Institute for Fiscal Studies

Thomas F. Crossley
Paul Fisher
Peter Levell
Hamish Low

Working paper
21/39

A year of COVID: the evolution of labour market and financial inequalities through the crisis

Nuffield Foundation

Economic and Social Research Council

A Year of COVID: the Evolution of Labour Market and Financial Inequalities through the Crisis*

Thomas F. Crossley† Paul Fisher‡ Peter Levell§ Hamish Low¶

November 10, 2021

Abstract

We use new, high-quality UK panel data to document the economic impacts of the COVID-19 pandemic at an individual level, from April 2020 to March 2021. We focus on where and to what extent pre-existing labour market and financial inequalities have been exacerbated. Our story is more nuanced than earlier papers focusing on the start of the pandemic. To March 2021 some inequalities worsened, but others did not, and in some cases, a widening of labour market inequalities in the first wave of the pandemic was subsequently reversed. We find no evidence of divergence in employment outcomes by gender. On the other hand, the first wave of the pandemic impacted the employment of ethnic minorities, the young, and those with less formal education, but these differential impacts had largely abated by March 2021. By various measures, financial position and living standards strengthened, not only for the affluent, but also for middle deciles of the long-run income distribution, although those at the very bottom of the income distribution were more likely to report a decline in net wealth over the course of the pandemic.

Keywords: COVID-19, Savings, Inequality

JEL codes: C83, D31, J63

*This research was funded by the Nuffield Foundation under the grant "Saving, Spending and financial resilience in the wake of the pandemic" (WEL/FR-000023226). The Nuffield Foundation is an independent charitable trust with a mission to advance social wellbeing. The Foundation has funded this project, but the views expressed are those of the authors and not necessarily the Foundation. Visit www.nuffieldfoundation.org. Levell also acknowledges Co-funding from the ESRC-funded Centre for the Microeconomic Analysis of Public Policy at IFS (grant number ES/T014334/1). In addition to the authors, there is a core team central to the collection and preparation of the *Understanding Society* COVID-19 Study, which included in particular Michaela Benzeval, Jon Burton and Annette Jäckle. Jamie Moore at the University of Essex collaborated on the weights that are used with the COVID-19 Study. Further details and initial analysis of the *Understanding Society* COVID-19 Study is available in Benzeval et al. (2020b). The Study is funded by the Economic and Social Research Council (ES/K005146/1) and the Health Foundation (2076161). Fieldwork for the survey is carried out by Ipsos MORI and Kantar. Understanding Society is an initiative funded by the Economic and Social Research Council and various Government Departments, with scientific leadership by the Institute for Social and Economic Research, University of Essex. The research data are distributed by the UK Data Service. We are grateful to Alexandra Brown for research assistance. All errors are our own.

†European University Institute, IFS, ESCoE and *Understanding Society* (email: thomas.crossley@EUI.eu).

‡ISER, University of Essex and *Understanding Society* (email: pfishe@essex.ac.uk).

§Institute for Fiscal Studies (email: peter_l@ifs.org.uk).

¶University of Oxford, IFS and *Understanding Society* (email: hamish.low@economics.ox.ac.uk).

1 Introduction

In common with the rest of the world, the UK has been through an historical health shock with widespread economic implications. In the second quarter of 2020, GDP fell by 13.5% - more than at any time since the great depression - and total hours worked fell by 18% (Office for National Statistics, 2021b,a). And yet, at the same time, the savings rate peaked at over 29%. These apparently in-congruent aggregate patterns beg the question of what has transpired at the individual level and across the income distribution, and further how these patterns changed as the pandemic evolved.

We use new, high-quality panel data to document the economic impacts of the pandemic at an individual level, and in particular where and to what extent pre-existing labour market and financial inequalities have been exacerbated. We track the same set of individuals through the pandemic, from February 2020 to March 2021, asking questions on their economic situation on a near-monthly frequency. This panel has two advantages: first, we are able to see how different groups adapted (or not) to the changed circumstances of the pandemic; and second, we are able to observe individual transitions, for example across firms and industries, and use these to understand aggregate movements. The high-frequency and longitudinal COVID-19 Study links to individuals' long-run, pre-pandemic economic status through *Understanding Society*, the UK's long-running annual household panel. This link provides important contextual information for pandemic experiences, such as long-run income. This link also allows for highly credible population inferences.

We focus on three main issues: the evolution of individual labour market experiences; saving, borrowing and changes in net wealth; and individuals' subjective evaluations of their financial situation.

Starting with the labour market, COVID increased inequalities in some dimensions but not in others. Of those that increased, some of the initial increases reversed as the pandemic progressed. Unlike studies of the US (Albanesi and Kim (2021)), we find no evidence of divergence in employment outcomes by gender during the pandemic. The first wave of the pandemic had a particular effect on the employment of ethnic minorities, the young, and those with less formal education, but these differential impacts had largely abated by March 2021.

The widespread furloughing of workers meant that the pandemic's impacts on employment and its impact on average hours worked could be quite different across groups. Despite greater declines in employment, ethnic minorities saw smaller declines in average hours worked than the white ethnic majority, as they were relatively less likely to be furloughed but relatively more likely to become unemployed at the start of the pandemic (Crossley, Fisher, and Low, 2021). The average

gap in hours worked between men and women also decreased during the pandemic, as men's hours fell by more, especially during the first lockdown. However, conditional on working in the same occupations before lockdown, women were more likely to see their hours fall to zero than men. This was particularly true for married women with children, suggesting the distribution of childcare responsibilities within households may have played role. Workers under 30 initially saw greater declines in employment than workers aged over 50, but the two groups saw similar declines in the proportion working positive hours and in average hours worked. Those aged over 50 however saw continuing falls in employment and a much weaker recovery in hours worked than other age groups as the pandemic progressed. The faster recovery in positive hours among younger workers is partly explained by the fact that among those who stopped working positive hours in the first lockdown, younger workers were more likely to resume working by March 2021, and in particular to find work with new employers and in new industries.

Workers in manufacturing, wholesale and retail trade, and hospitality were hit badly at the beginning of the pandemic (in terms of the proportions working positive hours). However, the proportions working positive hours in manufacturing and wholesale and retail trade had largely recovered by the summer of 2020. Manufacturing workers mostly remained with their previous industry and employer, while many workers in wholesale and retail trade were more likely to resume working positive hours in new jobs. Workers in the hospitality industry were far less likely than other workers to have resumed working positive hours even after a year. Those on insecure contracts were also badly hit initially and had not yet recovered a year on.

Turning to saving, borrowing and wealth, savings rates have risen markedly compared to pre-pandemic rates, but not for the poorest 30% of the long-run income distribution, and it is the richest whose savings rates have risen the most. Mirroring these savings increases, about 25% of individuals across the distribution repaid debt, except in the bottom decile where the fraction increasing debt dominated. These developments are reflected in changes in net wealth: in the bottom deciles of the distribution, the fraction seeing a decline of more than 10% is greater than the fraction seeing an equivalent gain. But above the third decile, those experiencing a gain of more than 10% exceeded those experiencing a loss of that magnitude, with the differential increasing further up the distribution. On the one hand, wealth inequality increased through the pandemic, but on the other, net wealth increased quite far down the long-run income distribution.

Finally, the fraction of individuals who said they are managing comfortably or alright was higher in the pandemic than pre-pandemic and increased as the year progressed. Similarly, the fraction that said they were finding it difficult fell in the pandemic and continued to fall through the year. These

patterns are observed for all quintiles of the long-run income distribution, but are particularly strong for the *lowest* quintile of the long-run income distribution. Thus, individuals' subjective evaluations of their situation evolved in much more positive ways than the labour market shocks would imply. Moreover, inequality in this measure of financial security narrowed. However, these averages disguise within-quintile heterogeneity. Those in the bottom income quintile were more likely to report both increases and decreases in their financial satisfaction than those in the richest income quintile.

Overall, we find a nuanced and sometimes surprising story. Clearly, the full economic impacts of the pandemic and associated policy responses are yet to be realized. But to March 2021, while some inequalities worsened, some of those initial movements were reversed, and in some dimensions there was no widening at all. By some measures, financial position and living standards had strengthened, not only for the affluent, but also much further down the long-run income distribution.

In the immediate aftermath of the onset of COVID, there were a substantial number of papers written documenting the initial impacts. For the US, Albanesi and Kim (2021) document the sharp early rises in unemployment, and Montenovo et al. (2020) and Zamarro and Prados (2021) highlight that these rises were particularly among women where labour force participation had fallen markedly. On spending behaviour, Chetty et al. (2020) show for the US how concern about health led to suppressed consumption and economic hardship. For the UK, the picture is somewhat different. Crossley, Fisher, and Low (2021) and Adams-Prassl et al. (2020) document the heterogeneity in the initial impacts on labour markets. Crossley, Fisher, and Low (2021) and Hupkau and Petrongolo (2020) show that, unlike the US, there is very little difference in outcomes for paid work between men and women. In terms of spending, Hacıoğlu-Hoke, Känzig, and Surico (2021) document the heterogeneous consumption effects. However, all these papers for the UK are focused on the very start of the pandemic. Relative to this literature, the key contributions of this paper, therefore, are firstly that we are able to show the paths of labour markets and financial resilience as the pandemic evolved through 2020 and 2021, rather than just the initial impacts. This matters because the consequences of the pandemic, particularly for various inequalities, changed substantially over the year. Second, we combine measures of labour market outcomes with financial outcomes and subjective measures to give a full picture of economic resilience and inequality through the pandemic. Finally, our results are based on data that support population inferences.

The rest of the paper proceeds as follows. Section 2 lays out context, data and methods. Sections 3, 4 and 5 present the main results on individual labour markets, saving and wealth, and overall financial satisfaction, respectively. Section 6 concludes.

2 Context, Data and Methods

2.1 The UK Policy Context

The backdrop to our analysis is how the UK government imposed various closures on the UK economy, and also how the government supported workers and households. The UK went into the first "lockdown" on 23rd March 2020, and the economy contracted substantially in March and April. The economy then began to grow again as measures were relaxed. Measures began to tighten from early September 2020 with a second lockdown starting on 5th November for four weeks, and then a third starting on 6th January until the end of March. As outlined below, our panel data provides data from before the first lockdown until the end of the third.

To provide economic support, the UK government introduced the Job Retention Scheme on March 20th 2020, soon followed by the Self-Employment Support Scheme. Workers on the Job Retention Scheme were "furloughed" by their firms: initially, 80% of pay would be covered by a government subsidy, subject to a maximum of £2500, and this was conditional on the worker not providing any hours of work. As a result, rates of unemployment remained just above 4% through the first wave of the pandemic (Office for National Statistics, 2021a). Through the rest of the year, the generosity of the furlough scheme was reduced and from July 2020, employees were allowed to be partially furloughed. Variants of the furlough scheme remained in place until the end of September 2021. At its peak in May 2020, there were 9 million workers furloughed, but even in April 2021, there were still over 4 million (HM Revenue and Customs, 2021). In contrast to the furlough scheme, the US provided support operated through additional payments to the unemployed and through tax credits, and the reported unemployment rate rose to 14% (Bureau of Labor Statistics, 2021). The UK government also provided new incentives for firms to hire younger workers through a 'Kickstart' scheme introduced in September 2020. This subsidised the wage costs of workers aged 19-24 who hired from unemployment. By August 2021, 63,000 kickstart jobs has been created (HM Government, 2021).

On the financial side, the government induced banks to offer mortgage payment holidays from 17th March 2020 for 3 months. These payment holidays were then extended throughout the year. For those renting, there was a ban on rental repossessions. Unlike the US, there were no tax rebates for households, and the partial VAT cut brought in by the UK government from July 2020 only covered restaurants and accommodation.

To summarise, through most of the year after the start of the pandemic, the focus of government support was on keeping workers in jobs, rather than stimulating the economy. The limited attempts

to stimulate the economy were, each time, knocked back by increasing COVID restrictions, and through August 2021, UK GDP had only recovered to 96% of its pre-COVID level (Office for National Statistics, 2021b).

2.2 The COVID-19 Study

Our analysis is based on the eight waves of the the *Understanding Society COVID-19* Study (henceforth COVID-19 Study). These were fielded in the last weeks of April, May, June, July, September, and November 2020, and of March 2021. Individuals answering a COVID-19 Study survey for the first time were also asked retrospective questions about the period just preceding the onset of the pandemic (February 2020), so that together these eight waves provide a panel data set spanning over a year, including the first full year of the pandemic and a pre-pandemic baseline.

The COVID-19 Study is built upon *Understanding Society*: the UK Household Longitudinal Study (henceforth the Main Study). The Main Study (University of Essex Institute for Social and Economic Research, NatCen Social Research, and Kantar Public, 2019) is the UK's longitudinal Household Survey. It is a mixed-mode survey, collecting data from participants annually by face-to-face or web interview, and it is one of the largest household panel studies in the world. It began in 2009 but carries on from the earlier *British Household Panel* survey which ran from 1991 to 2008. The COVID-19 Study employs more frequent web surveys to record the experiences and behaviour of Main Study participants during the COVID-19 pandemic. Each web survey is designed to take about 20 minutes to complete and has a mix of repeating and rotating content.

All individual members of the Main Study who were aged sixteen or over in April 2020, and who belonged to active households, were invited to participate in the COVID-19 Study.[1] On April 17 potential respondents were sent a pre-notification letter introducing the study and offering a small incentive for each web survey they completed. Subsequently, invitations to each web survey were sent by email and/or SMS text message, or by post. The fieldwork period for each web survey lasted seven days, and reminders were sent on days 2, 3, and 6.

For our analysis, the fact that the COVID-19 Study follows participants from the *Understanding Society* Main Study has two key advantages. First, respondents to the COVID-19 study can be linked to data they provided to Main Study, in some cases for a decade more. Such data provides important context to the data collected during the pandemic. We can document not only how economic impacts of the pandemic vary across individuals but how those impacts vary by pre-pandemic economic position.[2] In particular, we created a measure of "average pre-COVID-19 income" as our

[1] An active household is one that participated in at least one of the last two waves of the main study.

[2] A future benefit, not exploited in the current paper, will be the ability to link COVID-19 Study data to data

key marker of economic position. This measure averages equivalized household net income across up to three previous waves of the Main Study, and assigns individual respondents to quintiles of income on that basis.[3] Net income includes earned and unearned income, net of tax and inclusive of any benefits received. It is important to note that the COVID-19 study is individual-based, and supports inferences about the distribution of income (for example) across adults rather than across households. Household income and other household-level variables are viewed as attributes of individuals. We aim to draw inferences about the economic impacts of the pandemic on the UK population. The second key advantage of the COVID-19 Study tracking participants from the *Understanding Society* Main Study is that it facilitates credible population inferences. The Main Study is based on probability samples, achieves year-on-year retention rates of 85-90%, and maintains a sophisticated weighting strategy to deal with deliberate initial over-sampling of some subpopulations and with subsequent attrition. That strategy has been developed, tested and positively assessed over many years (see Benzeval et al. (2020a) for a review). The implication is that the *issued* sample for the COVID-19 Study is known to provide a strong basis for population inferences.

Of course, not all of those who were invited to the COVID-19 Study subsequently participated. Among those who had completed an annual interview in the last complete wave of the Main Study (Wave 9) the first two waves of the COVID-19 Study achieved response rates of 49%, with subsequent waves declining somewhat (full details are in Institute for Social and Economic Research (2020b)). These retention rates are significantly below those that the Main Study achieves. This is unsurprising given that the COVID-19 Study necessarily has a more restricted interview mode and a much shorter fieldwork period in which participants can respond. It is worth noting that these response rates are comparable to the response rates of large government surveys in the UK.[4] Nevertheless, a very significant effort has been made to model, and correct for, selection into the COVID-19 Study. In this effort, the ability to link each respondent and, crucially, each non-respondent to their Main Study data is valuable in two ways. First, selection into the COVID-19 Study is modelled using the rich background information available for each respondent and non-respondent. Retention predictors are chosen from a large set of potential variables and are selected using Least Absolute Shrinkage and Selection Operator (LASSO) with tuning parameters chosen by minimizing the Extended Bayesian Information Criterion (EBIC). Estimated retention probabilities are then used to

from *future waves* of the Main Study to study the long run impacts of the pandemic.

[3] 95 percent of the sample uses the full 3 observation average, 4 percent uses 2 observations and the remaining cases use one observation only.

[4] For example, the Labour Force Survey has a response rate of about 55% at the first wave, falling with subsequent waves and about 40% overall. The Family Resources Survey, which is the basis for official income statistics, had a response rate of 52% in 2017/18.

adjust each respondent's Main Study weight to account for differential selection in the COVID-19 Study. The result is a set of inverse probability weights (IPWs) for inclusion in the COVID-19 Study that support inferences about the same (UK) population as the Main Study. The same methods are applied to develop both longitudinal weights (for the COVID-19 Study as a whole) and cross-sectional weights (for each wave of the COVID-19 Study). The development of these weights is described in detail in Benzeval et al. (2021).

The second role of the linked Main Stage data is to allow for evaluation of the COVID-19 weighting strategy. Consider any population parameter that can be estimated in the Main Study data. This could be a mean, a higher moment, or regression slope involving variables collected in the Main Study. Such a statistic can now be estimated in one of two ways: with the full sample of Main Study participants and associated Main Study weights, or with the subset of Main Study participants that responded to the COVID-19 Study with the COVID-19 Study weights. Under the (joint) null that each set of weights captures the inclusion probabilities for the respective samples, both estimators should be consistent for the parameter of interest. They should therefore be "close". Crossley, Fisher, and Low (2021) and Benzeval et al. (2021) report formal statistical tests based on this intuition, applied to the COVID-19 Study. Those tests demonstrate two things. First, the COVID-19 Study IPWs work very well. Crossley, Fisher, and Low (2021) and Benzeval et al. (2021) find limited bias, relative to Main Study estimates, across a range of target parameters. Second, Crossley, Fisher, and Low (2021) and Benzeval et al. (2021) use the same testing strategy to evaluate "calibration" weights that scale COVID-19 respondents to weighted Main Study wave 9 cell frequencies, with cells defined by age, gender and education. This is of interest because a number of other web surveys fielded during the pandemic use non-probability samples combined with such calibration weights (for example, Adams-Prassl et al. (2020)) or quota samples targeting similar cell benchmarks (for example Belot et al. (2021)). The COVID-19 Study IPWs should be expected to significantly outperform simpler calibration weights, because they draw on a much richer set of predictors, selected by machine learning methods. Crossley, Fisher, and Low (2021) and Benzeval et al. (2021) confirm this empirically, by direct comparison of these weighting strategies. They find that, at least in the case of the COVID-19 Study, calibration weights lead to many more statistically and economically significant biases. Of course, the COVID-19 Study IPW strategy is only possible because of the link to the long-running Main Study; similar options were often unavailable to other studies.

Additional information on the *Understanding Society* COVID-19 Study can be found in Institute for Social and Economic Research (2020a) and Institute for Social and Economic Research (2020b).

2.3 Sample and Methods

Respondents to the first 8 waves of the COVID-19 Study number 19,763 unique individuals. However, of these only 15,364 individuals have a nonzero Wave 9 Main-Study, which is necessary to produce an adjusted COVID-19 Study weight. Hence, only these respondents contribute to weighted estimates of population parameters. We further restrict our sample to 10,986 individuals of working age. Of these, 10,374 have complete information on hours, gender, age, ethnicity, qualification, long-run income (defined) above. This is our final analysis sample. Note, however, that not all COVID-19 Study participants responded to all waves. Our final samples by wave are: 9,233; 8,086; 7,668; 7,501; 6,992; 6,487; 6,406; and 6,989. All estimates are weighted. In the analysis below, we use this unbalanced panel and the available cross-section weights for each wave to make monthly estimated. We have replicated our analysis with the balanced panel and available COVID-19 Study longitudinal weights (that is, a single set of weights for all waves), and find very similar results.[5] Standard errors are also appropriately adjusted for survey design effects.

We present the data in several ways. First, graphically, showing effects by time through the first year of the pandemic, and by demographic (gender, age, ethnicity, education) and economic group (job characteristics, and position in the long-run income distribution). Secondly, we run "difference-in-difference" type regressions with time effects, group effects and their interaction, to test whether changes in inequalities (widening or narrowing of gaps) are statistically significant. Finally, we show the transitions between occupations and industries as a way to understand aggregate movements.

3 Labour Markets and Earnings

We begin by showing how labour market outcomes have evolved from before the pandemic in February 2020 through to the end of March 2021. Our main focus is on the fraction working positive hours, as distinct from the fraction employed. Many of those classed as employed worked zero hours because of the UK government furlough scheme whereby the government paid the wages of workers, so they remained employed but without working any hours.

We start by showing how shocks differed by the characteristics of the job and occupation. We then turn to showing the labour market shock differed according to the characteristics of individuals, in terms of gender, ethnicity, age and education, respectively. We then look at the pattern of those working positive hours by income decile.

[5] Available on request.

Differences by job type

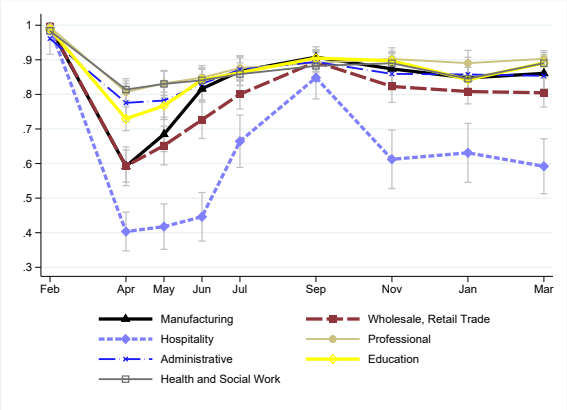
In Figure 1, we take the subsample of those employed in February 2020, and focus on how the fraction working positive hours evolves, split the sample by their job characteristics pre-pandemic. Specifically, we show industry (panel a); occupation (panel b) and contract characteristic (panel c).

All occupations and industries experienced a sharp decline in labour market activity at the time of the first lockdown. There were particularly large declines in work after the initial lockdown in retail, manufacturing and hospitality. There was then recovery across all industries by September, albeit not to pre-pandemic levels. The effects of the subsequent lockdowns between November and March were very different from the first: for most industries, there was only a limited reduction in work, but hospitality was again badly hit. This difference across the lockdowns shows the extent that workers in industries, such as manufacturing and construction, were able to keep working, partly due to more targeted restrictions in the subsequent lockdowns and partly because of adapting work practices.

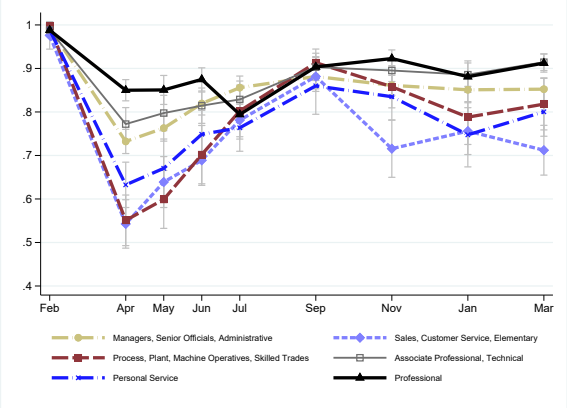
Between occupations, the initial labour market declines were most marked in direct contact occupations like sales, customer service and retail. However, workers in these occupations also recovered sharply through September, by which time there was little difference in the net effect across occupations. Across job types, declines were most marked for those in precarious employment, with a decline in the fraction working positive hours of 60 percentage points for those on zero hours contracts. Half of this initial decline had been recovered by September, followed by a partial reversal.

Workers also changed jobs and industries to find work, and there were substantial differences in the rate of job switching according to workers' initial industries and occupations. Table 2 and Table 3 in the Appendix report the proportions of those in different industries, occupations and demographic groups who changed either their employer or industry between February 2020 and March 2021. Table 4 in the Appendix shows the proportions of workers who were working zero hours in April 2020, and of those the proportions who had resumed working positive hours in March 2020, as well as the proportions who resumed working in a new job or a new industry. It shows that those initially working in the hospitality sector were much less likely than those in other industries to have resumed working in March 2021 reflecting the patterns in Figure 1. Of those who had resumed working positive hours in March 2021, more than half were working with a different employer. Those who stopped working in the wholesale and retail trade were more likely to resume working than those in the hospitality sector, but many were working in new jobs. 69% of those initially employed in this industry who had stopped working positive hours in April had resumed working in March 2021, but 35% had done so with new employers in and 20% in a new industry.

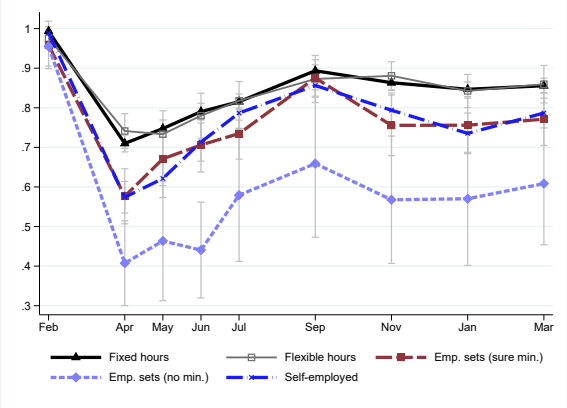
Figure 1: Labour Market Impacts by Job Characteristic



(a) Industry



(b) Occupation



(c) Job Type

Notes: Unbalanced panels of 7503, 7511 and 8362 individuals, respectively (with 1750 inapplicable because not working in February 2020). Shown is the share working "Positive hours" in a given month where "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. Industry and occupation are recorded at wave 9 (2017-18) of the main survey.

By contrast, manufacturing workers who stopped working positive hours in April 2020 mostly remained with their previous industry and employer if they resumed work. 75% of manufacturing workers who stopped working positive hours in April 2020 had resumed working in March 2021, 88% of whom with their previous employer and 96% in the same industry as they had been working in pre-pandemic.

Table 1: Labour market impacts: DID estimates

	(1) Employed	(2) +ve hours	(3) Hours
	A. Gender		
Apr 20 × Female	0.01	0.03	3.62***
	(0.01)	(0.02)	(0.58)
May 20 × Female	0.02	0.03	3.46***
	(0.02)	(0.02)	(0.71)
Mar 21 × Female	0.02	0.02	2.20**
	(0.02)	(0.02)	(0.73)
	B. Ethnicity		
Apr 20 × Ethnic Minority	-0.07*	0.05	2.62**
	(0.03)	(0.03)	(0.86)
May 20 × Ethnic Minority	-0.05	0.02	1.97
	(0.03)	(0.04)	(1.44)
Mar 21 × Ethnic Minority	0.00	0.06	4.10*
	(0.04)	(0.04)	(1.74)
	C. Age		
Apr 20 × 20-29	-0.05**	-0.08**	-1.05
	(0.02)	(0.02)	(0.88)
May 20 × 20-29	-0.08**	-0.06	0.36
	(0.03)	(0.03)	(1.20)
Mar 21 × 20-29	-0.00	-0.01	0.94
	(0.03)	(0.03)	(1.39)
Apr 20 × 50-65	-0.01	0.01	0.69
	(0.01)	(0.01)	(0.59)
May 20 × 50-65	-0.02	0.00	0.82
	(0.01)	(0.02)	(0.75)
Mar 21 × 50-65	-0.04*	-0.04*	-1.54*
	(0.02)	(0.02)	(0.75)
	D. Education		
Apr 20 × GCSE or lower	-0.03*	-0.09***	-2.63***
	(0.01)	(0.02)	(0.72)
May 20 × GCSE or lower	-0.00	-0.06*	-1.52
	(0.02)	(0.02)	(0.93)
Mar 21 × GCSE or lower	-0.02	-0.04	-2.08*
	(0.02)	(0.02)	(0.86)
Apr 20 × A-level	-0.01	-0.11***	-2.86***
	(0.01)	(0.02)	(0.66)
May 20 × A-level	-0.01	-0.06**	-1.78*
	(0.02)	(0.02)	(0.81)
Mar 21 × A-level	0.05*	-0.01	-0.07
	(0.02)	(0.02)	(1.00)

Notes: Unbalanced panel of 10,374 individuals. Each panel and column corresponds to estimates from a linear regression model where the outcome is regressed on group dummies, month dummies (8 dummies) and their interaction. Interactions for April and May 2020, and March 2021, are presented. The groups are: gender, ethnicity, age (20-29,30-49,50-65) and education (degree, A-level, GCSE or lower). The group dummies included in each regression model are defined by the category of the panel eg. the models in panel A include only a dummy for gender etc.. "Employed" is the fraction employed, where this includes both employees and the self-employed. "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. "Hours worked" is the mean weekly work hours where those not working are assigned zero hours.

Differences by individual characteristics

We now turn to considering impacts by different demographic characteristics. We report three measures of labour market outcomes: the fraction employed, the fraction working positive hours and average hours worked.

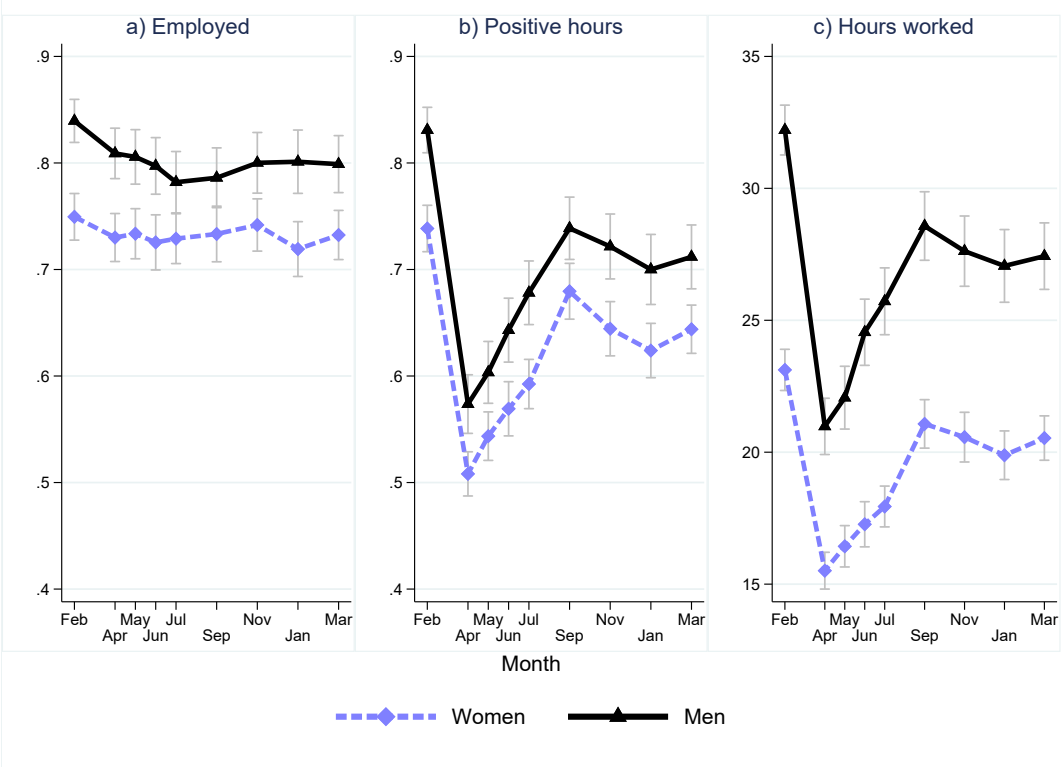
Table 1 reports regression analysis of the differential changes in outcomes across groups, with the coefficients representing the change in differences with the omitted group relative to the pre-pandemic baseline (February 2020). Each column corresponds to one of our three outcomes (employment, positive hours, hours) and within each column, each panel reports the interaction terms (interacting time with group) from separate "difference-in-difference" regressions.

In what follows, we discuss the differential labour market impacts by gender, ethnicity, age and education in more detail.

Differences by gender

Figure 2, and the first panel of Table 1, show that there are no marked differences in the impact on employment by gender. This is in contrast to the gendered impact of COVID seen in the US where women have been harder hit than men. Zamarro and Prados (2020) find that women were about 6 percentage points more likely than men to be unemployed in the 6 months after onset of COVID. The fractions of men and working positive hours also fell at similar rates, although the decline in average hours worked was greater for men, especially at the start of the pandemic.

Figure 2: Labour market impacts by gender



Notes: Unbalanced panel of 10,374 individuals. "Employed" is the fraction employed, where this includes both employees and the self-employed. "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. "Hours worked" is the mean weekly work hours where those not working are assigned zero hours.

Why were gender gaps in labour market impacts smaller in the UK? A key difference between the UK and the US is of course the fact that employment losses were in general smaller in the UK, where many workers were furloughed rather than made unemployed. The small gender gap in the proportion working positive hours could also be due to differences in the occupations men and women were employed in pre-pandemic. Figure 3 shows the proportion of workers in different occupations who are women and the share of workers in different occupations who stopped working (ie who went from positive to zero hours) in April 2020. At least initially, workers in occupations with more women were *less* likely to stop working. While women made up a large proportion of workers in some badly affected occupations - such as sales and customer service and personal service - women also account for a large fraction of administrative and secretarial workers, and associate professional workers that were more likely to remain working through the first lockdown. The occupations that saw the largest reductions in labour supply in the first lockdown - process, plant

and machine operatives and skilled trades - were disproportionately male.

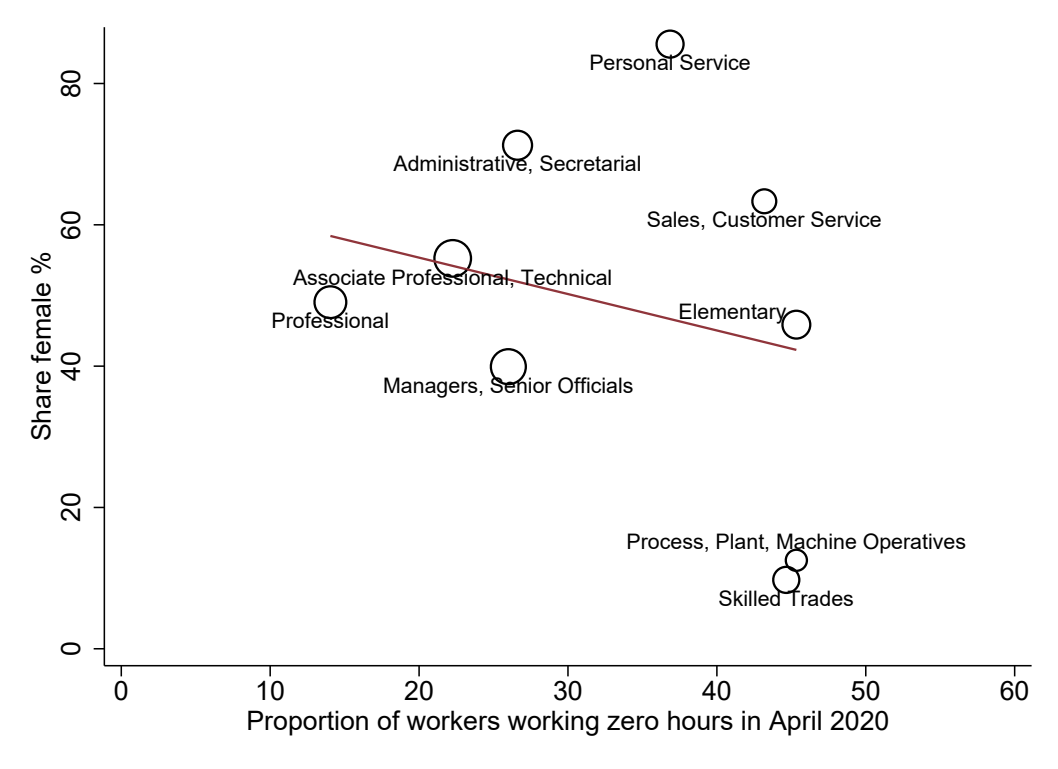
To probe the importance of occupation in understanding differential labour market impacts across genders further, we run regressions of an indicator for whether workers, who were working positive hours in February 2020, were working zero hours on a gender (woman) dummy. We run specifications with and without controls for occupation, and separately for different family types and at different points during the pandemic. We do not report results for gender differences among single parent households with children due to small sample sizes (in particular, very few single-parents are male).

Figure 4 plots the coefficient on the gender dummy from these regressions. The scale of the gender gap increases when occupational controls are included, particularly in the early phases of the pandemic. Once occupation is controlled for, the gap in the change in labour supply was also larger between men and women in couples with children. Conditional on occupation, women in couples with children were 6 ppt more likely to stop working positive hours in the Spring of 2020 than men, suggesting that differences in the distribution of childcare responsibilities within couples may have affected female labour supply. This finding is consistent with studies showing that increased childcare responsibilities during the pandemic were disproportionally borne by women in the UK (Andrew et al., 2021).

Albanesi and Kim (2021) also find a greater male-female difference in changes in labour supply for those married with children in the Spring of 2020 (with a 3 ppt greater decline in employment, compared to 2.5 ppt for those married without children).[6] In their case, including controls for occupation do not have much effect on their results.

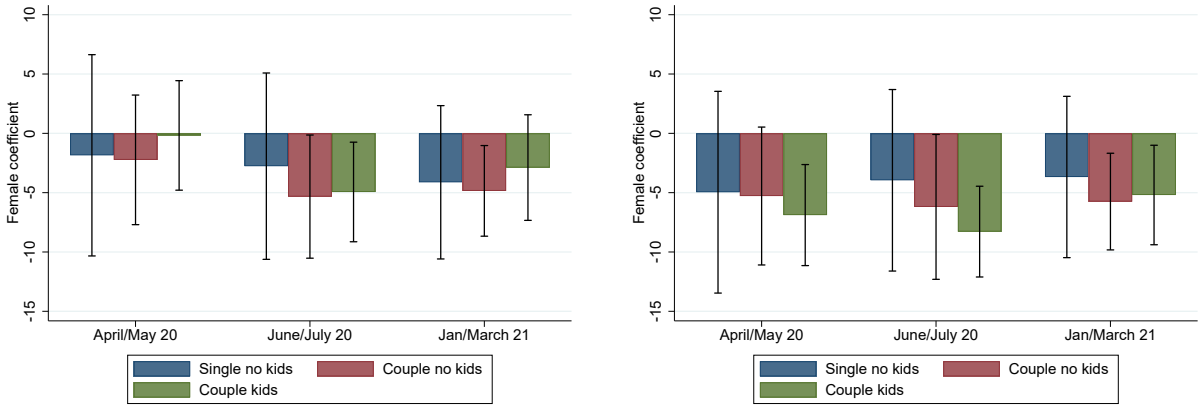
[6]We also ran similar regressions for the differences in employment changes (as opposed to changes in the proportions working zero hours). These show no significant differences between men and women.

Figure 3: Share of women employed in February 2020 and proportion of workers going to zero hours in April 2020 by occupation



Notes: Figure shows the share of women in different occupations in February 2020 against the proportion of workers who ceased working positive hours in April 2020. Dots are scaled according to the proportion workers employed in each occupation in February 2020. The red line is a linear regression weighted by the proportion of workers in each occupation.

Figure 4: Difference in fraction of workers going to zero hours since February 2020, by Gender



(a) No occupation controls

(b) Occupation controls

Notes: Figures show coefficients (percentage point difference) from a regression of working zero hours at different points in the pandemic on gender with and without controls for occupation. The sample is workers initially working positive hours in February 2020. Error bars denote 95% confidence intervals.

Differences by ethnicity

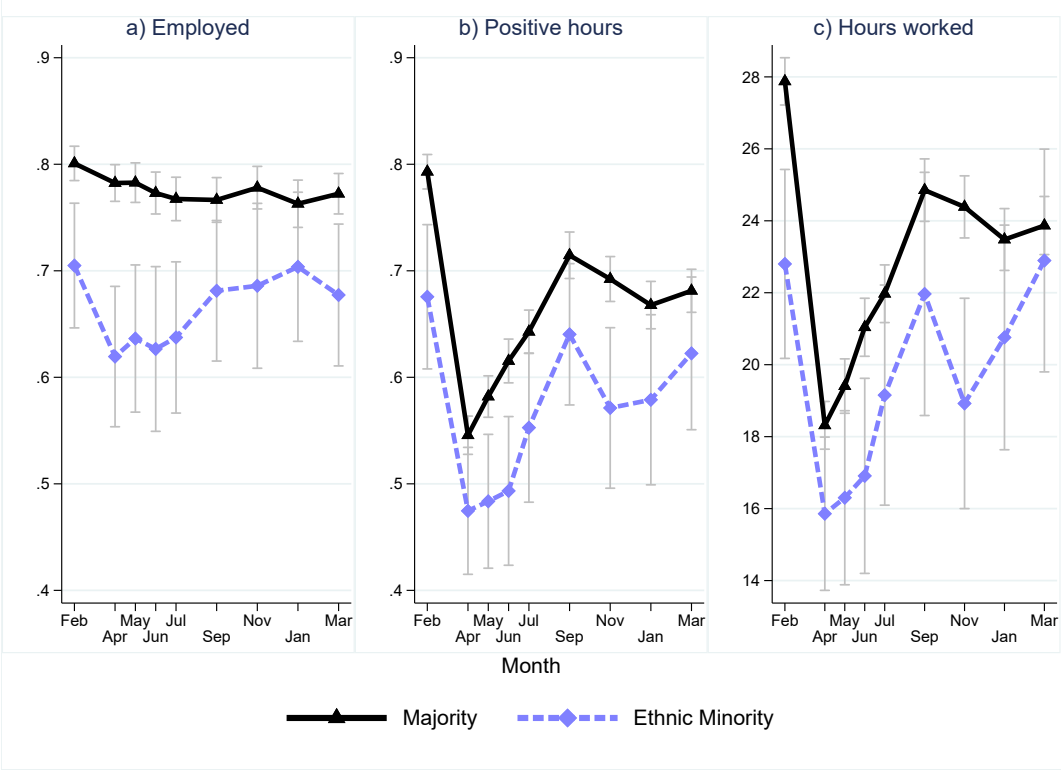
One of the most striking aspects of the labour market impacts of the pandemic was the differential impact on the employment of minority ethnic groups in the first lockdown that is shown in Figure 5 and the second panel of Table 1. As first highlighted in Crossley, Fisher, and Low (2021), minority ethnic groups suffered much larger declines in employment during the initial lockdown: minority ethnic groups were more likely to become unemployed rather than put on furlough. This is evident in the fact that, despite their greater employment declines, average hours worked among ethnic minorities fell by *less* at the start of the pandemic than those for the white ethnic majority. Employment rates among ethnic minorities however improved between July and September 2020 and by March 2021, the gap in employment rates between ethnic minorities and the white ethnic majority had returned to its pre-pandemic level of around 10 percentage points.

Table 2 in the Appendix shows that ethnic minorities were also more likely to change jobs than those in the white ethnic majority, although we cannot compare these rates to a pre-pandemic baseline. 21% of those in ethnic minorities in work in both periods had changed jobs, compared to 11% of those in the white ethnic majority.

Similarly, Table 4 shows that, while the proportion of ethnic minority workers who stopped working positive hours in April was similar to the ethnic majority, as was the probability that these

workers had resumed working positive hours in March 2021, those in ethnic minorities were much more likely to do so with a new employer or in a new industry. 39% of ethnic minority workers who had stopped working positive hours in the first lockdown had resumed working positive with a new employer in March 2021 compared to 23% of those in the white ethnic majority. 31% had also resumed working in a new industry, compared to 11% of those in the ethnic majority.

Figure 5: Labour market impacts by ethnicity



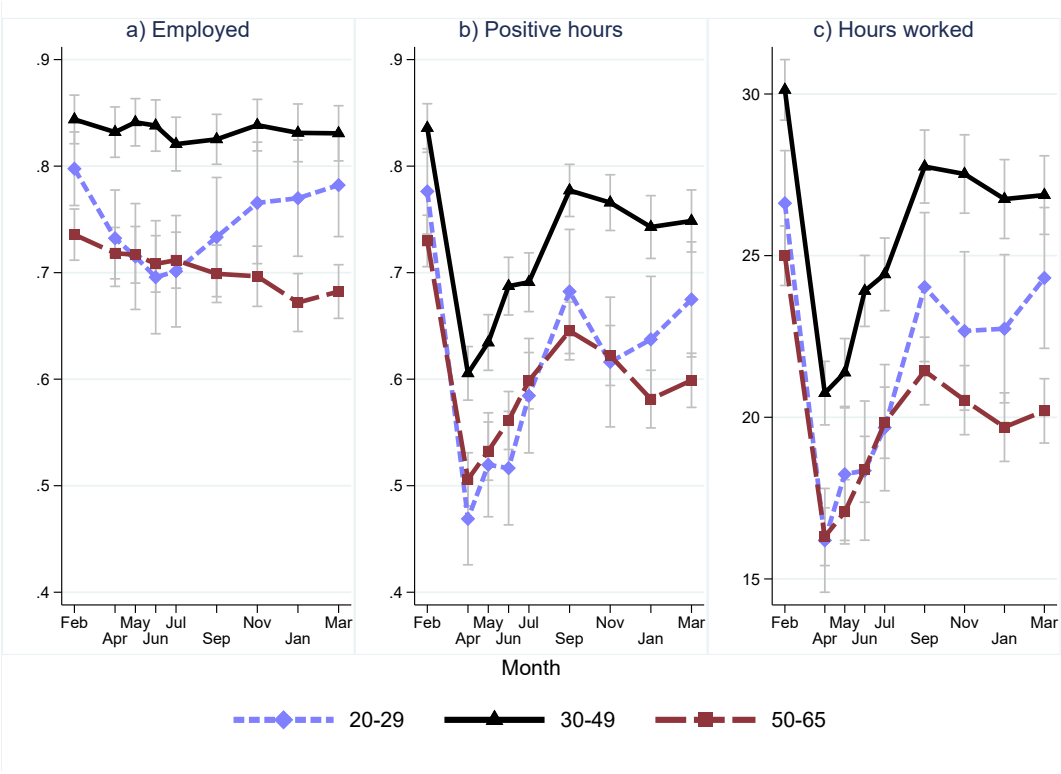
Notes: Unbalanced panel of 10,374 individuals. "Employed" is the fraction employed, where this includes both employees and the self-employed. "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. "Hours worked" is the mean weekly work hours where those not working are assigned zero hours. BAME refers to Black, Asian and Minority ethnic groups.

Differences by age

Figure 6 and the third panel of Table 1 report the differential impacts by age. Much has been written about the impact of the pandemic on the young in particular, (Gustafsson (2020); Dias, Joyce, and Norris Keiller (2020)). Our results show that the initial impact on employment and on the fraction working positive hours was greater for those age 20-29 than for others. Between February and April 2020, the fraction of those aged 20-29 working positive hours fell 8 percentage points more than those aged 30-49. However, the bounce back for the young was also much more

marked, with employment levels almost back to pre-pandemic levels by January 2021. Those aged 50-65, on the other hand, saw a much weaker recovery in employment and hours than other age groups. By March 2021 the gap in employment between those in that age group and those aged 30-49 had increased by four percentage points relative to pre-pandemic levels.

Figure 6: Labour market impacts by age

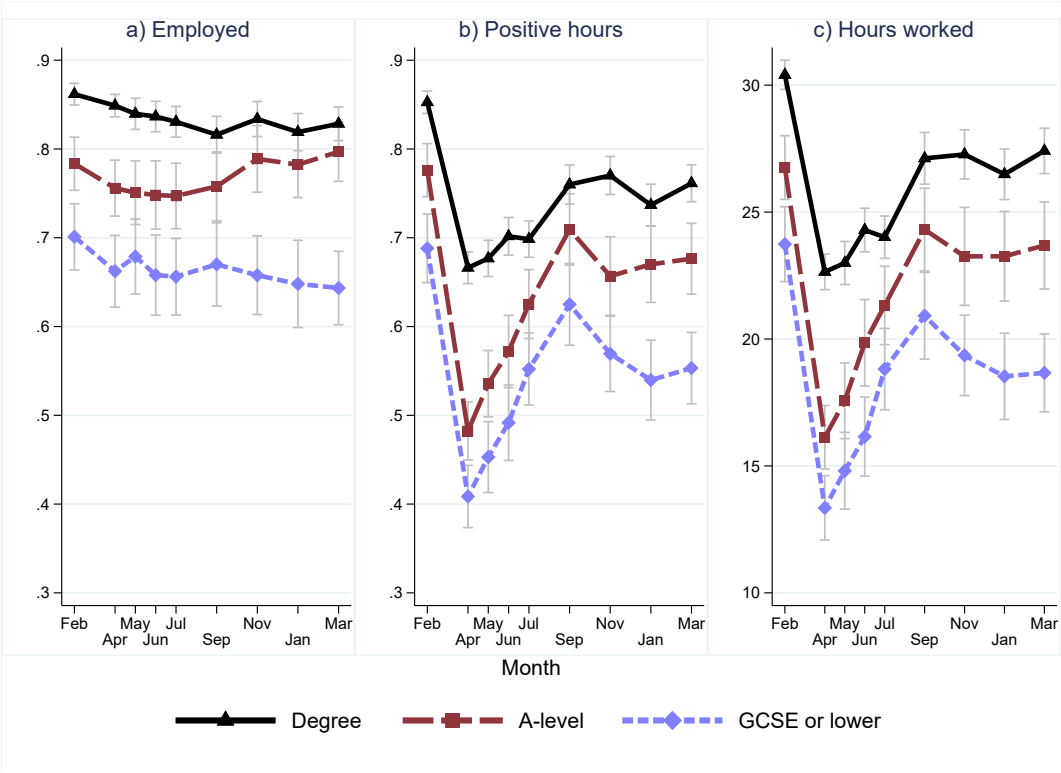


Notes: Unbalanced panel of 10,374 individuals. "Employed" is the fraction employed, where this includes both employees and the self-employed. "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. "Hours worked" is the mean weekly work hours where those not working are assigned zero hours.

Job changes may have played a role in the faster the employment recovery of younger workers. Table 4 shows that workers aged under 30 who stopped working in April 2020 were 6 percentage points more likely to be working positive hours again in March 2021 than workers aged over 50. They were also more likely to resume working positive hours in a new job or a new industry than they had been working in pre-pandemic. 41% of those aged under 30 who stopped working in the first lockdown had found work in a new job in March 2021 compared to just 17% of those aged over 50. Similarly, 30% of those aged under 30 who stopped working in the first lockdown had found work in a new industry, compared to just 7% of those aged over 50.

Differences by education

Figure 7: Labour market impacts by education



Notes: Unbalanced panel of 10,374 individuals. "Employed" is the fraction employed, where this includes both employees and the self-employed. "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. "Hours worked" is the mean weekly work hours where those not working are assigned zero hours. Education is recorded at wave 9 (2017-18) of the main survey.

Figure 7 and the final panel in Table 1 show the labour market impacts of the pandemic on different education groups. Those whose highest qualifications were either GCSEs or A-levels (or equivalent) saw much greater declines in the proportions working positive hours than those with a degree in the first months of the pandemic. Those whose highest qualifications were A-levels however saw a much faster recovery in hours worked and employment than other education groups. By March 2021, the gap in employment between these workers and those with a degree was five percentage points smaller than it had been before the first lockdown.

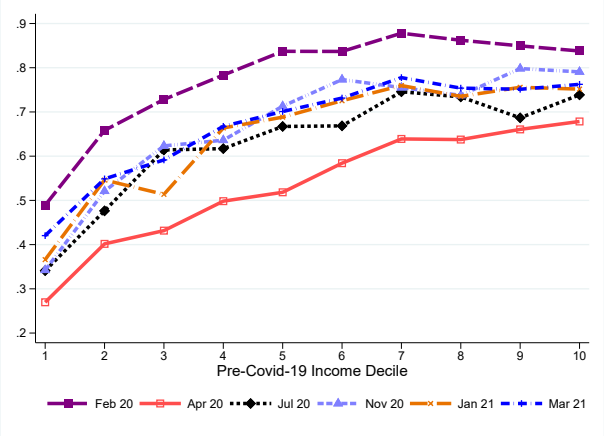
Labour market impacts by long-run income decile

To show the distributional differences that underlay this heterogeneity in labour market impacts, we divide the population into deciles based on their long-run average income. We plot in Figure 8 the fraction within each decile that report working positive hours, and show how this changes

from before the pandemic through March 2021. Pre-pandemic, the fraction working positive hours increases with long-run income up in the bottom half of the distribution, but then was fairly flat. The solid red line shows the extent of the fall at the onset of COVID by decile: hardest hit are the 2nd through 7th deciles. The fractions working since the recovery from the initial decline were fairly stable.

These labour market shocks translate into lost earnings for many. We calculate the fractions experiencing at least a 20% fall in earnings in different months compared to the baseline in February 2020, and the fractions experiencing at least a 20% increase in earnings. In Figure 9, we report the fractions within each decile, analogously to Figure 8.

Figure 8: Fraction Working Positive Hours by Income Decile



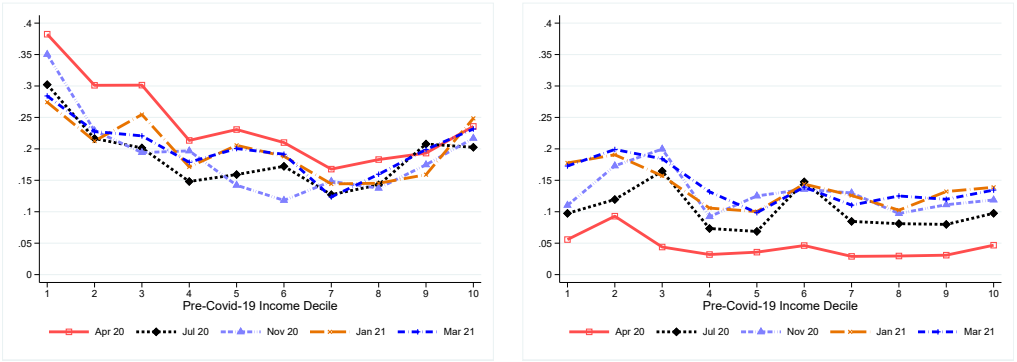
Notes: Unbalanced panel of 10,040 individuals. "Positive hours" is the fraction who report actually working some hours, independent of reported employment status. Income deciles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

The fractions losing at least 20% of earnings are substantially higher than the fractions gaining, especially at the bottom of the distribution. Of those in the bottom decile, almost 40% experienced at least a 20% decline in earnings compared to February 2020. However, even within decile, there are winners and losers. The figures also show the recovery after the initial impact, as well as the resilience of the labour market through the subsequent lockdowns. This evolution of earnings reflect the patterns in their labour market profiles

4 Savings, Debt and Net Wealth

The shock to labour market conditions and to earnings highlights the economic challenges that different households have faced through the pandemic. However, different households have re-

Figure 9: Fractions Experiencing a 20% Change in Earnings by Income Decile



(a) Fall in Earnings

(b) Gain in Earnings

Notes: Unbalanced panel of 7356 individuals (with 1938 inapplicable because of not working in February 2020 and 585 not reporting February 2020 earnings). Earnings changes are from Jan/Feb 2020. Earnings are measured at the individual level and are net of tax, national insurance and pension contributions. Income deciles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

sponded in different ways to these economic shocks, partly because of difference in abilities to respond, and partly because of different choices. We report the impact on savings, debt and the extent that households fell into arrears.

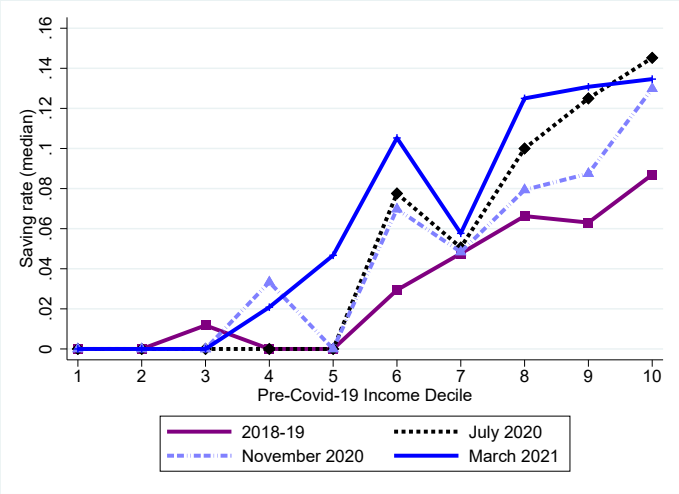
4.1 Changes in Saving and Debt

We define the savings rate as the amount of non-negative active saving divided by individual labour earnings. Figure 10 reports the median savings rate by long-run income decile. We show the savings rate pre-pandemic in 2018-19, and again in July 2020 when the UK economy had opened up, and in November 2020 and March 2021 when the economy was again in lockdown. In the bottom half of the distribution, the median person in each decile was not saving pre-pandemic and has not been saving through the pandemic. By contrast, in the top half of the distribution, the savings rate is increasing in the amount of long-run (permanent) income. Further, for those in the top of the distribution, the savings rate was substantially higher during the pandemic than pre-pandemic.

What is more, saving rates were higher in March 2021 than in previous months of the pandemic, by contrast with the first lockdown, patterns of employment held up as shown in Figure 8, and earnings did not decline as sharply (Figure 9). At the same time, opportunities to spend were again constrained. Together, this explains the increase in saving even lower down the distribution. These findings relate directly to the question of where pent-up demand for consumption lies: accumulated wealth that can be spent is held by the better off, who are also those who suffered the least labour

market shocks.

Figure 10: Savings Rate across the Income Distribution



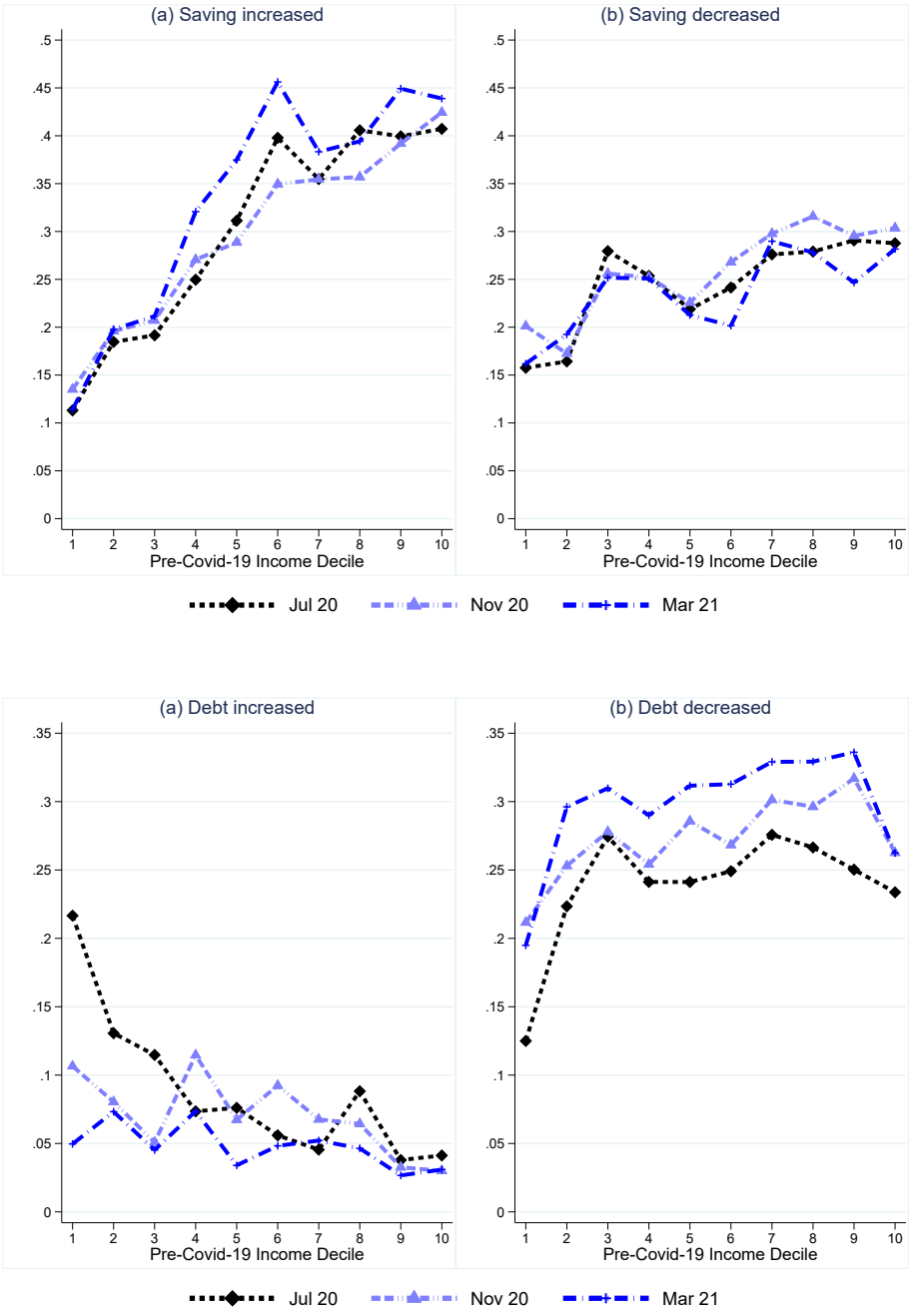
Notes: Unbalanced panel of 6078 individuals. Savings rates are as a fraction of weekly net earnings reported in the corresponding monthly survey but for 2018-19, earnings are taken from July 2020. The amount saved is calculated from the question 'About how much on average do you personally manage to save a month?' in 2018-19 (wave 10) and 'About how much have you personally managed to save in the last 4 weeks?' in the corresponding COVID wave (July, November or March). Income deciles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

These average median savings rates mask considerable differences in the impact on savings within each income decile. The top panel of Figure 11 shows the fraction of individuals that reported an increase in saving or a decrease in saving by income decile, at different points in the pandemic. In the bottom half of the distribution, the fraction reporting increased saving is offset by the fraction decreasing saving. Further up the distribution, the fraction increasing saving becomes more dominant: over 40% of individuals in the top decile reported an increase in savings.

This heterogeneity in financial consequences is also reflected in the patterns of debt. The lower panels of Figure 11 shows the fractions reporting increases or decreases in debt in July and November 2020, by income decile. Within each decile, the fraction reducing their debt was substantially greater than the fraction increasing debt. This is not the case in the bottom decile in July: for the poorest, more people increased debt than decreased it.

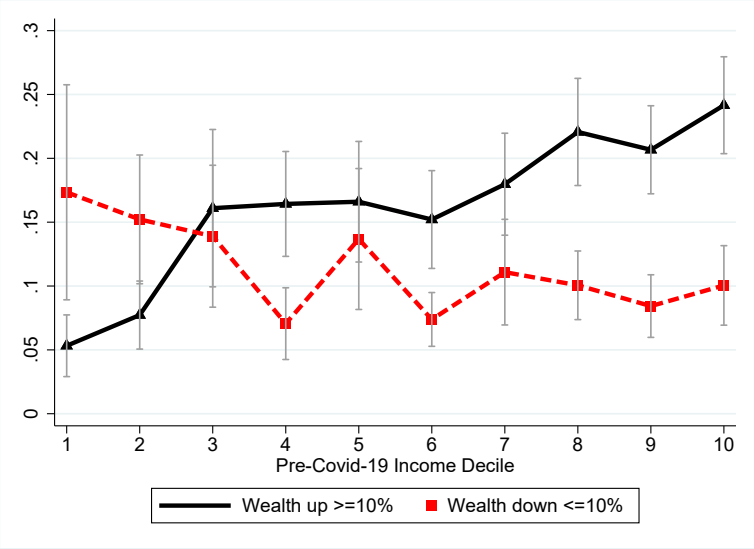
In Figure 12, we show how these differences in saving and debt translate into the net wealth of households through plotting the fraction of the population whose wealth had increased by at least 10% over the first year of COVID. The figure shows clearly that wealth gains are higher for richer households, and wealth losses are lower. However, the proportion of individuals reporting an increase in net wealth of 10% or more over the pandemic exceed the proportion reporting a decrease

Figure 11: Changes in Saving and Debt across the Income Distribution



Notes: For savings, unbalanced panel of 7549 individuals; for debt, unbalanced panel of 8054. Saving increases (decreases) are counted where a respondent answers a lower (higher) amount to the question 'About how much on average do you personally manage to save a month?' in 2018-19 (wave 10) than to 'About how much have you personally managed to save in the last 4 weeks?' in the corresponding COVID wave (July, November or March). Debt categories are constructed from a question asking about changes to non-mortgage debt in the last 4 weeks (three possible response options: 'gone up', 'stayed the same', 'decreased'). Income deciles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

Figure 12: Change in total net wealth (Jan/Feb 2020 to March 2021)



Notes: 6583 individuals interviewed in March 2021. Respondents were asked whether their household total net wealth had gone up or down by 10 percent or stayed about the same, since Jan/Feb 2020. Income deciles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

of 10% or more for all long-run income deciles except the bottom two. Thus, net wealth gains are likely to have occurred even quite far down the pre-pandemic income distribution.

Underlying the differences within income decile are differences in labour market shocks. For those experiencing a loss, there is a direct effect of the reduced income leading to reduced consumption, which individuals will offset by increasing borrowing or using up saving. The extent of the decline in consumption will depend on how long any reduction in income is expected to last: the shorter the duration, the easier it is for a household to maintain their desired consumption plans.

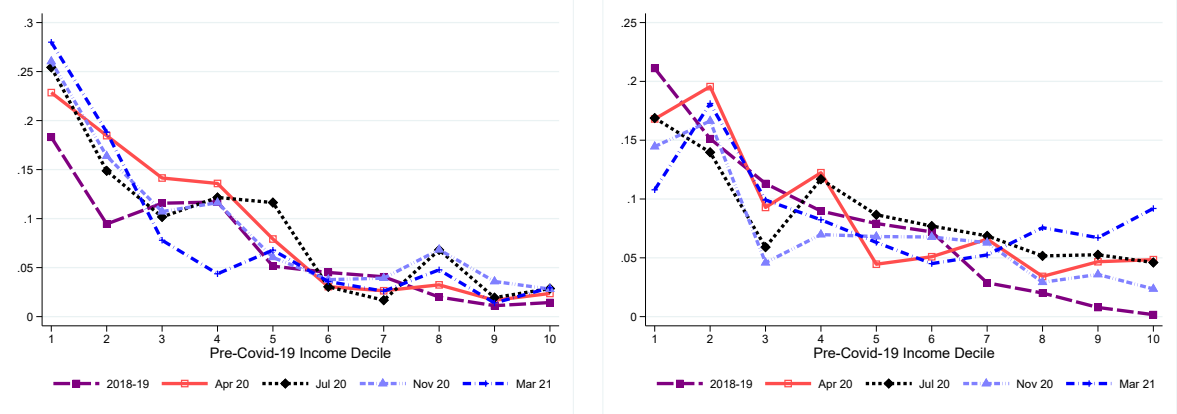
In addition to this direct effect, there are three further effects on all households, whether or not they have experienced a fall in earnings. First, demand for consumption may have fallen due to health concerns that make particular types of consumption less attractive, pushing up savings rates. This impact is likely to be greater for luxuries such as eating out or holidays abroad, which are easier to postpone, rather than necessities and is likely to be stronger as incomes increase (Browning and Crossley (2000)). Second, concerns about future employment or future income may lead individuals to defer spending and accumulate savings and pay down debt for precautionary reasons. Finally, the ability to spend declined due to supply restrictions on access to goods and services arising from include restrictions imposed on businesses by lockdown and social distancing, as well as due to supply chain disruptions.

The heterogeneous patterns within deciles shown in Figures 11 and 12 suggest that some individuals were able to use reduced consumption to boost their savings and pay down debt; others, particularly in the lower deciles, experienced earnings losses, and were unable to save, and increased debt.

4.2 Arrears

This discussion of the impact on saving and on debt does not capture whether or not households are in financial distress. Changes in saving or debt can reflect decisions to smooth out resources over time, rather than precipitating serious financial issues. To assess whether the labour market and earning shocks precipitated financial hardship, we show in Figure 13 the fraction of individuals who were behind in paying bills, and the fraction behind in paying housing costs. We report the fractions within each decile of long-run income, and we show these fractions for households before the pandemic in 2018-19, and then in April, July and November 2020.

Figure 13: Behind with Bills or Housing by Decile



(a) Bills (b) Housing

Notes: Unbalanced panel of 9980 and 7916 individuals, respectively. Behind with bills refers to the full population, while behind with housing to individuals who do not own their homes outright or live rent free. Income deciles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

The fraction who were behind with their bills rose markedly, by about 5 percentage points, from a high base at the start of the pandemic for those in the lowest deciles. Further up the distribution, the fraction behind with bills was low pre-pandemic and remained low. For housing, the fraction behind with payments fell for much of the distribution.

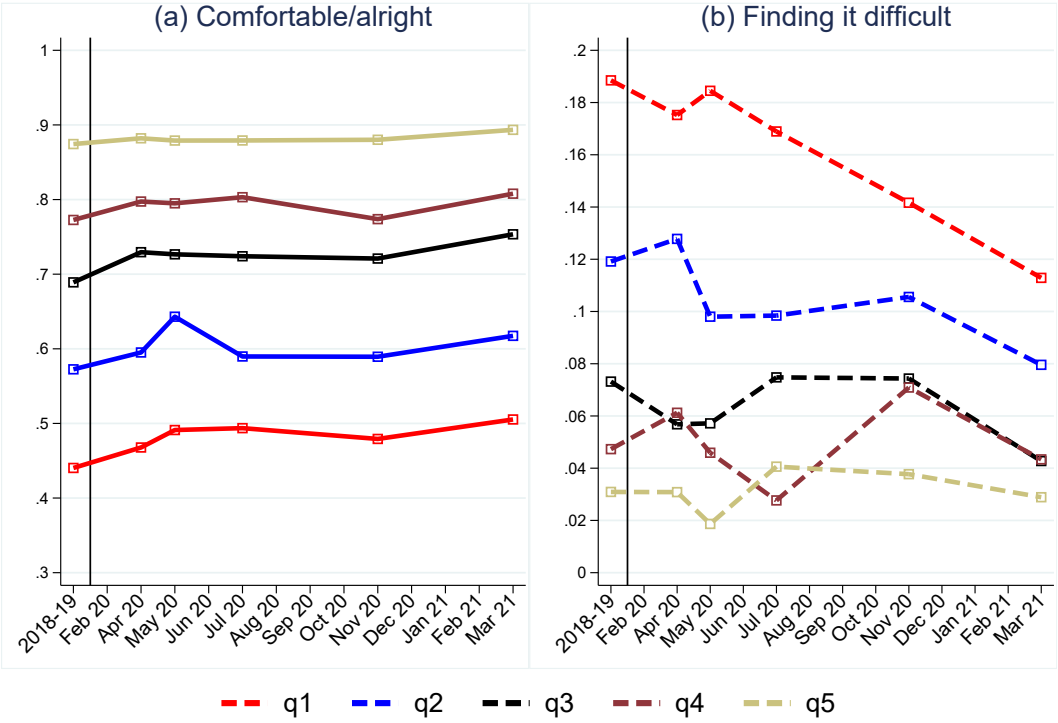
5 Subjective Financial Situation

The third part of our analysis focuses on summary measures of how well individuals are coping financially. The measure we use is responses to the question: *"How well would you say you yourself are managing financially these days?"*. This question was asked in the Main Stage of the survey prior to COVID and in each of the COVID surveys through 2020 and 2021. The time path of responses across the pandemic, split by long-run income quintile, is shown in Figure 14. We group respondents that report "Living comfortably" or "Doing alright" into panel (a). We group respondents that report "Finding it quite difficult" or "Finding it very difficult" into panel (b). The omitted category is "Just about getting by".

The first point on the average responses is that the reported financial situation correlates well with underlying income. Almost 90% of those in the top quintile report being "comfortable/alright", compared to less than 50% of the bottom quintile. By contrast, pre-pandemic, almost 20% of the bottom quintile report "finding it difficult". The second, striking point from Figure 14 is how these responses evolved through the pandemic. The bottom two quintiles show marked declines in the fractions finding it difficult, alongside increases in the fraction "comfortable/alright".

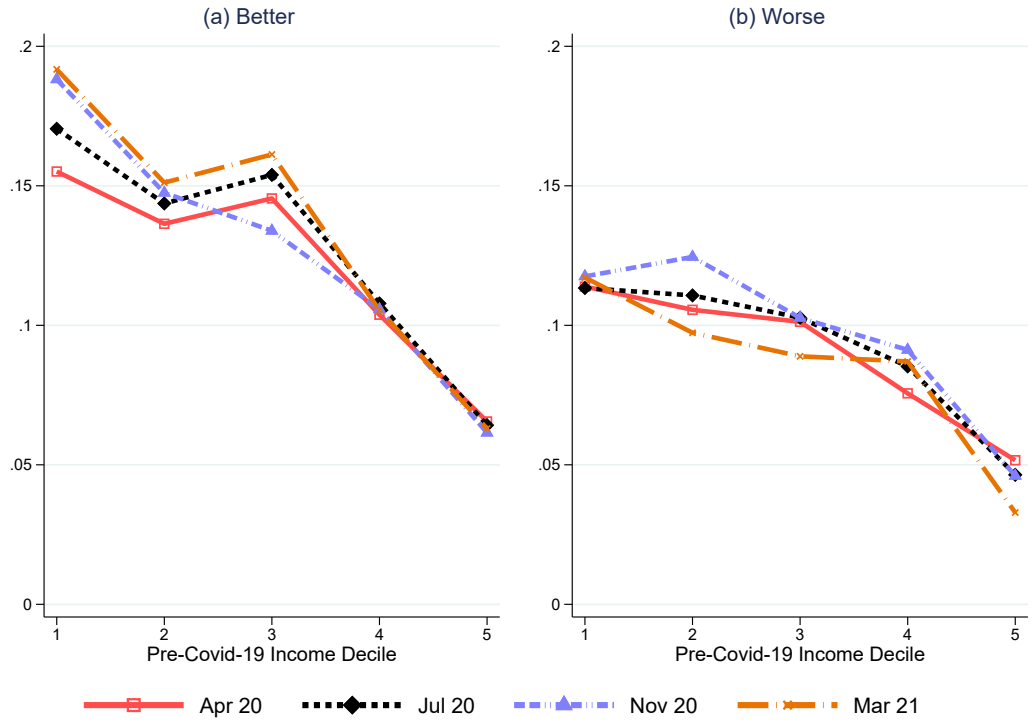
This could indicate that economic policies and actions to mitigate the impact of the labour market shocks caused by the pandemic did not generate widespread economic distress. However, these averages mask substantial heterogeneity, within quintiles. Figure 15 shows the proportion of individuals in different income quintiles experiencing an improvement in their financial situation and the proportion seeing a deterioration as the pandemic continued. Those at the bottom of the income distribution were both more likely to report an improvement in their financial satisfaction and more likely to report a deterioration. In April 2020, around 15% of those in the bottom quintile reported an improvement in their financial satisfaction, compared to around 6% for the top quintile. By March 2021, the share of those in the bottom quintile reporting an improvement had risen to 19%. Around 10% of individuals in the bottom quintile reported a deterioration in financial satisfaction relative to 2018-19, a figure that remained stable throughout the pandemic. This compares to around 5% in the top quintile.

Figure 14: Subjective finances



Notes: Unbalanced panel of 10,212 individuals. Categories of subjective finances are in response to the question 'How well would you say you yourself are managing financially these days?'. Income quintiles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

Figure 15: Changes in subjective finances relative to 2018-19



Notes: Unbalanced panel of 10,212 individuals. Panel a shows the proportion of individuals whose financial situation went from 'just about managing' or 'finding it difficult' in 2018-2019 to 'living comfortably' or 'doing alright' during the pandemic. Panel b shows the proportion of individuals going form 'living comfortably' or 'doing alright' in 2018-19 to just about managing' or 'finding it difficult' during the pandemic. Income quintiles are assigned on the basis of net household income averaged across up to 3 previous waves of the main study. Income includes earned and unearned income, net of tax and inclusive of any benefits received, equivalised by household composition.

6 Conclusions

Several papers, including Adams-Prassl et al. (2020), Crossley, Fisher, and Low (2021), Hupkau and Petrongolo (2020) and Hacıoğlu-Hoke, Känzig, and Surico (2021), analyse the immediate effects of the pandemic and highlight the unequal impacts on different individuals. We present a more nuanced picture of how the year after the onset of COVID evolved. There were initial large falls in hours worked, but for many individuals, hours of work recovered, and the subsequent lockdowns had less of an impact. This could have reflected the adaptability of firms in many sectors with firms learning how to operate despite the new lockdowns, the willingness of individuals to move to new employers or that the subsequent lockdowns were less strict. We show evidence that the proportion

of workers adapting by changing employers differed substantially across occupation, age, ethnic and education groups. Younger workers and those in ethnic minorities who stopped working positive hours in the first lockdown were more likely to resume work with different employers. This could reflect greater adaptability in the face of changed circumstances, but it could also signify greater disruption to their careers, with long-run consequences for their earnings and progression. What remains unknown is the impact on skills and willingness to work of prolonged periods out of the labour force. While policy initially focused on helping younger workers get back to work, understandably given the steeper declines in employment they experienced at the start of the pandemic, it is the labour supply of the over 50s that saw the slowest recovery as the year went on.

Later lockdowns restricted spending options without impacting earnings in the same way as the first lockdown. This led to the accumulation of savings across much of the distribution. This is in contrast to the early effect on individuals where individuals mitigated losses through increases in debt and the receipt of private transfers, as discussed in Crossley, Fisher, and Low (2021). This picture of the evolution of financial circumstances does mask the underlying concern that there is substantial heterogeneity across and within income quintiles, with evidence of debt increases and ongoing earnings losses.

Our results raise various questions for future research. The different impact on women in the US and the UK may have arisen because of the different policy responses in the US and the UK/Europe, with the former protecting economic livelihoods through extending unemployment benefits, and the latter using work furlough schemes. We have seen in the UK that the recovery in labour markets for women matches that for men, but we do not know the long-term impacts. Nor do we know the ongoing effects of differential responsibilities for childcare that were documented at the start of the pandemic in Hupkau and Petrongolo (2020), Zamarro and Prados (2021) and Andrew et al. (2021). Finally, the question raised by our findings of substantial wealth accumulation and the heterogeneity in wealth accumulation across the distribution is whether these financial inequalities persist.

References

Adams-Prassl, Abi, Teodora Boneva, Marta Golin, and Christopher Rauh. 2020. "Inequality in the impact of the coronavirus shock: Evidence from real time surveys." *Journal of Public Economics* 189:104245. URL http://www.sciencedirect.com/science/article/pii/S0047272720301092.

Albanesi, Stefania and Jiyeon Kim. 2021. "Effects of the COVID-19 Recession on the US Labor Market: Occupation, Family, and Gender." *Journal of Economic Perspectives* 35 (3):3–24. URL https://www.aeaweb.org/articles?id=10.1257/jep.35.3.3.

Andrew, Alison, Sarah Cattan, Monica Costa Dias, Christine Farquharson, Lucy Kraftman, Sonya Krutikova, Angus Phimister, and Almudena Sevilla. 2021. "The gendered division of paid and domestic work under lockdown." (IFS Working Paper W21/17).

Belot, Michèle, Syngjoo Choi, Julian C Jamison, Nicholas W Papageorge, Egon Tripodi, and Eline Van den Broek-Altenburg. 2021. "Unequal Consequences of Covid 19 across Age and Income: Representative Evidence from Six Countries." *Review of Economics of the Household* (19):769–783.

Benzeval, Michaela, Christopher R. Bollinger, Jonathan Burton, Thomas F. Crossley, and Peter Lynn. 2020a. "The representativeness of Understanding Society." (2020-08). URL https://ideas.repec.org/p/ese/ukhlsp/2020-08.html.

Benzeval, Michaela, Jonathan Burton, Thomas F. Crossley, Paul Fisher, Colin Gardiner, Annette Jäckle, and Jamie Moore. 2021. "High frequency online data collection in an annual household panel study: some evidence on bias prevention and bias adjustment." *Understanding Society Working Papers* 2021-03. URL https://www.understandingsociety.ac.uk/sites/default/files/downloads/working-papers/2021-03.pdf.

Benzeval, Michaela, Jonathan Burton, Thomas F. Crossley, Paul Fisher, Annette JÃ¤ckle, Hamish Low, and Brendan Read. 2020b. "The idiosyncratic impact of an aggregate shock: the distributional consequences of COVID-19." Understanding Society Working Paper Series 2020-09, Understanding Society at the Institute for Social and Economic Research. URL https://ideas.repec.org/p/ese/ukhlsp/2020-09.html.

Browning, Martin and Thomas F. Crossley. 2000. "Luxuries Are Easier to Postpone: A Proof." *Journal of Political Economy* 108 (5):1022–1026. URL https://doi.org/10.1086/317668.

Bureau of Labor Statistics. 2021. "Unemployment Rate." Tech. rep. Data retrieved from FRED, Federal Reserve Bank of St. Louis https://fred.stlouisfed.org/series/UNRATE.

Chetty, Raj, John Friedman, Nathaniel Hendren, Michael Stepner, and The Opportunity Insights Team. 2020. "The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data." Paper, Slides, Economic Tracker (Web), Nontechnical Summary.

Crossley, Thomas F., Paul Fisher, and Hamish Low. 2021. "The heterogeneous and regressive consequences of COVID-19: Evidence from high quality panel data." *Journal of Public Economics* 193 (C). URL https://ideas.repec.org/a/eee/pubeco/v193y2021ics0047272720301985.html.

Dias, Monica Costa, Robert Joyce, and Agnes Norris Keiller. 2020. "COVID-19 and the career prospects of young people." URL https://ifs.org.uk/publications/14914.

Gustafsson, Maja. 2020. "Young workers in the coronavirus crisis." URL https://www.resolutionfoundation.org/publications/young-workers-in-the-coronavirus-crisis/.

Hacıoğlu-Hoke, Sinem, Diego R. Känzig, and Paolo Surico. 2021. "The distributional impact of the pandemic." *European Economic Review* 134:103680. URL https://www.sciencedirect.com/science/article/pii/S0014292121000337.

HM Government. 2021. "Plan for jobs: progress update." Tech. rep. URL https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1016764/Plan_for_Jobs_FINAL.pdf.

HM Revenue and Customs. 2021. "Coronavirus Job Retention Scheme statistics: 9 September 2021." Tech. rep.

Hupkau, Claudia and Barbara Petrongolo. 2020. "Work, Care and Gender during the COVID-19 Crisis*." *Fiscal Studies* 41 (3):623–651. URL https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-5890.12245.

Institute for Social and Economic Research. 2020a. *Understanding Society COVID-19 Study, 2020. [data collection]. 1st Edition.* UK Data Service. SN: 8644, 10.5255/UKDA-SN-8644-1.

———. 2020b. *Understanding Society COVID-19 User Guide. Version 1.0.* University of Essex, Colchester.

Montenovo, Laura, Xuan Jiang, Felipe Lozano Rojas, Ian M Schmutte, Kosali I Simon, Bruce A Weinberg, and Coady Wing. 2020. "Determinants of Disparities in Covid-19 Job Losses." (27132). URL http://www.nber.org/papers/w27132.

Office for National Statistics. 2021a. "Labour market overview, UK: January 2021." Tech. rep.

———. 2021b. "UK economic accounts: January to March 2021." Tech. rep.

University of Essex Institute for Social and Economic Research, NatCen Social Research, and Kantar Public. 2019. "Understanding Society: Waves 1-9, 2009-2018 and Harmonised BHPS: Waves 1-18, 1991-2009. [data collection]. 12th Edition." URL http://doi.org/10.5255/UKDA-SN-6614-13.

Zamarro, Gema and María J. Prados. 2021. "Gender differences in couples' division of childcare, work and mental health during COVID-19." *Review of Economics of the Household* 19 (1):11–40. URL https://ideas.repec.org/a/kap/reveho/v19y2021i1d10.1007_s11150-020-09534-7.html.

A Supporting Descriptive Results

In this appendix, we provide supporting tables for the section on labour markets and earnings. Table 2 reports the fractions who changed employer between February 2020 and March 2021, taking account of hours of work changes. We report the fraction who remained working zero hours, the fraction who started working, the fraction who stopped working positive hours, the fraction who continued working at the same employer, and the fraction who continued working, but switched employer.

Table 3 reports the fractions who reported changing industry between February 2020 and March 2021. We report the fractions who were working zero hours in March 2021, the fraction in the same industry and the fraction that changed industry.

Table 4 shows the fractions of individuals who stopped working positive hours in the first lockdown (April 2020), the fraction who were working positive hours again in March 2021 (given they had stopped working in April 2020), the fraction who working positive hours again but with a different employer, and the fraction who were working and had changed industry.

Table 2: Percentage with an employer change between February 2020 and March 2021

				Continued working	
	Stayed not working	Started working	Stopped working	Same employer	New employer
All	20	3	12	58	8
Gender:					
Male	17	2	12	61	8
Female	23	3	12	55	7
Ethnicity:					
White Majority	19	3	12	59	7
Ethnic minority	27	5	9	46	12
Age:					
Age 20-29	19	7	14	47	14
Age 30-49	14	2	10	67	7
Age 50-65	26	1	13	54	5
Education:					
GCSE or lower	32	1	13	48	6
A-level	18	4	14	54	10
Degree	13	3	10	67	7
Worker type:					
Fixed hours	0	0	14	75	10
Flexible hours	2	1	13	78	7
Emp. sets (sure min.)	1	0	22	62	14
Emp. sets (no min.)	1	5	42	39	13
Self-employed	1	0	10	81	8
Occupation:					
Managers, Senior Officials, Administrative	1	0	13	78	7
Sales, Customer Service, Elementary	1	0	28	60	12
Process, Plant, Machine Operatives, Skilled Trades	0	0	15	73	11
Associate Professional, Technical	0	1	7	84	8
Personal Service	0	0	17	73	9
Professional	1	1	8	83	8
Industry:					
Manufacturing	1	0	12	81	6
Wholesale, Retail Trade	0	0	18	70	12
Hospitality	1	0	36	53	10
Professional	0	0	8	81	10
Administrative	1	1	13	77	8
Education	0	1	10	83	6
Health and Social Work	0	1	10	80	8

Notes: 6,958 individuals interviewed in March 2021 (plus 31 cases with item-missing data). 'Working' is counted as working a positive number of hours. Those self-employed in both Feb 2020 and March 2021 are counted as 'same employer', while those moving from employment (or employment with self-employment) to self-employment are counted as 'new employer'. Worker type is measured in February 2020. "Emp.sets (sure min)' are contracts where the employer chooses the hours of the worker, but guarantees a minimum number of hours; "Emp. sets (no min)' are contracts where the employer chooses the hours of the worker and does not guarantee to offer any hours. Industry and occupation are recorded at wave 9 (2017-18) of the main study.

Table 3: Percentage with an industry change between February 2020 and March 2021

				Continued working	
	Stayed not working	Started working	Stopped working	Same industry	New industry
All	20	3	12	61	4
Gender:					
Male	17	2	12	65	4
Female	23	3	12	57	4
Ethnicity:					
White Majority	19	3	12	62	4
Ethnic minority	28	5	9	51	7
Age:					
Age 20-29	19	7	14	50	9
Age 30-49	15	2	10	70	3
Age 50-65	27	2	13	56	2
Education:					
GCSE or lower	32	1	13	51	3
A-level	18	4	14	56	7
Degree	13	3	10	70	3
Worker type:					
Fixed hours	0	0	15	80	5
Flexible hours	2	1	13	80	4
Emp. sets (sure min.)	1	0	22	67	9
Emp. sets (no min.)	1	5	43	44	7
Self-employed	1	0	10	83	6
Occupation:					
Managers, Senior Officials, Administrative	1	0	13	82	3
Sales, Customer Service, Elementary	1	0	29	62	9
Process, Plant, Machine Operatives, Skilled Trades	0	0	16	80	4
Associate Professional, Technical	0	1	7	87	4
Personal Service	0	0	18	75	7
Professional	1	1	8	87	3
Industry:					
Manufacturing	1	0	13	83	4
Wholesale, Retail Trade	0	0	18	74	7
Hospitality	1	0	37	55	7
Professional	0	0	9	86	5
Administrative	1	1	13	81	4
Education	0	1	10	86	3
Health and Social Work	0	1	11	84	4

Notes: 6,818 individuals interviewed in March 2021 (plus 171 cases with item-missing data). 'Working' is counted as working a positive number of hours. Those self-employed in both Feb 2020 and March 2021 are counted as 'same industry', while those moving from employment (or employment with self-employment) to self-employment are counted as 'new industry'. Worker type is measured in February 2020. "Emp.sets (sure min)' are contracts where the employer chooses the hours of the worker, but guarantees a minimum number of hours; "Emp. sets (no min)' are contracts where the employer chooses the hours of the worker and does not guarantee to offer any hours. Industry and occupation are recorded at wave 9 (2017-18) of the main study.

Table 4: Percentage working zero hours in April 2020 who had resumed working in March 2021

	Zero hours in April	Given zero hours in April: Working pos. hours again in March 21	New job	New industry
All	31	67	24	13
Gender:				
Male	30	69	25	13
Female	33	66	24	14
Ethnicity:				
White Majority	31	67	23	11
Ethnic minority	32	70	39	31
Age:				
Age 20-29	39	68	41	30
Age 30-49	28	72	18	8
Age 50-65	31	62	17	7
Education:				
GCSE or lower	38	67	17	7
A-level	39	67	34	23
Degree	24	68	22	10
Worker type:				
Fixed hours	28	72	21	12
Flexible hours	23	73	13	5
Emp. sets (sure min.)	42	60	32	24
Emp. sets (no min.)	60	32	39	21
Self-employed	42	66	59	15
Occupation:				
Managers, Senior Officials, Administrative	26	69	15	7
Sales, Customer Service, Elementary	44	56	34	24
Process, Plant, Machine Operatives, Skilled Trades	45	70	18	8
Associate Professional, Technical	21	80	22	8
Personal Service	38	61	24	15
Professional	16	86	23	12
Industry:				
Manufacturing	38	75	12	4
Wholesale, Retail Trade	38	69	35	20
Hospitality	62	42	24	13
Professional	19	82	22	16
Administrative	21	68	25	16
Education	27	79	13	7
Health and Social Work	18	70	21	6

Notes: 5,159 individuals interviewed in March 2021 who were working in February 2020 (the sample size in column 1). 1,691 of these worked zero hours in April (the sample size in columns 2-4). 'Working' is counted as working a positive number of hours. 'New job' and 'new industry' mean the individual changed job or industry between February 2020 and March 2021. Those self-employed in both Feb 2020 and March 2021 are counted as 'same industry', while those moving from employment (or employment with self-employment) to self-employment are counted as 'new industry'. Worker type is measured in February 2020. "Emp.sets (sure min)' are contracts where the employer chooses the hours of the worker, but guarantees a minimum number of hours; "Emp. sets (no min)' are contracts where the employer chooses the hours of the worker and does not guarantee to offer any hours. Industry and occupation are recorded at wave 9 (2017-18) of the main study.