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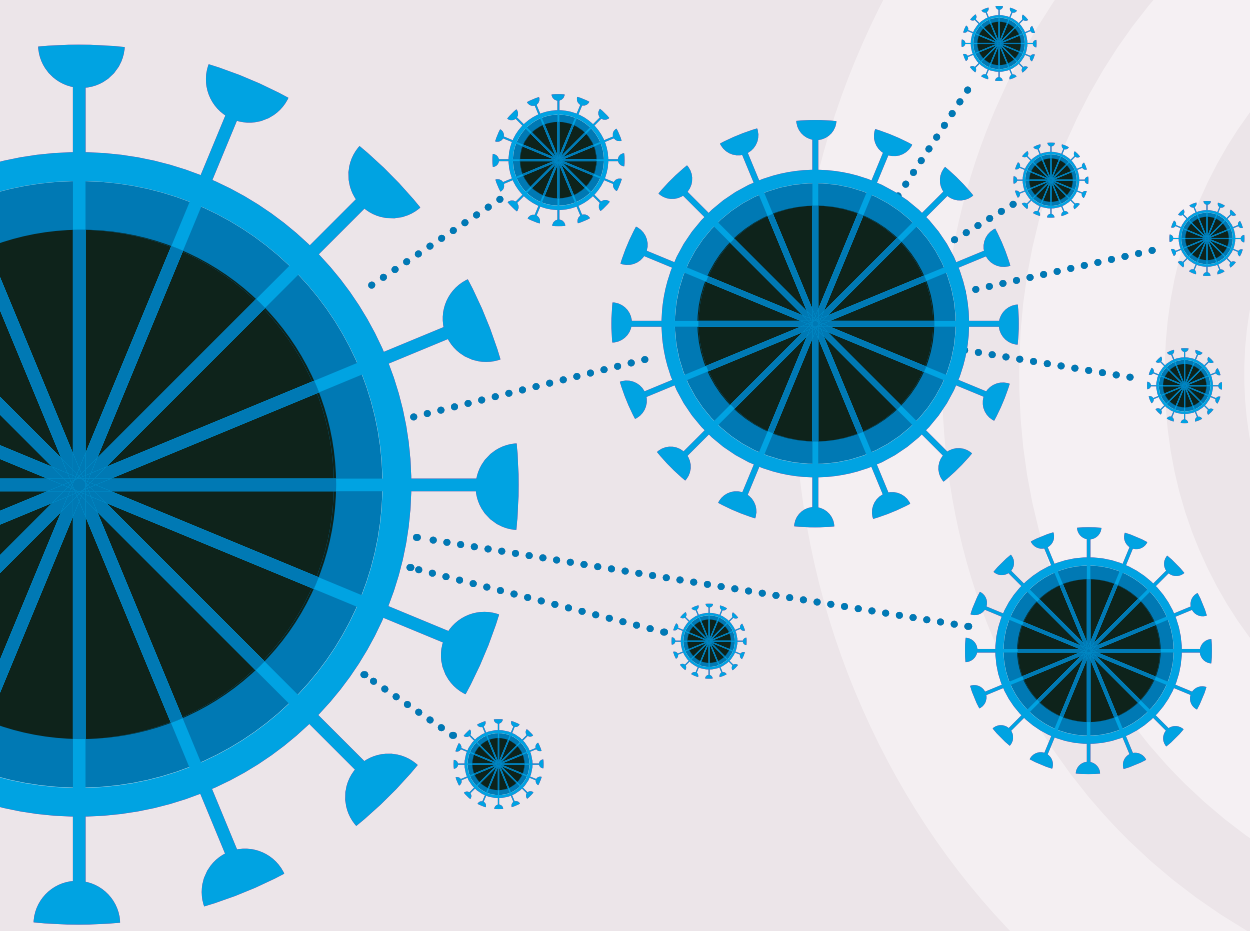

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CEP COVID-19 ANALYSIS

Claudia Hupkau, Ingo Isphording, Stephen Machin and Jenifer Ruiz-Valenzuela

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Summary and recommendations

- We study the effect of negative labour market shocks borne by parents during the Covid-19-induced crisis on resource and time investments in children
- Using data collected in the UK before and during the pandemic, we show a growing inequality in labour market outcomes: fathers and mothers who were already disadvantaged are more likely to have suffered negative earnings and employment shocks.
- Low educated parents, those on precarious job contracts without fixed salary or guaranteed hours and those working in locked-down industries are more likely to have experienced a partial or complete loss of earnings.

These shocks have had an immediate intergenerational impact:

- Children whose fathers' earnings dropped to zero are about 7.5 percentage points less likely to have received additional paid learning resources (such as tutoring or learning apps) compared to similar children whose fathers did not experience a drop in earnings.
- Fathers whose earnings dropped to zero appear to substitute reduced paid learning resources with time: Their children received about 30 more minutes of help with schoolwork per day.
- We do not find any relationship between mothers' labour market shocks and additional paid resources or time spent helping with schoolwork.
- Those whose earnings dropped to zero in April 2020 also experienced negative effects beyond the purely economic: (1) mental health worsens substantially for fathers and mothers moving to zero earnings in April 2020 (2) Mothers seeing reduced earnings are more likely to have been behind on bills; and (3) By May 2020, fathers whose earnings dropped to zero were less likely to talk about important matters with their children (although they were also significantly less likely to quarrel with them).

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- These results have important implications for the economic evaluation of the costs of lockdowns. School closures impose long-term costs on affected students, with learning losses impacting negatively on expected life-long income. The interaction between school closures and parental job and earnings losses that cause economic and mental distress is likely to further increase the unequal effects of the Covid-19 crisis. These costs and rising inequality should be considered when considering school closures in response to future waves of the pandemic.

1 Introduction

Labour market shocks do not only entail economic costs for the individual, e.g. losses in foregone earnings, health or well-being. They might also induce significant spill-overs to other members of the family. When parents lose their jobs or suffer earnings losses, this could impact their offspring's well-being (Powdthavee and Vernoit, 2013; Nikolova and Nikolaev, 2018), health (Lindo, 2011), educational success (Stevens and Schaller, 2011; Rege et al., 2011; Ruiz-Valenzuela, 2020a) and even affect more longer-term career outcomes (Hilger, 2016; Huttunen and Riukula, 2019; Fradkin et al., 2019). Affected children might be scarred far beyond the contemporary labour market shock. During the current labour market crisis, the coinciding widespread closures of schools and nurseries have likely aggravated these spillovers. Children have depended almost exclusively on their parents' care, often with little additional support from formal care and education providers.

Against this background, this briefing note analyses spill-over effects of parental labour market shocks during the Covid-19 pandemic on parental investments: paying for additional learning resources, time spent helping their children with school work, and child-parent interactions. We base our estimations on UK data from the Understanding Society Covid-19 Surveys, which provide information on parental labour market experiences during and before the pandemic. We relate exogenous labour market shocks to changes in parental behaviour while conditioning on pre-pandemic levels of outcomes.

The UK has been particularly hardly hit by the pandemic by international comparison, both in terms of the health as well as the economic toll. According to data analysed by the Financial Times, excess deaths in the UK amounted to 67,500 by October 2020, equivalent to an increase by 37 per cent compared to average deaths in prior years, one of the highest numbers in Europe and above that of the US or some Latin American countries.[1] GDP fell by 20 per cent in the second quarter of 2020, the largest quarterly contraction since measurement began in 1955 (ONS, 2020). When furloughing in the UK reached its peak in May 2020, more than one in four workers - 8.9 million employees - were temporarily laid off from their jobs, with reduced earnings as a consequence (HMRC, 2020). Many more households experienced a decrease in earnings without being covered by the furlough scheme. Permanent job loss has so far remained relatively modest. But

[1] See ft.com (2020) for the latest figures on excess deaths related to the Covid-19 pandemic.

the latest labour market data covering the months up to September 2020 suggests that redundancy rates are close to their peak levels during the 2008-11 recession (Wadsworth, 2020). It is likely that the true labour market effects will not be felt until the current job retention scheme comes to an end by the end of March 2021.

At the same time as these drastic labour market disruptions hit the UK economy, schools and formal child care across the UK were closed from March until June 2020, to further counter the spread of the pandemic.[2] As a consequence, parents had to deal simultaneously with adverse labour market shocks while handling care and home schooling for their children. In addition, children were lacking the support of formal education and friendship networks.

The Covid-19 crisis is having an unequal impact on the employment prospects and earnings across different groups of workers. Younger workers, workers with lower levels of education, in low-paid jobs and on fixed-term contracts are more likely to have experienced job or earnings losses since the onset of the crisis (Adams-Prassl et al., 2020; Elliot Major and Machin, 2020a; Elliot Major et al., 2020). Similarly, the costs of school closures are unequally distributed. Children from already disadvantaged households experience larger adverse effects of home schooling, due to lower resources, worse household IT infrastructure and lower levels of parental involvement. Additionally, schools in lower socio-economic status areas are less likely to be offering online learning (Andrew et al., 2020; Cullinane and Montacute, 2020). Labour market experiences and home schooling environments are likely to interact during the current crisis, widening already existing gaps in child outcomes by socio-economic status.

We present three sets of results. First, we describe emerging labour market inequalities among parents. Low educated parents, those on precarious job contracts (i.e. those without a fixed salary and without fixed guaranteed hours) and those working in industries that were subject to a lock-down are more likely to have experienced a partial drop in earnings or a drop in earnings to zero since the onset of the pandemic.

Second, we describe spillovers of negative labour market shocks on the amount of parental investments. Children whose fathers experienced a drop in earnings to zero since the onset of the pandemic are about 7.5 percentage points less likely to have received additional paid learning resources in April 2020 than similar children whose fathers did

[2]Only a small share of children attended school during the first lockdown in April 2020. Most of them were children of key workers.

not experience a drop in earnings. This is sizable given that overall, only eight per cent of the kids in our sample receive paid-for additional learning resources. We also find that children whose fathers experienced a drop in earnings to zero spend about 30 more minutes per day with their parents doing schoolwork. We do not find any relationship between mothers' labour market shocks and time spent with children on school related activities or investment in paid learning resources.

Third, we describe how negative labour market shocks affect parental psychological and financial well-being which might mediate the effect of labour market shocks on children's outcomes. Negative labour market shocks have direct effects on parents' ability to meet financial obligations. Mothers whose earnings drop to zero are six percentage points more likely to be behind with bills than those mothers who did not suffer reduced earnings in April 2020.

Parents were also experiencing negative effects beyond pure economic impacts. There is a substantial mental health worsening - of about 40% of a standard deviation - for fathers moving into zero earnings in April 2020. Mothers who suffered earnings reductions to zero or reduced earnings more generally also experienced a mental health deterioration by 36 and 23% of a standard deviation, respectively. Finally, the quality of parent-child interactions is also impacted, but only for fathers. On the one hand, fathers whose earnings dropped to zero were less likely to talk regularly about things that matter with their children. On the other hand, they are also less likely to quarrel often with their children. For mothers, labour market shocks do not significantly impact their interactions with their children in terms of quarrelling or talking about things that matter.

With our results, we connect to four strands of the literature. First, we connect to a growing literature that describes the scope of job loss and reduced hours and earnings worldwide, e.g. for the US by Bartik et al. (2020); Adams-Prassl et al. (2020), Cajner et al. (2020), Chetty et al. (2020), for Germany by Bauer and Weber (2020); Adams-Prassl et al. (2020). For the UK, Witteveen (2020) and Blundell et al. (2020) describe economic hardship experienced during the pandemic across different socio-economic groups, the former using the same data as our study.

Second, we relate to an extensive literature documenting how parental job loss and job insecurity transmits to children's well-being and educational outcomes. Several studies examine effects of parental job loss on children's contemporary and longer term education,

e.g. Kalil and Wightman (2011), Stevens and Schaller (2011), Pan and Ost (2014), and Hilger (2016) in the US, Coelli (2011) in Canada,Gregg et al. (2012) in the UK or (Ruiz-Valenzuela, 2020a) in Spain. Ruiz-Valenzuela (2020b) finds damaging effects of father's job insecurity on children's educational outcomes. Other studies have assessed further consequence such as on children's health (Lindo, 2011) and well-being (Powdthavee and Vernoit, 2013; Nikolova and Nikolaev, 2018).

Third, we add to the literature on the importance and determinants of parental inputs. Parental involvement is a major determinant in children's academic achievement (Houtenville and Conway, 2008). Meta studies have shown that parental involvement at home plays an especially influential role (Hill and Tyson, 2009), leading to potential long-term effects on children's performance (Barnard, 2004). Parental involvement may differ strongly by socio-economic status, with parents from higher socio-economic status spending more time with their children on educationally productive activities (Fiorini and Keane, 2014; Guryan et al., 2008).

Fourth, we connect to recent contributions that describe the unequal experiences of children during school lockdowns. Cullinane and Montacute (2020) use data of UK parents to describe patterns of children's time use, parent spending and the crisis' impact on school work. Cattan et al. (2020) conclude that difficulties in combining work and childcare responsibilities during the lockdown may have negatively impacted children's learning and wellbeing. Andrew et al. (2020) report inequalities in children's time use during the lockdown in the UK. Based on a survey of German parents, Woessmann et al. (2020) find that especially children from lower educational backgrounds reduce their learning by half and substitute it with digital media usage.

These results have important implications for the economic evaluation of the costs of lockdowns. Lockdowns induce costs in different forms, through direct costs of reduced economic activity and related labour market disruptions. Through school closures, long-term costs are imposed on the affected cohorts of students, with learning losses impacting negatively on expected life-long income. Our results suggest that these sources might be further aggravated by an interaction between these two shocks when parents experiencing economic distress have to simultaneously care for their children when formal care is shut down. This interaction is likely to contribute to the expected rising inequality induced by the corona crisis. These costs and rising inequality have to be kept in mind when school

closures are considered again as a response to upcoming waves of the pandemic.

2 Data

We rely on data from Understanding Society (University of Essex, Institute for Social and Economic Research, 2020a), a UK longitudinal household study that was initiated in 2009. We use data both from the regular annual surveys, as well as from special Covid-19 surveys that have been conducted since April 2020.

Response rates for the special Covid-19 surveys are lower than for regular waves. The retention rates in the first two waves of the special Covid-19 were 46 per cent and 48.5 per cent, respectively, compared to approximately 86 per cent in wave nine of the regular USoc waves.[3] Respondents in the first Covid-19 wave were slightly older, more likely to be female, British, college educated, employed at wave nine and from households with higher incomes (Hupkau and Petrongolo, 2020). To adjust for unequal selection probabilities and differential non-response, all descriptive statistics and results presented in this paper are derived using cross-sectional weights provided in each of the Covid-19 waves.

The special Covid-19 waves contain information on employment and earnings, health, loneliness, and mental health, among others, for respondents aged 16 and above. Participants respond to a set of questions on household finances (such as total household earnings, benefit receipt, whether they are up to date with bill payments). In the first wave of the Covid-19 surveys, each adult with dependent children is asked to complete a set of questions on each child in the household aged 4-18. Importantly, the Covid-19 surveys ask retrospective questions about employment and finances in January or February 2020, providing us with baseline measures of these variables before the onset of the pandemic. In the second wave of the special Covid-19 surveys, parents are asked about their interactions with children: whether and how often they quarrel with their children, and whether they talk about things that matter with their children. Linking outcomes to past regular waves of USoc allows to control for levels at baseline. The regular surveys contain repeated observations on (I) employment and unemployment histories, income and education; (II) adult physical and mental health and risky behaviors; (III) parental investments in children (time and paid additional resources); and (IV) indicators of the quality of parent-child relationships.

[3]Retention rates measure the response rates among the population of individuals who gave a full or partial interview at the last regular USoc wave. See University of Essex, Institute for Social and Economic Research (2020b, 2019) for more information.

To study the impact of Covid-19 on parental employment and earnings and investments in children we select all children aged 4-18 where at least one parent participated in the first Covid-19 survey and who had completed a full interview at wave nine of the regular annual USoc survey (N=3,277).[4] We restrict the sample to those children whose parents were employed in January or February 2020 (N=2,936). We drop children of parents for whom relevant control variables, such as age, gender, ethnicity, and education, were not available, leaving us with a sample of 2,895 children. We can match 2,269 children to mothers' responses and 1,602 to fathers' responses. For 42 percent of all children, both the mother and the father of the child responded. In these cases, we focus on the mother's response for outcomes measured at the child level.[5] Baseline measures of all outcome variables are obtained from Understanding Society data covering 2019 (Wave 10 and 11), and if these are not available, from Wave 9 of Understanding Society.

Table 1 shows summary statistics for this sample. Children in our data are on average just over 11 years old, and 12 per cent were eligible to receive free school meals (FSM) as of January 2020. About three per cent of the children in our sample were still attending school in April 2020, either because they belong to a vulnerable group or because their parents are key workers. Eight per cent of the children in our sample received additional paid resources (e.g. additional learning resources such as online tutoring, educational apps, website subscriptions or exercise books), and parents helped them, on average, just under three hours per day.

In terms of adverse parental labour market shocks, three per cent of children in our sample had at least one parent who had lost their job by April 2020, and about 23 per cent had a parent that was on furlough. Almost half of the children in our sample had at least one parent who had reduced working hours in April compared to January, with an average reduction in working hours of just over 11 hours per week. About a third of the children in our sample had at least one parent who had suffered earnings reductions, and on average the reductions amounted to around £51 per week. About nine per cent of children lived in households where at least one parent had experienced earnings drops to zero, and a further 21 per cent had at least one parents who had experienced earnings drops (albeit not to zero).

[4]Only individuals who participated in at least one of the last two waves of regular data collection (waves nine and ten) were invited to participate in the study (University of Essex, Institute for Social and Economic Research, 2020b).

[5]Our results are not sensitive to using father's or mother's responses in cases where both are available.

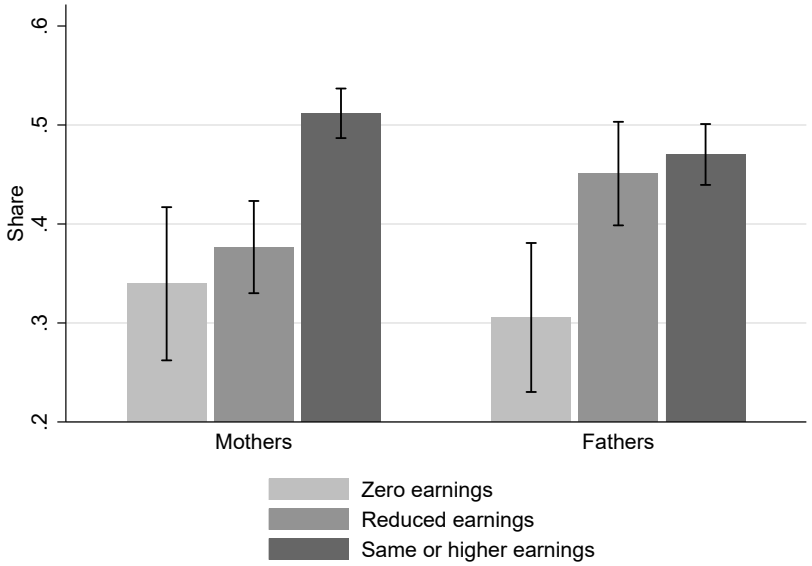
When looking separately at children for whom we have maternal labour market outcomes and those where we have paternal outcomes, the main difference we observe are those relating to the labour market shocks experienced by fathers versus mothers. Fathers were four percentage points more likely to have experienced job loss in April 2020, but mothers were more likely to be on furlough (by four percentage points) or have reduced their hours compared to baseline. On average fathers reduced working hours by about two more per week than mothers. Fathers were also more likely to have experienced drops in earnings: 35 per cent of fathers had lower earnings in April than in January 2020, while this number was 28 per cent for mothers. In terms of the magnitude of earnings reductions, this was also higher for fathers, who experienced an average drop in weekly earnings by nearly £85, compared to mothers' losses of only £27 per week, on average. Overall, the proportion of children whose fathers reported earnings drops to zero was 11, while it was only six per cent of mothers. Mothers were also more likely to have the same or higher earnings than fathers, by five percentage points. These difference in the intensity of the labour market shocks observed between mothers and fathers will be important to consider when analysing at the effects of these on child investments and parental outcomes.

For the analysis of mechanisms, such as the impact of labour market shocks on parental mental and financial health and parental risky behaviours, we use the sample of parents with children aged 4-18 who responded to the first Covid-19 questionnaire and who were employed at baseline (in January/February 2020). For the analysis of parent-child interactions (measured by the frequency of quarrelling and talking about things that matter with children) we use data on all parents of children aged 5-18 from Wave 2 of the Covid-19 survey for whom the relevant control variables (age, gender, education and ethnicity; industry and firm size measured before the pandemic) are available and who were employed at baseline (in January/February 2020).

3 Parental labour market shocks during Covid-19

We first describe to what extent children have been exposed to parental labour market shocks. We construct a hierarchy of three mutually exclusive groups ranked from less to more negatively affected by the pandemic based on parental earnings. The first group are children whose parents have the same or higher earnings in April 2020 compared to the baseline measured in January/February 2020. The second group comprises children

Figure 1: Share of individuals with college degree or above



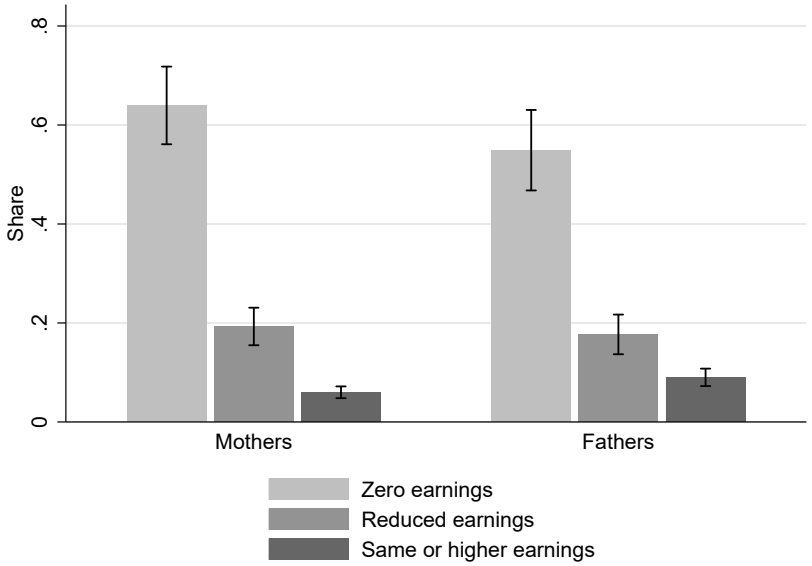
Notes: Source: USoc COVID-19 Study Wave 1 and USoc waves 9-11. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study. Summary statistics derived using cross-sectional child weights provided. The bars show the share of individuals who hold a college degree or above by labour market outcome, separately for mothers and fathers. Whiskers show the 95% confidence intervals.

where the mother or father reported a reduction in earnings with respect to the baseline. The third group consists of those children where the responding parent's earnings had dropped to zero. Summary statistics describing these groups are presented in Table 2, separately for children for whom we have mothers' labour market outcomes and baseline characteristics (Panel A) and for those where we have fathers' labour market outcomes and baseline characteristics (Panel B).

Adverse labour market shocks in April 2020 are closely linked to parental education levels (Figure 1). Fifty-one percent of mothers with the same or higher earnings as at baseline have a college degree, while this share is significantly lower with just 34 percent for mothers whose earnings dropped to zero. The respective difference for fathers ranges from 47 to 31 percent.

Parents who experienced earnings reductions are more likely to be self-employed, as shown in Figure 2: 64 (55) per cent of children whose mothers (fathers) report an earnings drop to zero had self-employed parents (including those who were both employed and self-employed). The self-employed were also over-represented in the group that suffered earnings reductions, while among those who did not suffer a negative earnings shock the

Figure 2: Share self-employed



Notes: Source: USoc COVID-19 Study Wave 1. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study. Summary statistics derived using cross-sectional child weights provided. The bars show the share of individuals who were self-employed or both self-employed and employed at baseline by labour market outcome, separately for mothers and fathers. Whiskers show the 95% confidence intervals.

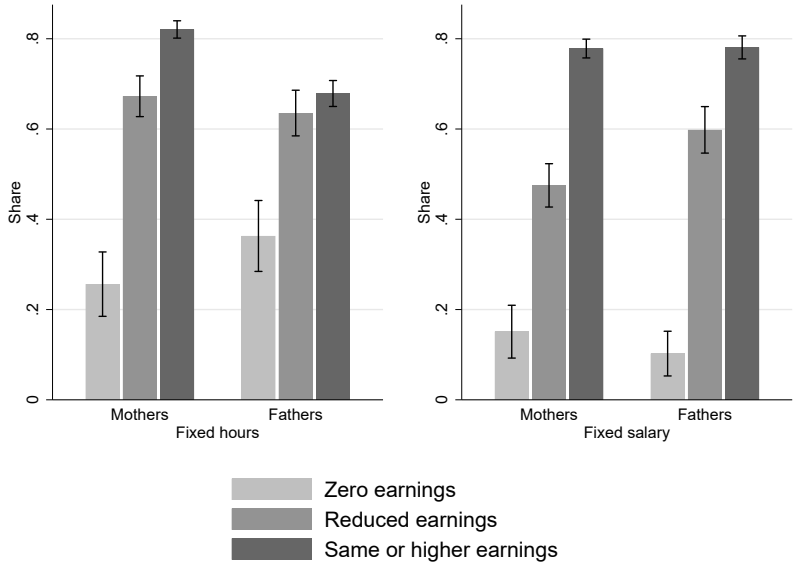
share of children whose mothers (fathers) were self-employed was only 6 (9) per cent.

Figure 3 shows that among those who experienced no change in earnings, 82 (68) per cent of mothers (fathers) were on fixed hours contracts at baseline, compared to 67 (64) for those who had a reduction in earnings, and 26 (36) per cent for those whose earnings dropped to zero. Those suffering earnings losses were also disproportionately those who did not have a fixed salary at baseline, for instance because they were paid on the basis of commissions or on zero hours contracts (right hand side of Figure 3) .

Among those mothers and fathers who report no reductions in earnings we disproportionately find those who work in sectors that have a high share of jobs that were classified as critical to the response to the pandemic, such as health care and provision of essential public administration and security (Figure 4, left panel). Among mothers, the share of jobs that were subject to lock downs was 40 per cent among those who reported earnings drops to zero, compared to only 12 per cent for those who report no drops in earnings. For fathers, the role of locked down industries for earnings shocks is less pronounced.

All in all, children whose parents have been affected by negative labour market shocks at the onset of the pandemic seem to be children from already disadvantaged families.

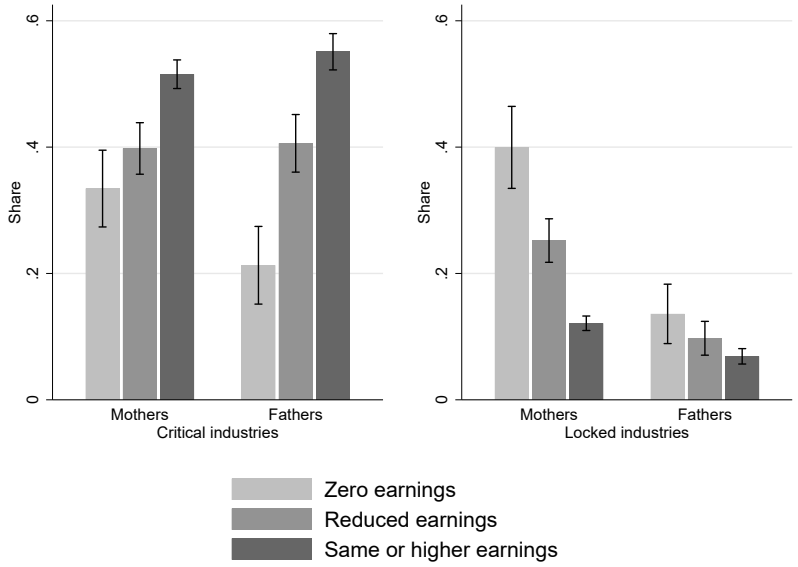
Figure 3: Share of individuals with fixed hours or fixed salary



Notes: Source: USoc COVID-19 Study Wave 1. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study. Summary statistics derived using cross-sectional child weights provided. The bars show the share of individuals that had fixed hours (left) or fixed salary (right) at baseline by labour market outcome, separately for mothers and fathers. Whiskers show the 95% confidence intervals.

We next try to understand the intergenerational consequences of these negative labour market shocks suffered by either of the parents.

Figure 4: Share of individuals working in critical or locked industries



Notes: Source: USoc COVID-19 Study Wave 1 and USoc waves 9-11. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study. Summary statistics derived using cross-sectional child weights provided. The bars show the average share of jobs that were defined critical (left) or locked (right) in the occupation the person worked in at wave nine by labour market outcome, separately for mothers and fathers. Whiskers show the 95% confidence intervals.

4 Parental investments in children during Covid-19

We now turn to analysing the relationship between parental labour market shocks and investments in children: whether parents paid for additional learning resources, such as tutoring or learning apps, and the amount of time parents spent helping their children with school work.

In Section 3 we showed that not all parents were equally likely to be negatively affected by the pandemic. Those without a college education, those on precarious job contracts - without fixed hours or earnings - and those in self-employment at baseline were more likely to suffer earnings losses. Since some of these measures might be correlated with parental investments, estimates relating parental labour market shocks to child outcomes might be biased.

We take a number of steps to tackle this concern. First, some parents might have voluntarily adjusted their working hours to deal with increased child care responsibilities. In the main figures shown in the body of the text, we control for a measure of voluntary

reduction in hours.[6] But we also run the analysis dropping parents that state that their reductions in working hours was due to voluntary reasons.

Second, we include baseline measures of the outcomes of interest, measured before the pandemic. Third, we include controls at the child and parent level, also measured prior to the pandemic (including child and parent age, child gender, parental education, ethnicity, child's free-school-meal eligibility).[7] Fourth, we control for the parent's industry at the one digit level and firm size at baseline, which could be related both to the probability of experiencing a negative earnings shock during the pandemic and to child outcomes. Finally, because labour market shocks could concentrate on particular types of households (where, for instance, both parents work in an industry negatively affected by lock-down measures), we also control for labour market shocks experienced by partners and whether the partner reduced working hours voluntarily.[8] More details about the methodology can be found in Appendix B.

The left side of Figure 5 shows the impact of negative labour market shocks on the likelihood of having received additional paid learning resources, corresponding to regression results presented in Column 1 of Table 4.[9] Children of fathers whose earnings dropped to zero since the onset of the pandemic are 7.5 percentage points less likely to have received additional paid learning resources (and it is non-significant for mothers). This is a big effect compared to an average of eight per cent of children receiving additional paid resources in the sample. The coefficients for those with fathers in the reduced earnings category are also negative, but very small and imprecisely estimated. Table B.9 shows results when using a hierarchy that uses changes in both earnings and hours to define negative labour market shocks. This alternative hierarchy comprises the following categories (from more to less negative): (1) Job loss; (2) Reduced earnings and hours; (3)

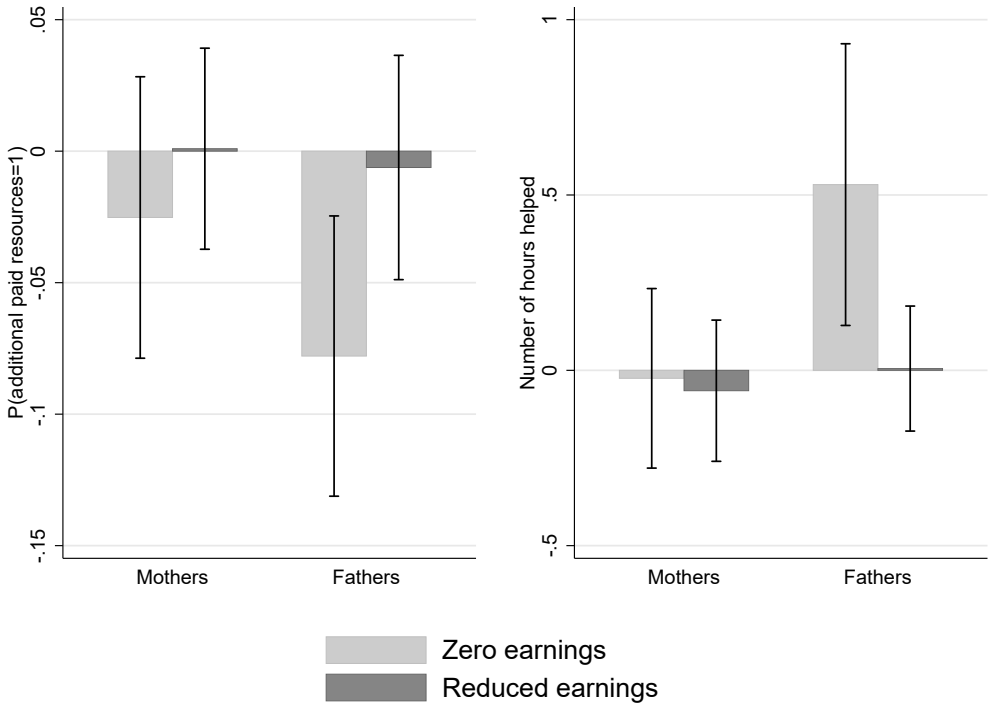
[6]We classify someone as having reduced their hours voluntarily if they name one of the following reasons for the reduction in working hours: 1) taking care of children/parental leave, 2) taking annual leave, 3) personal reasons not related to Covid-19, and 4) own choice. When we construct this variable with data from wave 2 of the Covid-19 survey, we also account for new options available in there. In particular: 5) bereavement, and 6) avoiding risk of becoming sick.

[7]For a full description of control variables see Table 3 and notes to regression tables.

[8]We can do so whenever both partners in a household answered the special Covid-19 surveys. Where we do not observe partners, we include a category for unknown labour market status of the partner; and a category for single-parent households.

[9]The full set results are reported in Table B.1. Panel A shows the impacts of negative labour market shocks for mothers; and Panel B for fathers. In both panels, the results are quite stable across specifications, so we will describe the results shown in Column 7. We will do so for all the figures in the body of the text. Results are very similar when instead of controlling for whether the reduction in hours was voluntary, we drop parents with voluntary reductions in worked hours from the analysis. This is shown for all outcomes in summary Tables 4 and 5, respectively.

Figure 5: Parental investments: additional paid resources and helping with homework



Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study. The bars show coefficients from a linear probability model where the outcome variable is a dummy variable equal to one if the child was receiving paid additional learning resources in April 2020 (left) and from interval regressions where the outcome variable is the number of hours spent by parents helping with homework, provided in intervals (None, Less than an hour, 1 to 2 hours, 2 to 3 hours, 3 to 4 hours, 4 to 5 hours, 5 or more hours) (right). The coefficients correspond to specification in Col (7) of Table 3. The omitted category is those individuals who did not experience a reduction in earnings with respect to baseline. Whiskers show the 95% confidence intervals.

Reduced hours only; (4) Same/More hours. Results indicate that the observed effect of negative earnings shocks comes from fathers that have lost their jobs, while coefficients for mothers remain insignificant but are larger in magnitude for the job loss category.[10]

The right side of Figure 5 shows the regression coefficients from interval regressions where the outcome is time spent helping children with school work, corresponding to regression results presented in Column 2 of Table 4.[11] There are no remarkable differences in time spent helping children for mothers across the different labour market shocks. However, children whose fathers are classified in the zero earnings category are being helped about half an hour more per day with school work by their parents. This is

[10]It is interesting to note that the hierarchy of labour market shocks translates into a hierarchy of impacts on the outcome variable.

[11]Table B.2 shows the full set of results.

a non-negligible effect, especially compared to an average of about three hours in the sample.[12] Again, results are driven by fathers who lose their jobs, which is the main reason for experiencing earnings drops to zero in our sample, but also includes those on zero hours contracts or the self-employed who are not covered by the furlough scheme or other benefits.[13]

The results in this section show that there was an immediate intergenerational impact of negative labour market shocks on parental investments. There is a negative impact when fathers' earnings drop to zero on whether the child received any paid additional learning resources. However, this might be offset by an increase in the amount of time these children are being helped with school work by their fathers. Mothers do not seem to alter time or resource investments as measured by these two variables in response to negative labour market shocks. This resonates with findings by Hupkau and Petrongolo (2020), who show that being out of work was nudging fathers to be in charge of taking care of children more than mothers during the first months of the pandemic.

5 Labour market shocks, financial and mental health, and parent-child relations

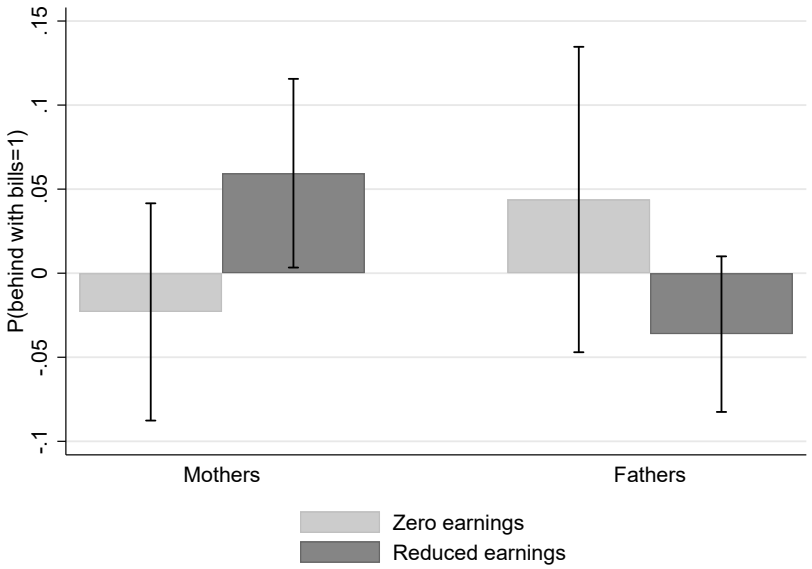
Negative labour market shocks are likely to have direct effects on the parent's ability to meet financial obligations, their mental health, as well as their interactions with their children. In this section we will look at the relationship between labour market shocks and such parental outcomes to shed light on the mechanisms that are at play in the intergenerational transmission. In doing so, we will follow a methodology that resembles the one used in Section 4. That is, we include in each regression indicators of the outcomes of interest measured before the pandemic; controls at the child and parent level also measured at baseline; and labour market shocks experienced by partners. The full set of controls is described in Panel B of Table 3. Since results are rather stable across specifications, we will focus here on describing results of our preferred (and most complete) specification, shown in Column 7 of the relevant tables.

The observed earnings impact of the pandemic can have consequences on the ability of families to meet financial obligations. Figure 6 shows coefficients from linear probability

[12] The results are very similar if we instead treat the outcome variable as continuous and run linear regressions (see Table B.3).

[13] The full set of results using the alternative hierarchy, and interval regressions, can be found in Table B.10.

Figure 6: Behind with bills



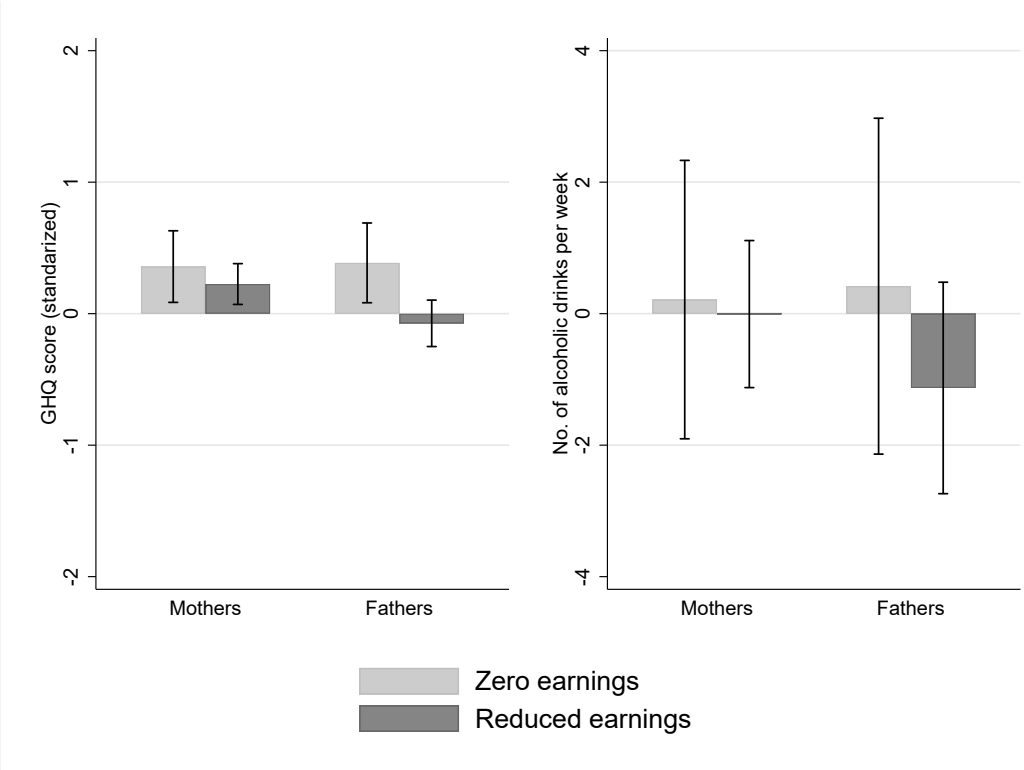
Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. Sample of parents who responded to the first wave of the USoc COVID-19 Study. The bars show coefficients from OLS (linear probability model) regressions where the outcome variable is a dummy variable equal to one if the person was behind with household bill payments. The coefficients correspond to specification in Col (7) of Table 3. The omitted category is those individuals who did not experience a reduction in earnings with respect to baseline. Whiskers show the 95% confidence intervals.

models where the outcome variable is a dummy equal to one if the respondent reported to be behind with household bill payments, corresponding to regression results presented in Column 3 of Table 4.[14] In general, we do not observe significant impacts of negative labour market shocks for fathers. Mothers whose earnings dropped to zero were not more likely to be behind with bills than those whose earnings remained unaffected. However, mothers with reduced earnings (albeit not to zero) were almost six percentage points more likely to report being behind bills. All in all, these results suggest some immediate short-term financial impacts associated to negative labour market shocks arising at the onset of the pandemic, which seem to be concentrated on mothers. The fact that earnings drops to zero did not impact parents' ability to meet financial obligations might be explained by households cutting back on other non-essential spending during the lockdown, such as traveling and eating out.

Existing evidence from the job loss literature suggests that individuals might suffer from poorer mental health after job loss occurs or when job insecurity increases (see, for

[14]Table B.4 shows the full set of results.

Figure 7: Parent mental health and risky behaviours: GHQ and alcohol consumption



Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. Sample of parents who responded to the first wave of the USoc COVID-19 Study.The bars show coefficients from OLS regressions where the outcome variable is the standardised GHQ scale, which is computed by summing the scores in 12 mental health questions, with a higher score implying a worse mental health state (left) and where the outcome variable is an indicator reflecting the average number of drinks that the person has consumed in a typical week within the last month (right). The coefficients correspond to specification in Col (7) of Table 3. The omitted category is those individuals who did not experience a reduction in earnings with respect to baseline. Whiskers show the 95% confidence intervals.

instance, Kuhn et al. (2009)). The USoc data allows to check whether parents exposed to negative labour market shocks show lower levels of self-reported mental health. We look at the overall score in the General Health Questionnaire, which is derived from adding points given to 12 questions covering different aspects of mental well-being, where a higher score reflects worse mental health.[15]

The left hand side of Figure 7 shows the coefficients from regressions of the standard-

[15]The 12 questions ask about ability to concentrate, sleep, feeling useful, capable of making decisions, feeling under strain, ability to overcome difficulties, ability to enjoy day-to-day activities, ability to face problems, feeling unhappy or depressed, losing self-confidence, feelings of worthlessness, and general happiness. The exact score is obtained by adding the scores given to 12 mental health questions (Likert Score). For each question, a score from zero to three can be given, where a score of zero reflects, for instance, that individuals feel happier than usual, or that they do not feel worthless at all. A score of three reflects that individuals feel, for instance, much less happy than usual or that they believe much more than usual that they are worthless. We then standardise the score, separately for mothers and fathers, to have a mean of zero and a standard deviation of one.

ised mental health variable on our earnings hierarchy, separately for mothers and fathers, corresponding to regression results presented in Column 4 of Table 4.[16] Parents whose earnings dropped to zero since the onset of the pandemic have significantly worse mental health scores compared to those with the same or higher earnings, by well over a third of a standard deviation. Mothers who saw their earnings reduced (though not to zero) also see a worsening of their self-reported mental health, by almost 23 per cent of a standard deviation. Thus, these results are in line with those found more generally in the job loss literature.

Following the literature on the consequences of job loss and job insecurity on affected individuals (see Eliason and Storrie (2009), for instance), and given our initial results on poorer mental health, we next try to understand whether affected parents engage in more risky activities like excessive alcohol consumption. The right hand side of Figure 7 shows that negative labour market shocks at the onset of the pandemic did not trigger additional alcohol consumption for affected parents, compared to those fathers or mothers whose earnings were unaffected by the pandemic.[17] It will be important to track whether there are any changes in this type of risky behaviour as data becomes available, and as initial labour market shocks become long-lasting for many families.

Increased financial difficulties and low self-reported levels of mental health among parents could impact the quality of child-parent interactions. We use data available in the parents-children module of the second Covid-19 wave of the Understanding Society dataset to understand whether parents affected by negative labour market shocks were more or less likely to quarrel or talk about things that matter with their children. A summary of results is shown on the left and right hand side of Figure 8, corresponding to regression results presented in Columns 6 and 7 of Table 4, respectively.[18] As with all the previous analysis, baseline measures of these outcomes (measured in 2019, if available, or in 2018), as well as other controls, are included in the regressions.

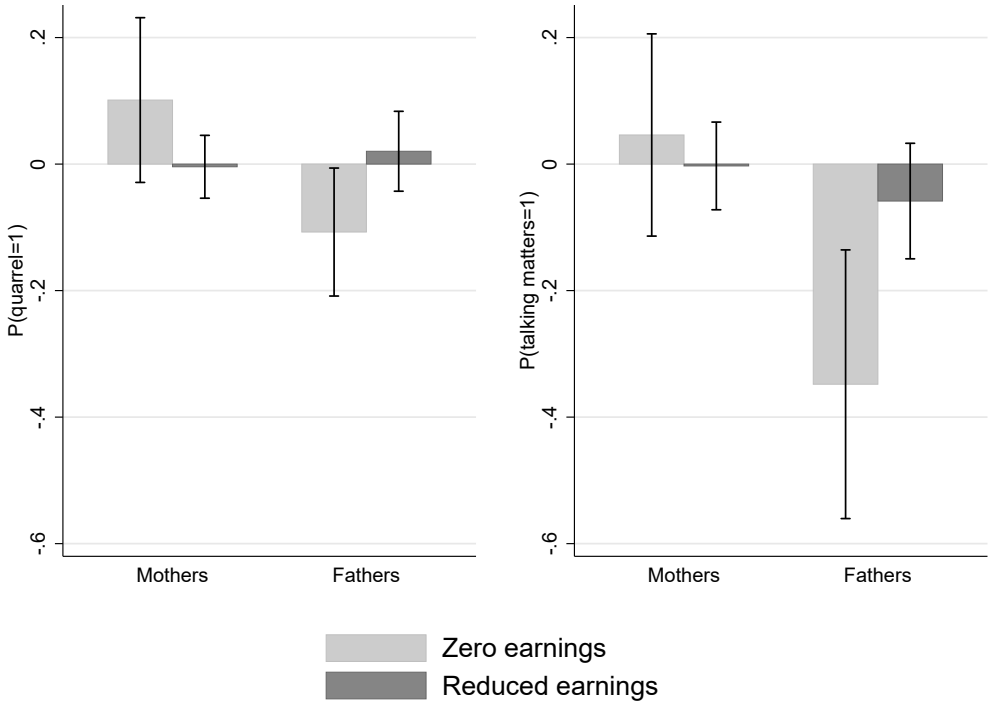
We do not find any significant associations between negative labour market shocks borne by the mother and any of the two variables capturing the quality of parent-children interactions. However, and consistent with earlier results in Section 4, those fathers suffering reductions to zero earnings do experience significant impacts on the variables

[16] Table B.5 shows the full results.

[17] They correspond to regression results presented in Column 5 of Table 4. Table B. 6 shows the full set of results.

[18] Full results are shown in Tables B.7 and B.8, respectively.

Figure 8: Parent-child interactions: Talk matters and quarrelling



Source: USoc COVID-19 Study wave two and USoc waves 9-11. Sample of parents who responded to the first wave of the USoc COVID-19 Study. The bars show coefficients from OLS regressions where the outcome variable is an indicator equal to one if the person quarrelled most days or once a week with child(ren) in the household (left) and where the outcome variable is an indicator equal to one if the person talks about important matters most days or once a week with child(ren) in the household (right). The coefficients correspond to specification in Col (7) of Table 3. The omitted category is those individuals who did not experience a reduction in earnings with respect to baseline.

measuring father-children interactions. On the one hand, fathers in the zero-earnings category are on average about 10 percentage points less likely to quarrel (often) with their children than fathers who did not see their earnings reduced. However, they are also about 35 percentage points less likely to talk about things that matter on a regular basis.

Overall, experiencing reductions in earnings affects parents negatively in the extent to which they can make ends meet financially and their mental health. During the early stage of the lockdown in the UK, many fathers were nudged into becoming the main providers of childcare (Hupkau and Petrongolo, 2020), and it is plausible that this has changed the nature of their interactions with their children. The evidence presented on parent-child interactions and time-investments in children supports this idea: Fathers seem to have shifted towards spending more time with their children doing school work,

and less time on quarreling or talking about things that matter.

6 Discussion

There is mounting evidence that the Covid-19 crisis has had an unequal impact on the employment prospects and earnings of different groups in society. Similarly, the costs of school closures are likely to be unequally distributed, with children from already disadvantaged households potentially experiencing larger adverse effects of home schooling. These sources of inequality in labour market experiences and home schooling environments are likely to interact during the current crisis, widening already existing gaps in child outcomes by socio-economic status. The twin drivers of low social mobility are higher education inequalities and higher income inequalities (Elliot Major and Machin, 2018, 2020b). Against this background, this paper contributes to the understanding of the likely intergenerational consequences of the negative labour market and education shocks occurring at the onset of the Covid-19 crisis in the UK.

Using Understanding Society data, we first document the characteristics of those fathers and mothers that are more likely to have been hit by negative labour market shocks, such as reduced or no earnings altogether in April 2020. Considering parents that were employed prior to the pandemic (in January/February 2020), we find that low educated parents, those on precarious job contracts (i.e. those without a fixed salary and without fixed guaranteed hours) and those working in industries that were subject to a lock-down are more likely to have experienced a partial drop in earnings or a drop in earnings to zero since the onset of the pandemic. Thus, negative labour market shocks at the beginning of the pandemic seem to be concentrated on fathers and mothers that were already disadvantaged.

We also show that there was an immediate intergenerational impact of negative labour market shocks on parental investments in children, especially when these negative labour market shocks were borne by the father. Children of fathers who experienced a drop in earnings to zero were about 7.5 percentage points less likely to have received additional paid learning resources during April 2020. These findings resonate with a recent study by Bacher-Hicks et al. (2020), who show that US households in high income areas increased searches for online learning resources much more than households in low income areas, concluding that parents' differential engagement with online resources is likely going to widen the achievement gap across these households. However, we find that the same

children received on average 30 minutes per week more help doing school work from their parents, which suggests that the potential negative impact of lower additional resources could be offset by more time spent with children by those who see their earnings dropping to zero, for instance because of job loss or because they were self-employed before the pandemic and lost all their revenues during the lockdown.

We provide evidence that parents might also be experiencing other negative effects besides the pure economic impact of the crisis. Using answers to the General Health Questionnaire contained in the first wave of the Covid-19 Understanding Society dataset, we show that there is a substantial mental health worsening for those fathers and mothers moving into zero earnings or suffering earnings reductions in April 2020 (of between 20 and 40 per cent of a standard deviation). Mothers affected by earnings reductions are also six percentage points more likely to be behind with bills. The quality of father-child interactions is also impacted for fathers falling into the zero earnings category, however showing mixed results. On the one hand, they are less likely to talk about things that matter than fathers whose earnings did not drop since January/February 2020. On the other hand, they are less likely to quarrel with their children.

The fact that effects on child investments are driven mainly by fathers is in line with the existing literature analysing the impact of job loss on children's school performance (Rege et al., 2011; Ruiz-Valenzuela, 2020a). Rege et al. (2011) argue that the disparate effect of job loss across fathers and mothers is consistent with empirical studies documenting that the mental distress experienced by displaced workers is generally more severe for men than for women. During this crisis, women who suffer negative earnings shocks also suffer substantial deteriorations in mental health. While this does not seem to impact their interactions with their children, further research is needed to understand whether it might lead to negative impacts for the children.

Ultimately, it will be important to understand whether pervasive effects of negative labour market shocks on parents, as well as the immediate intergenerational effects on parental investments, are long lasting. We aim to explore whether these negative effects translate into a worsening of school performance for the affected children in future work. This is important because of the likely future consequences of learning losses that may occur. For example, education and labour market scarring may result, in the form of subsequent access to higher education once children leave school, and on employment,

earnings and other economic outcomes at the time when they enter the labour market (Elliot Major and Machin, 2020b; Von Wachter, 2020).

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A Tables

Table 1: Summary statistics for children by responding parent's gender

	(1) All	(2) Mothers	(3) Fathers	(4) p-value (3)-(2)
Child characteristics:				
Child age	11.26	11.33	11.15	(0.15)
Share female	0.49	0.48	0.50	(0.23)
FSM	0.12	0.13	0.12	(0.28)
Children's resources (April 2020):				
Child still attending school	0.03	0.04	0.03	(0.32)
Use paid additional resources	0.08	0.08	0.09	(0.41)
Hours helped with homework per day	2.91	2.86	2.97	(0.02)
Children's resources (Wave 11/10/9):				
Use paid additional resources	0.06	0.06	0.06	(0.99)
Child received help with homework:				
Every day	0.12	0.11	0.12	(0.29)
Several times a week	0.21	0.20	0.21	(0.37)
Once or twice a week	0.29	0.30	0.27	(0.04)
At least once a month	0.08	0.09	0.07	(0.09)
Less often than once a month	0.05	0.05	0.04	(0.84)
Never or hardly ever	0.12	0.13	0.11	(0.07)
No homework	0.04	0.04	0.04	(0.70)
Parental labour market outcomes (April 2020):				
Job loss	0.03	0.01	0.05	(0.00)
Furloughed (if employed at BL)	0.23	0.25	0.21	(0.00)
Reduced hours wrt baseline	0.48	0.50	0.45	(0.00)
Change in working hours	-11.11	-10.22	-12.36	(0.00)
Reduced earnings	0.31	0.28	0.35	(0.00)
Change in weekly earnings	-51.39	-26.95	-84.85	(0.00)
Parental hierarchy in terms of labour market shocks (April 2020):				
Earnings dropped to zero	0.09	0.06	0.11	(0.00)
Reduced earnings wrt baseline	0.21	0.20	0.22	(0.11)
Same or higher earnings wrt baseline	0.64	0.66	0.61	(0.00)
Earnings change not known	0.07	0.08	0.06	(0.00)
N	3,871	2,269	1,602	

Source: USoc COVID-19 Study Wave 1 and USoc waves 9-11. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study. Summary statistics derived using cross-sectional child weights.

Table 2: Summary statistics of parental characteristics by type of labour market shock

	(1) All	(2) Same or MoreEarn	(3) Red Earn	(4) p-value (3)-(2)	(5) Zero Earn	(6) p-value (5)-(2)
			Panel A: Mothers' characteristics			
Age	42.19	42.52	41.61	(0.01)	41.38	(0.05)
British	0.88	0.88	0.90	(0.29)	0.84	(0.10)
Married	0.82	0.83	0.83	(0.82)	0.76	(0.05)
College and above	0.46	0.51	0.38	(0.00)	0.34	(0.00)
Labour market status at baseline:						
Employed	0.87	0.94	0.81	(0.00)	0.36	(0.00)
Self-employed or both employed and self-employed	0.13	0.06	0.19	(0.00)	0.64	(0.00)
Fixed hours (Jan 2020)	0.74	0.82	0.67	(0.00)	0.26	(0.00)
Fixed salary (Jan 2020)	0.66	0.78	0.48	(0.00)	0.15	(0.00)
Furloughed (if employed at BL)	0.25	0.14	0.60	(0.00)	0.27	(0.01)
Share jobs critical in 2-digit industry	0.48	0.52	0.40	(0.00)	0.33	(0.00)
Share jobs shut-down in 2-digit industry	0.17	0.12	0.25	(0.00)	0.40	(0.00)
N	2,269	1,533	417		145	
			Panel B: Fathers' characteristics			
Age	44.40	44.96	43.95	(0.02)	41.42	(0.00)
British	0.84	0.86	0.82	(0.03)	0.77	(0.00)
Married	0.97	0.97	0.96	(0.55)	0.94	(0.05)
College and above	0.44	0.47	0.45	(0.53)	0.31	(0.00)
Labour market status at baseline:						
Employed	0.82	0.91	0.82	(0.00)	0.45	(0.00)
Self-employed or both employed and self-employed	0.18	0.09	0.18	(0.00)	0.55	(0.00)
Fixed hours (Jan 2020)	0.62	0.68	0.64	(0.14)	0.36	(0.00)
Fixed salary (Jan 2020)	0.65	0.78	0.60	(0.00)	0.10	(0.00)
Furloughed (if employed at BL)	0.21	0.13	0.46	(0.00)	0.04	(0.08)
Share jobs critical in 2-digit industry	0.47	0.55	0.41	(0.00)	0.21	(0.00)
Share jobs shut-down in 2-digit industry	0.08	0.07	0.10	(0.03)	0.14	(0.00)
N	1,602	1,014	349		145	

Source: USoc COVID-19 Study Wave 1 and USoc waves 9-11. Sample of children whose mothers and/or fathers responded to the first wave of the USoc COVID-19 Study and who were employed at baseline (January/February 2020). Summary statistics derived using cross-sectional child weights.

Table 3: Control variables

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Child level			
Voluntary characteristics:							
Voluntary reduction hours parent		✓	✓	✓	✓	✓	✓
Value Added:							
Mother is 1st guardian			✓	✓	✓	✓	✓
Outcome W10/11/9			✓	✓	✓	✓	✓
Child characteristics:							
Age				✓	✓	✓	✓
FSM				✓	✓	✓	✓
Gender				✓	✓	✓	✓
Parent characteristics:							
Region					✓	✓	✓
Age					✓	✓	✓
BAME (W10/11/9)					✓	✓	✓
College and above (W10/11/9)					✓	✓	✓
Married (W10/11/9)					✓	✓	✓
Job characteristics:							
Firm size						✓	✓
Industry						✓	✓
Partner characteristics:							
Voluntary reduction hours partner							✓
Partner hierarchy							✓
				Panel B: Parent level			
Voluntary characteristics:							
Voluntary reduction hours parent		✓	✓	✓	✓	✓	✓
Value Added:							
Mother is 1st guardian			✓	✓	✓	✓	✓
Outcome W10/11/9			✓	✓	✓	✓	✓
Child characteristics:							
Age of youngest child				✓	✓	✓	✓
Any child with FSM				✓	✓	✓	✓
Has girl				✓	✓	✓	✓
Has boy				✓	✓	✓	✓
Parent characteristics:							
Region					✓	✓	✓
Age					✓	✓	✓
BAME (W10/11/9)					✓	✓	✓
College and above (W10/11/9)					✓	✓	✓
Married (W10/11/9)					✓	✓	✓
Partner characteristics:							
Voluntary reduction hours partner							✓
Partner hierarchy							✓

Notes: Table describing the control variables used in each specification. Abbreviations: W10/11/9 indicates that variables come from Wave 10-11 when available (and 9 otherwise) from the Understanding Society dataset; FSM indicates Free School Meals; BAME: Black, Asian and Minority Ethnicity.

Table 4: Regression coefficients - controlling for whether reduction in working hours was voluntary

	(1) Additional paid resources	(2) Helping with homework	(3) Behind with bills	(4) GHQ score (standarized)	(5) Alcohol consumption	(6) Quarreling	(7) Talking matters
				Panel A: Mothers			
Zero earn	-0.030	-0.023	-0.023	0.359***	0.219	0.101	0.046
	(0.027)	(0.131)	(0.033)	(0.139)	(1.079)	(0.066)	(0.082)
Reduced earn	0.000	-0.058	0.059**	0.226***	-0.012	-0.004	-0.003
	(0.020)	(0.103)	(0.029)	(0.079)	(0.569)	(0.025)	(0.035)
Constant	0.253	2.640***	0.003	0.372	20.413***	0.649***	1.442***
	(0.161)	(0.530)	(0.105)	(0.459)	(4.813)	(0.171)	(0.247)
Observations	2269	1997	1393	1371	1034	1343	1345
				Panel B: Fathers			
Zero earn	-0.075***	0.530***	0.044	0.386**	0.436	-0.107**	-0.348***
	(0.026)	(0.205)	(0.046)	(0.155)	(1.305)	(0.052)	(0.108)
Reduced earn	-0.004	0.005	-0.036	-0.074	-1.128	0.020	-0.058
	(0.022)	(0.091)	(0.024)	(0.090)	(0.821)	(0.032)	(0.047)
Constant	0.282	3.250***	0.325*	1.468*	15.486**	0.341	0.658*
	(0.216)	(0.476)	(0.191)	(0.839)	(6.343)	(0.244)	(0.357)
Observations	1601	1451	953	928	718	952	951

Notes: Robust standard errors clustered at the parent level in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Waves 1-2 and USoc Waves 9-11. Each column corresponds to specification in Col (7) of Table 3.

Table 5: Regression coefficients - dropping parents stating that the reduction in working hours was voluntary

	(1) Additional paid resources	(2) Helping with homework	(3) Behind with bills	(4) GHQ score (standarized)	(5) Alcohol consumption	(6) Quarreling	(7) Talking matters
				Panel A: Mothers			
Zero earn	-0.021	0.027	-0.009	0.372**	0.376	0.111*	0.057
	(0.026)	(0.137)	(0.037)	(0.154)	(1.212)	(0.067)	(0.084)
Reduced earn	0.009	-0.031	0.061**	0.185**	0.195	-0.011	-0.001
	(0.020)	(0.107)	(0.031)	(0.088)	(0.614)	(0.025)	(0.036)
Constant	0.202	2.568***	-0.010	0.416	21.254***	0.619***	1.388***
	(0.163)	(0.521)	(0.109)	(0.482)	(4.931)	(0.172)	(0.282)
Observations	1973	1732	1226	1206	918	1278	1280
				Panel B: Fathers			
Zero earn	-0.083***	0.640***	0.066	0.426***	0.948	-0.072	-0.311***
	(0.029)	(0.217)	(0.048)	(0.157)	(1.428)	(0.051)	(0.114)
Reduced earn	0.001	0.008	-0.032	-0.012	-1.038	0.028	-0.063
	(0.022)	(0.094)	(0.024)	(0.088)	(0.833)	(0.032)	(0.047)
Constant	0.320	3.303***	0.282	1.573*	18.091***	0.351	0.561
	(0.251)	(0.521)	(0.183)	(0.853)	(6.180)	(0.242)	(0.364)
Observations	1480	1338	886	864	663	918	917

Notes: Robust standard errors clustered at the parent level in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Waves 1-2 and USoc Waves 9-11. Each column corresponds to specification in Col (7) of Table 3.

B Appendix

B.1 Empirical Strategy

Let $Y_{i,C19}$ denote the parental investment variable (i.e., (1) whether the child receives any paid additional learning resources or (2) the overall time spent helping with school work) for child i at the time of the first Covid19 USoc Wave in April 2020 (denoted here by the $C19$ sub index). Our main explanatory variables of interest are given by dummy variables capturing the mutually exclusive categories in the hierarchy of labour market shocks described in Section 3, and picked up in Equation 1 by $HIER_{p,H,C19}$. These are dummies defined at the parent level p, with H denoting the number of dummies in the hierarchy -and where the omitted category is whether the mother (father) has not been impacted by a negative labour market shock. We estimate this equation for each of the two outcomes and separately for mothers and fathers.

$$Y_{i,C19} = \alpha_0 + \sum_{H=1}^{N} \alpha_{1,H} * HIER_{p,H,C19} + \alpha_2 * Y_{p,lag} + \alpha_3 * PRED_{i,C19b} + \alpha_4 * PRED_{p,lag} + \sum_{H=1}^{N} \alpha_{5,H} * HIER_{part,H,C19} + \epsilon_{i,C19} \quad (1)$$

As seen in Section 3, who enters each of these categories in the hierarchy (i.e. who receives these negative labour market shocks) does not seem to be as good as randomly assigned. In order to address this challenge, our empirical strategy will be based on estimating something similar to a Value-Added specification. In particular, past waves of the regular survey contain information on the following: (1) whether the child receives additional tuition (yes/no answer); (2) whether the parent helps children with homework (with 6 potential answers). These questions are asked to the responsible parent in the household in Waves 10, 11 and 9 (rather than to each of the parents in the Covid19 April survey) and are not exactly the same as our outcome variables. However, we see them as good proxies capturing the levels of parental investments prior to the Covid-19 pandemic. These variables are denoted by $Y_{p,lag}$ in Equation 1, where lag indicates that the data comes from data available in Waves 11/10 when available, and 9 otherwise. Despite including those, there is still room for omitted variables related both to the hierarchy dummies and the parental investment outcomes to bias the $\alpha_{1,H}$ coefficients in

Equation 1. In order to alleviate this concern, we include a series of controls measured prior to the pandemic, both at the child $PRED_{i,C19b}$ and parent level $PRED_{p,lag}$ (where $C19b$ indicates data that is measured at baseline, in January/February 2020; but the information was collected in the April Covid-19 survey). Finally, because negative labour market shocks could concentrate on particular types of households, we control for the partner's hierarchy of labour market shocks. We do so by including the same categories as for the parent whose labour market shocks are analysed, as well as two additional categories for when (1) there is no partner living in the same household; (2) the hierarchy for the partner is unknown. This allows us to keep the number of observations constant to compare the results across specifications.

In practice, we add these controls sequentially to check the stability of the main coefficients of interest, $\alpha_{1,H}$. Table 3, Panel A, shows the variables included in each of the specifications described so far: Column 2 controls for whether the change in working hours is due to voluntary reasons. In alternative specifications we instead drop observations where the parent responds that the change in hours worked was voluntary. Column 3 controls for whether the mother is the first guardian and adds the proxies capturing each respective lagged outcome. In Column 4 we add child characteristics (age, whether receiving Free School Meals, and gender); whereas parent characteristics are added in Column 5. These are defined for the mother/father depending on the regression and comprise: region dummies, age, a dummy indicating whether the parent is of Black, Asian or Other Ethnic Minority (BAME), a dummy for college education (or above), and a dummy indicating whether the parent is married. Column 6 controls for job characteristics of the parent, namely, 1 digit industry dummies, and dummies for firm size, measured in waves 11/10 when available, or 9 otherwise. Finally, in Column 7 we include the partner's hierarchy, as well as a dummy variable indicating whether any reduction in the partner's hours worked from the baseline (i.e. in January/February 2020) was due to voluntary reasons.

Equation 1 is estimated by Ordinary Least Squares when using the outcome measuring whether the child receives additional paid resources in April 2020. We use interval regressions when using the time helping with school work as an outcome variable. This is due to the type of answers given for this question, that range from 0 hours, 0-1 hours, 1-2 hours, ... , to 5 or more hours. Standard errors are clustered at the parent level.[19]

[19]We follow the same strategy for outcomes measured at the parent level. The relevant controls appear

B.2 Additional tables

B.2.1 By hierarchy based on earnings

B.1: Child receives paid additional learning resources

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	-0.034	-0.037	-0.040*	-0.045**	-0.042*	-0.026	-0.030
	(0.023)	(0.022)	(0.021)	(0.022)	(0.024)	(0.027)	(0.027)
Reduced earn	-0.012	-0.014	-0.013	-0.017	-0.009	0.003	0.000
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.020)
Constant	0.084***	0.080***	0.183***	0.227***	0.152**	0.232	0.253
	(0.010)	(0.010)	(0.035)	(0.042)	(0.073)	(0.154)	(0.161)
Observations	2269	2269	2269	2269	2269	2269	2269
				Panel B: Fathers			
Zero earn	-0.077***	-0.074***	-0.066***	-0.075***	-0.071***	-0.075***	-0.075***
	(0.016)	(0.017)	(0.015)	(0.020)	(0.023)	(0.026)	(0.026)
Reduced earn	-0.013	-0.014	-0.013	-0.013	-0.012	-0.003	-0.004
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.022)	(0.022)
Constant	0.093***	0.087***	0.213***	0.257***	0.122	0.264	0.282
	(0.013)	(0.019)	(0.063)	(0.075)	(0.088)	(0.209)	(0.216)
Observations	1601	1601	1601	1601	1601	1601	1601

Notes: Robust standard errors clustered at the parent level in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. The dependent variable is a dummy variable equal to one if the child was receiving paid additional learning resources. Child characteristics include child age, gender and a dummy for free school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

in Table 3, Panel B.

B.2: Number of hours spent by parents helping with homework (interval regression)

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	0.046	-0.010	-0.013	-0.056	-0.022	-0.035	-0.023
	(0.117)	(0.116)	(0.126)	(0.117)	(0.120)	(0.131)	(0.131)
Reduced earn	0.045	0.041	0.001	-0.052	-0.052	-0.061	-0.058
	(0.112)	(0.112)	(0.102)	(0.100)	(0.094)	(0.100)	(0.103)
Constant	1.411***	1.351***	0.769***	2.708***	2.697***	2.641***	2.640***
	(0.059)	(0.059)	(0.089)	(0.170)	(0.372)	(0.555)	(0.530)
Observations	1997	1997	1997	1997	1997	1997	1997
				Panel B: Fathers			
Zero earn	0.879	0.834	0.727	0.620*	0.492**	0.539***	0.530***
	(0.631)	(0.589)	(0.456)	(0.349)	(0.195)	(0.202)	(0.205)
Reduced earn	-0.008	-0.002	-0.093	-0.055	-0.021	0.012	0.005
	(0.110)	(0.110)	(0.107)	(0.094)	(0.090)	(0.089)	(0.091)
Constant	1.418***	1.509***	0.866***	3.063***	3.303***	3.178***	3.250***
	(0.063)	(0.169)	(0.168)	(0.260)	(0.410)	(0.421)	(0.476)
Observations	1451	1451	1451	1451	1451	1451	1451

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. The dependent variable is the number of hours spent by parents helping with homework. Child characteristics include child age, gender and a dummy for free school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

B.3: Number of daily hours spent by parents helping with homework

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	0.076	0.016	0.013	-0.035	0.005	-0.004	0.010
	(0.121)	(0.121)	(0.134)	(0.123)	(0.126)	(0.138)	(0.138)
Reduced earn	0.045	0.041	-0.001	-0.058	-0.057	-0.065	-0.062
	(0.119)	(0.119)	(0.107)	(0.104)	(0.099)	(0.106)	(0.109)
Constant	2.851***	2.788***	2.174***	4.319***	4.281***	4.236***	4.239***
	(0.062)	(0.062)	(0.100)	(0.181)	(0.391)	(0.595)	(0.566)
Observations	1997	1997	1997	1997	1997	1997	1997
				Panel B: Fathers			
Zero earn	0.902	0.856	0.736	0.620*	0.488**	0.555***	0.546***
	(0.648)	(0.607)	(0.466)	(0.349)	(0.197)	(0.207)	(0.210)
Reduced earn	0.012	0.020	-0.080	-0.038	-0.003	0.033	0.025
	(0.114)	(0.114)	(0.111)	(0.098)	(0.094)	(0.094)	(0.096)
Constant	2.854***	2.941***	2.281***	4.706***	4.973***	4.848***	4.907***
	(0.067)	(0.175)	(0.178)	(0.271)	(0.430)	(0.452)	(0.506)
Observations	1451	1451	1451	1451	1451	1451	1451

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. The dependent variable is the number of hours spent by parents helping with homework. Child characteristics include child age, gender and a dummy for free school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

B.4: Behind with bills

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	-0.001	-0.006	-0.008	-0.004	-0.010	-0.024	-0.023
	(0.023)	(0.024)	(0.025)	(0.025)	(0.026)	(0.034)	(0.033)
Reduced earn	0.099***	0.097***	0.076***	0.073**	0.066**	0.062**	0.060**
	(0.031)	(0.031)	(0.029)	(0.029)	(0.028)	(0.029)	(0.029)
Constant	0.047***	0.042***	0.027***	0.035	0.146*	0.164*	0.004
	(0.009)	(0.009)	(0.008)	(0.037)	(0.081)	(0.094)	(0.105)
Observations	1394	1394	1394	1394	1394	1394	1394
				Panel B: Fathers			
Zero earn	0.120*	0.119*	0.118*	0.112	0.100*	0.052	0.044
	(0.070)	(0.072)	(0.072)	(0.071)	(0.055)	(0.051)	(0.046)
Reduced earn	0.002	0.000	0.001	0.003	-0.011	-0.030	-0.036
	(0.021)	(0.021)	(0.021)	(0.021)	(0.023)	(0.024)	(0.024)
Constant	0.044***	0.055*	0.053*	0.074	0.305*	0.272*	0.325*
	(0.013)	(0.029)	(0.029)	(0.071)	(0.163)	(0.147)	(0.191)
Observations	953	953	953	953	953	953	953

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. The dependent variable is an indicator taking on value one if the person stated that they were behind with household bill payments. Child characteristics include child age, gender and a dummy for free school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

B.5: GHQ scales: Likert Scoring (standardised)

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	0.301*	0.287*	0.346**	0.347**	0.348***	0.362***	0.358**
	(0.153)	(0.155)	(0.148)	(0.143)	(0.126)	(0.138)	(0.139)
Reduced earn	0.286***	0.282***	0.235***	0.208***	0.198**	0.214***	0.225***
	(0.097)	(0.096)	(0.082)	(0.080)	(0.077)	(0.079)	(0.079)
Constant	-0.083**	-0.096**	-0.087**	0.356**	0.890***	0.293	0.374
	(0.041)	(0.044)	(0.041)	(0.140)	(0.289)	(0.425)	(0.460)
Observations	1371	1371	1371	1371	1371	1371	1371
				Panel B: Fathers			
Zero earn	0.554*	0.539*	0.610**	0.592**	0.522***	0.414**	0.386**
	(0.318)	(0.308)	(0.286)	(0.237)	(0.168)	(0.167)	(0.155)
Reduced earn	-0.067	-0.067	-0.050	-0.046	-0.067	-0.069	-0.073
	(0.112)	(0.112)	(0.098)	(0.097)	(0.094)	(0.090)	(0.090)
Constant	-0.055	0.017	0.024	-0.014	1.234*	1.114	1.468*
	(0.058)	(0.112)	(0.097)	(0.198)	(0.708)	(0.696)	(0.839)
Observations	928	928	928	928	928	928	928

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * $<$ .1, ** $<$ .05, *** $<$ .01. Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. The dependent variable is the standardised GHQ scale, which is computed by summing the scores in 12 mental health questions, with a higher score implying a worse mental health state. Child characteristics include child age, gender and a dummy for free school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

B.6: Alcohol consumption

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	0.672	0.733	0.422	0.376	0.391	0.187	0.214
	(1.162)	(1.166)	(1.019)	(0.992)	(0.937)	(1.081)	(1.080)
Reduced earn	0.479	0.458	0.124	0.044	0.095	-0.072	-0.006
	(0.751)	(0.745)	(0.620)	(0.615)	(0.597)	(0.574)	(0.571)
Constant	6.241***	6.424***	2.535***	3.466***	6.793***	21.092***	20.399***
	(0.317)	(0.333)	(0.341)	(0.846)	(2.300)	(4.569)	(4.801)
Observations	1034	1034	1034	1034	1034	1034	1034
				Panel B: Fathers			
Zero earn	2.193	2.236	0.200	0.431	0.515	1.001	0.418
	(2.220)	(2.226)	(2.518)	(2.376)	(1.542)	(1.488)	(1.303)
Reduced earn	-0.656	-0.712	-0.303	-0.146	-0.759	-1.004	-1.130
	(0.980)	(0.981)	(0.840)	(0.822)	(0.840)	(0.827)	(0.821)
Constant	7.894***	7.105***	3.140***	1.097	14.899***	13.979**	15.380**
	(0.556)	(0.732)	(0.603)	(1.560)	(5.632)	(5.713)	(6.313)
Observations	718	718	718	718	718	718	718

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 1 and USoc Waves 9-11. The dependent variable is an indicator reflecting the average number of drinks that the person has consumed in a typical week within the last month. Child characteristics include child age, gender and a dummy for free school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

B.7: Quarrels most days with child(ren)

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	0.093	0.092	0.069	0.076	0.076	0.093	0.101
	(0.072)	(0.072)	(0.072)	(0.069)	(0.068)	(0.069)	(0.066)
Reduced earn	0.016	0.015	0.002	-0.004	0.000	-0.006	-0.004
	(0.029)	(0.029)	(0.027)	(0.027)	(0.026)	(0.026)	(0.025)
Constant	0.138***	0.132***	0.368***	0.453***	0.493***	0.475***	0.649***
	(0.018)	(0.018)	(0.048)	(0.065)	(0.129)	(0.137)	(0.171)
Observations	1343	1343	1343	1343	1343	1343	1343
				Panel B: Fathers			
Zero earn	-0.138***	-0.151***	-0.082***	-0.088***	-0.053	-0.098*	-0.107**
	(0.027)	(0.031)	(0.026)	(0.027)	(0.035)	(0.051)	(0.052)
Reduced earn	0.010	0.010	0.028	0.016	0.022	0.023	0.020
	(0.039)	(0.039)	(0.034)	(0.034)	(0.033)	(0.032)	(0.032)
Constant	0.156***	0.154***	0.453***	0.671***	0.460***	0.483***	0.341
	(0.023)	(0.023)	(0.067)	(0.095)	(0.157)	(0.162)	(0.244)
Observations	952	952	952	952	952	952	952

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 2 and USoc Waves 9-11. The dependent variable is an indicator equal to one if the person quarrelled most days or once a week with child(ren) in the household. Child characteristics include age of the youngest child, child gender. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased).

B.8: Talks about things that matter most days

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Zero earn	0.035	0.034	-0.020	-0.018	0.012	0.044	0.046
	(0.090)	(0.091)	(0.086)	(0.087)	(0.092)	(0.084)	(0.082)
Reduced earn	-0.015	-0.016	-0.009	-0.010	-0.005	-0.003	-0.003
	(0.038)	(0.038)	(0.036)	(0.037)	(0.036)	(0.036)	(0.035)
Constant	0.616***	0.611***	0.738***	0.757***	0.698***	1.174***	1.442***
	(0.023)	(0.023)	(0.027)	(0.080)	(0.181)	(0.234)	(0.247)
Observations	1345	1345	1345	1345	1345	1345	1345
				Panel B: Fathers			
Zero earn	-0.326***	-0.312***	-0.307***	-0.318***	-0.355***	-0.344***	-0.348***
	(0.096)	(0.097)	(0.087)	(0.088)	(0.099)	(0.109)	(0.108)
Reduced earn	-0.082	-0.082	-0.084	-0.087	-0.061	-0.061	-0.058
	(0.055)	(0.055)	(0.055)	(0.054)	(0.048)	(0.046)	(0.047)
Constant	0.548***	0.550***	0.700***	0.857***	0.828***	0.572*	0.658*
	(0.035)	(0.035)	(0.043)	(0.100)	(0.245)	(0.303)	(0.357)
Observations	951	951	951	951	951	951	951

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave 2 and USoc Waves 9-11. The dependent variable is an indicator equal to one if the person talks about important matters most days or once a week with child(ren) in the household. Child characteristics include age of the youngest child, child gender. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased).

B.2.2 By hierarchy based on hours & earnings

B.9: Child receives paid additional learning resources

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Job Loss	-0.019	-0.022	-0.026	-0.038	-0.053	-0.038	-0.052
	(0.041)	(0.040)	(0.042)	(0.042)	(0.046)	(0.047)	(0.048)
Red. hours	-0.028	-0.038**	-0.038**	-0.039**	-0.029	-0.008	-0.010
& earnings	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)	(0.021)	(0.021)
Red. hours only	-0.013	-0.032	-0.032	-0.027	-0.025	-0.011	-0.010
	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.025)	(0.024)
Constant	0.089***	0.089***	0.190***	0.232***	0.155**	0.233	0.254
	(0.011)	(0.011)	(0.035)	(0.042)	(0.073)	(0.154)	(0.161)
Observations	2269	2269	2269	2269	2269	2269	2269
				Panel B: Fathers			
Job Loss	-0.080***	-0.071***	-0.061***	-0.086***	-0.085**	-0.078*	-0.079*
	(0.015)	(0.019)	(0.016)	(0.022)	(0.039)	(0.041)	(0.041)
Red. hours	-0.023	-0.019	-0.015	-0.014	-0.011	0.007	0.009
& earnings	(0.021)	(0.021)	(0.021)	(0.021)	(0.022)	(0.025)	(0.024)
Red. hours only	0.006	0.020	0.023	0.021	0.024	0.034	0.035
	(0.028)	(0.031)	(0.031)	(0.031)	(0.032)	(0.028)	(0.028)
Constant	0.089***	0.081***	0.210***	0.259***	0.119	0.255	0.271
	(0.013)	(0.020)	(0.064)	(0.076)	(0.089)	(0.209)	(0.217)
Observations	1601	1601	1601	1601	1601	1601	1601

Notes: Robust standard errors in parenthesis. Significance levels are indicated by $* < .01$, $** < .05$, $*** < .001$. Source: USoc COVID-19 Study Wave one and USoc Waves 9-11. The dependent variable is a dummy variable equal to one if the child was receiving paid additional learning resources. Child characteristics include child age, gender and a dummy for free-school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

B.10: Number of hours spent by parents helping with homework (interval regression)

	(1) NoCont	(2) +Volunt	(3) +VA	(4) +Child	(5) +Parents	(6) +JobChar	(7) +Partner
				Panel A: Mothers			
Job Loss	-0.125	-0.161	-0.275	-0.407	-0.369	-0.418	-0.383
	(0.299)	(0.294)	(0.293)	(0.303)	(0.302)	(0.285)	(0.283)
Red. hours	-0.006	-0.108	-0.098	-0.115	-0.116	-0.176	-0.174
& earnings	(0.103)	(0.106)	(0.102)	(0.094)	(0.092)	(0.108)	(0.110)
Red. hours only	0.039	-0.158	-0.131	-0.066	-0.075	-0.160	-0.160
	(0.119)	(0.114)	(0.107)	(0.096)	(0.093)	(0.103)	(0.104)
Constant	1.410***	1.409***	0.820***	2.743***	2.737***	2.600***	2.589***
	(0.071)	(0.071)	(0.096)	(0.171)	(0.371)	(0.546)	(0.526)
Observations	1997	1997	1997	1997	1997	1997	1997
				Panel B: Fathers			
Job Loss	2.010***	1.936***	1.760***	1.442***	1.124***	1.157***	1.151***
	(0.725)	(0.726)	(0.580)	(0.454)	(0.313)	(0.293)	(0.294)
Red. hours	0.062	0.026	-0.024	-0.007	0.021	0.026	0.022
& earnings	(0.119)	(0.119)	(0.117)	(0.103)	(0.100)	(0.101)	(0.100)
Red. hours only	0.286**	0.171	0.121	0.071	0.046	0.064	0.080
	(0.121)	(0.133)	(0.120)	(0.108)	(0.104)	(0.106)	(0.107)
Constant	1.358***	1.412***	0.804***	2.943***	3.095***	3.004***	3.153***
	(0.068)	(0.101)	(0.133)	(0.217)	(0.384)	(0.407)	(0.470)
Observations	1451	1451	1451	1451	1451	1451	1451

Notes: Robust standard errors in parenthesis. Significance levels are indicated by * < .1, ** < .05, *** < .01. Source: USoc COVID-19 Study Wave one and USoc Waves 9-11. The dependent variable is the number of hours spent by parents helping with homework. Child characteristics include child age, gender and a dummy for free-school-meal eligibility. Parent characteristics include dummies for region of residence, age, a dummy indicating whether the parent belongs to the Black, Asian and Minority Ethnic (BAME) group, a dummy indicating college education or above and a dummy indicating that the parent was married. Job characteristics include 1-digit industry level and firm size fixed effects. Partner characteristics include dummies for whether the partner's earnings had dropped to zero, whether they had reduced earnings, whether their earnings change was unknown or the person had no partner (the omitted group being partners whose earnings did not change or increased), and whether the partner has reduced hours voluntarily.

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