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KOMPAKK

Haushaltsstrukturen und ökonomische Risiken während der COVID-19 Pandemie in Ost- und Westdeutschland: Kompensation oder Akkumulation

Interim Report - June 2021

Teleworkability in the first wave of the COVID-19 pandemic in Germany: A household perspective

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The research project KOMPAKK looks at the accumulation and compensation of economic risks in households during the COVID-19 pandemic in Germany. This interim report a) offers an up-to-date overview of the most recent literature on the feasibility of and the actual access to telework during the COVID-19 pandemic; b) features the KOMPAKK index of occupations' teleworkability in Germany, which we compiled based on information from the BIBB/BAuA Employment Survey 2018; and c) presents descriptive findings on how occupations' teleworkability was distributed across household types and household resources in Germany right before the pandemic based on SOEP data (2019) and Mikrozensus (2016). The report concludes by highlighting implications of the accumulation of disadvantages among households depending on the access to teleworkduring the pandemic.

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1. Introduction

Telework has been discussed as an important factor in overcoming the spread of the COVID-19 pandemic and to uphold work activities during lockdowns. With the onset of the pandemic, an abrupt mass transition to telework underpinned by an accelerated scale-up of digital information and communication technology (ICT) could be observed. Telework allowed to replace work-related physical interaction by virtual interaction. Hence, it contributed to reducing the spread of COVID-19 while keeping a significant part of private and public work organizations operational.

Besides the opportunities it invoked, telework has several implications in terms of the distribution of economic risks among workers. First, not all jobs are equally teleworkable. In fact, a job's teleworkability has mitigated economic risks of its workers in the pandemic. Second, the governments' 'lockdown' measures, including closure of schools and childcare facilities, created a squeeze of work-time for people with care responsibilities. Third, the transition to telework has accelerated the implementation of and adaption to digital ICT while also revealing the pre-existing digital divide within and between countries. Throughout the pandemic, employees whose jobs are teleworkable have experienced its advantages and disadvantages, which some expect to result in a long-term change of work preferences. Already, the shift has pushed forward the debate on the adequate political regulation of the future of work.

This report has three aims. First, we offer an up-to-date overview of the most recent literature on the feasibility of and the access to telework during the COVID-19 pandemic. Second, the report features the KOMPAKK index of occupations' teleworkability in Germany, which we compiled based on information from the BIBB/BAuA Employment Survey 2018. Finally, we present descriptive findings on how occupations' teleworkability was distributed across household types and household resources in Germany right before the pandemic based on data from the Socie-Economic-Panel (2019) and the Mikrozensus (2016). We conclude with some considerations on the implications of the accumulation of disadvantages among households depending on workers' possibilities to telework during the pandemic.

2. Teleworkability during the COVID-19 pandemic

2.1. Who is more likely to hold a teleworkable job?

Existing studies on telework during the pandemic mainly outline the feasibility of and the actual access to telework, highlighting differences by employment characteristics (e.g., occupation or firm size) and employee characteristics (e.g., education, gender, age, or migration status).

Both, feasibility of and access to telework during the pandemic are highly correlated with employees' educational levels. The share of employees with an academic degree, who hold a job that can be performed from home, ranges between 40% to 73% with a mean of 60%, compared to much smaller shares ranging from 6% to 33% with a mean of 17% for employees with a secondary or primary education (Ahrendt et al. 2020; Alipour et al. 2020c; Arntz et al. 2020; Brussevich et al. 2020; Holgersen et al. 2021; Möhring et al. 2020; Sostero et al. 2020).

Likewise, teleworkability varies considerably across occupational macro-groups (ISCO 1-digit): employees in white-collar occupations are largely able to work from home (from 45% to 80% with a mean of 63%), with the exception of service and sale workers (around 23%), while for blue collar occupations' teleworkability levels are very low (from 2% to 24% with a mean of 7%) (Alipour et al. 2020a; Belot et al. 2020; Brussevich et al. 2020; Cetrulo et al. 2020; Dingel and Neiman 2020; Holgersen et al. 2021; Sostero et al. 2020). These differences are reflected in the strong positive correlation between a job's teleworkability, wage, and type of contract (Cetrulo et al. 2020; Sostero et al. 2020). Taken together, these findings suggest that telework is mainly a feature of white-collar, high- and stable-earnings jobs with high-educated workers (see Ahrendt et al. 2020 for a similar suggestion).

With respect to teleworkers' sociodemographic characteristics, findings appear to be more mixed. While all examined studies relying on task-based approaches (Alipour et al. 2020a; Arntz et al 2020; Sostero et al. 2020) predict higher teleworkability levels for female employees than for male, most survey-based studies (Möhring et al. 2020; Kohlrausch and Zucco 2020; Bünning et al. 2020; Ahlers et al. 2021; Bonin et al. 2020) report no gender differences or marginally higher telework shares for male employees during the pandemic. The task-based studies relate their findings to gender-specific occupational segregation. Indeed, Alipour and colleagues (2021b) do not find remaining gender differences in teleworkability levels when controlling for occupation and sector.

Relatedly, Ahlers and colleagues (2021) outline higher telework shares for female employees in the age group from 24 to 34, while in all other age groups shares are marginally higher for male employees. This seems to be in line with the widely supported finding that telework is feasible particularly for parents with dependent children (Alipour et al. 2020a; Ahlers et al. 2021; Arntz et al. 2020; Sostero et al. 2020), and that among couple-parents most childcare is done by women (Frodermann et al. 2020; Kohlrausch and Zucco 2020; Möhring et al. 2020). Telework tends to decline with age, with the exception of the youngest employees (below 25), whose telework level is the lowest of all age groups (Alipour et al. 2020a; Ahlers et al. 2021; Brussevich et al. 2020; Brynjolfsson et al. 2020; Bünning et al. 2020; Sostero et al. 2020). This distribution pattern likely relates to the different skill compositions in the age groups and the deferred labor market entry of tertiary qualified employees.

While cross-country studies report that native employees tend to hold teleworkable jobs more often than non-native employees (Brussevich et al. 2020; Holgersen et al. 2021;

Sostero et al. 2020), studies focusing on Germany do not find substantial differences in teleworkability by migration status (Alipour et al. 2020a, 2021b; Bünning et al. 2020). For Norway, Holgersen and colleagues (2021) underline that teleworkability varies considerably by country of origin, with employees with migrant background from North America and Oceania having higher teleworkability levels than employees with migration background from Africa.

2.2. Consequences of the transition to telework

Besides considering what types of workers are more likely to hold teleworkable jobs, some studies analyze the consequences of the transition to telework. The politically enforced transition to telework has converged pre-existing differences in the usage of digital ICT across countries, occupations and sectors with a substantial part of employees that experienced teleworking for the first time (Abulibdeh 2020; Bonin et al. 2020). Hereby, work organizations gained valuable digital ICT experiences and skills (Alipour et al. 2020b; Demmelhuber et al. 2020).

The feasibility of transitioning from on-site work to telework throughout the pandemic protected employees from the risk of unemployment. Alipour and colleagues (2021b) find that in counties or industries with a higher teleworkability level, employees were less likely to take up short-time work schemes in response to the economic shock in Germany. Similarly, for the United States, Béland and colleagues (2020) reveal a remarkably lower likelihood to be unemployed or to experience a decrease in working hours for employees working in occupations above the median teleworkability level. Also, telework has been effective in reducing infections throughout the pandemic, particularly during the onset when confinement measures were not in place yet (Alipour et al. 2021b; Gabler et al. 2020).

Teleworkers on average report regular levels of work satisfaction, well-being and productivity (Alipour et al. 2020b; Demmelhuber et al. 2020; Hallmann et al. 2021; Shen 2021). However, employees also reported to lack collegial exchange and tend to struggle in adequately assessing their performance due to work disintegration (Alipour et al. 2020b; Bonin et al. 2020; Kunze et al. 2020). Also, telework has been particularly challenging for parents amongst especially women bared the costs of additional care responsibilities due to the closure schools and child-care facilities. At the background of the foremost positive experiences with telework throughout the pandemic most employees favor a hybrid telework arrangement for the future and employers drew new conclusions and reduced their reservations towards telework (Alipour et al. 2020b, 2020c, 2021a; Kunze et al. 2020).

3. The *KOMPAKK Index of Occupations' Teleworkability in Germany*

As shown, previous studies mainly use a task-based and/or a survey-based approach to quantify teleworkability. The task-based approach relies on detailed descriptions of the tasks performed in specific occupations and on the context of individuals' work. The information is gathered in large employment surveys where workers are asked about the tasks typically done on the job. Studies following the task-based approach rely on datasets such as the Occupational Information Network 24.2 (O*NET) for United States (Dingel and Neiman 2020; Anderton et al. 2021; Beland et al. 2020; Brussevich et al. 2020; De Fraja et al. 2021; Garnadt et al. 2020), BIBB/BAuA Employment Survey 2018 for Germany (Alipour et al. 2020a; Arntz et al. 2020; Irlacher and Koch 2021), or the Indagine Campionaria delle Professioni 2012 (CIP) for Italy (Cetrulo et al. 2020; Sostero et al. 2020). By contrast, the survey-based approach quantifies the prevalence of teleworkability by directly asking individuals about how much of their working time was in telework during the pandemic (Adams-Prassl et al. 2020; Ahrendt et al. 2020; Bonin et al. 2020; Brynjolfsson et al. 2020; Escudero-Castillo et al. 2021; Hallman et al. 2021; Kunze et al. 2020). Task-based derived teleworkability levels are predominantly consistent along pre- and post-outbreak survey reported prevalence of telework with a marginal overestimation bias (Alipour et al. 2020; Cetrulo et al. 2020; Dingel and Neiman 2020; Holgersen et al. 2021; Sostero et al. 2020).

For our project, we chose the task-based approach, because it fits with the general framework of our project. Drawing on previous research, we created an index using task-based information from the BIBB/BAuA Employment Survey 2018 (see Hall et al. 2020). The participants were asked how often they execute specific tasks for their work. The possible answers were: (1) frequently, (2) sometimes and (3) never. The BIBB/BAuA Employment Survey offers information on 18 different tasks. Following the approach of Arntz, Ben Yahmed and Berlingieri (2020), we divided these tasks into tasks that are not teleworkable and tasks that are possibly teleworkable. We defined a task as being executed only if the participant indicated to do the task frequently (=1). In order to merge this index with other population surveys (like the Mikrozensus or the SOEP) we aggregated the indices to the 3-digit level of the International Standard Classification of Occupations (ISCO-08). For details on the creation of the Teleworkability Index see Gädecke, Struffolino and Zagel (2021). The dataset ("KOMPAKK index of occupations' teleworkability in Germany") is available for download on the project website (https://www.sowi.hu-berlin.de/de/lehrbereiche/mikrosoziologie/forschung/kompakk_de).

4. Teleworkability as a household-related (dis)advantage

The recent literature showed two main advantages of teleworkability during the pandemic. First, holding a teleworkable job protected individuals from the risk of unemployment or furlough; and second, teleworkability is a feature of white-collar jobs with high and stable pay, mostly held by highly educated individuals. These findings also suggest that workers whose jobs were not teleworkable were exposed to higher risk of unemployment or furlough: both is associated with a substantial (if not complete) loss in earnings and therefore in household income.

The literature has so far focused on individuals and overlooked the distribution of teleworkability at the household level. However, this is important to uncover how individual economic risks accumulate within households, with negative consequences in terms of economic resources available to adult members as well as to children. On the one hand, the presence of more than one earner might compensate for the risk associated with having a non-teleworkable job. On the other hand, educationally homogamous households might increase the probability that both partners in a household hold jobs that are similar with respect to teleworkability, so that the risk of unemployment or furlough accumulate within the household.

We propose a classification of households that combines the partnership status (in a couple or single), the number of earners (two, one, or none), the employment status of the adult(s) (employed in a teleworkable job, employed in a non-teleworkable job, not employed) and gender.[1] Table 1 shows the distribution of the Mikrozensus 2016 and Socio-economic Panel (SOEP) 2019 samples across the classification. The Mikrozensus sample has the advantage of being much larger compared to the SOEP cross-sectional sample for 2019, which in turn would be the most appropriate to use for drawing conclusions on the prevalence of each type of the classification right before the onset of the pandemic. We compare the distribution of the Mikrozensus sample from 2016 (the most recent available for off-site analyses) to the SOEP sample for 2019. Table 1 shows minor differences in the prevalence of each type in the two samples. This supports our approach of mainly drawing on Mikrozensus 2016 data in the following, which provides the sample size needed for considering the distribution of each type across household characteristics.

[1] We restrict our analyses on individuals between 20 and 65 year-old and older than 65 year-old who live with a partner between 20 and 65 year-old. Because of the small sample size, we could not isolate homosexual couples and therefore exclude them from the analyses.

Table 1: Household classification

Household classification				Mikrozensus 2016		SOEP 2019	
no	Partner/earners	Man	Woman	N	%	N	%
1	2 earners	teleworkable	teleworkable	9,265	5.08	953	7.24
2	2 earners	teleworkable	non-teleworkable	6,282	3.45	566	4.95
3	2 earners	non-teleworkable	teleworkable	10,153	5.57	639	5.78
4	2 earners	non-teleworkable	non-teleworkable	21,413	11.74	1,354	11.44
5	1 earner	teleworkable	not employed	3,822	2.1	290	2.53
6	1 earner	not employed	teleworkable	2,334	1.28	169	1.64
7	1 earner	non-teleworkable	not employed	9,931	5.45	609	5.36
8	1 earner	not employed	non-teleworkable	4,266	2.34	278	2.47
9	0 earners	not employed	not employed	7,309	4.01	406	3.81
10	single	teleworkable		13,656	7.49	517	6.98
11	single	non-teleworkable		28,916	15.86	720	11.39
12	single		teleworkable	17,781	9.75	859	10.36
13	single		non-teleworkable	24,412	13.39	1,095	13.23
14	single	not employed		10,606	5.82	394	5.61
15	single		not employed	12,175	6.68	607	7.21
	Total (w/o missing)			182,321	100	9,456	100
	Missing			291		3,563	
	Total (w missing)			182,612		13,019	

Source: Mikrozensus 2016 and SOEP 2019, KOMPAKK index of occupations' teleworkability in Germany

The first key descriptive result from Table 1 is that households where both partners or singles are in non-teleworkable jobs represent the largest groups (11.74% and 13.39% respectively, and 17.31% and 19.67% when considering only households where there is at least one earner). We argue that these household types were exposed to a higher risk of unemployment or furlough already at the onset of the pandemic.

To further characterize these household types, we consider three key stratification variables: the number of children in the households (0, 1, or 2+), the geographical macro-area of residence (West or East Germany), and the economic status. For the latter we look at two indicators: the poverty risk (having an equivalized household income below 60% of the median of the household income at the country level[2]) and the financial vulnerability (SOEP question "Do you have money set aside for emergency?" yes or no)[3].

Table 2 shows the distributions of the different household types in East and West Germany. Overall, differences are rather small for all household types with at least one adult working in a teleworkable job. The share of singles (both men and women) in non-teleworkable occupations is higher in the East; and the proportion of couple households where the male partner is working in a non-teleworkable occupation and the woman is not employed is higher in the West. There are no clear patterns for expecting economic risks from teleworkability to be associated with living in either East or West Germany.

[2] Mikrozensus 2016 includes information on monthly household income in brackets. We draw information for the equivalization from WSI report (https://www.wsi.de/de/armut-14596-armutsgrenzen-nach-haushaltsgroesse-15197.html) and classified households as above or below the poverty threshold depending on the bracket that included their monthly income. The code is available from the authors.

[3] See McKnight and Rucci (2020, The financial resilience of households: 22 country study with new estimates, breakdowns by household characteristics and a review of policy options, CASE/219) for a more comprehensive classification of financial vulnerability and financial resilience across 22 countries. Further, note that this question was asked only in SOEP 2018: we assume the values for 2018 to apply to households in our sample from SOEP 2019 as well.

Table 2: Distribution of household types in East and West Germany

Household classification				West Germany	East Germany
no	Partner/earners	Man	Woman	col.%	col.%
1	2 earners	teleworkable	teleworkable	5.19	3.47
2	2 earners	teleworkable	non-teleworkable	3.53	2.38
3	2 earners	non-teleworkable	teleworkable	5.35	5.47
4	2 earners	non-teleworkable	non-teleworkable	11.79	10.35
5	1 earner	teleworkable	not employed	2.3	0.95
6	1 earner	not employed	teleworkable	1.21	1.21
7	1 earner	non-teleworkable	not employed	6.01	3.2
8	1 earner	not employed	non-teleworkable	2.2	2.47
9	0 earners	not employed	not employed	4.0	3.78
10	single	teleworkable		7.96	6.72
11	single	non-teleworkable		15.96	20.33
12	single		teleworkable	9.55	9.13
13	single		non-teleworkable	12.72	14.9
14	single	not employed		5.88	7.91
15	single		not employed	6.34	7.75
Col. %				100	100
Total (w/o missing)				149,678	32,643
Missing				266	25
Total (w missing)				149,944	32,668

Source: Mikrozensus 2016, KOMPAKK index of occupations' teleworkability in Germany

Table 3 considers the presence of one or more children as another key risk factor for the accumulation of economic disadvantage in households. Among households with one child, almost 20% are dual-earner households with both the man and the woman holding a non-teleworkable job, and more than 15% are single mothers with a non-teleworkable job. The three largest groups among households with two children are dual-earner households with both the man and the woman in non-teleworkable jobs (more than 22%), households where the only earner is working in a non-teleworkable job (almost 13%), and single mothers in non-teleworkable jobs (10%). These groups are especially economically vulnerable, because there is no compensation available for the extra-risk associated with non-teleworkability: in the case of dual-earner households, partners' non-teleworkable jobs may be seen to accumulate risks; while in households headed by a single mother, compensation by a partner is not possible by definition.

In Table 4 we quantify economic risks of our household types in East and West Germany in terms of their pre-pandemic association with poverty risks and financial vulnerability respectively. The column percentages for poverty confirm a common association with the number of earners for both contexts: We find a slightly higher poverty risk among one- compared to two-earner households irrespective of teleworkability. We also find that, among poor households, the share of single mothers in non-teleworkable jobs is higher than that of single mothers in teleworkable jobs (around 4 and 13 percent in both East and West Germany). Considering row percentages—i.e. the share of poor households in each household type—there are no large differences between East and West Germany: the

largest differences concern the households with no earners (either couples or singles), among which the poverty risk is higher in East compared to West Germany.

Table 3: Household classification by number of children

Household classification				0	1	2+
no	Partner/earners	Man	Woman	col.%	col.%	col.%
1	2 earners	teleworkable	teleworkable	2.83	7.2	9.59
2	2 earners	teleworkable	non-teleworkable	1.87	4.98	6.67
3	2 earners	non-teleworkable	teleworkable	3.27	8.22	9.74
4	2 earners	non-teleworkable	non-teleworkable	6.67	17.52	22.21
5	1 earner	teleworkable	not employed	1.17	2.78	4.38
6	1 earner	not employed	teleworkable	1.4	1.11	0.65
7	1 earner	non-teleworkable	not employed	2.86	7.53	12.59
8	1 earner	not employed	non-teleworkable	2.43	2.3	1.59
9	0 earners	not employed	not employed	4.31	3.06	3.66
10	single	teleworkable		10.73	3.56	1.66
11	single	non-teleworkable		22.81	8.47	4.17
12	single		teleworkable	10.53	9.25	6.09
13	single		non-teleworkable	13.24	15.64	10.15
14	single	not employed		9.19	1.56	0.79
15	single		not employed	6.67	6.83	6.07
Col. %				100	100	100
Total (w/o missing)				115,121	33,473	33,727
Missing				159	72	60
Total (w missing)				115,280	33,545	33,787

Source: Mikrozensus 2016, KOMPAKK index of occupations' teleworkability in Germany

Table 4: Economic disadvantage across household types in East & West Germany

				Mikrozensus: Poverty				SOEP: Financial vulnerability			
Household classification				West Germany		East Germany		West Germany		East Germany	
no	Part-ner/earners	Man	Woman	col.%	row%	col.%	row%	col.%	row%	col.%	row%
1	2 earners	teleworkable	teleworkable	0.17	0.44	0.12	0.61	2.05	6.64	0.68	4.27
2	2 earners	teleworkable	non-teleworkable	0.17	0.64	0.05	0.38	1.71	8.55	1.38	10.80
3	2 earners	non-teleworkable	teleworkable	0.25	0.63	0.30	0.95	3.16	13.91	3.15	16.08
4	2 earners	non-teleworkable	non-teleworkable	1.98	2.26	1.79	3.01	9.43	21.39	8.32	19.97
5	1 earner	teleworkable	not employed	0.58	3.37	0.28	4.99	1.43	13.54	0.21	4.47
6	1 earner	not employed	teleworkable	0.16	1.76	0.18	2.57	1.03	15.01	0.91	17.15
7	1 earner	non-teleworkable	not employed	5.83	13.02	2.68	14.55	6.12	28.19	5.54	37.27
8	1 earner	not employed	non-teleworkable	1.42	8.61	1.60	11.24	3.94	40.28	4.14	46.29
9	0 earners	not employed	not employed	7.50	25.39	6.34	29.22	5.07	34.89	6.61	44.42
10	single	teleworkable		3.24	5.33	2.10	5.34	4.61	17.89	4.42	23.94
11	single	non-teleworkable		9.97	8.24	12.80	10.85	10.71	27.37	13.42	29.85
12	single		teleworkable	4.34	5.97	3.51	6.58	8.98	22.73	8.72	28.47
13	single		non-teleworkable	13.26	13.74	12.75	14.71	16.81	33.47	15.80	41.07
14	single	not employed		28.21	63.60	32.95	72.39	8.77	52.77	12.41	53.25
15	single		not employed	22.91	47.95	22.56	50.54	16.18	63.96	14.29	64.42
Col./row %				100.00	13.27	100.00	17.25	100.00	26.48	100.00	31.58
Total poor (w/o missing)				18,429		5,288		2,143		704	
Missing				4,353		573		2,166		660	
Total poor/non poor(w missing)				149,944		32,668		10,160		1,495	

Source: Mikrozensus 2016 and SOEP 2019, KOMPAKK index of occupations' teleworkability in Germany

The indicator for financial vulnerability (Table 4, four right columns) hints at the ability of the household to cope with unexpected expenses or to bridge periods of loss in earnings. Looking at the column percentages, we find that financial vulnerability is associated with non-teleworkability. Both in East and West Germany, the largest group of financially vulnerable households are those with two employed adults in non-teleworkable jobs (9.43% West and 8.32% East) and those with singles in non-teleworkable occupations. For example, the share of financially vulnerable single mothers in non-teleworkable jobs is double the share of financially vulnerable single mothers in teleworkable jobs in both

East and West Germany. When considering the household type profiles (row percentages) the most interesting differences comparing East and West Germany concern one-earner households. The risk of financial vulnerability among households where the only earner is working in a non-teleworkable job is higher in the East compared to the West. The same applies to single mothers whose risk of being financially vulnerable is higher in the East compared to the West (41.97 and 33.47% respectively), even when holding a teleworkable job (28.47 and 22.73% respectively). These results hint at potential accumulation of economic disadvantage associated with (non-)teleworkability especially in East Germany over and above the poverty risk. The possibility to mobilize economic resources for emergencies such as the COVID-19 pandemic (for example to pay for extra child-care) is distributed unequally to the detriment of already disadvantaged groups.

Table 5 shows the percentage of poor households for each household type by the number of children for East and West Germany (row percentages). Again, the number of earners in the household is key, and teleworkability plays a role, but children add another layer of disadvantage. While both in East and West Germany the poverty risk is lower among dual- than in one-earner households. Among one-earner households, the poverty risk is especially high for people with non-teleworkable jobs, and when 2 or more children are present. This difference is more severe in East compared to West Germany. Across one-earner households, differences between childless households and households with one child are very small. Finally, the differences in poverty risks between households with different numbers of children across East and West Germany are negligible.

Table 5: Household classification and economic disadvantage: across macro-areas and by number of children

				West Germany			East Germany		
Household classification				0	1	2+	0	1	2+
no	Part-ner/earners	Man	Woman	row%	row%	row%	row%	row%	row%
1	2 earners	teleworkable	teleworkable	0.40	0.22	0.63	0.43	0.34	1.22
2	2 earners	teleworkable	non-teleworkable	0.52	0.38	0.94	0.63	0.00	0.39
3	2 earners	non-teleworkable	teleworkable	0.27	0.42	1.16	0.69	0.67	1.92
4	2 earners	non-teleworkable	non-teleworkable	1.49	0.78	4.05	2.03	0.84	7.55
5	1 earner	teleworkable	not employed	1.41	2.04	5.89	3.59	4.52	7.86
6	1 earner	not employed	teleworkable	0.82	2.22	7.16	2.47	4.02	0.00
7	1 earner	non-teleworkable	not employed	6.31	6.28	21.56	10.51	7.39	28.47
8	1 earner	not employed	non-teleworkable	7.32	5.70	18.50	9.90	10.40	27.87
9	0 earners	not employed	not employed	18.53	20.63	55.91	23.54	26.39	69.35
10	single	teleworkable		5.85	0.96	1.24	6.17	1.91	2.62
11	single	non-teleworkable		9.03	1.75	4.19	12.96	1.54	2.76
12	single		teleworkable	6.19	3.52	8.17	7.77	3.61	6.16
13	single		non-teleworkable	14.81	10.19	14.01	16.53	9.84	15.74
14	single	not employed		66.30	26.62	24.63	76.11	26.21	27.76
15	single		not employed	56.59	29.04	36.84	60.18	29.67	35.35
% of poor				16.12	5.9	10.91	21.03	6.9	13.06
Total poor (w/o missing)				14,049	1,499	2,881	14,049	1,499	2,881
Missing				2,205	930	1,218	2,205	930	1,218
Total poor/non poor(w missing)				93,210	27,300	29,434	93,210	27,300	29,434

Source: Mikrozensus 2016, KOMPAKK index of occupations' teleworkability in Germany. All marginal cells contains more than 50 cases, full tables available from the authors.

5. Summary and outlook

During the first wave of the pandemic, lockdown measures imposed a new logic of socio-economic division by jobs' teleworkability. Our description of households in Germany by their adult members' jobs' teleworkability suggests that the negative consequences of not having a teleworkable job and the absence of a second earner (in general but especially for individuals in a non-teleworkable job) especially concerned households with already higher poverty risk before the pandemic, in particular households with 2 or more children in East Germany.

Our data do not allow for an actual estimation of additional economic risks during the pandemic, but offer a compound overview of the status quo at the onset of the pandemic by combining traditional drivers of economic risks at the household level (e.g., number of children and number of earners) to pandemic-related drivers, such as job-teleworkability, and how it clusters within households. Pandemic-related drivers, however, are likely to remain crucial even after the pandemic risk decreases and might gain further importance in a scenario where unexpected events similar to the pandemic can occur in the future.

In the next step of the project, we will first link teleworkability at the household level with the information on whether the occupation of each earner was classified as essential occupation by the government. We will then consider which households types had access to income support measures.

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