## COVID-19 Era Education: Long-Term Impacts

COVID-19 slammed into the world in mid-March 2020, so most of the world is in its third academic year of adjustment. Your blogger (YB) can characterize the three years in this way:

Year 1 (2019-2020) – Get through the last three months (March, April, May) somehow. This generally led to instructors' reading their class lectures on-line, struggling to learn Zoom®, and hoping fervently that the year starting in August 2020 would be better.

Year 2 (2020-2021) – Prepare two types of lesson plans, one for on-line, and one for in-person. At YB's University, there was fervent hope that we could be in-person, and this (for the most part) did not occur. Teachers from pre-K to K-12 to College all grappled with the problem. It is hard to measure exactly how seriously quality was compromised, but it is almost certainly was.

Year 3 (2021-2022) – Hope that Year 2 uncertainties have passed. They have not. At YB's home Universities, lecturers and students must wear masks. Even though more in-person classes have been scheduled, (very) large numbers of students are not taking them. Consider hypothetical Student Z who plans to take four courses, and finds that two of them are on-line. Experience shows that Z will almost certainly seek to find another two on-line courses, so that he or she does not have to travel down to the University, pay for parking, and walk between classes. Curiously, Universities until now have been pushing "on-line degrees" have more recently been pushing more in-person classes.

YB has hoped that younger students could make up education deficits. If Student Z hasn't learned about "carrying" or "borrowing" in third or fourth grade arithmetic, there is time, YB has hoped, for him or her to catch up. Catching-up time decreases the further along the student is in school. Fine athletes or musicians in their teens may find their adult careers to be in jeopardy because they could not progress, while their younger colleagues catch up with them.

In August 2021, YB visited with dissertation adviser Eric Hanushek in California. Rick Hanushek, a world expert in the economics of education, was much less sanguine about catching up than YB. He referred to some work that he had done with colleague Ludger Woessmann (<a href="http://hanushek.stanford.edu/publications/economic-impacts-learning-losses">http://hanushek.stanford.edu/publications/economic-impacts-learning-losses</a>), which had assumed that schools would re-open "as normal" in Fall 2020. They did not do so.

In a follow-up email to YB Hanushek's 2021 observed that according to his calculations:

- The loss of education for the current school-aged cohort would reduce the subsequent lifetime earnings of the average student by between 6 and 9 percent.
- There would be an approximately 3-4 percent of average GDP loss per year for the remainder of the 21<sup>st</sup> century.

Disadvantaged students may fare even worse. These numbers are staggering, and they are staggering even if they are 50% too high.

These findings lead to two economic questions. First, were there offsetting benefits to these costs? Almost certainly the shutdowns and on-line instruction have led to less COVID-19, fewer deaths, and less morbidity, and these benefits should be compared to the (enormous) costs of foregone future wages and economic growth. Whether the incremental benefits exceeded the (enormous) costs is a matter for further analysis.

Second, who is to blame? Educators, both administrators and teachers, were tasked to choose the best path through COVID-19. Parents have been alarmed and have blamed teachers, teachers' unions, public health officials, school boards, and governors for the diminished schooling that has occurred over the last twenty months.

YB "has a dog in this fight." He has been an educator for fifty years, and a health economist for over thirty. The uncertainty of the COVID-19 virus, and its impacts on students, and on YB and his partner, have had an impact on his teaching decisions. As Director of Graduate Studies for a PhD program, he had students take exams on his front porch to maintain social distancing, and student safety, in August 2020. These front porch exams were replaced by Zoom monitoring in January and again in May of 2021 (it is cold on front porches in Detroit in January). Education, and potentially the quality of the education, had changed.

The blame should be laid at the right place – on COVID-19. It was like a massive hurricane, impacting everything in its path. The world's students (and teachers) did not suddenly become lazy. Trying to affix blame at this point is a waste of time.

Hanushek and Woessmann note that "just returning schools to where they were in 2019 will not avoid such losses. Only making them better can." They offer many suggestions including matching the skills of the teaching force to the new range of tasks and activities. Looking carefully at the likely increase in variations in learning levels within individual classrooms, they also argue that

"pivoting to more individualized instruction could leave all students better off as schools resume."

COVID-19 caused serious damage to the educational capital stock of the world's students. This damage is large and potentially permanent. Economic and educational policies over the next several decades should be addressed toward mitigating the damage and making it less permanent.

Allen C. Goodman Professor of Economics