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## Inequalities in Children's Experiences of Home Learning during the COVID-19 Lockdown in England\*

The school closures that have been imposed around the world to reduce the spread of the coronavirus are one of the most defining features of the COVID19 crisis. On 20 March 2020, UK schools closed their gates to all but the children of essential workers and those deemed most vulnerable. The majority of children then spent more than a full term out of school.

Months out of school risk setting back children's learning and development. This is particularly concerning for children from disadvantaged backgrounds, who already achieve less well on average than their better off classmates. By bringing home all education investments, the pandemic is reducing the equalising role that the time children normally spend in school may have in their learning. Combined with the disproportionate effect of the crisis on the finances and employment of poorer households, the COVID19 crisis could have disastrous consequences for inequalities in children's educational attainment

A big focus in this paper is the differences in children's experiences during the lockdown across families in different socio-economic groups. In our survey, we measure socio-economic background using the family's pre-tax annual earnings in 2019. We equalise this measure to best reflect the amount of resources available to household members, accounting for the fact that bigger families need higher incomes to enjoy the same standard of living and that adults typically require more resources than children. We construct a comparable measure for the UKTUS sample by equalising reported household earnings in 2014–15 to account for household size in the same way. In what follows, we use family income and family earnings interchangeably.

Table 2 shows estimates of the income gradient separately for primary and secondary school children for each of these three groups of activities. Columns 1–3 suggest that the learning time of primary school children was not associated with family income prior to lockdown. That holds for all learning time in column 1 and both class and non-class learning time in columns 2 and 3. This might not be surprising given that most learning activities of young children happen in school, and the length of school days in primary school varies little from school to school. However, the third row of the table shows that family income matters much more during lockdown, with differences in total learning time of nearly 1.5 hours a day between a child at the bottom and a child at the top of the income distribution. For instance, the estimates in column 1 mean that a child in the 10<sup>th</sup> percentile of the family income distribution does about 35 minutes less of learning time per day than her peer in the median-income family, and 1 hour 10 minutes less than her peer in the 90<sup>th</sup> percentile. Moreover, columns 2 and 3 show that family income has a larger impact on time spent in (online) classes than on other 'non-class' learning activities.

Our results offer compelling evidence to suggest that indeed inequalities may have worsened over the course of lockdown, especially for primary school students. We see that a considerable gap in learning time emerges between primary school children from poorer and better-off families, which is not there prior to lockdown. In contrast, for secondary school pupils, inequalities in learning time persist over the course of lockdown but do not worsen relative to the pre-lockdown period. Unsurprisingly, we find that poorer children live in homes where they are significantly less likely to have access to resources that are positively associated with learning time, including computers and/or tablets and dedicated study space.

	Primary school students			Secondary school students		
	Total learning time	Class time	Non-class time	Total learning time	Class time	Non-class time
Lockdown	-2.233*** (0.307)	-4.639*** (0.253)	2.616*** (0.169)	-2.070*** (0.259)	-3.680*** (0.198)	1.785*** (0.196)
Income rank	0.124 (0.145)	0.135 (0.121)	-0.00963 (0.0806)	1.221*** (0.152)	0.852*** (0.118)	0.379*** (0.117)
Income rank × Lockdown	1.468*** (0.507)	1.142*** (0.416)	0.500* (0.280)	0.162 (0.436)	0.0145 (0.333)	0.635* (0.330)
Constant	5.733*** (0.149)	5.488*** (0.125)	0.249*** (0.0828)	5.727*** (0.147)	5.276*** (0.114)	0.439*** (0.112)
Observations	1,256	1,298	1,265	1,794	1,863	1,826
R <sup>2</sup>	0.077	0.389	0.405	0.140	0.358	0.165