

Reading Note 3

Ying Liu

The quality of the school has always been a concern not only to parents, but also to economics, educators, and policymakers when evaluating the school reforms. The school with higher quality attracts parents to pay more for the houses located in the area and thus may lead to higher house prices of attendance districts. While past researchers have explored the causal link between school quality and house prices nearby, such an effect is likely to be overestimated due to the problem of possible reverse causality as well as omitted variables. To set aside these effects, this paper takes advantage of the fact that the houses on the opposite side of the attendance district share similar neighborhood characteristics and thus makes their difference in pricing a more accurate indicator of the effect of the difference in the school quality (which can be quantified by test scores).

The methodology proposed in this paper mainly deals with endogeneity issues. Given the fact that only a few characteristics of neighborhood and school district can be observed, the author replaces these variables with a set of boundary dummies that capture any unobserved characteristics shared by the houses on either side of the boundary. Therefore, the methodology successfully addresses the omitted problem since i) the sample in the same city shares the same school district characteristics; ii) neighborhood changes continuously while the school quality jumps discretely, which means that by limiting the distance from the boundary, the neighborhood characteristics, as a variable, can be controlled.

The paper uses the housing price data from 1993 to 1995 in Massachusetts and the test score in fourth-grade MEAP to measure the school quality. The author then estimates the effects using the hedonic price function (a model that describes the sale price on the characteristics of house, neighborhood, and school district, score test) and a revised function that replaces all the unobserved variables with dummies. The results show that the coefficient on the test score in the second model is approximately half of the coefficient in the first model. In addition, As the sample is

restricted to houses closer to the boundary, the coefficients of the test score and house characteristics don't change significantly, which suggests that the housing price difference is more likely due to the school quality difference other than characteristics in houses or neighborhood. Overall, the author concludes that a 5 percent increase in the test score is associated with a 2.1 percent increase in housing price when regressing on the sample where the houses are 0.15 miles from the boundary.

To test the robustness of the findings, the author then performs sensitivity tests. The first one is to address the concern that areas on opposite sides of the boundary are not from the same neighborhoods. By excluding the boundaries including railroad, tracks, highways, and major streets, the coefficient on test score reduces only slightly, implying that the conclusion still holds. The second concern is related to the reverse causality that the better schools tend to be in a better neighborhood. Then the author tests it by creating artificial attendance district boundaries as a control group (being on the better side). The result shows the coefficient in the control group on test scores is zero and insignificant, meaning that there is no reverse causality problem.

To sum up, the paper explores how the test score affects the house price more accurately by comparing houses that are close to each other but are on the opposite side of the attendance boundary. The finding suggests that parents are willing to pay about 2.1 percent higher for a 5 percent increase in test scores, which is helpful to evaluate the education policies and provide a way to value the school. However, on my own view, it is still doubtful to apply the conclusion in Massachusetts to the whole country since parents in Massachusetts may care more about school quality.