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Flexible contracts and ethnic economic inequalities across gender during the UK's COVID-19 recession

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Abstract

Was it their disproportionate presence in flexible employment or in shut-down occupations that made some ethnic minority groups vulnerable to adverse labour market outcomes during the coronavirus disease 2019 (COVID-19) recession? Using the COVID-19 recession in the UK as a case study, we employ weighted linear probability models with 2021 data from the Evidence for Equality National Survey to look at changes in economic indicators across ethnic groups and gender. We report heterogeneity in flexible employment rates within the non-White group and between the non-White and the White British group. By using a conditional decomposition method, we conclude that those ethnic minority groups who were disproportionately on flexible contracts experienced worse economic effects than the White British group.

Keywords: recessions; COVID-19, ethnicity; flexible contracts, decomposition.
JEL classifications: J15, J41

1. Introduction

Some ethnic minority groups are more likely to hold atypical employment contracts than the majority group (Katz and Krueger 2019; Farina, Green, and McVicar 2020; Clark and Ochmann 2022). We ask whether it is the sorting into flexible contracts of these groups or their sorting into certain occupations that were subject to shut-down measures during the pandemic that led to a deterioration of their economic outcomes during the coronavirus disease 2019 (COVID-19) recession and therefore exacerbated pre-existing ethnic economic inequalities in the UK.

Our outcome variables are based on questions from the Evidence for Equality National Survey (EVENS) that directly ask about these outcomes in relation to the impact of the COVID-19 pandemic, so the pandemic is framed within them as the cause. In addition,

EVENS participants were asked about their labour market status before and during the COVID-19 recession, allowing us to capture the same participants before and after the pandemic. However, we stress that we make no causal claim as workers with flexible contracts might differ from their counterparts in unobserved characteristics leading to selection into flexible contracts.

We make several contributions to the literature. First, we are able to show that flexible contracts are key in explaining the worsening of the economic situation of some ethnic groups relative to the White British majority during the COVID-19 recession. Previous studies for the UK used data before the outbreak of COVID-19 to predict unequal effects for minority groups based on their concentration in certain industries and occupations (Blundell et al., 2020b; Platt 2021). They emphasize differential effects across ethnic groups on the basis of composition effects, that is, some ethnic minority groups are disproportionately represented in shut-down industries or in particular occupations heavily affected by lockdown measures. Hoynes, Miller, and Schaller (2012) also report composition effects disproportionately affecting ethnic minority groups in certain industries during the 2007 recession and before in the USA, whereas Fazzari and Needler (2021) document unequal impacts on ethnic groups during the US COVID-19 recession. We argue that the role of contract type during recessions has not been properly accounted for by the literature in determining the unequal effects of economic downturns on ethnic groups.

Secondly, we offer the first UK study of the economic effects on ethnic minorities and White British people at least one year into the COVID-19 crisis. Other research looked at the early impact of the pandemic on UK economic outcomes (Blundell, Machin, and Ventura 2020a; Blundell et al., 2020b; Platt and Zuccotti 2021).

Thirdly, we report statistically significant and economically substantial estimates of the adverse effects of flexible contracts on various economic outcomes during the COVID-19 crisis regardless of ethnicity. Adams-Prassl et al. (2020) find similar results for UK workers on temporary contracts, showing that they experienced, for instance, higher unemployment than workers on permanent contracts during the COVID-19 recession.

Fourthly, we find that some ethnic minority groups are more likely to hold flexible contracts than their White British counterparts. The number of workers under zero-hours contracts has been on the rise in the UK (Datta, Giupponi, and Machin 2019) with ethnic minorities disproportionately represented in these atypical arrangements (Farina, Green, and McVicar 2020). Temporary work arrangements, however, have been fairly stable over the past two decades across ethnic groups (Clark and Ochmann 2022). Booth, Francesconi, and Frank (2022) find no evidence of fixed-term employment differentials between non-White and White groups more than two decades earlier. They provide a theoretical model for why women and ethnic minorities might be more likely to work in non-permanent employment, which tends to be less desirable on multiple dimensions (Booth, Francesconi, and Frank 2002).

To explore these issues, we use binary economic outcome variables and employ weighted conditional linear probability models and the Gelbach (2016) decomposition. We specify a linear probability model with a full set of controls, which nests our base model. EVENS asks a number of economic questions directly related to the pandemic and we use them to construct binary outcomes: job loss, working hours loss, individual pay loss, household income loss, and loss in financial well-being.

Our key conclusion is that flexible contracts are an important predictor of adverse economic outcomes during the COVID-19 recession. Although results are heterogeneous across ethnic groups and gender, workers in some minority groups are more likely to be on flexible employment contracts than workers in the White British group and therefore exhibit a higher incidence of worse economic outcomes than the White British, independent of occupation.

The policy implication of our article is that flexible labour market arrangements may leave some workers economically vulnerable during economic downturns. Despite the

social safety net provided by the UK government through the job retention scheme for both atypical and standard employment, additional economic and social policies may be required to ameliorate the effects of flexible labour markets during recessions. These policies could be of particular importance in the light of pre-existing ethnic inequalities in the UK (Lindley 2002; Heath and Martin 2013; Phan et al., 2022; Ochmann 2024).

2. Brief literature review

2.1 Pre-pandemic ethnic inequalities in the UK labour market

There exists a substantial literature on ethnic inequalities with regard to employment, unemployment, and wage penalties in the UK labour market (Blackaby et al., 2002, 2005; Heath and Cheung 2006; Clark and Drinkwater 2009; Algan et al., 2010; Dustmann and Theodoropoulos 2010; Manning and Rose 2021; Platt and Zuccotti 2021; Phan et al., 2022; Ochmann 2024). While an ethnic employment penalty, as measured over the working-age population, exists for most ethnic minority groups, their employment situation has improved over recent decades. Covering the period from 1991 to 2001, Clark and Drinkwater (2009) report a closing of the employment gap for most groups except Black Caribbean (BC) men and employment rates for Indian and Chinese men and BC women that were similar to those for their White British equivalents in 2001. However, significant gaps in employment remained for Black African, Pakistani, and Bangladeshi men and women.

Looking at data for the period 1993–2007, Algan et al. (2010) separate first-generation from second-generation immigrants and show employment penalties for all groups compared to the White British group. In particular, Algan et al. (2010) found that Black African, Pakistani, and Bangladeshi men and women had large employment gaps. Except for BC men and women, from the first to the second generation, all ethnic minority groups improved their employment situation relative to the White British group. In particular, Algan et al. (2010) indicate that Pakistani and Bangladeshi women had huge employment gaps for the first generation, which were only half in size for the second generation. Spanning the period 1995–2019 and restricting the analysis to UK-born ethnic minorities, Manning and Rose (2021) report lower employment rates for all ethnic groups within gender, but a decline in the penalty for men over time. In particular, Pakistani women showed little improvement over the 25-year period.

Unemployment differentials between ethnic minority groups and the White British group also exist. Looking at ethnic minority groups across generations from 1994 to 2019, Clark and Ochmann (2022) report that Pakistani, Bangladeshi, and Black African men experienced significant declines in unemployment rates, whereas Manning and Rose (2021) found that only second-generation Pakistani men and Indian women had a clear drop in unemployment over the last 25 years. Kapadia, Nazroo, and Clark (2015) argue that unemployment inequalities persisted from 1991 to 2011.

The literature also consistently reports negative wage differentials between ethnic minority groups and the White British group. For instance, Algan et al. (2010) show that first-generation Pakistani, Bangladeshi, Black African, and BC men face significant wage penalties. Algan et al. (2010) state that all second-generation ethnic minority men did substantially better than first-generation men relative to White British men. In particular, the wage differential for Bangladeshi men reduced significantly across generations. As for the wage differentials for women, they were smaller than those for men, with first-generation Black African women doing worse. Algan et al. (2010) conclude that intergenerational progress was noticeable in all groups except for Black African women, whose wage disadvantage remained large.

In contrast, Ochmann (2024) argues that some of the ethnic wage disadvantages of first-generation men are explained by the differential value of domestic and foreign human

capital and English language proficiency in the UK labour market. He concludes that intergenerational progress for men might be less pronounced because first-generation immigrants with UK human capital, in the form of qualifications, work experience, and language skills, perform relatively well, leaving little room for the second generation to catch up.

Looking at wage disadvantages of UK-born, second-generation ethnic minority men and women, Manning and Rose (2021) show that Chinese men earn more than White British men, whereas Indian men earn almost as much as their White British counterparts. Conversely, Indian women faced low wage gaps over the last 25 years, while the situation for Bangladeshi women has continuously deteriorated. For Pakistani women, the wage gap is now larger than two decades ago. Ochmann (2024) finds that the second-generation African wage differential is lower than reported in previous literature. However, the wage differential for second-generation Caribbean men, for instance, remains large both across and within occupations.

Recent years have seen a rise in flexible employment contracts in the UK, with a disproportionate representation of migrant and ethnic minority workers in these zero-hour work arrangements (Farina, Green, and McVicar 2020). Although zero-hours contracts can be found in various occupations, Farina, Green, and McVicar (2020) find that they are primarily located in personal service and elementary occupations. Datta, Giupponi, and Machin (2019) also find that alternative or atypical work arrangements in the form of zero-hours contracts are a significant feature of the present UK labour market, with a particular increase in the social care sector and the low-wage sector. Clark and Ochmann (2022) also document that some ethnic groups are concentrated in 'bad jobs', which tend to involve low-paid, temporary, involuntary part-time, or solo self-employed work.

2.2 Coronavirus job retention scheme

Alongside many other countries (Scarpetta et al., 2020), the UK government introduced an employment subsidy programme named the Coronavirus Job Retention Scheme (CJRS), and other social protection measures in response to the COVID-19 outbreak in March 2020 (Ferguson 2021). The CJRS, widely known as the furlough scheme, provided employees not able to work during the pandemic with up to 80 per cent of their usual pay. Once the scale of the outbreak became clear, governments around the world introduced lockdown measures to reduce the spread of the virus. At this time of crisis, governments asked certain groups of people, in particular those in non-essential jobs, to work from home where they could, while shutting down most non-essential businesses which could not be run remotely.

To protect jobs, the CJRS allowed employers to instruct eligible staff to stop working, that is to furlough them, and then claim a government subsidy to cover 80 per cent of workers' wages (capped at £2,500 per month). It is important to note that eligibility for furlough spanned a wide range of work arrangements including full-time, part-time, agency, flexible, and zero-hours contracts (Ferguson 2021). Immigrants were also eligible for furlough because grants under the scheme were not counted as 'access to public funds', so employers could furlough employees on all visa categories. The CJRS initially covered the period from March to May 2020 and was extended several times, but stopped at the end of September 2021. Official data show that nearly 9 million workers benefited from the furlough scheme in the first months of the pandemic, preventing an economy-wide spread of unemployment (Cribb and Salisbury 2021).

The UK government also put in place a Self-Employment Income Support Scheme (SEISS) for the rising number of self-employed workers in the UK economy, which stood at 14 per cent of all workers in 2020 (Giupponi and Xu 2020). Johnson, Delestre, and Cribb (2021) provide a detailed discussion of the features, eligibility, and problems of SEISS in its initial phase.

2.3 COVID-19, ethnic groups, and the UK labour market

The earliest research on COVID-19 and its effects on employment used data up to the fourth quarter of 2019 to predict the most likely labour market outcomes for ethnic groups during the pandemic (Platt and Warwick 2020; Blundell et al. 2020b; Platt 2021). These papers focused on the disproportionate employment of working-age ethnic minority people in sectors that shutdown at the start of the pandemic, such as Pakistani men driving taxis and Bangladeshi people working in the restaurant sector (Platt and Warwick 2020). Platt (2021) separates men from women, and first from second-generation (UK-born) migrants, showing the five most common occupations of various groups. Platt (2021) could identify, for example, that 33 per cent of first-generation Pakistani men were occupied as: (1) taxi drivers, (2) medics, (3) security guards, (4) sales assistants, and (5) shopkeepers; whereas 20 per cent of second-generation Pakistani men were employed as: (a) taxi drivers, (b) sales assistants, (c) medics, (d) bookkeepers, and (e) van drivers.

Importantly, Blundell et al. (2020b) argued that those households with only one income earner were going to be affected more by an adverse initial shock to household finances. The Pakistani/Bangladeshi (P/B) group is noteworthy in this context since a disproportionate number of Muslim women are not working in the formal labour market (Lindley 2002; Algan et al., 2010; Manning and Rose 2021). They further pointed out that some ethnic groups were likely to experience adverse composition effects since those groups (e.g. Pakistanis and Bangladeshis) had a disproportionate presence in the taxi driving and restaurant sectors.

Other research, conducted several months into the pandemic, looked at unequal short-run effects in the labour market. For instance, Hu (2020) claimed that ethnic minority people were disproportionately affected by COVID-19 and its consequent economic crisis, especially by job losses, employment protection measures (e.g. being furloughed), and decline in income. Other UK studies reported increases in unemployment, especially for those who were self-employed prior to the crisis (Blundell, Machin, and Ventura 2020a). At a more local level, Wiśniowski et al. (2023) report the economic effects of COVID-19 on ethnic communities in the city of Manchester and Greater Manchester. They found a positive correlation between the percentage of ethnic minority group members in a specified geographic area and claimant counts for universal credit.

More recent papers stress the importance of looking at the effects of the pandemic on the labour market in the medium run, going beyond the immediate labour-market impact. Most of this literature focuses on the US labour market (Yoon, Park, and Shin 2021; Goldin 2022), and shows how college-educated people had jobs adaptable to home-working, while the less educated usually hold physical or manual jobs that cannot be performed remotely, so faced higher risks of losing their job.

Goldin (2022) explores how the pandemic affected the economic outcomes of women. Her findings suggest that women suffered higher economic costs than men. However, the outcome differences between men and women have not been nearly as high as the discrepancies between college- and non-college-educated individuals, or the dissimilarities between ethnic groups or occupations. She found that Black women in the USA suffered more job losses and experienced higher health risks than White women. Likewise, Yoon, Park, and Shin (2021) found that Black workers were less affected by the initial downturn than other racial groups, yet recovered more slowly than all other groups.

3. Empirical method to estimate ethnic inequalities

3.1 Linear probability models: base and full specification

We only study individuals aged 16–65 years who were in part-time, full-time, or self-employment before the outbreak of COVID-19. We separate men from women because of female sample selection issues (Heckman 1974; Vella 1998). Sample selection issues are of

particular concern for married and Muslim women as their reservation wages and labour supply decisions at the extensive margin are dependent on their spouses' incomes and on cultural and religious barriers. The sample might therefore be subject to positive selection. Furthermore, we combine some ethnic groups and pool ethnic groups across generations because our sample is small. Equation (1) specifies our full linear probability model for a given individual. Note that our base model is nested in the full model with the restriction $\beta_2^j = 0$:

$$y^j = \beta_0^j + x_{1,eth}\beta_1^j + x_{2,c}\beta_2^j + \gamma_m^j + e^j, \quad (1)$$

where y^j measures $j = 1, \ldots, 5$ binary outcomes: (1) loss of job, (2) reduction in working hours, (3) loss of individual pay, (4) loss of household income, and (5) reduction in general financial well-being. All five outcomes j are based on questions directly attributable to the pandemic and equal to 1 if an individual experiences any of the five losses and 0 otherwise. We capture group differences between a particular ethnic minority group and the White British reference group with the $x_{1,eth}$ (row) vector, that is, White Other (WO), Gypsy/Traveller/Roma (G/T/R), Jewish (J), Indian (I), P/B, Chinese (CH), BC, and Black African (BA).

The control (row) vector $x_{2,c}$ adjusts for the following variables: second-order polynomial in age, immigrant status, marital status, university qualification, self-employment, flexible contract, London residence, and shut-down service occupation. We model age as a continuous but non-linear variable and all other variables as (sets of) binary variables. Survey months γ_m^j are categorized into seven monthly binary variables to cover the time period over which EVENS was carried out, with February 2021 being the reference month. Note that β_0^j is a constant and β_1^j and β_2^j specify coefficient (column) vectors with e^j being the error term.

3.2 Why the Gelbach (2016) decomposition?

We investigate whether the unequal effects of the COVID-19 recession on ethnic groups are more likely to be due to an increased propensity of some ethnic minority groups to hold flexible contracts than due to an increased propensity to be in shut-down occupations. With the Gelbach (2016) decomposition, we are able to determine which of the two central variables in our analysis explains the (unequal) impact of the recession on ethnic groups. We next provide some insights on this method and refer to Supplementary Appendix A.3 for a technical derivation.

In essence, the decomposition specifies a base and full model. The base model includes group differentials and some or no basic controls. In our context, the base model contains the ethnic group variables and the monthly fixed effects as controls. The full model nests the base model with an additional vector of controls. The elegance of this decomposition method is that it captures each additional control variable's contribution to the group differential in the base model, while being invariant to the sequence by which these additional controls are included in the full model. Thus, we can interpret each control variable's contribution in such a way that we can say that hypothetically omitting a control variable changes the base differential by the sign and size of the estimate for this particular control variable in our full model. In other words, we treat the estimate of the contribution as if the associated control variable were omitted.

The key insight in Gelbach (2016) is that the difference between the ethnic group differentials in the base and full model is equivalent to omitted variable bias. This bias is the product of the correlation of the omitted variable (any element in our control vector) with the ethnic group variables in the base model, and the correlation of the omitted variable with the economic outcome. Depending on the sign and size of these two correlations, we

can determine the sign and size of the omitted variable bias or contribution of each variable in the control vector to all ethnic base group differentials.

4. Data source, restrictions, and weights

4.1 EVENS: the evidence for equality national survey

4.1.1 Description of EVENS

The EVENS data offer a unique setting in which to study ethnic groups in the UK and their UK economic outcomes before and during the pandemic. For that purpose, EVENS focuses on the lives of ethnic minority and religious groups and the White British majority during the coronavirus pandemic. The survey started in February 2021 and ran until November 2021, and it was designed and carried out by the Centre on the Dynamics of Ethnicity (CoDE) of the University of Manchester in the UK (Finney et al. 2023a).

4.1.2 Advantages of EVENS

There are three advantages of EVENS. First, the timing of EVENS means that it collected data at least one year into the pandemic, going beyond studies that use data collected shortly before, or a few months into it. Initial effects might differ from effects later in the pandemic.

Secondly, it collected data on the labour market status of participants before and during the pandemic. This feature allows us to consider only those individuals who were employed before the outbreak of the pandemic, which is important because we want to consider a homogeneous group of workers with similar (unobserved) characteristics than would be the case if we included the entire pre-pandemic population of working age. In other words, we model as if we are adjusting for individual heterogeneity.

Finally, we define outcomes based on the nature of the EVENS questionnaire, which specifically asks about changes in individuals' economic situation due to the pandemic. These outcomes are therefore directly linked to the recession. The detailed questionnaire of EVENS allows us to construct relevant economic outcome indicators capturing the likelihood of reductions in participation in employment, working hours, individual pay, household income, and financial well-being. It also contains rich information on personal and job characteristics, such as education, type of job contract, and type of occupation. With this information, we are able to go beyond studies that infer economic disadvantages for minority groups from working in certain industries or occupations prior to the outbreak of the pandemic.

4.2 Initial sample

EVENS included 14,215 participants, among whom 9,702 individuals identified as belonging to an ethnic minority group. EVENS considers twenty-one ethnic groups: Asian (Bangladeshi, Chinese, Indian, Pakistani, Any other Asian background), Black (African, Caribbean, Any other Black/African/Caribbean), Mixed (White and Asian, White and Black African, White and BC, Any other mixed/multiple backgrounds), White (Eastern European, Gypsy/Traveller, Irish, Roma, Any other white background), Other (Arab, Any other ethnic group), and Jewish. The remainder of the EVENS sample, that is 4,513 individuals, corresponds to those who identified as White English, Welsh, Scottish, or British. In the total EVENS sample, there are 6,219 men and 7,996 women. The participants' ages ranged between 18 and 109 years old, with a sample mean of 41.

4.3 Estimation sample

We use two pieces of information in EVENS to construct nine ethnic groups: the initial twenty-one individuals' ethnicity groups and the country of birth of the parents of

individuals. The Supplementary Appendix A.1 provides detail on the exact definition of each ethnic group. Individuals who did not fit into these nine groups were excluded.

We separate men from women in our analysis. In addition, we pool ethnic groups across generations, although some of the literature finds it beneficial to separate first-generation foreign-born from subsequent UK-born generations (Algan et al. 2010; Platt 2021; Ochmann 2024). As mentioned, we confine our regression and decomposition analysis to EVENS participants in self-, part-time, or full-time employment before the outbreak of the pandemic. We constrain the EVENS sample to those aged 18–65 years for our study. Our final estimation sample contains 2,866 men and 3,298 women for a total of 6,164 individuals.

4.4 Sample design and weights

EVENS (Finney et al. 2023b) aimed to recruit people from more ethnic minority groups than typically used in UK surveys, eliciting participation from any person who identified as ethnic minority or Jewish, and regardless of where they live instead of sampling from areas with a concentration of ethnic minority people. To do this, and to do this during a period when in-person interviewing was prohibited, an online responsive survey design was employed. This used targeted recruitment strategies to achieve desired sample sizes for each ethnic and religious group, by age, sex, and region of residence (Shlomo et al. 2023). Some ethnic minority groups that are typically under-represented in probability-based surveys were oversampled to ensure a minimum target sample (Shlomo et al. 2023). Participants were eligible if they were aged 18 years and over, and living in England, Scotland, or Wales.

The responsive survey design meant that the achieved sample was non-probabilistic, so statistical adjustment weights were developed to compensate for selection bias and coverage bias (Shlomo et al. 2023). The use of these statistical weights enables EVENS data to be used in ways that can be said to be representative of ethnic minority people in the UK. So, they allow for statistical inference to generalize to the population and to estimate population-level parameters. Two steps were used to generate these weights. First, propensity scores were estimated through a statistical model run on an integrated data set that contained both the non-probability sample from EVENS and a probability reference sample. The probability reference sample drew upon data from the Annual Population Survey (APS) 2019 and 2020 and the European Social Survey (ESS), rounds 8 and 9 (2016 and 2018). The APS provides information on relevant social and socio-economic variables, whereas the ESS collects data on attitudes and social participation, which may explain selectivity mechanisms in non-probability sample surveys.

The model used propensity score modelling to identify predicted probabilities of participation, which was then used to calculate pseudo-design weights. Secondly, this step was followed by post-stratification to calibrate the pseudo-design weights to population benchmarks and to further reduce the impact of coverage biases. The calibrated adjustment weights were calculated to scale the obtained sample to match the characteristics of the population, in terms of age, sex, region, and ethnic group (Shlomo et al. 2023). The population benchmarks were obtained from the 2021 Census for England and Wales (UK Office for National Statistics 2023) and, for those groups not estimated in the 2021 Census, the ETHPOP Database for Scotland (extracted for the year 2020) (Wohland et al. 2018).

5. Description of variables

5.1 Indicators: unemployment, more than single-income households, and working remotely/office

An individual's unemployment status before and during COVID-19 was a critical observation. If individuals were unemployed before or during COVID-19, we set this indicator to

1, and 0 if self-employed, or part-time employed, or full-time employed before or during COVID-19.

We define a binary variable for households with more than one income based on the question 'How many people in the household contribute financially to meeting household expenses, such as paying your rent or mortgage, council tax, other bills and buying food?' This variable is set to 1 if there is more than one earner and 0 if no one or only one person contributes to household expenses. If more than twenty people contribute to household expenses, we exclude the household from the sample.

For whether people can work from home or not we construct a categorical variable based on the following question: 'What proportion of your working hours are currently from home?', for which participants could answer (1) 1–24 per cent, (2) 25–49 per cent, (3) 50–74 per cent, (4) 75–100 per cent, or (5) I don't work from home. We combine categories 1 and 2 in a first category, which we call less than 50 per cent remote work; 3 and 4 into a second category, which we name 50–100 per cent remote work; and we use 5 as a third category, which we label office work only. Each of the three categories represents a binary variable. For example, if a person is in the first category, we set the binary variable to 1, and 0 otherwise.

5.2 Regression outcomes: loss of job, working hours, individual pay, household income, and financial well-being

Loss of job, working hours, or individual pay is based on the answers to the same question in EVENS: 'Have any of the following happened to you since the coronavirus outbreak began in February 2020?' (1) 'I have been made redundant', (2) 'I am still working, but the hours I am expected to work have been reduced', (3) 'I am still working but my rate of pay has been reduced'. We set the outcome variable to 1 if the answer is yes, and 0 if a person answers no.[1]

From the EVENS question 'Is your current household income higher than, about the same as, or lower than before the coronavirus outbreak began in February 2020?', we define household income loss as equal to 1 if household income is a 'little lower' or 'much lower' and equal to 0 if household income is 'much higher', 'a little higher', or 'about the same'.

To establish pre-pandemic financial well-being, we look at the following question: 'In the 3 months before the coronavirus outbreak in February 2020, how well were you managing financially?'; and for financial well-being during the pandemic, we examine the subsequent question: 'And now, how well are you managing financially?' The answer options for both questions are identical: 'living very comfortably', 'living somewhat comfortably', 'finding it somewhat difficult', or 'finding it very difficult'. We construct a binary variable set to 1 if financial well-being has deteriorated during the pandemic as opposed to the pre-pandemic period and to 0 if it has remained unchanged or improved. However, we make one exception to capture economic hardship in a better way. If in the pre-pandemic period, a person reported to have managed to be 'living very comfortably' and during the pandemic managed to be 'living somewhat comfortably', the person is assigned a 0 instead of a 1 value for the financial well-being variable. In other words, we do not consider a deterioration in living standards at the top.

5.3 Base and full regression models: shared variables

The precise definition of the ethnic groups that are both in the base and full model is available in Supplementary Appendix A.1. Since the EVENS data were collected over different

[1] We argue that the nature of these answer options implies an employer–employee relationship. Although we include the self-employed in our analysis, we do not analyse them in further detail for this reason. We are aware that the self-employed took a significant economic hit during the COVID-19 recession (Blundell *et al.*, 2020b).

months in 2021, we follow Graeber, Kritikos, and Seebauer (2021), and include in the base and full regression models monthly fixed effects: February, March/April, May, June, July, August/September, and October/November. The number of observations is small for the months of April, September, and November, so these are combined with the previous month, respectively.

5.4 Full regression model: additional control variables

5.4.1 Flexible contract and occupation type as central variables

We define the first of our two key control variables of interest (flexible contract) based on two EVENS questions: (1) whether a participant's employment is permanent or temporary and (2) whether a person had a guaranteed minimum number of employment hours or a 'zero hours' contract.[2] We set the flexible contract variable equal to 1 if a person is either on a zero-hours or temporary contract, and 0 if a person has a guaranteed minimum number of working hours or is permanently employed. We combine those workers who are in temporary employment with those who are on a zero-hours contract with no guaranteed minimum hours as opposed to individuals whose contract is both permanent or specifies a guaranteed minimum number of working hours.

A measure of occupation type is our second key variable of interest. We propose three different measures for occupation type. First, we use a binary variable in Equation (1) based on those four-digit shut-down service occupations listed in the Supplementary Appendix A.2. It is equal to 1 if a worker is in a SOC 2020 occupation among those listed in the Supplementary Appendix A.2, and 0 if a worker is in any other of the four-digit remaining SOC 2020 occupations. The selection of these shut-down occupations is mapped from the shut-down sectors used in Blundell, Machin, and Ventura (2020a).[3] Secondly, our granular categorical service job variables are defined in a way that a specific service job from the list in Supplementary Appendix A.2 is assigned 1 if a person works in a particular job and 0 otherwise. All occupations absent from the list are assigned 0. This definition produces sixty-one categories, which we model as categorical variables. Thirdly, we define 381 occupation fixed effects for our full regression model using a four-digit occupational code in EVENS for jobs held during the COVID-19 recession.

5.4.2 Other adjustment variables

We also adjust for the reported age of a person by including a polynomial for age. We define immigrant status based on the answer to a question about country of birth. If a person was not born in England, Wales, Scotland, or Northern Ireland, we set immigrant status to 1, and 0 otherwise.

Furthermore, we construct a marital status variable based on the legal marital or registered civil partnership status. We set marital status to 1 if a person is married or in a registered civil partnership, and 0 if the following applied to them: never married, never in a registered civil partnership, separated (but still legally married), separated (but still legally in a civil partnership), divorced, formerly in a civil partnership (which is now legally dissolved), widowed, and surviving partner from a registered civil partnership.

We also include a binary variable for the completion of a university qualification. The question in EVENS asking about the highest qualification achieved included postgraduate, bachelor's, 2-year diploma, A-level, vocational training, high school, other qualification, and no qualification. University qualification is set to 1 if a person reports at least a bachelor's qualification, and 0 if the qualification is below a bachelor's degree.

[2] The reader should note that both part-time and full-time workers answered question (1), whereas only part-time workers addressed question (2) in EVENS (see the EVENS questionnaire in the Technical Report (Ipsos and Centre on the Dynamics of Ethnicity (CoDE) 2023)).

[3] Tables 1 and 2 use this definition of occupation type.

If a person is self-employed during the pandemic, self-employment is set to 1, and 0 for part-time and full-time employed individuals during the pandemic. Note that, by construction, no self-employed individuals during the pandemic were on a flexible contract since only part-time and full-time employed workers were asked about contract type.

Finally, we also account for the geographical distribution of the EVENS sample. EVENS covers eleven geographical regions: North-East of England, North-West of England, Yorkshire and the Humber, West Midlands, East Midlands, East of England, South-West of England, South-East of England, London, Wales, and Scotland. Since 3,574 out of the 14,215 total EVENS participants live in London (representing 25.1 per cent of the EVENS sample), we adjust for the London effect by defining a binary variable set to 1 if a person resides in London and 0 if they live in any of the other ten geographical areas.

6. Results

6.1 Descriptives

We first offer descriptive statistics on some selected indicators that may give a sense of the effects of shut-down measures on ethnic groups during the COVID-19 crisis.

6.1.1 Unemployment rates before and during COVID-19

Figure 1 reports the unemployment rates before and during COVID-19 by ethnic group and gender. It is important to note that we observed the same individuals before and during the pandemic. The key takeaway from this figure is that some ethnic groups experienced a higher unemployment rate after the outbreak of the pandemic than before; however, there exists no statistical evidence that the increase in the unemployment rate is significant. For instance, P/B men and women experienced a higher unemployment rate during the pandemic than before, whereas the unemployment rate for White British was constant across

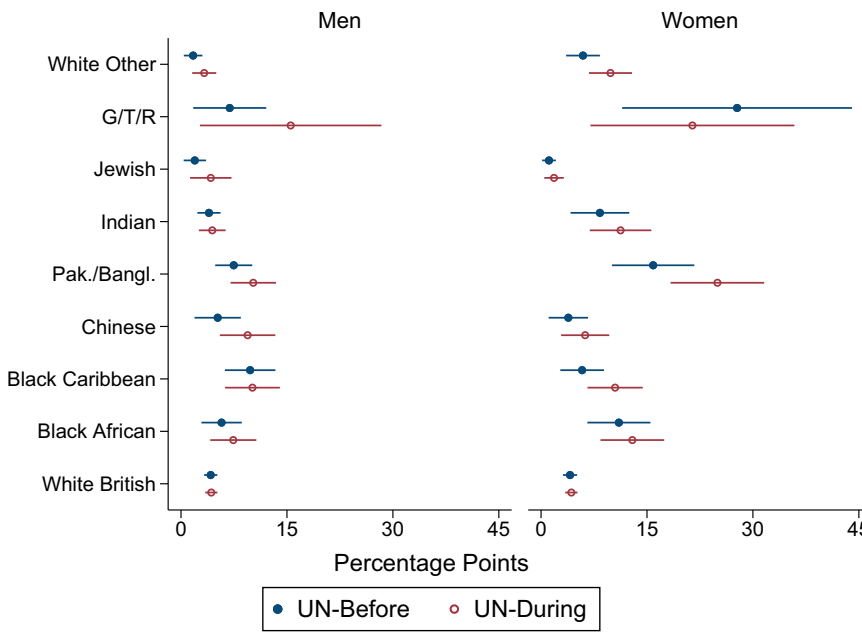

Figure 1. Unemployment rate (UN) (%): before and during COVID-19 by gender.

Note: Based on the same individuals aged 18–65 years before and during COVID-19. Robust 90% CI. Data source: EVENS.

the two states. However, there is no statistically significant difference between unemployment rates by gender and ethnicity.

6.1.2 Selected characteristics during COVID-19

Table 1 shows the heterogeneous picture of ethnic groups holding flexible contracts, whereas the shut-down service jobs are more uniformly distributed across groups by gender. The next section looks in more detail at the differential of flexible and shut-down jobs across ethnic groups relative to the White British majority.

Households with at least two income earners are less likely to be economically and financially affected by a recession (Blundell et al., 2020b). We see in Table 1 that it is only the P/B men and BC and Black African women that have a significantly lower proportion of two income households than the White British majority. We further see in the table that ethnic minority men and women are generally not at a disadvantage when it comes to their ability to work from home because it seems that those in most ethnic minority groups could at least do some of their work from home without being obligated to go into the workplace. In contrast, White British men and women disproportionately worked in their usual workplace during the pandemic. Finally, ethnic minority men and women in the sample predominantly live in London.

6.1.3 Flexible contract and occupation type adjusted for age and education

In Table 2, Indian, P/B, Chinese, and Black African men are more likely to be on flexible contracts than their White British counterparts whether adjusting for age and education or

Table 1. Selected characteristics (%): during COVID-19 by gender.

	Men								
	WO	G/T/R	J	I	P/B	CH	BC	BA	WB
Flex contract	7.71	7.15	8.42	12.83	10.62	17.86	7.04	13.40	5.15
Service	13.15	8.15	18.07	14.33	15.49	13.78	12.88	18.16	12.86
>1 Income HH	81.14	66.89	84.91	82.06	62.20	79.02	79.02	84.88	81.55
Remote: <50%	17.17	16.20	15.75	25.09	27.85	20.20	27.85	28.72	13.42
Remote: 50–100%	44.05	15.49	64.16	54.89	44.46	49.67	30.94	37.11	38.55
Office only	38.78	68.31	20.08	20.02	27.69	30.14	41.21	34.17	48.03
London	30.48	14.84	51.10	38.55	27.83	31.51	37.30	49.90	7.93
Observations	188	71	87	301	252	109	131	231	723
	Women								
	WO	G/T/R	J	I	P/B	CH	BC	BA	WB
Flex contract	18.32	3.43	10.54	13.03	8.32	17.01	8.13	21.86	7.22
Service	29.79	62.97	19.89	16.84	23.54	17.05	22.68	24.34	23.69
>1 Income HH	86.04	84.27	83.68	82.71	80.91	92.66	70.95	72.93	85.78
Remote: <50%	7.68	4.54	17.50	18.49	17.34	17.47	20.14	24.93	15.36
Remote: 50–100%	56.99	7.24	64.25	60.03	54.76	65.62	48.92	45.67	42.24
Office only	35.33	88.22	18.25	21.48	27.90	16.91	30.94	29.40	42.40
London	29.71	0.21	54.91	40.07	33.78	24.41	49.52	40.76	7.31
Observations	272	28	128	293	249	125	244	263	805

Notes: Percentages based on individuals employed before the pandemic, aged 18–65 years. Selected characteristics are (1) Flex Contract: temporary or zero-hours contract. (2) Service: occupations heavily hit by shut-down measures. (3) >1 Income HH: households with more than one income earner. (4) Remote: able to do a given percentage of work from home. (5) Office: work only from the normal work place. (6) London: percentage of a given ethnic group in the sample living in London. Observations in each ethnic category do not add up to the estimation sample size because of missing observations in the working remotely/office categories. Data source: EVENS.

Table 2. Flexible contracts and service jobs by ethnic group and gender.

	Men				Women			
	FlexContract		Service		FlexContract		Service	
White other	3.865	4.460[c]	−0.052	0.438	7.040[b]	6.207[c]	3.277	5.885
	(2.519)	(2.570)	(2.756)	(2.810)	(3.480)	(3.500)	(4.104)	(4.129)
G/T/R	3.325	3.509	−3.367	−3.225	−8.220[b]	−6.417[c]	29.858[c]	29.128[c]
	(5.032)	(4.648)	(4.587)	(4.758)	(3.424)	(3.361)	(16.113)	(15.534)
Jewish	1.672	2.105	4.092	4.321	−0.377	−1.150	−4.546	−2.980
	(2.439)	(2.397)	(4.967)	(4.838)	(2.654)	(2.669)	(4.289)	(4.212)
Indian	7.504[a]	8.746[a]	1.577	3.181	2.048	1.623	−3.925	−0.965
	(2.636)	(2.698)	(3.070)	(3.148)	(3.238)	(3.237)	(4.317)	(4.282)
P/B	8.172[a]	9.005[a]	5.343	6.349[c]	0.092	−0.042	−0.381	1.748
	(3.108)	(3.147)	(3.738)	(3.786)	(3.177)	(3.111)	(4.463)	(4.587)
Chinese	11.111[b]	11.646[b]	4.580	5.026	11.775[b]	10.798[c]	−15.694[a]	−13.299[a]
	(4.981)	(4.942)	(5.219)	(5.258)	(5.565)	(5.553)	(4.091)	(4.137)
BC	0.966	1.098	1.272	1.455	0.028	−0.179	−4.673	−3.971
	(2.376)	(2.376)	(3.484)	(3.518)	(3.101)	(3.094)	(4.020)	(4.063)
Black African	9.575[a]	10.095[a]	4.688	5.127	11.078[a]	10.153[a]	−1.142	1.768
	(2.795)	(2.805)	(3.935)	(4.025)	(3.952)	(3.897)	(4.646)	(4.645)
Age		−1.501[b]		−2.066[b]		−1.020[c]		−2.074[b]
		(0.590)		(0.828)		(0.573)		(0.942)
Age^2		0.016[b]		0.021[b]		0.011[c]		0.024[b]
		(0.006)		(0.009)		(0.007)		(0.011)
University		−0.585		−0.233		3.965[b]		−6.021[b]
		(1.388)		(2.059)		(1.717)		(2.747)
R^2	0.024	0.038	0.009	0.027	0.024	0.031	0.009	0.021
Observations	2,866	2,866	2,866	2,866	3,298	3,298	3,298	3,298

Notes: Linear probability models for those employed before the pandemic, aged 18–65 years. All models include monthly fixed effects. Robust standard errors are in parentheses.
[a] Statistical significance at the 1% level,
[b] 5% level, and
[c] 10% level. Data source: EVENS.

not. The differentials are statistically significant at conventional levels and economically substantial. As for women, we can see that White Other, Chinese, and Black African women are disproportionately covered by flexible contract arrangements compared to White British in both specifications. Table 2 also displays those occupations in the UK economy most heavily affected by the lockdown measures during the course of the pandemic. These are predominately service jobs. Importantly, we do not observe similar ethnic differentials for these service occupations by gender. This observation suggests that there existed no systematic difference between ethnic minority groups and the White British majority for service sector jobs that were shut down during the pandemic.

6.2 Base and full model analysis

Tables 3–5 report our regression results. They apply to the base and full linear probability models as formulated in Equation (1). Both the base and the full regression model include monthly fixed effects. The columns in Tables 3–5 identify by gender the different economic outcome variables of interest using the base and the full model specifications: loss of job, working hours, individual pay, household income, and general financial well-being.

There are two important points to take away from these tables. First, flexible contracts increase the likelihood of most of the adverse economic outcomes during the pandemic across genders. These effects are both economically substantial and statistically significant. More specifically, for men (women), flexible contracts increasing the probability of job loss

Table 3. Job and hours loss probabilities by ethnic group and gender.

	Men				Women			
	Job^{base}	Job^{full}	$Hours^{base}$	$Hours^{full}$	Job^{base}	Job^{full}	$Hours^{base}$	$Hours^{full}$
White Other	3.526[c]	3.651	−0.571	−5.150	1.360	0.895	−2.089	−0.430
	(1.814)	(2.876)	(2.822)	(6.082)	(1.616)	(1.720)	(2.266)	(3.059)
G/T/R	−0.318	−0.826	−1.242	−7.751	−3.379[b]	−3.857[c]	0.521	−8.200
	(1.930)	(2.359)	(6.736)	(6.874)	(1.522)	(2.085)	(8.706)	(12.410)
Jewish	−0.380	−1.475	0.987	0.201	1.711	0.155	1.085	−2.750
	(1.865)	(2.053)	(3.776)	(4.091)	(2.199)	(2.531)	(3.173)	(3.628)
Indian	1.834	0.406	2.968	0.569	1.551	0.705	−4.788[c]	−5.256[c]
	(1.589)	(2.143)	(3.750)	(4.566)	(1.958)	(2.043)	(2.523)	(2.883)
P/B	1.543	0.209	5.904	2.823	4.811	3.571	10.543[b]	9.201[c]
	(1.828)	(2.380)	(4.045)	(4.730)	(3.205)	(3.372)	(4.859)	(5.038)
Chinese	−3.543[a]	−5.077[b]	4.646	1.295	−1.434	−2.243	3.933	5.972
	(1.308)	(2.115)	(4.782)	(5.606)	(1.489)	(1.583)	(3.966)	(3.923)
BC	−0.837	−0.993	3.613	3.718	0.963	0.632	3.689	3.877
	(1.242)	(1.407)	(4.478)	(4.469)	(1.618)	(1.780)	(3.609)	(3.835)
Black African	3.152	1.966	1.219	−2.482	0.001	−1.357	11.768[a]	12.408[a]
	(2.251)	(2.826)	(4.169)	(5.840)	(1.473)	(1.530)	(4.347)	(4.465)
Age		0.576[c]		−0.810		−0.036		0.180
		(0.312)		(0.906)		(0.221)		(0.657)
Age^2		−0.007[b]		0.009		−0.001		−0.004
		(0.004)		(0.010)		(0.003)		(0.008)
Immigrant		−2.000		4.665		−1.045		−3.516
		(2.590)		(6.830)		(0.952)		(2.233)
Married		0.842		0.448		0.512		1.238
		(1.151)		(2.431)		(1.131)		(2.199)
University		1.282		1.481		0.244		−1.012
		(1.202)		(2.194)		(1.141)		(2.092)
Self-employed		0.185		12.370[a]		4.808[b]		20.082[a]
		(1.125)		(3.680)		(2.408)		(5.295)
Flex contract		13.000[a]		11.130[b]		6.199[a]		3.159
		(4.940)		(4.936)		(2.076)		(2.541)
Service		0.531		1.143		−1.042		7.280[b]
		(2.234)		(3.122)		(1.176)		(2.896)
London		0.607		−0.527		1.899		2.541
		(1.535)		(2.289)		(1.643)		(3.331)
R^2	0.010	0.041	0.012	0.040	0.005	0.026	0.024	0.077
Observations	2,866	2,866	2,866	2,866	3,298	3,298	3,298	3,298

Notes: Linear probability models for those employed before the pandemic, aged 18–65. All models include monthly fixed effects. Robust standard errors are in parentheses.
[a] Statistical significance at the 1% level,
[b] 5% level, and
[c] 10% level. Data source: EVENS.

and loss of working hours by 13.0 (6.2) and 11.1 (3.2) percentage points (Table 3), increase the probability of loss of individual pay and loss of household income by 8.1 (20.7) and 10.8 (14.6) percentage points (Table 4), and increase the probability of loss in financial well-being by 12.0 (7.1) percentage points (Table 5).[4]

The second important point to notice in Tables 3–5 is that moving from the base to the full model specifications changes the size of the ethnic group differentials. This observation is important because it suggests that our control variables explain the base group differentials. However, Tables 3–5 only provide information on the combined effect of all control variables on the size and direction of the effect in the base ethnic group differentials.

[4] Slightly fewer observations are for the financial well-being outcome variable in the estimation sample.

Table 4. Pay and household income loss probabilities by ethnic group and gender.

	Men				Women			
	Pay^{base}	Pay^{full}	$HHInc^{base}$	$HHInc^{full}$	Pay^{base}	Pay^{full}	$HHInc^{base}$	$HHInc^{full}$
White Other	1.508	−4.492	1.897	−0.999	−0.746	−2.034	−0.800	−1.089
	(2.556)	(6.582)	(3.603)	(4.804)	(2.484)	(3.129)	(4.105)	(4.990)
G/T/R	9.118	2.856	19.478[b]	1.675	−6.901[a]	−16.328[a]	4.735	−7.625
	(6.631)	(6.927)	(9.615)	(10.162)	(2.417)	(5.877)	(15.119)	(20.729)
Jewish	1.226	−1.044	16.122[b]	15.910[b]	0.062	−6.245[b]	−4.638	−7.191
	(3.075)	(3.528)	(6.720)	(7.313)	(2.333)	(3.138)	(4.619)	(5.004)
Indian	1.038	−2.237	5.017	4.380	0.879	−1.962	−2.483	−0.945
	(2.276)	(3.823)	(4.034)	(4.293)	(3.084)	(3.033)	(4.770)	(4.487)
P/B	5.275	1.348	7.721[c]	4.336	2.992	0.631	−5.922	−3.093
	(3.494)	(4.294)	(4.543)	(4.341)	(4.739)	(5.032)	(4.694)	(4.744)
Chinese	2.652	−1.578	12.006[b]	10.441[c]	0.016	−1.523	11.427[c]	12.061[c]
	(3.862)	(5.179)	(5.512)	(5.895)	(2.932)	(3.230)	(6.912)	(6.631)
BC	−2.354	−3.569	13.168[b]	13.045[b]	5.286	3.974	−3.723	−3.424
	(2.599)	(2.862)	(5.436)	(5.358)	(4.628)	(4.711)	(5.200)	(5.272)
Black African	4.017	−1.198	6.671	5.344	6.862	4.690	−5.450	−3.750
	(2.912)	(5.323)	(4.650)	(5.017)	(4.187)	(4.155)	(4.724)	(5.188)
Age		−0.511		0.883		0.536		0.892
		(0.580)		(0.819)		(0.535)		(0.925)
Age^2		0.004		−0.009		−0.008		−0.009
		(0.006)		(0.009)		(0.006)		(0.011)
Immigrant		6.207		1.953		−0.688		1.202
		(7.310)		(3.681)		(2.255)		(4.008)
Married		2.104		0.208		0.991		−9.906[a]
		(2.400)		(2.987)		(1.832)		(2.811)
University		−1.127		−7.615[a]		−2.601		−7.044[b]
		(2.089)		(2.495)		(1.669)		(2.847)
Self-employed		8.052[a]		30.718[a]		25.682[a]		35.975[a]
		(2.719)		(5.034)		(5.921)		(5.536)
Flex contract		8.090[c]		20.746[a]		10.781[a]		14.608[a]
		(4.253)		(5.654)		(3.624)		(4.651)
Service		3.622		11.638[b]		0.682		3.101
		(3.943)		(4.556)		(2.500)		(3.269)
London		2.249		3.852		5.238[b]		−0.037
		(2.467)		(3.655)		(2.578)		(3.567)
R^2	0.025	0.056	0.015	0.105	0.007	0.115	0.014	0.103
Observations	2,866	2,866	2,866	2,866	3,298	3,298	3,298	3,298

Notes: Linear probability models for those employed before the pandemic, aged 18–65. All models include monthly fixed effects. Robust standard errors are in parentheses.
[a] Statistical significance at the 1% level,
[b] 5% level, and
[c] 10% level. Data source: EVENS.

To capture each individual control variable's contribution to changing the ethnic group differentials in the base model, we turn to the Gelbach (2016) decomposition.

6.3 Decomposition results

Figures 2–5 provide the main results of our analysis. In all four figures, the point estimates capture the variable's individual contribution to the base ethnicity differentials by gender based on the Gelbach decomposition.

Two key figures support our argument that it is not necessarily the type of occupation but rather the type of contract that disproportionately affected some ethnic minority

Table 5. Probabilities of loss in financial well-being by ethnic group and gender.

	Men		Women	
	Fin.Well – Being^{base}	Fin.Well – Being^{full}	Fin.Well – Being^{base}	Fin.Well – Being^{full}
White other	0.830	−3.567	−2.079	−4.063
	(3.021)	(4.405)	(3.272)	(4.427)
G/T/R	8.090	1.125	18.845	13.181
	(6.633)	(7.180)	(15.631)	(18.475)
Jewish	2.156	3.350	−2.965	−4.158
	(3.986)	(4.002)	(3.479)	(3.892)
Indian	4.091	2.672	−3.834	−3.366
	(3.163)	(3.630)	(3.558)	(3.733)
P/B	8.104[b]	5.437	−3.189	−1.068
	(3.685)	(3.659)	(3.888)	(3.926)
Chinese	8.405[c]	5.561	−5.646	−6.680
	(4.462)	(4.948)	(5.549)	(5.309)
BC	7.407[c]	8.907[b]	1.360	0.760
	(4.093)	(4.152)	(3.935)	(4.059)
Black African	6.927[c]	4.537	−6.563[b]	−6.406[c]
	(3.787)	(4.354)	(3.111)	(3.728)
Age		1.381[b]		0.556
		(0.589)		(0.791)
Age^2		−0.016[b]		−0.004
		(0.007)		(0.009)
Immigrant		6.024		3.209
		(3.663)		(3.958)
Married		0.085		−6.594[a]
		(2.354)		(2.471)
University		−2.362		−3.493
		(1.912)		(2.356)
Self-employed		10.477[b]		15.849[a]
		(4.307)		(5.206)
Flex contract		12.025[a]		7.089[c]
		(4.394)		(4.296)
Service		7.851[c]		1.331
		(4.189)		(2.877)
London		−4.950[b]		0.124
		(2.003)		(2.799)
R^2	0.010	0.044	0.007	0.043
Observations	2,844	2,844	3,271	3,271

Notes: Linear probability models for those employed before the pandemic, aged 18–65. All models include monthly fixed effects. Robust standard errors are in parentheses.
[a] Statistical significance at the 1% level,
[b] 5% level, and
[c] 10% level. Data source: EVENS.

groups adversely during the COVID-19 recession compared to the White British majority: the flexible contract and service job estimates, respectively, in Figs 2 and 3.

Looking at Fig. 2 in more detail, we observe a heterogeneous effect of contract type on the base ethnicity differentials. Importantly, Indian, P/B, Chinese, and Black African men tend to be adversely affected by flexible contracts across all five outcomes with an increased incidence of 1 to 2 percentage points at the 10 per cent significance level compared to White British. Similar results hold for White Other, Chinese, and Black African women. In contrast, Fig. 3 offers no evidence that job type in the form of shutdown service jobs economically and statistically contributed to the base ethnicity differentials.

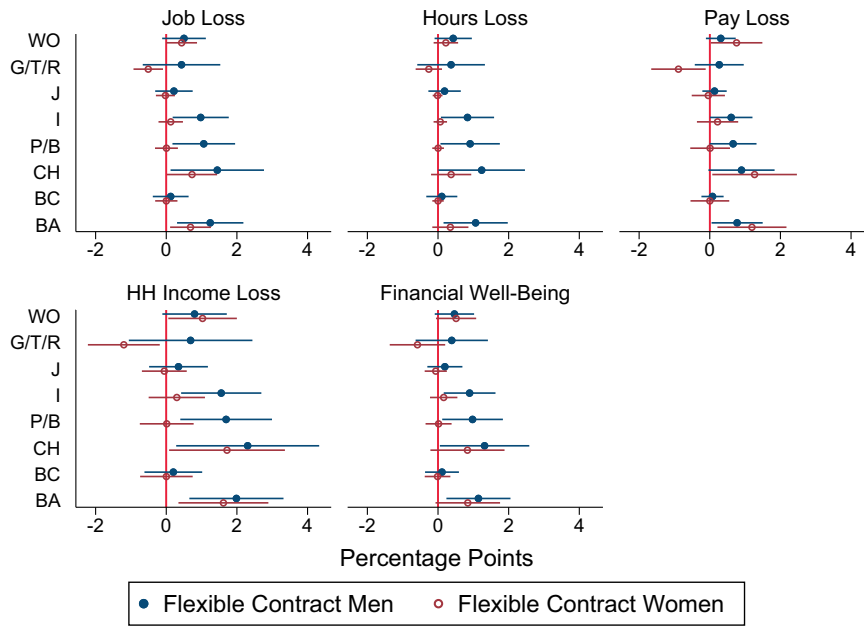

Figure 2. Contribution of flexible contracts to ethnic differentials by gender.

Note: Gelbach (2016) decomposition based on the full and base linear probability models for those employed before the pandemic, aged 18–65 years. All full models nest the base model with ethnic differentials and monthly fixed effects, and additionally include a quadratic in age, immigrant status, marital status, university education, self-employment status, flexible contract type, service job type, and London residence status. Robust 90% CI. Data source: EVENS.

To consider the robustness of our results, we use our granular service job specification in addition to a four-digit occupation fixed effects model. It is important to point out that our conclusion on the heterogeneous effects of contract type is robust to our choice of job-type specification, that is, the contributions of the flexible contract variable on the base differentials, do not vary with our job measures. Using the Gelbach (2016) decomposition again, the combined effect of the granular service jobs and the combined effect of all the four-digit fixed effects in Fig. 4 and 5 also fail to produce a statistically significant effect on the base differential as the binary service job indicator. In other words, our evidence suggests that those ethnic minority groups that are more likely to be on flexible contracts than the White British majority suffer more from job loss, working hours loss, pay loss, household income loss, and overall financial well-being loss during the UK COVID-19 recession than their White British counterpart across gender.

7. Concluding discussion

This article shows that flexibility in work arrangements affected economically vulnerable workers adversely during a major economic crisis. We argue that the employment contract type (temporary or zero-hours) may be more important than occupational composition effects during the COVID-19 recession. Since some ethnic minority groups experience a higher propensity to hold flexible contracts, the economic downturn exacerbates pre-existing ethnic economic inequalities.

We define eight major minority groups in the UK and compare them to our reference group White British. We also construct an empirical equivalent to flexible contracts (working on a temporary or zero-hours contract). The Gelbach (2016) decomposition forms the

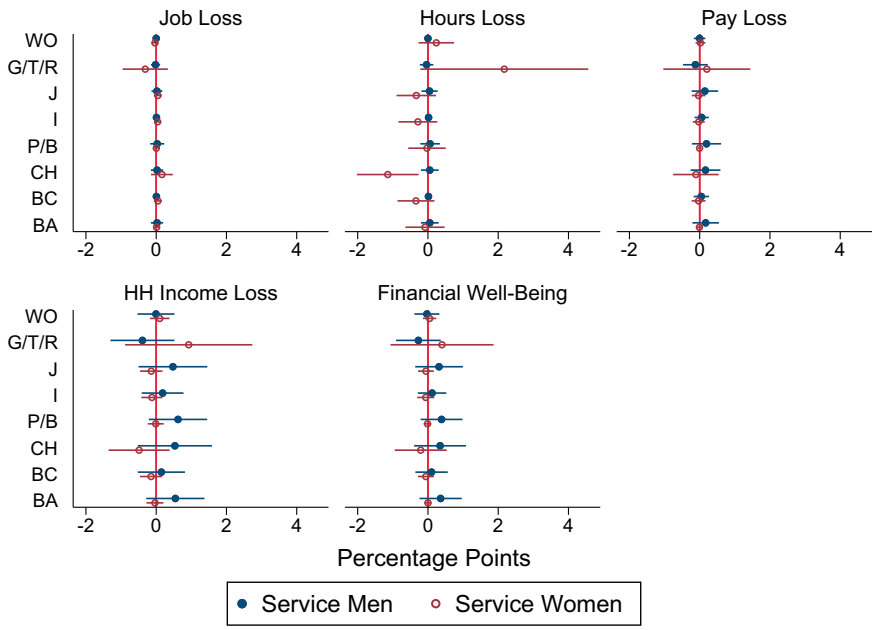

Figure 3. Contribution of service jobs to ethnic differentials by gender.

Note: Gelbach (2016) decomposition based on the full and base linear probability models for those employed before the pandemic, aged 18–65 years. All full models nest the base model with ethnic differentials and monthly fixed effects, and additionally include a quadratic in age, immigrant status, marital status, university education, self-employment status, flexible contract type, service job type, and London residence status. Robust 90% CI. Data source: EVENS.

main part of our empirical analysis. We find that Indian, P/B, Chinese, and Black African men were more likely to hold flexible contracts than the White British group, and that White Other, Chinese, and Black African women also experienced a higher propensity to be in these atypical work arrangements. This higher incidence of atypical work corresponded to their greater likelihood of loss of jobs, working hours, individual pay, household income, and financial well-being than the White British group during the COVID-19 pandemic.

With regard to the current literature on the differential effects of the pandemic on ethnic groups in the UK, the emphasis has been on the disproportionate representation of some ethnic groups in particular industries or occupations, also called composition effects. The idea is that some occupations were more affected by economic shutdowns than others during the course of the pandemic and where this included occupations with an over-representation of ethnic minority workers it would then lead to more adverse economic outcomes for ethnic minority groups on average. Most of these studies used data from shortly before the outbreak of the crisis in March 2020 to predict potential economic effects across ethnic groups.

In contrast to the current literature on the unequal effects of the pandemic on ethnic groups, we find some evidence that it is the type of employment contract and not the type of occupation that may be correlated with higher ethnic inequalities in economic outcomes for some ethnic minority groups during COVID-19. Whereas some degree of flexibility in employment contracts may be efficient during normal economic times, we conclude that in times of crisis, flexibility may leave those in atypical work arrangements economically vulnerable, in particular some members of the ethnic minority community.

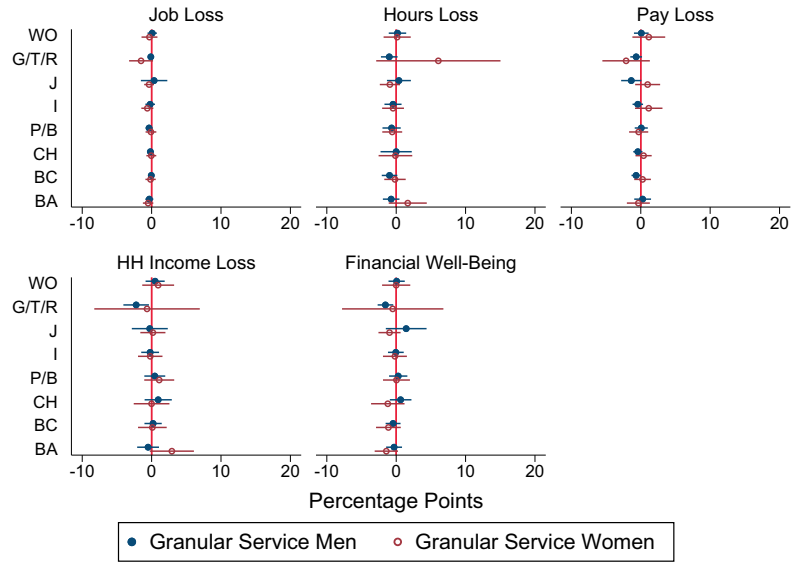

Figure 4. Contribution of granular service jobs to ethnic differentials by gender.

Note: Gelbach (2016) decomposition based on the full and base linear probability models for those employed before the pandemic, aged 18–65 years. All full models nest the base model with ethnic differentials and monthly fixed effects, and additionally include a quadratic in age, immigrant status, marital status, university education, self-employment status, flexible contract type, granular service job type, and London residence status. Robust 90% CI. Data source: EVENS.

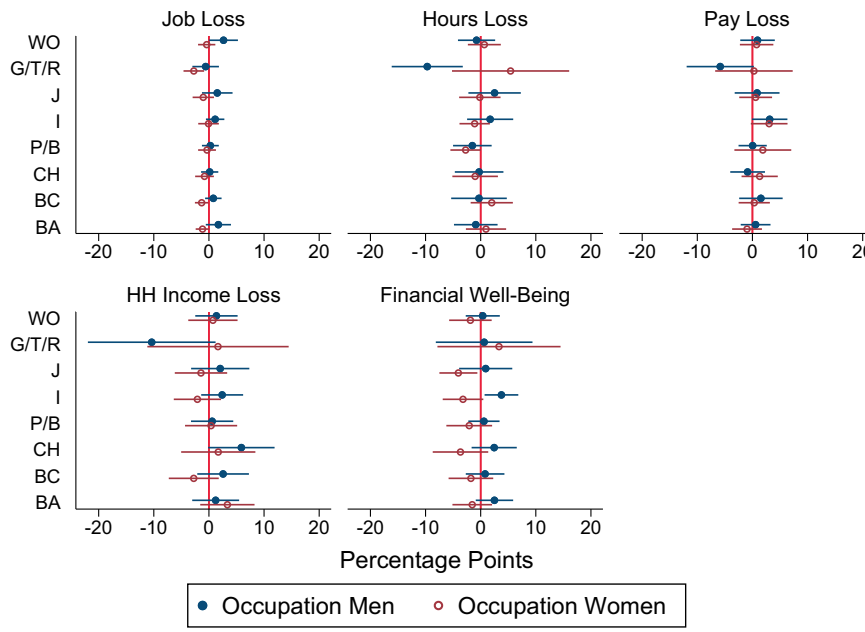

Figure 5. Contribution of four-digit occupations to ethnic differentials by gender.

Note: Gelbach (2016) decomposition based on the full and base linear probability models for those employed before the pandemic, aged 18–65 years. All full models nest the base model with ethnic differentials and monthly fixed effects, and additionally include a quadratic in age, immigrant status, marital status, university education, self-employment status, flexible contract type, four-digit occupation fixed effects, and London residence status. Robust 90% CI. Data source: EVENS.

The UK government's job retention scheme covered all employment contracts de jure; yet, de facto those on flexible contracts, and hence disproportionately those in the ethnic community, were probably left behind. In policy terms, this suggests that tailored economic and social policies might be needed for this group of workers to mitigate further (ethnic) inequalities in future recessions.

Supplementary material

Supplementary material is available at the *Oxford Economic Papers Journal* online. These are the replication files and the Online Supplementary Appendix. The data used in this article are available from: Finney, N., Nazroo, J., Shlomo, N., Kapadia, D., Becares, L., Byrne, B. (2023). Evidence for Equality National Survey: a Survey of Ethnic Minorities During the COVID-19 Pandemic, 2021. [data collection]. UK Data Service. SN: 9116, DOI: http://doi.org/10.5255/UKDA-SN-9116-1. Additional information is also available at https://reshare.ukdataservice.ac.uk/857254/.

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Conflict of interest statement. K.C. is not representing the formal position of the Bank of England.

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