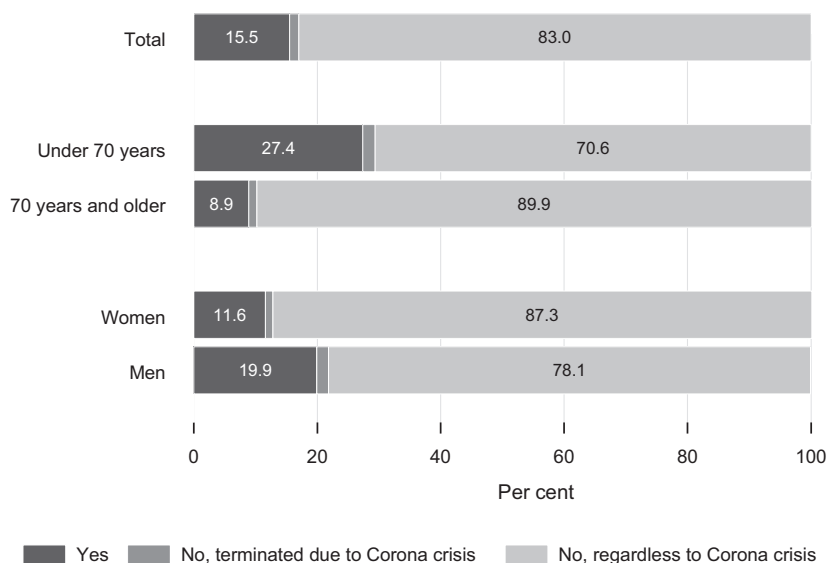
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### 3.5 Gainful Employment of Pensioners

For several years, the proportion of older people who are still working despite receiving a pension has been increasing. In 2017, according to the results of the German Ageing Survey (DEAS), 11.4 per cent of retired people over 60 were still working, more than twice as many as in 1996. They often worked part-time in mini-jobs or were self-employed. The question is whether the Covid-19 pandemic stopped this upward trend. This might have occurred if pensioners had stopped engaging in gainful employment because of their age-related higher health risk or if many of the jobs (or, for the self-employed, assignments) pensioners do had fallen victim to the crisis.

#### *No collapse in the labour force participation of pensioners, but more frequent exit due to Covid-19 from age 70 onwards*

The results of the DEAS survey in June/July show that there was no collapse in retirees' labour force participation after mid-March (Fig. 3.6). Overall, 15.5 per cent of people in receipt of a pension were in employment in June/July. The labour force participation of pensioners at that time was even higher than it was three years ago. As in the past, men were more likely than women and those under 70 were more likely than those aged 70 and over to still be working in retirement.



**Fig. 3.6** Labour force participation of pensioners, June/July 2020 (in per cent). *Source* DEAS 2020 (n = 3080), weighted analyses. Employment rates differ significantly between women and men and between age groups

Only 1.5 per cent of all pensioners, or 8.9 per cent of pensioners who were working before the first lockdown, said they quit because of the Covid-19 crisis. However, those over 70 years of age who were previously employed were more likely to have stopped working after mid-March because of the Covid-19 crisis than those under 70.

### 3.6 Summary and Discussion

As the survey results show, the first months of the Covid-19 pandemic saw significant overall changes in the work situations of people in middle and older working age. Since employers did not typically respond by laying employees off but by putting them on the short-time work scheme, having them take paid time off, reducing working time credits, reducing their weekly working hours and getting them to work from home, unemployment remained relatively low in Germany. However, not all workers in their mid-40s and older were affected in the same way by the changes in work. Depending on their, age, qualification, sector and

occupation, they experienced different degrees of change in the scope and design of work.

Largely consistent with the results of other studies (see e.g. Möhring et al. 2020; Schröder et al. 2020), our study found that women availed of the short-time work scheme less often than men, their weekly working hours remained more stable and they less often switched to WFH or increased their WFH hours. After the start of the Covid-19 crisis, women continued to work the same number of hours and at the same place of work as before more often than men. This was partly due to the fact that women are more likely to work in the public sector, in trade and services, they are more likely to have a system-relevant occupation and they are less likely to be self-employed. However, even after controlling for these characteristics, women were less likely to start working from home. The observed lower WFH rates among women after the onset of the Covid-19 crisis were consistent with findings of the study by Bonin et al. (2020) but not with the findings of Frodermann et al. (2020), which indicated that more women worked from home than men. Possible age differences and other sample differences may explain the inconsistent findings across different studies to some extent. For example, Frodermann et al. did not include the self-employed, civil servants and employees in companies with fewer than 50 employees, while our study could not address the under 45s.

Older workers aged 55 and over were less likely than middle-aged workers (46–54-year-olds) to have experienced major changes in their work situation. They were less often forced to avail of the short-time work scheme, they less often had to do overtime, their weekly working time remained more stable and they less often started working from home or increased their WFH hours. The less marked increase in WFH among older workers is surprising, as one might have expected older workers in particular to increasingly switch to working from home to protect themselves from Covid-19. Those aged 55 and over were slightly more likely than those aged 46 to 54 to work in the public sector and in a system-relevant occupation, both of which have below-average WFH rates. However, even taking into account occupational characteristics, older workers did not increase WFH more than the younger age group. Results of an IAB study suggested that older workers were less likely to meet the requirements for working from home than younger workers. In the online survey conducted by the Institute for Employment Research in May 2020 among both socially insured and marginally employed workers, only 32 per cent of workers aged 60 and over said that their employer allowed them to work remotely; by contrast, 50 per cent of 30–39-year-olds had this option (Westermeier 2020). However, it is also possible that older workers did not see themselves at a higher risk of infection and illness at work

than middle-aged workers—and therefore had no stronger desire to reduce this risk by shifting to WFH. This is indicated by findings presented by Wettstein et al. (see chapter “How did individuals in the second half of life experience the Covid-19 crisis? Perceived threat of the Covid-19 crisis and subjective influence on a possible infection with Covid-19”), who found only small age differences in the perceived individual threat from the Covid-19 pandemic among people in the second half of life.

With regard to the effects of the Covid-19 crisis on labour force participation in old age, there is another finding of the German Ageing Survey, which took place in June/July 2020, that is worth highlighting: there was no decline in the labour force participation of pensioners. Few pensioners stopped working in retirement due to the Covid-19 crisis. Those older people who still wanted to be gainfully employed in retirement were thus not deterred by the pandemic and were not forced out of their jobs. However, some of them may have changed their working hours or place of work due to the Covid-19 pandemic.

### *Outlook*

The survey results reflect the short-term effects of the first lockdown in spring until June/July 2020. The mid- and longer-term consequences of the Covid-19 pandemic and the measures taken to contain it on the employment situations of people of middle and older working age remain to be investigated. In particular, we might expect to find differences between economic sectors, as these were affected by pandemic-containment measures to different extents and for different durations. We might also expect to find differences in the long-term effects for different groups of workers. For example, there may have been a greater decline in labour force participation and work volume among the self-employed and marginally employed, especially because pandemic-containment measures in the second wave were maintained for longer and were tightened over time. During the first lockdown, around 60 per cent of all self-employed workers reported experiencing declines in turnover by the end of May 2020, losing on average two-thirds of their pre-crisis turnover (Kritikos et al. 2020). Further considerable losses in turnover, especially among the self-employed in the tourism and hospitality industry and in the cultural sector, likely occurred by the end of 2020 and should thus have impacted the labour market.

However, in the longer term, some of the observed changes may also create opportunities for the future organisation of working life. For example, the trend towards decreasing in-office hours and increasing facilitation of WFH could have a positive effect on the reconciliation of family care activities (in the case of older workers, especially involvement in caring for grandchildren and relatives), leisure time and work in non-pandemic times. Expanding WFH could also encourage older workers to stay in the labour force longer.



## Appendix

The coefficients in Table A3.3 indicate for each predictor the amount by which the probability of the occurrence of short-time work, more overtime or more WFH increases (+) or decreases (–) on average if the person has the character-

**Table A3.1** Characteristics of employed persons aged 46 and over (not including pensioners) by gender and age, June/July 2020 (in per cent)

Employment characteristic	Women	Men	46–54 years	55 and more years	Total
Educational level					
– Low/medium (ISCED <5)	57.6	43.3	52.0	48.6	50.2
– High (ISCED 5–6)	42.4	56.7	48.0	51.4	49.8
Occupational status					
– Employee	93.3	86.1	90.9	88.5	89.5
– Self-employed	6.7	13.9	9.1	11.5	10.5
Sector of the company					
– Agriculture or forestry	0.3	1.0	0.3	1.2	0.7
– Industry	13.9	32.3	25.0	22.6	23.9
– Craft	3.8	10.0	7.0	7.2	7.1
– Trade or service	51.8	42.1	48.0	45.1	46.6
– Public service	30.2	14.6	19.8	23.8	21.8
Systemic relevance of the profession					
– Yes	44.4	35.0	36.6	42.4	39.3
– No	55.6	65.0	63.4	57.6	60.7
Household structure					
– With partner and child(ren)	29.7	44.7	53.9	24.2	37.6
– With partner, without child(ren)	42.9	37.8	24.9	52.7	40.2
– Without partner, with child(ren)	8.5	1.5	6.8	3.3	4.8
– Without partner, without child(ren)	18.9	16.0	14.5	19.8	17.4

Source DEAS 2020 (n = 726–1232), weighted analyses.

**Table A3.2** Changes in working hours of employed persons aged 46 and over (not including pensioners) from the beginning of the Covid-19 crisis in mid-March until June/July 2020 according to selected characteristics

Employment characteristic	Short-time work <sup>1</sup> (per cent)	More overtime <sup>1</sup> (per cent)	Decrease in weekly working time (hours)	Increase in home working time (hours)
Educational level low/medium	22.4	14.9	−1.9	+2.1
Educational level high	17.2	18.9	−1.9	+7.2
Employees	19.9	16.8	−1.2	+5.0
Self-Employed	n.a	n.a	−7.9	+1.7
Industrial/craft enterprise	39.8	15.5	−2.9	+5.4
Trade/service company	19.7	19.6	−1.6	+5.6
Public service	2.8	21.0	−0.5	+2.3
Systemically relevant profession	18.5	20.4	−1.4	+3.4
With child(ren) in the household	18.4	18.7	−1.9	+5.4
With partner in household	17.1	15.1	−2.0	+4.8
Total	19.9	16.8	−1.9	+4.7

Source DEAS 2020, weighted analyses.

1) For employees; n.a. = not asked

istic mentioned. For example, in Model 3, being a woman increases the probability of working more overtime than before the Covid-19 crisis by 6.3% points. A prediction model in which only gender and age group are included as influencing variables is contrasted with a model in which the level of education, the sector of the company, the systemic relevance of the profession and—only to explain

**Table A3.3** Variables influencing the switch to short-time work, the increase in overtime and WFH after March 2020 (logistic regression, average marginal effects in percentage points)

Predictor	Short-time work <sup>1</sup>		More overtime <sup>1</sup>		More WFH <sup>2</sup>	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Women	−4.9	+2.1	+6.3*	+5.2	−8.4*	−7.4**
Age 55 and older	−6.2°	−4.4°	−6.3°	−6.5*	−2.1	−1.9
High educational level		−1.7		+3.6		+20.1***
Systemically relevant profession		+0.4		+3.3		−12.5***
Industry + Craft		+11.1***		−6.2		−1.0
Public service		−24.0***		−2.4		−1.5
Self-employed						−14.3*
R <sup>2</sup> Nagelkerke	0.016	0.192	0.020	0.034	0.014	0.109
n	585	585	586	586	630	630

Source DEAS 2020, persons who have been in their job for at least three years, weighted analyses.

° =  $p < 0.10$ , \* =  $p < .005$ , \*\* =  $p < .001$ , \*\*\* =  $p < 0.001$

1) Model for employees aged 46 and over (working pensioners not included)

2) Model for employed persons aged 46 and over (working pensioners not included)

WFH—self-employment are also included as predictors. The system relevance of the occupation is determined based on the classification made by Koebe et al. (2020) (for details see Table A3.4).<sup>3</sup>

<sup>3</sup>The information on the sector of the business and the occupation was taken from panel respondents' previous answers, provided they had been in their current occupation for at least three or six years. The information on the educational level was taken from the panel respondents' first interview. Persons with a degree or advanced training (technical school, master craftsman's school, technical school, vocational or technical academy) were classified as having a high educational level (ISCED 5-6).

**Table A3.4** System-relevant occupations (according to Koebe et al. 2020) of employed persons aged 46 and over (not including pensioners), June/July 2020

KldB code	Occupational group	Assigned ISCO-08 codes (DEAS)	Number	Per cent
343	Occupations in building services and waste disposal	9613,9611,9612,7126,2144,3132,2143,3112,2142,9612,3119,7233,3123	54	10.5
433	IT occupations	3513,2523,2519,3511,2522,2521,3514,2529,1330	18	3.6
511	Technical occupations in railway, aircraft and ship operation	8312,3115,8350,3151,3521,3122	21	4.1
513	Warehouse, logistics, postal, delivery, cargo handling occupations	9333,9321,8183,4321,9621,4412,4323,1324	60	11.7
515	Occupations in traffic surveillance and control	2164,3154,2149,3152	4	0.8
521	Drivers of vehicles in road traffic	8322,8332,8331,8321,9331	24	4.6
522	Drivers of vehicles in railway traffic	8311	1	0.1
531	Occ. in physical security, personal, fire protection, workplace safety	9629,5414,5411,5419,5153,4214	14	2.8
532	Occ. in police and criminal investigation, jurisdiction and penal institution	5412,3355,1349,3411,5413	23	4.6
533	Occ. in occupational health & safety administration, public health authority, disinfection	2263,3257,7544	10	2.0
541	Occupations in cleaning services	9112,9111,9122,8157,7133,9123,9129	15	3.0

(continued)

**Table A3.4** (continued)

KldB code	Occupational group	Assigned ISCO-08 codes (DEAS)	Number	Per cent
623+624	Sale of food, drug-store goods, medical supplies and healthcare goods	5246,5212,5223	32	6.3
732	Occupations in public administration	3343,3354,3359,2422,3353,3344,2421,3352,2411,3351,3342,2619,3341,1112	85	16.6
811	Doctor's receptionists and assistants	3256,3251,3255,2267,3240	14	2.7
812	Laboratory occupations in medicine	3212,3211	2	0.4
813+821	Occ. in elderly and nursing care, health and emergency services, obstetrics	3221,2240,5329,3258,3222,2222,2221,1342,1343	44	8.6
814	Occupations in human medicine and dentistry	2211,2261	12	2.4
818	Occupations in pharmacy	2262,2131,2212,3213,2433	19	3.7
831	Occ. in education, social work, pedagogic specialists in social care work	5311,3412,2342,2635,5321,5322,2352,5152,1344,1341	59	11.6
System-relevant occupations in total			511	100.0

Source DEAS 2020, weighted analyses

KldB = German Classification of Occupations, ISCO-08 = International Standard Classification of Occupations 2008

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**Heribert Engstler, M.A.** sociologist, senior scientist at the German Centre of Gerontology (DZA) in Berlin, retired since December 2022. Research interests: work and retirement, housing and financial situation of older people.

**Laura Romeu Gordo, Dr.** economist, deputy research director and senior scientist at the German Centre of Gerontology (DZA) in Berlin. Research interests: work, retirement and pension provision; gender aspects of labor market participation; housing.

E-Mail: [laura.romeu-gordo@dza.de](mailto:laura.romeu-gordo@dza.de)

**Julia Simonson, Dr.** sociologist, head of research, head of the German Ageing Survey, and deputy director at the German Centre of Gerontology (DZA) in Berlin. Research interests: social inequality, volunteering and participation, employment histories and old age provision.

E-Mail: [julia.simonson@dza.de](mailto:julia.simonson@dza.de)

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