"When the Great Equalizer Shuts Down: Schools, Peers, and Parents in Pandemic Times" by F. Agostinelli, M. Doepke, G. Sorrenti, and F. Zilibotti

NON-TECHNICAL SUMMARY

When the Great Equalizer Is Muted. In 1848 Horace Mann wrote that schools and education are *the great equalizer of conditions of men—the balance wheel of the social machinery.* In the wake of the coronavirus pandemic, schools have remained closed for long periods across the United States and around the globe, depriving society of the powerful equalizing force of eduction accessible to all. What are the consequences on children today and on the future society? As soon as the vaccine allows regular school activity to resume, will children close the learning gap that opened up? Or will the consequences of the pandemic permanently mark the COVID generation?

A few facts we already know. In addition to being a poor substitute for in-person learning, online education is no balance wheel for the social machinery. It relies on access to work spaces, computers, and fast internet connections that are not easily available in all homes. The ability of parents to step in for teachers also varies across families. Most parents have never been confronted with the difficult challenge of being a teacher. Many are unfamiliar with some of the subjects that are being taught at school; others must spend long hours at and commuting to work, robbing them of the time to help respond to their children's new challenges.

Unequal Changes in the Peer Environment. An effect of school closures that has received less attention in the public debate is the change in peer interactions. One of the main channels through which schools (especially, public schools) act as a leveling factor in society is that they mix together children from different socioeconomic backgrounds. While schools remain closed during the pandemic, many of children's contacts to their peers are severed. Interactions that continue become more local; children may be able to see friends that live in the same block or neighborhood, but lose contact to friends from school who live far away. Our study shows that this switch in interactions from school to neighborhood im-

plies an increase in socioeconomic segregation, because neighborhoods are more segregated than school districts. Children from poorer families lose the benefit of mingling with others from a different background, whereas children from wealthier families now interact mostly with others from a similarly advantaged background. We know from previous studies that peer effects matter greatly for educational outcomes. By turning off the leveling factor of mixing children from different backgrounds, the social equalizer is muted during the pandemic.

A Model-Based Forecast. A challenge in assessing the overall impact of the pandemic on inequality of opportunity for our children lies in the various interactions between channels running through schools, peers, and parents. For instance, our earlier research establishes that parenting behavior respond to changes in the peer environment their children face. Moreover, we lack of historically comparable situations. There is no comparable pandemic in the recent past that would allow us to extrapolate how cohorts exposed to a pandemic fare relative to others. In this situation, models become important. Understanding the how interactions between schools, peers, and parents shape educational outcomes in times allows us to make informed forecasts on the likely long-run effects of the pandemic.

This is the spirit of our study. We start from a model that accounts for children's skill acquisition in regular times, and we estimate this model using pre-pandemic data. We then capture the impact of the Covid-19 pandemic through a set of temporary changes to schooling, contact with peers, and the role of parents. In a final step, we use the model to forecast the effects of the pandemic on children's education and future prospects.

The temporary in the model changes brought about by the pandemic are matched to up-to-date evidence. The switch to remote learning lowers the overall productivity of education, an the size of the productivity loss is chosen to match evidence on children's declining test scores during the crisis. Regarding the peer environment, we assume that children's peer interactions move from the school to the census block. The extent to which this damages children living in disadvantaged neighborhoods is matched to evidence on different degrees of segregation at the school and neighborhood levels. We also factor in the psychological effects

of losing contacts with friends. We document that forced detachment from close friends is associated with lower future academic performance. The final factor is the reaction of parents. Remote learning makes greater demands on parents, who have to supply some inputs usually provided by teachers and take a greater role on organizing and supporting their children's learning. This aspect of the model is matched to the empirical evidence on the increase in the time parents spend on helping children with school during the current crisis. We also take into account that parents' ability to spend time helping their children depends on their own constraints, such as whether parents are able to work from home during the pandemic. We use evidence on how the ability to work from home correlates with parental characteristics to quantify these constraints. Here an important observation is that the ability to work from home strongly correlates with income: parents in low-income neighborhoods are much less likely to work from home during the crisis and give full support to their children.

Results. Our quantitative model replicates the impact of the Covid-19 crisis on students' educational performance and on parents' time allocation. We predict a significant widening of educational inequality during the crisis. We find the largest losses for the children of families living in the poorest 20% census blocks. In contrast, the children of families living in the richest 20% census block remain unscathed. These learning gaps are reduced somewhat when schools resume their activity, but are still large at the end of high school, when less than half of the gap opened during the pandemic is closed. For children living in the poorest neighborhoods, the learning losses translate into an average cut in their earnings potential of about 25%, versus no significant losses for those living in the wealthiest neighborhoods.

Figure 1 shows the effect of the Covid shock on the skill accumulation of 9th graders along with the simulated effect for the same children at the end of the high school across the entire range of neighborhoods, from poor to rich. The initial impact in 9th grade on children's education is large and highly unequal. There are no learning losses for children living in the most affluent neighborhoods— for the top decile of neighborhoods we even observe a slight improvement relative to baseline. For children living in rich neighborhoods, the negative effect

Figure 1: Simulated Effects of Covid on a Child's Skills
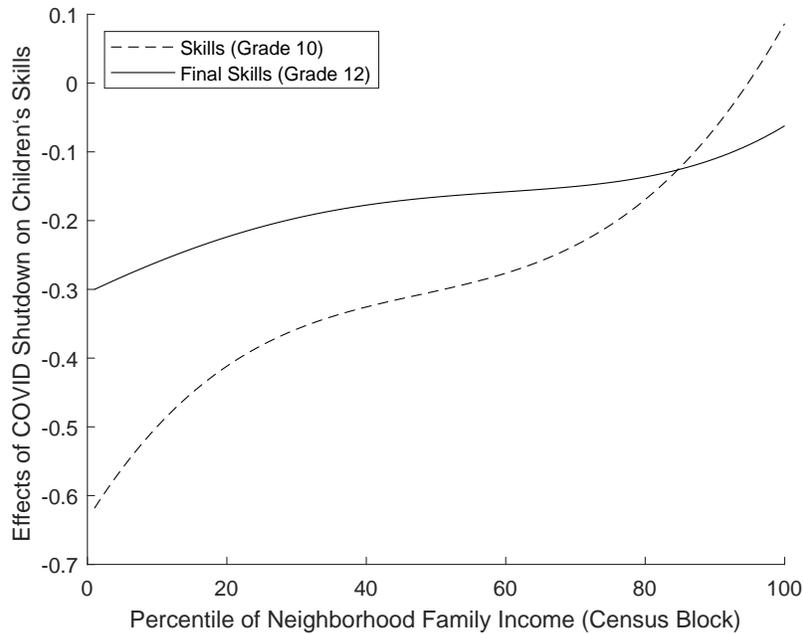
The figure shows the effect of Covid on children's skills by neighborhood income. The vertical axis displays the change in children's skills after the Covid shock (relative to baseline). The units are in terms of a standard deviation of skills across children. The horizontal axis represents the income percentile of the neighborhood where children live.

of school closures is offset by an increase in parental investments along with an improvement in the peer environment. For children living in the poorest neighborhoods, the skill loss when entering 10th grade amounts to about 0.6 standard deviations. In terms of the GPA scale (which ranges from 1.0 for a straight-D student to 4.0 for a straight-A student) this translates to a decline of almost half a point. For example, a child who was a straight-B student before would now be getting a C grade in almost half of the subjects. By the end of high school, the kids from poor neighborhoods make up some of the learning losses accrued during the crisis, but a large gap remains.

Our analysis allows us to decompose how different channels working through schools, peers, and parents contribute to educational inequality. While each channel makes a significant contribution, the peer effects channel turns out to be the

most important—if peer effects were unaffected by the pandemic, the change in educational inequality across richer and poorer neighborhoods would be reduced by 60 percent.

Policy Response Is Needed. Our study points at policies that may be used to prevent some of the learning losses and widening educational inequality that the pandemic threatens to bring about. While opening schools would be an obvious solution, educational benefits must be weighed against repercussions on the spreading of the pandemic. Still, the large detrimental effects on knowledge accumulation and inequality implied by our analysis can inform tradeoffs faced by policymakers, such as how much priority to give to opening schools relative to other sectors of the economy. Our results also highlight which groups of students would benefit most from restoring in-person schooling. Beyond students from low-income families in general, this also includes students who are already undergoing a change in the peer environment, such as those who enter high school after having completed middle school, who are especially vulnerable to the detrimental effects of being separated from peers. Some of the impact of the pandemic on children's education could be mitigated by expanding in-school support once the pandemic is under control, for example by shortening the summer break in 2021 or offering targeted services to disadvantaged groups.