

**Intersecting ethnic and native–migrant inequalities in
the economic impact of the COVID-19 pandemic in the UK**

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Intersecting ethnic and native–migrant inequalities in the economic impact of the COVID-19 pandemic in the UK

Abstract

Analyzing new nationwide data from the Understanding Society COVID-19 survey ($N = 10,336$), this research examines intersecting ethnic and native–migrant inequalities in the impact of COVID-19 on people’s economic well-being in the UK. The results show that compared with white natives, black, Asian and minority ethnic (BAME) migrants in the UK are more likely to experience job loss during the COVID-19 lockdown, while BAME natives are less likely to enjoy employment protection such as furloughing. Although white natives are more likely to reduce their work hours during the COVID-19 pandemic than BAME migrants, they are less likely to experience income loss and face increased financial hardship during the pandemic than BAME migrants. The findings show that the pandemic exacerbates entrenched socio-economic inequalities along intersecting ethnic and native–migrant lines. They urge governments and policy makers to place racial justice at the center of policy developments in response to the pandemic.

Keywords: COVID-19, Ethnicity, Economic Impact, Inequality, Intersectionality, Migrant Status, UK

Word count: 2,999

1. INTRODUCTION

This research addresses two social developments that have swept the world in 2020. First, the COVID-19 pandemic has had an unprecedented impact on the global economy as well as individuals' economic well-being (Ahmed et al., 2020). Second, the global rise of racism and anti-racism movements, often related to COVID-19 (Coates, 2020), has brought to the fore long-standing, entrenched ethnic inequalities (Li & Heath, 2016). Ethnic disparities in the health impact of COVID-19 are well documented across many countries (Bhala et al., 2020); most notably, COVID-19 infection and mortality rates are much higher among people from black, Asian and minority ethnic (BAME) groups than their white counterparts. Yet insufficient attention has been paid to ethnic inequalities, or their intersections with native–migrant inequalities, in the economic impact of COVID-19 (Hooper et al., 2020; Laurencin & McClinton, 2020). To fill this gap, I analyze new nationwide data collected both before and after the pandemic in the UK. I ask how, if at all, the impact of COVID-19 on people's economic well-being differs with their intersecting ethnic and migrant status. I take advantage of the longitudinal design of the dataset to capture the economic impact of the pandemic by tracing changes in people's economic well-being before and during the pandemic.

2. DATA AND METHODS

2.1. Data and sample

I analyzed data from the Understanding Society (USOC) COVID-19 survey and preceding waves of the survey. Initiated in 2009, USOC is a nationally representative longitudinal panel survey, which has oversampled BAME and migrant groups (McFall, 2013). In April 2020, the first wave of the USOC COVID-19 survey collected data from 17,452 respondents during the UK's national lockdown. While the regular USOC waves collect data from face-to-face interviews, complemented by mixed-mode techniques, the COVID-19 survey was administered through a self-completed questionnaire on the internet. Therefore, a sampling weight was provided by the USOC team to adjust for potential sample selection bias, which was used in all of my analyses.

To construct the analytical sample, I first eliminated respondents who did not have a valid record in Wave 9 of USOC, because I used data from the preceding wave to obtain key demographic information that was not collected in the COVID-19 survey. As I analyzed changes in people's employment status, I limited the sample to respondents aged 20–65. Last, I deleted 1,377 cases with missing information on the variables used in the analysis. The final analytical sample contained 10,336 UK residents ("Full Sample"), of whom 8,281 were either self-employed or working as an employee in January–February 2020, before the COVID-19 outbreak in the UK ("Worker Sample"). See Online Supplements for detailed information on sample construction.

2.2. Economic well-being indicators

To provide relatively comprehensive coverage of the impact of COVID-19 on people's economic well-being, I focused on five indicators. The descriptive statistics are presented in

Appendix 1 and detailed information on measurement construction can be found in the Online Supplements.

Change in employment status. Based on people's employment and furlough status in January–February and April 2020, I created a categorical variable to capture changes and continuity in people's employment: “no change” (78%), “lost job” (4%), and “furloughed” (18%).

Change in working hours. Based on people's working hours in January–February and April 2020, I created a categorical variable to capture changes and continuity in the respondents' working time: “increased or no change” (53%), “(partial) reduction in time” (16%), and “total time loss” (31%).

Household income loss. The survey asked the respondents to report whether their household had taken any measures to deal with income loss due to the pandemic. I created a dummy variable to distinguish whether a respondent took any action in response to household income loss (yes = 41%).

Difficulty keeping up to date with bills. In Wave 9 (2017–2019) and the COVID-19 wave (April 2020) of USOC, the respondents reported whether they were up to date with various bills. The response categories were “up to date,” “behind with some bills,” and “behind with all bills.” Due to cell size consideration, I combined the latter two categories into “behind with bills” (7%). I used a dummy variable to capture whether people had found it more difficult to keep up to date with their bills during than before the pandemic.

Perceived financial hardship. In Wave 9 and the COVID-19 wave of USOC, the respondents were asked to describe their financial situation, which ranged from “living comfortably” through “doing alright,” “just about getting by” and “finding it quite difficult” to “finding it very difficult.” Due to cell size consideration, I combined the last two categories. I then created a dummy variable to capture whether a respondent found their financial situation more difficult during the pandemic than before (21%).

2.3. Ethnic and migrant status

Based on whether one self-identified as a member of a BAME group and whether one was born in the UK, I distinguished the respondents' intersectional ethnic–migrant status: “white, native” (88%), “white, migrant” (5%), “BAME, native” (3%), and “BAME, migrant” (4%). Due to small sample sizes (see Online Supplements), I was not able to further distinguish specific ethnic groups.

2.4. Control variables

I controlled for a series of variables: age (and its quadratic term), gender, education, mode of employment before the pandemic (self-employment, zero hours contract, etc.), household composition, self-reported health, urban residency, long-term household income, occupational class (National Statistics Socio-economic Classification) and COVID-19 risk level; whether the respondents were key workers; whether they currently have or had ever reported COVID-19 symptoms or been tested for COVID-19; and whether they had received social benefits in January–February 2020. Marital status and region of residence were not included, as they were not statistically significantly associated with the outcome variables

and their inclusion neither affected the key predictors nor helped to improve the overall model fit.

2.5. Analytical strategy

I fitted a series of binary, ordered and multinomial logit regression models for the distinct outcome indicators. Analysis of the first two outcome indicators was based on the Worker Sample and that of the other outcome indicators was based on the Full Sample. I estimated robust standard errors clustered at the household level to account for intra-household correlation. I graph predictive margins to present the findings, and the full regression results are presented in the Online Supplements.

3. RESULTS

3.1. Employment status change

Figure 1 presents the predicted probabilities of job loss (Panel A) and furlough (Panel B) during the COVID-19 lockdown. The results show the intersectional disadvantages faced by BAME migrants, who were 3.1 times more likely to lose their jobs during the COVID-19 lockdown than white natives (10.1% vs. 3.3%, F [between-group difference] = 9.09, $p < 0.01$). Compared with BAME natives, white natives were 1.7 times more likely to be furloughed (18.9% vs. 11.4%, $F = 9.12$, $p < 0.01$). While white natives were 5.7 times more likely to experience furlough than job loss (18.9% vs. 3.3%), the rate was as low as 1.4 times for BAME migrants (16.3% vs. 11.4%). These results, along with the results I report below, are after controlling for the fact that BAME groups are more likely to be self-employed and the self-employed tend to be more economically susceptible to the COVID-19 lockdown (Platt & Warwick, 2020).

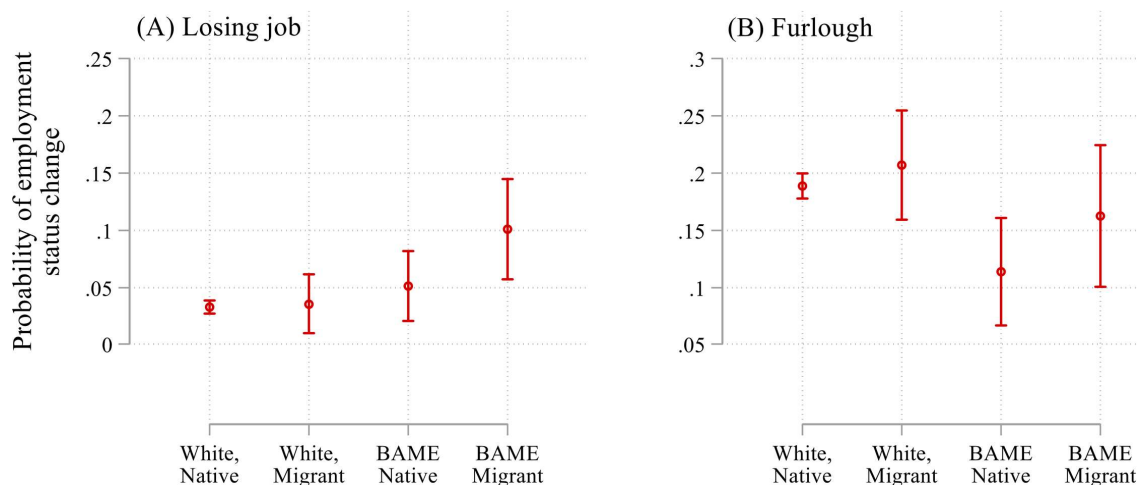


Fig. 1. Predicted probability of employment status changes during the pandemic

Notes: $N = 8,281$. Error bars = 95% confidence intervals.

3.2. Work time change

Figure 1 presents the probabilities of a partial reduction in work hours (Panel A) and total work time loss (Panel B) during the lockdown for those who were in work in January and

February 2020. Compared with white natives (16.7%), BAME migrants were less likely to experience a reduction in their work hours during the lockdown (10.7%, $F = 6.36$, $p < 0.05$). Moreover, BAME natives are less likely to experience total work time loss than their white native counterparts (23.8% vs. 30.1%, $F = 5.08$, $p < 0.05$).

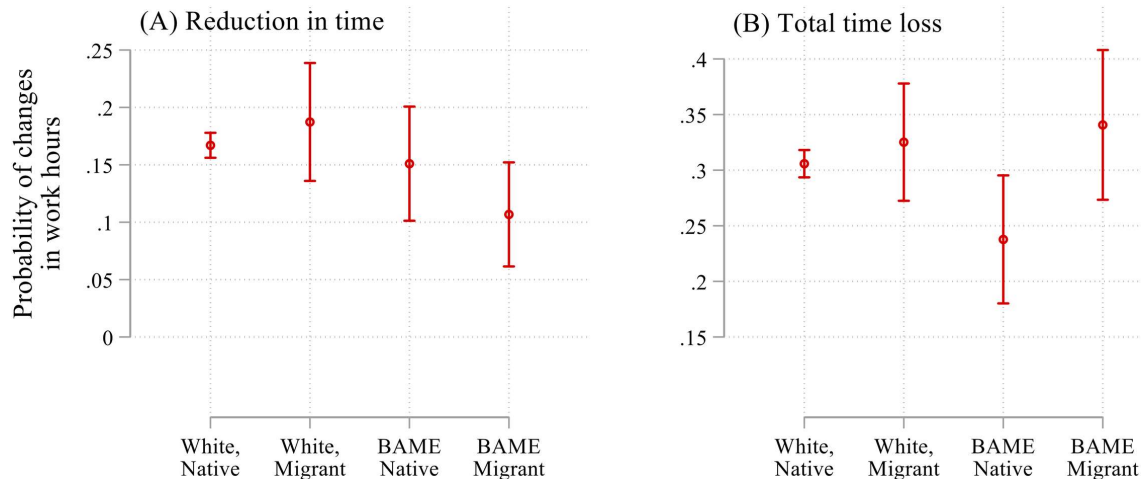


Fig. 2. Predicted probability of work-hour changes during the pandemic

Notes: $N = 8,281$. Error bars = 95% confidence intervals.

3.3. Household income loss

Figure 3 presents the probability of household income loss during the pandemic. The results show that compared with white natives (39.6%), all BAME and migrant groups were more likely to experience household income loss during the pandemic, with income loss being 1.3 times ($F = 16.48$, $p < 0.001$), 1.2 times ($F = 7.34$, $p < 0.01$) and 1.2 times ($F = 4.71$, $p < 0.05$) more likely for white migrants (51.4%), BAME natives (49.3%) and BAME migrants (48.0%), respectively.

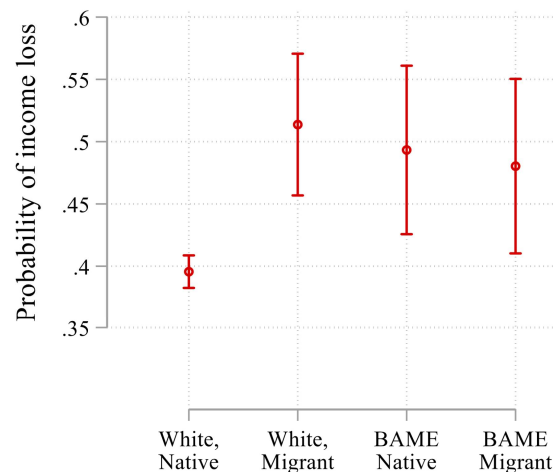


Fig. 3. Predicted probability of household income loss during the pandemic

Notes: $N = 10,336$. Error bars = 95% confidence intervals.

3.4. Falling behind with bills

Figure 4 presents the probabilities of falling behind with bills (Panel A) and an increase in the difficulty of keeping up to date with bills during the COVID-19 lockdown (Panel B). The results in Panel A show that BAME migrants were 2.2 times (14.4% vs. 6.5, $F = 12.00$, $p < 0.001$) more likely to report being behind with their bills than their white native counterparts during the COVID-19 lockdown. A similar pattern was observed for an increase in the difficulty of keeping up to date with bills during the lockdown compared with before, as shown in Panel B. Compared with white natives (4.6%), BAME migrants (10.8%, $F = 7.29$, $p < 0.01$) were 2.3 times more likely to experience an increase in the level of difficulty of keeping up to date with their bills during the pandemic.

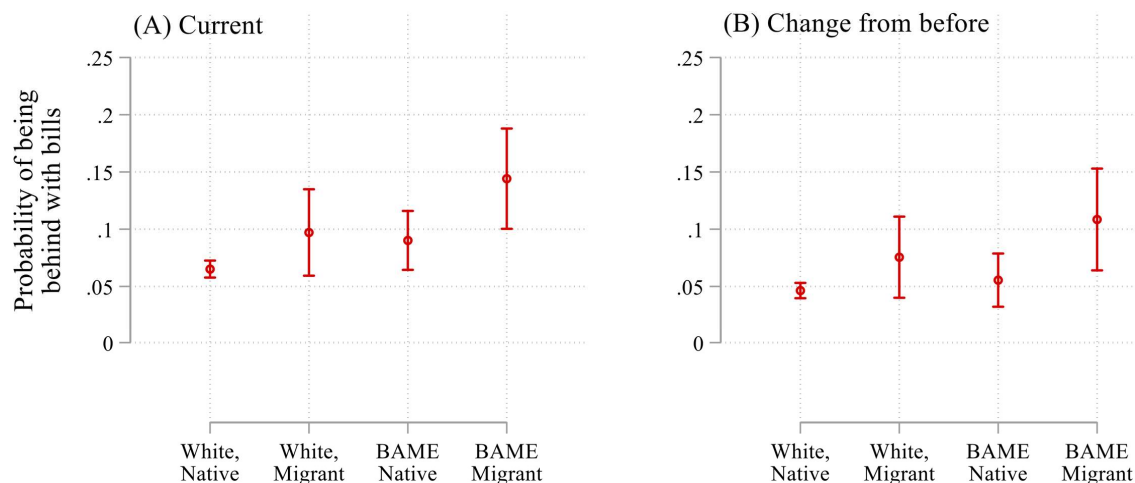


Fig. 4. Predicted probability of being behind with bills during the pandemic and greater difficulty of paying bills during the pandemic than before

Notes: $N = 10,336$. Error bars = 95% confidence intervals.

3.5. Perceived financial hardship

Figure 5 presents people's self-reported financial situation (Panels A–D) and the probability of a worsened financial situation during the pandemic (Panel E). The results show that compared with white natives, BAME migrants were less likely to report living comfortably but more likely to report experiencing financial difficulty. Specifically, white natives (28.8%) were 1.4 times more likely than BAME migrants (20.9%) to report leading a financially comfortable life during the pandemic ($F = 19.37$, $p < 0.001$). In contrast, BAME migrants (11.1%) were 1.5 times more likely than white natives (7.2%) to report experiencing financial difficulty during the pandemic ($F = 12.34$, $p < 0.001$). As shown in Panel E, BAME migrants (26.6%) were 1.3 times more likely than white natives (20.2%) to experience an increase in their perceived level of financial hardship during the COVID-19 lockdown ($F = 3.90$, $p < 0.05$).

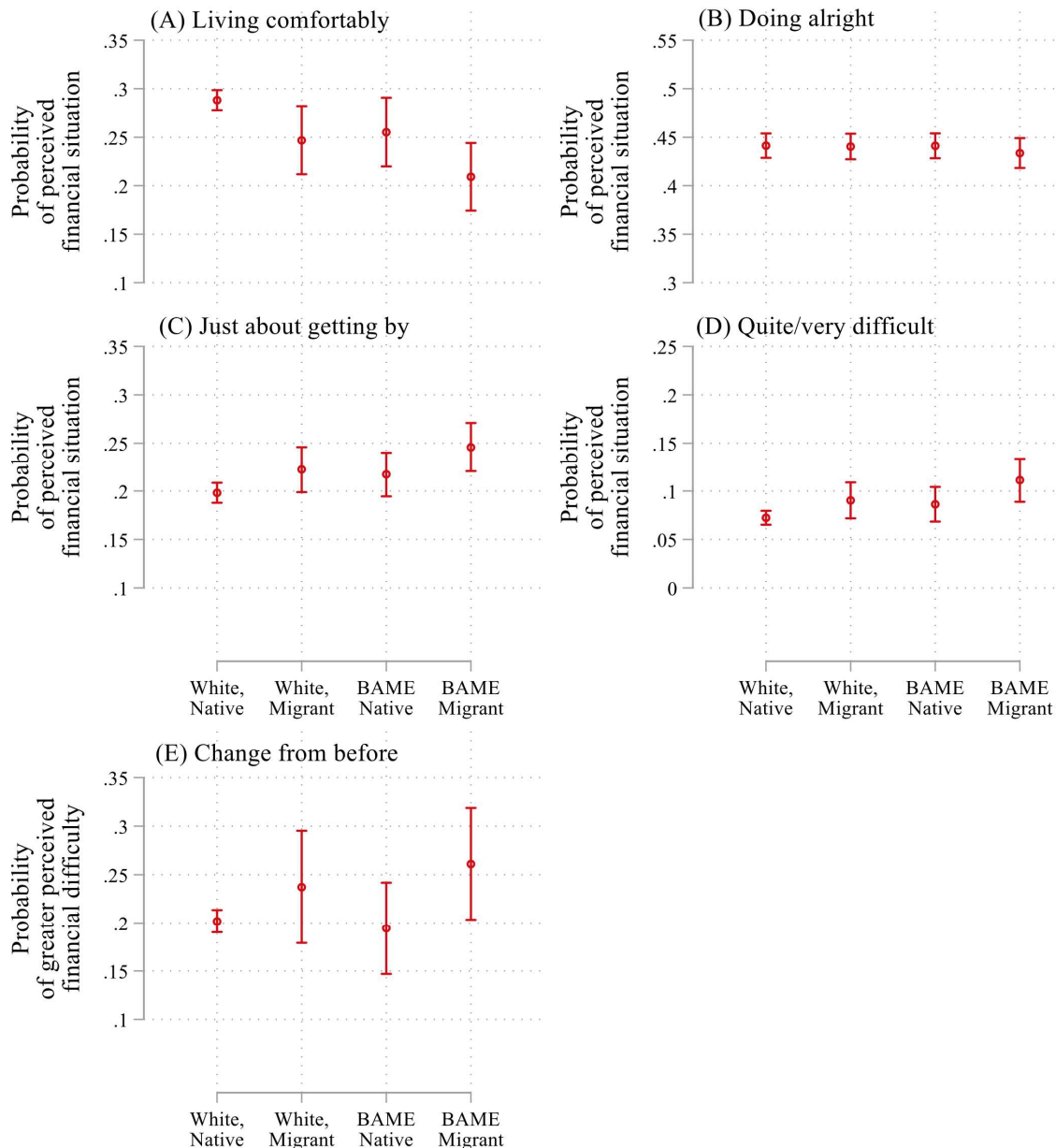


Fig. 5. Predicted probability of self-reported financial situation during COVID-19 and worsened financial situation during compared with before COVID-19

Notes: $N = 10,336$ respondents. Error bars = 95% confidence intervals.

4. CONCLUSIONS

As we enter the third decade of the 21st century, the COVID-19 pandemic and the global rise of racism and anti-racism movements are two of the most prominent developments to define people's lives around the world. These two developments are inextricably entangled (Bhala et al., 2020). In 2018, compared with their white colleagues doing the same work, BAME employees suffered a wage shortfall of £3.2 billion in the UK (Topham 2018). My findings uncover intersecting ethnic and native–migrant inequalities in the impact of COVID-19 on people's economic well-being, which exacerbate entrenched socio-economic disadvantages faced by BAME migrants in the UK (Li & Heath, 2016, 2018). These inequalities are evident

in the negative impact of COVID-19 on people's employment status, maintenance of income, ability to keep up to date with bills, and self-perceived financial situation in the UK. Taken together, my findings underline the importance of considering social groups living at the intersection of multiple margins of society (Collins & Bilge, 2020), as the pandemic and associated lockdown have had a particularly severe impact on the economic well-being of BAME migrants in the UK. My findings not only illustrate the much more severe economic adversity facing BAME migrants than white natives during the pandemic, but also indicate that BAME natives seem to enjoy a lower level of employment protection, such as furloughing, than their white native counterparts.

In future research, it will be important to trace whether ethnic and native-migrant inequalities in the impact of COVID-19 on people's economic well-being worsen as the pandemic develops. As many countries start to ease and lift lockdown measures, it will also be crucial to examine intersectional inequalities in people's long-term trajectory of (economic) recovery. Furthermore, this research urges policy makers and practitioners to develop initiatives not only to protect members of BAME and migrant groups from the adverse economic impact of the pandemic, but also to ensure racial justice as well as broader social justice (Kristal & Yaish, 2020; Qian & Wen, 2020) in the design and delivery of social protection and welfare provision during these challenging times.

REFERENCES

- Ahmed, F., Ahmed, N., Pissarides, C., & Stiglitz, J. (2020). Why inequality could spread COVID-19. *The Lancet Public Health*, 5(5), e240.
- Bhala, N., Curry, G., Martineau, A. R., Agyemang, C., & Bhopal, R. (2020). Sharpening the global focus on ethnicity and race in the time of COVID-19. *The Lancet*, 395(10238), 1673–1676.
- Coates, M. (2020). Covid-19 and the rise of racism. *The British Medical Journal*, 369. doi: 10.1136/bmj.m1384
- Collins, P. H., & Bilge, S. (2020). *Intersectionality*. London: John Wiley & Sons.
- Hooper, M. W., Nápoles, A. M., & Pérez-Stable, E. J. (2020). COVID-19 and racial/ethnic disparities. *JAMA*. doi:10.1001/jama.2020.8598
- Kristal, T., & Yaish, M. (2020). Does the coronavirus pandemic level gender inequality curve? (It doesn't). *Research in Social Stratification and Mobility*, 68: 1–5. Doi: 10.1016/j.rssm.2020.100520
- Laurencin, C. T., & McClinton, A. (2020). The COVID-19 pandemic: A call to action to identify and address racial and ethnic disparities. *Journal of Racial and Ethnic Health Disparities*, 1–5. doi: 10.1007/s40615-020-00756-0
- Li, Y., & Heath, A. (2016). Class matters: A study of minority and majority social mobility in Britain, 1982–2011. *American Journal of Sociology*, 122(1), 162–200.

- Li, Y., & Heath, A. (2020). Persisting disadvantages: a study of labor market dynamics of ethnic unemployment and earnings in the UK (2009–2015). *Journal of Ethnic and Migration Studies*, 46(5), 857–878.
- McFall, S.L. (Ed.) (2013). *Understanding Society—UK Household Longitudinal Study, User Manual*. Colchester: University of Essex.
- Platt, L., & Warwick, R. (2020). Are some ethnic groups more vulnerable than others? *The ISF Deaton Review*. Accessed on June 12, 2020: www.ifs.org.uk/inequality/are-some-ethnic-groups-more-vulnerable-to-covid-19-than-others/
- Qian, Y., & Fan, W. (2020). Who loses income during the COVID-19 outbreak? Evidence from China. *Research in Social Stratification and Mobility*. 68: 1–5. doi: 10.1016/j.rssm.2020.100522
- Topham, G. (2018). £3.2bn UK pay gap for black, Asian and ethnic minority workers. *The Guardian*. Accessed on June 12, 2020: www.theguardian.com/money/2018/dec/27/uk-black-and-ethnic-minorities-lose-32bn-a-year-in-pay-gap

Appendix 1. Sample characteristics

	All (<i>N</i> = 10,336)	Worker (<i>N</i> = 8,281)
	Mean/proportion	
Ethnic × migrant status^a		
White, native	.88	.88
White, migrant	.05	.05
BAME, native	.03	.03
BAME, migrant	.04	.04
Economic well-being		
Employment-status change		
No	—	.78
Job loss	—	.04
Furlough	—	.18
Work-hour change		
No change or increased	—	.53
Partial reduction	—	.16
Total time loss	—	.31
Household income loss ^a	.41	.43
Behind with bills ^a	.07	.06
Increasing difficulty with paying bills	.05	.04
Financial situation ^a		
Living comfortably	.28	.28
Doing alright	.44	.46
Just about getting by	.20	.19
Quite/very difficult	.07	.07
Increase in financial hardship	.21	.20
Control variables		
Age ^a	45.17	44.19
Age (standard deviation)	(12.15)	(11.53)
Female ^a	.54	.52
Education ^c		
No or other	.17	.15
GCSE	.18	.18
A-level	.23	.22
Higher degree	.42	.45
Mode of employment ^b		
Fixed hours	.54	.68
Flexible hours	.07	.09
Employer assigned hours (e.g., zero hours contract)	.07	.08
Self-employed	.12	.15
Not employed	.20	—
Key worker ^a	.36	.44
Household composition ^a		
One adult, no child	.09	.08
One adult, at least one child	.03	.03
Multiple adults, no child	.49	.48
Multiple adults, at least one child	.38	.41
COVID-19 at-risk population ^a		
Low	.78	.81
High	.18	.16
Very high	.04	.03
COVID-19 tested or symptoms ^a	.14	.15
Self-reported health ^c		
Excellent	.12	.13
Very good	.37	.40
Good	.33	.34
Fair	.13	.11
Poor	.05	.02

Long-term household income quintile ^c		
1 st (lowest)	.21	.17
2 nd	.21	.21
3 rd	.20	.21
4 th	.19	.21
5 th (highest)	.19	.21
Occupational class (National Statistics Socio-economic Classification) ^c		
Semi-routine and routine	.18	.21
Lower supervisory and technical occupation	.06	.07
Small employers and own account workers	.07	.08
Intermediate	.11	.13
Managerial, administrative, and professional	.35	.41
Not applicable (unemployed, inactive, etc.)	.23	.10
Received social benefits ^b	.17	.11
Urban residency ^c	.77	.77

Note: BAME = black, Asian and minority ethnic. GCSE = General certificate of secondary education. Key worker = critical workers such as medical staff. Weighted statistics. See Online Supplements for detailed measurement information.

^a April 2020. ^b Reported in April 2020 referring to January–February 2020. ^c Reported in previous waves.

Online Supplements
for
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Supplemental Table S1. Steps of sample selection

Supplemental Table S2. Detailed breakdown of ethnic groups

Supplemental Table S3. Measurement explanation

Supplemental Table S4. Multinomial logit regression model predicting changes in employment status during COVID-19

Supplemental Table S5. Multinomial logit regression model predicting work-hour changes during COVID-19

Supplemental Table S6. Regression models for Figures 3–5

Supplemental Table S1. Steps of sample selection

Step	Sample elimination	Remaining sample
0	–	$N = 17,452$ (Original sample)
1	Delete no matching record in preceding Wave 9 of Understanding Society	$N = 15,668$
2	Limit age range to 20–65 (active workforce – as the analysis focuses on people’s economic and work status; retired people receiving [state] pension are unlikely to be affected by the COVID-19 lockdown in terms of the outcome indicators examined in this research. The results reported in the article are robust to alternative samples imposing no age limitation and a more restrictive age limitation of 25–54)	$N = 11,713$
3	Listwise deletion of 1,377 respondents with missing information following the order below: <ul style="list-style-type: none"> • 572: Employment status during the COVID-19 lockdown • 7: Furlough during the COVID-19 lockdown • 27: Employment status before the COVID-19 lockdown • 120: Long-term income • 168: Ethnicity / migrant status • 12: Mode of employment before the COVID-19 lockdown • 92: Education • 1: COVID-19 risk population • 7: COVID-19 tested or has/had symptoms • 146: Self-reported health • 6: Key worker • 7: Urban residence • 77: Received social benefits before the COVID-19 lockdown • 32: Income loss during the COVID-19 lockdown • 53: Behind with bills during the COVID-19 lockdown • 27: Greater difficulty paying bills during the COVID-19 lockdown than before • 15: Perceived financial difficulty during the COVID-19 lockdown • 8: Greater perceived financial difficulty during the COVID-19 lockdown 	Analytical samples $N = 10,336$ (Full Sample) $N = 8,281$ (Worker Sample: those who worked in January and February 2020).

Note: Further information on the Understanding Society COVID-19 survey is available from <https://www.understandingsociety.ac.uk/research/themes/covid-19>. Little’s missing completely at random (MCAR) test confirmed that the listwise deleted cases were MCAR.

Supplemental Table S2. Detailed breakdown of ethno-racial groups

Ethnic group	Full analytical sample	Working before COVID-19
	%	%
White		
White British	87.3	87.8
White Irish	1.0	1.0
Any other white background	3.4	3.6
BAME (black, Asian and minority ethnic)		
Mixed (white and black Caribbean)	0.5	0.5
Mixed (white and black African)	0.2	0.2
Mixed (white and Asian)	0.3	0.3
Any other mixed background	0.3	0.4
Indian	1.7	1.5
Pakistani	1.1	0.9
Bangladeshi	0.4	0.4
Chinese	0.4	0.4
Any other Asian background	0.8	0.6
Black Caribbean	0.8	0.7
Black African	1.1	1.0
Any other black background	0.1	0.1
Arab	0.2	0.2
Any other ethnic group	0.4	0.3
<i>N</i>	10,336	8,281

Note: Column proportions may not add up to 1 due to rounding. Weighted statistics with unweighted sample sizes.

Supplemental Table S3. Measurement explanation

Measurement explanation (variable names in original dataset)	
Key predictor	
Ethnic × migrant status ^a	Variable generated based on two measures: (1) whether one was born in the UK (bornuk_dv & i_ukborn) and (2) self-reported ethnicity (racel_dv & i_racel_dv)
Economic well-being	
Employment status change during the COVID-19 lockdown ^a	<p>Variable generated based on people's self-reported work status in January-February (ca_blwork) and April 2020 (ca_sempderived), and whether one was furloughed in April 2020 (ca_furlough).</p> <p>The survey recorded people's employment status in January-February and April 2020, respectively, using four categories: "employed," "self-employed," "both employed and self-employed," and "not employed." The survey also asked whether a respondent who had been in work before the COVID-19 lockdown was furloughed during the lockdown. Based on these variables and the Worker Sample, I created a three-category measure to capture changes and continuity in people's employment status before and during the COVID-19 lockdown: (1) "no change", (2) "lost job", and (3) "furloughed".</p>
Work-hour change during the COVID-19 lockdown ^d	<p>Variable generated based on people's working hours in January-February (ca_blhours) and April 2020 (ca_hours), and self-reported change in working hours before and during the COVID-19 lockdown (ca_hrschange*).</p> <p>Respondents from the Worker Sample were asked to report their weekly working hours in January-February and April 2020, respectively. Based on these measures, I created a categorical variable to capture changes and continuity in the respondents' working hours before and during the COVID-19 lockdown: (1) "increased or no change", (2) "partial reduction in time (to non-zero hours)", and (3) "total time loss" (i.e., reduction to zero hours).</p>
Household income loss during the COVID-19 lockdown ^a	<p>Generated based on a battery of measures on respondents (non-)response to earnings loss in April 2020 (ca_inoutflows*). Imputed valid values from a given household member for other household members with missing values (< 1% of cases).</p> <p>The survey asked the respondents to report whether their household had taken any measures to deal with household income loss due to the COVID-19 pandemic, such as reducing spending, using savings, borrowing from the bank, using a credit card, asking for help from family or friends, finding new work, or increasing their working hours, or whether another member of their household had found new work or increased their working hours. I then created a dummy variable and coded the respondents as having experienced household income loss if they reported any action in response to household income loss. I did not use self-reported income during COVID-19 due to higher rate of missing values (32.9% of the COVID-19 survey). However, the results based on people's self-reported income before and during the COVID-19 lockdown and thus a more restrictive sample are consistent with those based on people's self-reported income loss.</p>
Behind with bills during the COVID-19 lockdown ^a	<p>Based on a single measure capturing respondents' being behind with bills in April 2020 (ca_xpbills_cv).</p> <p>In the consecutive Wave 9 (2017-2019) and the first COVID-19 wave (April 2020) of the survey, the respondents were asked to report whether they were up to date with their bills (i.e., household bills such as electricity, gas, water, telephone, council tax, credit cards and other bills). Responses were recorded using three categories: "up to date," "behind with some bills," and "behind with all bills." As fewer than 1% of the respondents reported that they were "behind with all bills," I combined the latter two categories into one category: "behind with bills".</p>
Greater difficulty with paying bills during the COVID-19 lockdown than before ^c	<p>Variable generated based on the previous measure and a single measure capturing respondents' being behind with bills in Wave 9 of Understanding Society (i_xphsdba).</p> <p>By comparing the same individuals' responses from Wave 9 and the COVID-19 wave of the data, I created a dummy variable to capture whether people had found it more</p>

difficult to keep up to date with their bills during than before the COVID-19 pandemic (i.e., a change in response between the former and the latter categories).

Perceived financial situation during the COVID-19 lockdown ^a	Based on a single measure capturing respondents' self-reported financial situation in April 2020 (ca_finnow). In the consecutive Wave 9 and COVID-19 wave of the survey, the respondents were asked to describe their financial situation on a scale ranging from "living comfortably" through "doing alright," "just about getting by" and "finding it quite difficult" to "finding it very difficult." I combined the last two categories, due to the small proportion (< 2%) of respondents who found their financial situation very difficult.
Greater perceived financial hardship during the COVID-19 lockdown than before ^c	Variable generated based on the previous measure and a single measure capturing respondents' self-reported financial situation in Wave 9 of Understanding Society (i_finnow). By comparing the same individuals' responses from Wave 9 and the COVID-19 wave of the data, I created a dummy variable to capture whether a respondent found their financial situation more difficult during the COVID-19 lockdown than before.
Control variables	
Age ^a	Accounting for age difference—quadratic term included to account for potential non-linearity. Age in April 2020 (ca_age).
Female (ref. = male) ^a	Accounting for potential gender difference. Self-reported sex (sex_dv).
Education ^c	Highest level of education achieved in Wave 9 of Understanding Society (i_nhiqual_dv & i_hiqual_dv)
Mode of employment before the COVID-19 lockdown ^b	Generated based on two measures: (1) self-reported employment status in January and February 2020 (ca_blwork) and (2) self-reported temporal mode of employment in January and February 2020 (ca_blhrshow). <ul style="list-style-type: none"> • Controlled for because people in different modes of employment (e.g., self-employment, fixed hours and zero-hour contract) have different levels of vulnerability to the COVID-19 pandemic (lockdowns).
Key worker (ref. = no) ^a	Key workers may be more likely to be retained for work and experience an increase in work time during the pandemic. A single measure capturing whether one self-identified as a key worker (i.e., critical workers such as medical staff and teachers that keep essential social services functional during the COVID-19 lockdown in the UK). For further information, see: https://www.gov.uk/government/publications/coronavirus-covid-19-maintaining-educational-provision/guidance-for-schools-colleges-and-local-authorities-on-maintaining-educational-provision <ul style="list-style-type: none"> • Controlled for because the employment demands and working time differ considerably between key and non-key workers during the COVID-19 lockdown.
Household composition during the COVID-19 lockdown ^a	Calculated based on one's self-reported number of children age 0–4 (hhcompa), 5–15 (hhcompb), 16–18 (hhcompc), adults age 19–69 (hhcompd) and 70 and over (hhcompe) in household, apart from oneself. <ul style="list-style-type: none"> • Controlled for because socioeconomic conditions differ by household composition and household composition tends to vary across ethnic and native–migrant groups.
COVID-19 at-risk population ^a	COVID-19 risk populations may be more likely to experience employment and thus economic changes during the pandemic. As ethnic minorities have been found to be more likely to contract and die from COVID-19, it is important to control for COVID-19 risks. Calculated based on two pre-derived variables created by the Understanding Society team (based on respondents' self-reported pre-existing medical conditions): (1) whether one is at high risk of COVID-19 (ca_hrisk_dv) and (2) whether one is at very high risk of COVID-19 (ca_vhrisk_dv). For further information, see: https://www.understandingsociety.ac.uk/sites/default/files/downloads/documentation/covid-19/user-guides/covid-19-user-guide.pdf

	<ul style="list-style-type: none"> Controlled for because at-risk populations may be more likely to withdraw from economic activities and thus economic well-being during COVID-19.
COVID-19 tested or have/had symptoms ^a	<p>As ethnic minorities have been found to be more likely to contract and die from COVID-19, it is important to control for COVID-19 risks. Created based on three variables: (1) whether one has been tested for COVID-19 (<i>ca_tested</i>), (2) whether one had COVID-19 symptoms (<i>ca_hadsymp</i>), and (3) whether one has COVID-19 symptoms (<i>ca_hassymp</i>). The three measures are combined into one dummy measure for reasons: (1) the small percentage of people with a positive response to each of the measures; (2) conceptually, we should expect COVID-19 symptoms and tests to affect people's economic activities in a similar manner, under the self-isolation policy.</p> <ul style="list-style-type: none"> COVID-19 symptoms and tests are likely to limit people's economic activity participation and thus affect people's economic well-being.
Self-reported health before the COVID-19 pandemic ^c	<p>Self-reported health in Wave 9 of Understanding Society (<i>i_scsf1</i>, as the variable is not available from the COVID-19 survey wave).</p> <ul style="list-style-type: none"> Self-perceived health is likely to be associated with people's self-perceived financial situation and difficulty; and (self-reported) health is likely to influence people's capability of paid work participation.
Quintile of long-term (three preceding waves of) household income	<p>Generated based on average household income data from preceding three waves (i.e., Waves 7–9) of Understanding Society (<i>g_fihhmngrs_dv</i>, <i>h_fihhmngrs_dv</i> & <i>i_fihhmngrs_dv</i>). For a small number of missing cases, household income in January and February 2020 was used instead (<i>ca_blhhearn_answer</i>). Imputed valid values from a given household member for other household members with missing values (< 1% of cases).</p> <ul style="list-style-type: none"> People from different income groups may have different baseline levels of vulnerability to the economic impact of the COVID-19 pandemic.
Occupational class	<p>Measured using the 5-category National Statistics Socio-economic Classification from Wave 9 of the survey (<i>i_jbnssec5_dv</i>). Information from last employment (<i>i_jlnssec_dv</i>) imputed for the unemployed and inactive. Respondents with no NSSEC information are coded as a separate category.</p> <ul style="list-style-type: none"> People from different occupational class groups may have different baseline levels of vulnerability to the economic impact of the COVID-19 pandemic.
Received social benefits before the COVID-19 lockdown (ref. = no) ^b	<p>Based on five measures of whether one received Universal Credit (<i>ca_blbenefits1</i>), Working Tax Credit (<i>ca_blbenefits2</i>), Child Tax Credit (<i>ca_blbenefits3</i>), Jobseeker's Allowance (<i>ca_blbenefits4</i>), and Employment and Support Allowance (<i>ca_blbenefits5</i>) in January and February 2020.</p> <ul style="list-style-type: none"> People who have / have not received benefits may have different baseline levels of vulnerability to the economic impact of the COVID-19 pandemic.
Urban residency (ref. = rural) ^c	<p>Based on rural–urban residence in Wave 9 of Understanding Society (<i>i_urban_dv</i>, as the variable is not available from the COVID-19 survey wave). Imputed valid values from a given household member for other household members with missing values (only 1 case).</p> <ul style="list-style-type: none"> Employment opportunities and the distribution of ethnic and migrant population differ between rural and urban areas; and the economic conditions and spread of COVID-19 are also likely to differ between rural and urban areas.

Note: GCSE = General certificate of secondary education. Weighted statistics with unweighted sample sizes. For time-constant variables with a small number of missing values in the COVID-19 survey wave, valid value from preceding waves of the survey were carried forward.

^a Data collected in April 2020. ^b Data collected in April 2020, referring retrospectively to January–February 2020.

^c Data collected in 2017–2019 from the preceding wave of the data. ^d Derived from data sources (a) and (b). ^e Derived from data sources (a) and (c).

Supplemental Table S4. Multinomial logit regression model predicting changes in employment status during the COVID-19 lockdown ($N = 8,281$ worked before COVID-19, underlying model for Figure 1)

Predictor	Model 1	
	Losing job (vs. no change)	Furlough (vs. no change)
	<i>B (SE)</i>	<i>B (SE)</i>
Ethnic × migrant status (ref. = white, native)		
White, migrant	0.140 (0.434)	0.161 (0.201)
BAME, native	0.288 (0.384)	-0.698* (0.293)
BAME, migrant	1.335*** (0.324)	-0.021 (0.294)
Age	-0.189*** (0.052)	-0.052 (0.031)
Age ²	0.002*** (0.001)	0.001 (0.000)
Female (ref. = male)	0.343 (0.177)	0.030 (0.092)
Education (ref. = no or other)		
GCSE	0.292 (0.333)	-0.226 (0.153)
A-level	0.281 (0.323)	-0.177 (0.147)
Higher degree	0.093 (0.307)	-0.814*** (0.134)
Mode of working before the COVID-19 lockdown (ref. = fixed hours)		
Flexible hours	0.256 (0.291)	0.054 (0.141)
Employer assigned hours	0.851** (0.308)	0.723*** (0.150)
Self-employed	-0.019 (0.253)	-1.448*** (0.224)
Key worker (ref. = no)	-18.317*** (0.131)	-2.641*** (0.131)
Household composition during the COVID-19 lockdown (ref. = one adult, no child)		
One adult, at least one child	0.130 (0.722)	0.479 (0.300)
Multiple adults, no child	0.126 (0.306)	-0.009 (0.176)
Multiple adults, at least one child	-0.244 (0.378)	0.056 (0.184)
COVID-19 at-risk population (ref. = low)		
High risk	-0.075 (0.252)	-0.162 (0.128)
Very high risk	-0.316 (0.437)	-0.095 (0.241)
COVID-19 tested or have/had symptoms (ref. = no)	-0.209 (0.285)	0.022 (0.129)
Self-reported health (ref. = excellent)		
Very good	-0.026 (0.296)	0.406** (0.152)
Good	0.134 (0.313)	0.311* (0.158)
Fair	-0.269 (0.410)	0.439* (0.195)
Poor	0.020	0.524

	(0.859)	(0.358)
Long-term household income quintile (ref. = 1 st [lowest])		
2 nd	-0.458 (0.294)	-0.035 (0.150)
3 rd	-0.585* (0.295)	0.083 (0.148)
4 th	-0.456 (0.295)	-0.469** (0.159)
5 th (highest)	-0.781** (0.278)	-0.606*** (0.170)
Occupation class (ref. = Semi-routine and routine)		
Lower supervisory and technical occupation	-0.401 (0.453)	-0.339 (0.190)
Small employers and own account workers	-1.231** (0.396)	-1.680*** (0.287)
Intermediate	-1.199*** (0.341)	-0.839*** (0.165)
Managerial, administrative, and professional	-1.095*** (0.258)	-1.066*** (0.138)
Not applicable (unemployed, inactive, etc.)	0.003 (0.284)	-0.486** (0.168)
Received social benefits before the COVID-19 lockdown (ref. = no)	0.708* (0.326)	-0.012 (0.164)
Urban residence (ref. = rural)	0.050 (0.212)	-0.067 (0.101)
Intercept	1.905 (1.092)	1.557* (0.682)

Note: SE = Standard error, which are clustered at the household level to account for within-household clustering. Ref. = Reference category. **Assumption/robustness checks:** Variance inflation test (VIF) show that all VIFs are below 2.5, apart from those for age and age². I also fitted alternative Firth and exact logistic regression models, which yielded consistent results. The IIA assumption was satisfied for the multinomial specification.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

Supplemental Table S5. Multinomial logit regression model predicting work-hour changes during the COVID-19 lockdown ($N = 8,281$ worked before COVID-19, underlying model for Figure 1)

Predictor	Model 2	
	Reduction in time (vs. no change or more hours)	Total time loss (vs. no change or more hours)
	<i>B (SE)</i>	<i>B (SE)</i>
Ethnic × migrant status (ref. = white, native)		
White, migrant	0.209 (0.194)	0.179 (0.172)
BAME, native	-0.283 (0.210)	-0.521* (0.211)
BAME, migrant	-0.508* (0.258)	0.096 (0.212)
Age	0.003 (0.031)	-0.110*** (0.026)
Age ²	0.000 (0.000)	0.001*** (0.000)
Female (ref. = male)	0.182* (0.083)	0.384*** (0.079)
Education (ref. = no or other)		
GCSE	-0.314 (0.165)	-0.196 (0.135)
A-level	-0.064 (0.153)	0.002 (0.130)
Higher degree	-0.057 (0.133)	-0.569*** (0.120)
Mode of working before the COVID-19 lockdown (ref. = fixed hours)		
Flexible hours	0.686*** (0.130)	0.034 (0.133)
Employer assigned hours	0.731*** (0.157)	0.618*** (0.144)
Self-employed	1.206*** (0.139)	0.652*** (0.128)
Key worker (ref. = no)	-0.167 (0.088)	-2.194*** (0.094)
Household composition during the COVID-19 lockdown (ref. = one adult, no child)		
One adult, at least one child	0.449 (0.288)	0.761** (0.280)
Multiple adults, no child	0.015 (0.164)	0.104 (0.152)
Multiple adults, at least one child	0.273 (0.177)	0.381* (0.163)
COVID-19 at-risk population (ref. = low)		
High risk	-0.184 (0.123)	0.022 (0.111)
Very high risk	0.078 (0.245)	1.032*** (0.202)
COVID-19 tested or have/had symptoms (ref. = no)	-0.025 (0.115)	0.141 (0.105)
Self-reported health (ref. = excellent)		
Very good	-0.060 (0.129)	0.233 (0.126)
Good	0.086 (0.133)	0.305* (0.131)
Fair	-0.204 (0.180)	0.267 (0.163)

Poor	0.184 (0.355)	0.153 (0.320)
Long-term household income quintile (ref. = 1 st [lowest])		
2 nd	0.014 (0.154)	0.057 (0.131)
3 rd	-0.138 (0.157)	-0.067 (0.132)
4 th	-0.055 (0.154)	-0.477*** (0.138)
5 th (highest)	0.014 (0.161)	-0.544*** (0.145)
Occupation class (ref. = Semi-routine and routine)		
Lower supervisory and technical occupation	0.256 (0.210)	-0.256 (0.175)
Small employers and own account workers	0.588** (0.215)	-0.127 (0.193)
Intermediate	-0.328* (0.165)	-1.033*** (0.135)
Managerial, administrative, and professional	-0.079 (0.127)	-1.110*** (0.117)
Not applicable (unemployed, inactive, etc.)	-0.088 (0.186)	-0.389** (0.145)
Received social benefits before the COVID-19 lockdown (ref. = no)	0.039 (0.150)	0.193 (0.143)
Urban residency (ref. = rural)	0.005 (0.094)	0.022 (0.088)
Intercept	-1.653* (0.676)	2.503*** (0.580)

Note: SE = Standard error, which are clustered at the household level to account for within-household clustering. Ref. = Reference category. **Assumption/robustness checks:** Variance inflation test (VIF) show that all VIFs are below 2.5, apart from those for age and age². I also fitted alternative Firth and exact logistic regression models, which yielded consistent results. The IAA assumption was satisfied for the multinomial specification.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

Supplemental Table S6. Regression models for Figures 3–5 ($N = 10,336$ for all models)

	Model 3	Model 4	Model 5	Model 6	Model 7
	For Figure 2: Binary logit model predicting income loss (ref. = no)	For Figure 3 (left): Binary logit model predicting being behind bills (ref. = no)	For Figure 3 (right): Binary logit model predicting greater difficulty paying bills than before (ref. = no)	For Figure 4 (top): Ordered logit model predicting perceived financial difficulty during COVID-19	For Figure 4 (bottom): Binary logit model predicting greater financial difficulty than before (ref. = no)
Predictor	<i>B (SE)</i>	<i>B (SE)</i>	<i>B (SE)</i>	<i>B (SE)</i>	<i>B (SE)</i>
Ethnic × migrant status (ref. = white, native)					
White, migrant	0.573*** (0.140)	0.556 (0.296)	0.576 (0.305)	0.294* (0.134)	0.216 (0.175)
BAME, native	0.476** (0.168)	0.450* (0.220)	0.208 (0.264)	0.232 (0.134)	-0.049 (0.167)
Ethnic minority, migrant	0.414* (0.174)	1.145*** (0.251)	1.034*** (0.285)	0.585*** (0.144)	0.350* (0.165)
Age	0.015 (0.022)	0.046 (0.048)	0.026 (0.054)	0.075*** (0.020)	-0.006 (0.024)
Age ²	-0.000 (0.000)	-0.001 (0.001)	-0.001 (0.001)	-0.001*** (0.000)	-0.000 (0.000)
Female (ref. = male)	0.208*** (0.060)	0.066 (0.148)	0.030 (0.160)	-0.087 (0.054)	-0.032 (0.068)
Education (ref. = no or other)					
GCSE	0.023 (0.108)	0.265 (0.212)	0.105 (0.220)	-0.025 (0.089)	0.109 (0.117)
A-level	-0.049 (0.106)	-0.060 (0.221)	-0.166 (0.229)	-0.030 (0.089)	0.079 (0.115)
Higher degree	-0.004 (0.093)	-0.192 (0.199)	-0.379 (0.206)	-0.280*** (0.079)	-0.112 (0.104)
Mode of working before the COVID-19 lockdown (ref. = fixed hours)					
Flexible hours	0.225* (0.110)	-0.005 (0.316)	0.018 (0.339)	0.136 (0.101)	0.228 (0.127)
Employer assigned hours	0.359** (0.130)	0.643** (0.241)	0.571* (0.278)	0.422*** (0.117)	0.596*** (0.136)
Self-employed	1.304*** (0.118)	1.035*** (0.231)	1.132*** (0.245)	0.855*** (0.115)	0.787*** (0.121)
Not employed	-0.192 (0.117)	0.706** (0.259)	0.736* (0.288)	0.476*** (0.106)	0.556*** (0.130)
Key worker (ref. = no)	-0.397*** (0.073)	-0.052 (0.175)	-0.178 (0.200)	-0.090 (0.064)	-0.177* (0.086)
Household composition during the COVID-19 lockdown (ref. = one adult, no child)					
One adult, at least one child	0.260 (0.204)	-0.146 (0.349)	0.017 (0.372)	-0.065 (0.195)	-0.326 (0.249)
Multiple adults, no child	0.296* (0.118)	-0.496* (0.235)	-0.562* (0.256)	-0.133 (0.098)	-0.100 (0.127)
Multiple adults, at least one child	0.480*** (0.130)	-0.301 (0.235)	-0.323 (0.254)	0.004 (0.108)	-0.135 (0.138)
COVID-19 at-risk population (ref. = low)					
High risk	0.104 (0.082)	0.203 (0.182)	0.086 (0.201)	0.156* (0.070)	0.181* (0.090)
Very high risk	0.477** (0.153)	-0.080 (0.273)	-0.340 (0.328)	0.036 (0.134)	-0.130 (0.185)

COVID-19 tested or have/had symptoms	0.314*** (0.084)	0.227 (0.176)	0.297 (0.188)	0.104 (0.080)	0.090 (0.097)
Self-reported health (ref. = excellent)					
Very good	0.072 (0.101)	0.003 (0.272)	-0.119 (0.280)	0.219* (0.093)	-0.057 (0.113)
Good	0.177 (0.104)	0.274 (0.275)	0.190 (0.280)	0.426*** (0.097)	-0.108 (0.116)
Fair	0.141 (0.128)	0.451 (0.312)	0.336 (0.330)	0.799*** (0.118)	0.146 (0.141)
Poor	0.345 (0.182)	0.718 (0.376)	0.555 (0.389)	0.925*** (0.168)	-0.088 (0.207)
Long-term household income quintile (ref. = 1 st [lowest])					
2 nd	-0.011 (0.106)	-0.255 (0.185)	-0.275 (0.209)	-0.104 (0.096)	0.031 (0.116)
3 rd	-0.128 (0.112)	-0.327 (0.205)	-0.290 (0.223)	-0.141 (0.100)	0.109 (0.119)
4 th	-0.445*** (0.117)	-0.907*** (0.258)	-0.870** (0.280)	-0.341*** (0.103)	0.040 (0.125)
5 th (highest)	-0.528*** (0.119)	-0.943*** (0.286)	-0.896** (0.299)	-0.626*** (0.103)	-0.095 (0.127)
Occupation class (ref. = Semi-routine and routine)					
Lower supervisory and technical occupation	0.039 (0.148)	-0.370 (0.341)	-0.182 (0.357)	-0.082 (0.141)	-0.107 (0.181)
Small employers and own account workers	0.701*** (0.166)	0.360 (0.279)	0.259 (0.286)	0.291 (0.157)	0.316 (0.167)
Intermediate	-0.204 (0.115)	-0.483 (0.263)	-0.639* (0.307)	-0.095 (0.100)	-0.063 (0.136)
Managerial, administrative, and professional	-0.308** (0.095)	-0.449* (0.202)	-0.483* (0.227)	-0.250** (0.082)	-0.078 (0.111)
Not applicable (unemployed, inactive, etc.)	-0.364** (0.115)	-0.429 (0.231)	-0.482 (0.255)	-0.483*** (0.104)	-0.395** (0.128)
Received social benefits before COVID-19 (ref. = no)	0.157 (0.106)	1.076*** (0.168)	0.992*** (0.185)	0.501*** (0.094)	0.196 (0.116)
Urban residence (ref. = rural)	-0.155* (0.073)	-0.302 (0.168)	-0.305 (0.182)	-0.174** (0.066)	-0.270** (0.082)
Employment status change during COVID-19 (ref. = no)					
Lost job	1.391*** (0.217)	1.147** (0.381)	1.283*** (0.357)	0.722*** (0.203)	0.442* (0.193)
Furlough	1.315*** (0.097)	0.692*** (0.207)	0.700** (0.228)	0.563*** (0.087)	0.471*** (0.107)
Behind bills before the COVID-19 lockdown		2.084*** (0.181)			
Perceived financial difficulty before the COVID-19 pandemic (ref. = living comfortably)					
Doing alright				1.546*** (0.078)	
Just (about) getting by				2.769*** (0.102)	
Finding it quite/very difficult				3.759*** (0.138)	
Intercept	-0.979* (0.480)	-3.216** (0.994)	-2.638* (1.134)		-0.980 (0.518)
Cut 1				1.686*** (0.443)	
Cut 2				4.457***	

Cut 3	(0.448)
	6.510***
	(0.455)

Note: SE = Standard error, which are clustered at the household level to account for within-household clustering. Ref. = Reference category. **Assumption/robustness checks:** Variance inflation test (VIF) show that all VIFs are below 2.5, apart from those for age and age². Proportional assumption for ordered logit regression is satisfied. I also fitted alternative Firth and exact logistic regression models, which yielded consistent results.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).