Free to Choose: Can School Choice Reduce Student Achievement?

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Online Appendix

This project combines Louisiana Scholarship Program application and test score data provided by the Louisiana Department of Education with private school characteristics from the Private School Universe Survey. This appendix describes each data file used in the analysis and details the procedures used to clean and match them.

OA.1 Application data

The Louisiana Department of Education provided data on all LSP voucher applications submitted between Fall 2008 and Fall 2012. The raw data include 16,739 application records with ranked lists of at least one and up to five private school choices. Additional variables code application grade and year, admission priorities basedon sibling status, NSECD status, geographic proximity, previous school, and the school for which a student was offered a voucher (if any). The application data also include basic demographics (race and sex) along with family income used to determine LSP eligibility.

From the raw data, we extract first-time 2012-2013 applicants to grades 3-8 from the raw data. Next, from this subsample we select students in first-choice priority classes within which there is variation in first-choice voucher offers. This leaves 1,412 students subject to random assignment at first-choice schools. Within this sample the lottery offer is coded as indicating a voucher offer at the first-choice school, and risk sets are coded as interactions of application grade and first choice school.

OA.2 Test score data

Our second data source is a database of 7,187 LEAP and iLEAP scores on tests taken by LSP applicants between Spring 2009 and Spring 2013. The test score file was meant to follow LSP applicants in grades 3-8 for one year after application. Each record includes a set of variables tracking scaled versions of math, ELA, science, and social studies scores along with performance category codes for these scores. We standardize the scaled scores using means and standard deviations for RSD students in each subject, grade, and year. Students in the test score file are distinguished by a scrambled identifier called the *randomid*. The file also includes a school identifier, called the *sitecd*, that codes the testing location; this identifier is used in most public data files provided by the Louisiana Department of Education. We use the *sitecd* field to merge school names, LSP private school status, charter school and public school status, and SPS scores for public schools into the data file. LSP participation is coded as an indicator equal to one if a student is tested at an LSP-participating private school.

We drop records with no test score information. Two percent of student identifiers have multiple test score records in the same year. Among these duplicates we give preference to (a) tests taken at LSP private

schools; and (b) complete records with no missing scores for any test. If a student has two sets of incomplete scores and neither test was taken at an LSP school, we combine observations into one record with the most complete possible set of scores. This leaves less than 0.5 percent of students with multiple conflicting records; among these, we pick one record at random. Finally, the test score file is merged with the LSP applicant file using the *randomid*, which appears in both files. Eighty-nine percent of LSP applicants in grades 3-8 have matching records in the test score file.

OA.3 Private School Universe Survey

Characteristics for Louisiana private schools are measured by the Private School Universe Survey (PSS). The PSS is a census conducted every two years by the National Center for Education Statistic, of all US private schools. PSS data files are available from 1990 through 2012. Key variables include total enrollment and enrollment shares by race, number of teachers, religious affiliation, instructional time (length of school day and year), geographic identifiers (state, county, zip code, city name, and exact address), and a school identifier that is constant over time.

We used school names and cities to match a list, provided by the Louisiana Department of Education, of participating LSP private schools to PSS data from 2012, 2010, and 2008. Many LSP schools had exact matches in the PSS, and others produced close inexact matches because of differences in punctuation or naming conventions between the two data sets. For example, the PSS name field often included the modifier "school" whereas the LSP database did not (as in "ST JOSEPH ELEMENTARY" vs. "ST JOSEPH ELEMENTARY SCHOOL"). We manually matched these cases when school names and cities clearly made sense. This resulted in matches for 142 of 159 LSP participant private schools. The remaining 17 schools either had no close match in the PSS or multiple close matches with ambiguity regarding the correct school.

OA.4 Tuition data

We searched for tuition data for the 359 Louisiana private schools present in the 2012 PSS. The search took place in two phases. First, we checked school websites for 2015-2016 tuition information, converting monthly or annual rates to 10-month tuition for all schools. Some schools listed discounts for certain student categories, such as church members; we used the undiscounted rate in these cases. Second, when no information was listed on a school's website, we contacted the main office by phone. The combination of online searches and phone calls yielded tuition information for 116 of 124 voucher schools (94 percent) and 216 of 235 non-voucher schools (92 percent).