“Do Private High Schools Make A Difference? Learning the Causal Effects of Private Schooling from a Natural Experiment in South Korea”

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Extended Abstract

Educational policy makers have had keen interest in understanding how to improve the efficiency of educational inputs. One of the central debates in education policies is whether initiatives involving the provision of private school vouchers and the establishment of Charter and independent schools would yield better student outcomes. In particular, a large body of literature in economics, education, and sociology has examined whether students attending private schools or charter schools outperform students attending traditional public schools in a wide range of outcomes. However, identifying the causal effects has proven to be difficult as most studies have relied on observational data, where the issue of unobserved selection bias is pervasive (Altonji et al., 2005).

There is increasing experimental evidence on the relative effectiveness of private or charter schooling, with the majority focusing on students’ test scores. For example, the random assignment of private school vouchers (Peterson et al., 2003) or oversubscribed charter school slots (Hoxby and Murarka, 2009) to low-income applicants in New York City, the United States, indicate significant positive effects of private or charter schooling on test scores. There are also studies by Angrist et al. (2002) and Angrist et al. (2006) showing that the random assignment of private school vouchers to low-income student applicants in Colombia significantly improves their test scores, high school graduation and grade progression, and reduces their likelihood of early childbearing. However, when these studies compare the outcomes between the randomly selected receivers (treatment group) and non-receivers (control group) of private school vouchers or oversubscribed slots, outcome differences would reflect not only the effect of attending private or charter schools but also the differences in peer quality and other dimensions of school and teacher quality between the highly sought-after schools and the default traditional public schools. Moreover, in some

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cases, these newly-introduced programs would necessarily change the market structure of schools in the neighborhood, putting competitive pressures on existing public schools in which the control groups enrolled. This makes it difficult to learn more precisely about which aspects explain the differences in educational outcomes. Furthermore, as applicants likely differ from the general student population, it is unclear whether the effects will be similar if these programs are scaled up.

The objectives of this study are two folds. First, we examine the relative effectiveness of private versus public high schools on various educational outcomes, using a unique natural experiment in Seoul, South Korea (hereafter Korea). Since the 1970s and until recently, the Korean government had implemented the so-called “equalization policy” in several major metropolitan areas, where students are randomly assigned to different middle and high schools within the school districts of their residence. The random assignment in Seoul indicates that, although motivated parents may choose to live in a neighborhood with high-quality schools, they do not have controls over which schools—private, public, single-sex or coeducational schools—their children attend within the school district. This randomization process allows us to identify the causal effects of attending private high schools on educational outcomes by controlling for school district fixed effects to account for selection bias that may persist otherwise. We focus on a wide range of longer-term academic outcomes, such as dropout rates and college attendance rates, as well as test scores and behavioral problems. These outcomes are not only the predictors of future labor market performance, but also are measures of school quality that parents and policy makers pay attention to.

Second, we analyze the mechanisms through which private schooling may benefit students. The features of the Korean secondary schooling system further enable us to examine whether providing individual schools greater independence over how to allocate resources and manage their daily operations can lead to better educational outcomes. Although the private schools have private ownership and greater flexibility in hiring decisions, they are subject to government regulations under the equalization policy and have to adopt similar curriculum and tuition to public schools. Also, the randomization process removes differences in entering student’s quality across schools, as well as the incentives for schools to compete for students and funding. This provides a useful setting in analyzing more clearly whether schools, given private ownership and flexibility in managing some resources but not all, are able to produce better outcomes. It allows us to identify a key component that underlies the charter and independent school movements in many countries.
We find that private school students are no more likely than public school students to drop out of high school. However, private school students are more likely to attend colleges and less likely to be involved in violence incidents or issued warnings for aggression. In particular, the increase in college attendance is primarily driven by the increase in four-year college attendance, rather than two-year junior college attendance. Private school students are also more likely to be present on the day of the National Assessment of Educational Achievement, a national standardized examination administered to eleventh graders, suggesting higher student absenteeism in public schools. Because of the potential non-random selection into test taking, we use Lee’s (2009) sharp-bound estimators to estimate the causal effects of private schooling on test scores. Findings indicate that private school students outperform public school students in Korean, Mathematics, and English by 0.04 to 0.07 standard deviations (suggested by the lower-bound estimates). More importantly, the private school effects are robust across all gender-school types, indicating the effects are not driven by single-sex schooling.

We also find that, if anything, private schools tend to hire teachers with lower level of teaching credentials, have fewer teachers per student, and have slightly more students per classroom than public schools, which are indicators of poorer educational outcomes. Although private schools have lower fraction of teachers with advanced degrees and credentials, their teachers may have greater incentive to perform better in order to secure their job. In contrast, school district officials make personnel decisions for public schools and public school teachers passing national teachers’ examination are guaranteed jobs. In addition, it appears that private schools differently allocate resources to students by giving out more tuition benefits to low-income. Thus, we argue that it is the decentralization of decision making at the school level that likely drives the differences in outcomes between private and public high schools. Our results suggest that giving individual schools greater autonomy while keeping them accountable for their performance may lead to better schooling outcomes.