

Reading Notes 3

Xin Lin

Both parents and social workers have been long interested in the school quality. This paper evaluate the causal effect of school quality, or test scores, on housing prices, using the strategy of comparing houses close to attendance district boundary. Its main finding reveals that parents are willing to pay 2.1% more on housing for a 5% increase in children's elementary school test scores.

This paper uses a mix of different data sets for analysis. To measure house prices, the author employs the housing price data that includes all purchases and sales from 1993 to 1995 for Middlesex, Essex, and Norfolk in Massachusetts. As for school quality, the author adopts the fourth grade Massachusetts Education Assessment Program (MEAP) as the proxy for school quality, and he focuses primarily on the sum of math and reading scores for 1988, 1990, and 1992. Furthermore, the author uses census block group identification to match the houses with 1990 census data and school-district data including free or reduced-cost pre-school programs, per-pupil expenditure, and property tax. These school-district features are also used to proxy for financial inputs into schools.

Fixed-effect linear regression model is used, in which house price is dependent on test scores, controlling for the observed characteristics of house, neighborhood, and school-district. However, some neighborhoods and school-district characteristics are unobservant so that they are omitted from the regression model, which could cause biased estimations. To avoid overestimates, the paper replaces the observed neighborhood features and school spending with a vector of dummies indicating houses that share an attendance boundary district on either side of the boundary. The usage of regression with boundary fixed effect ensures that the houses being compared are from the same city and changes in school quality at the boundary is discrete; hence, the city-level differences and the pitfalls associated with unobserved neighborhood changes are no longer concerned.

As for the findings, without boundary fixed effect, the result shows that houses prices and school quality are positively correlated; specifically, a 5% increase in test scores leads to a 4.9% increase in house prices. With boundary fixed effect, the results also present a positive but weaker correlation between house prices and school quality; specifically, by choosing houses with 0.35 / 0.20 / 0.15 miles from the nearest boundary, a 5% increase in test scores leads to an increase of 2.3%, 1.8%, and 2.1%

in house prices, respectively. In addition, to confirm that the difference in the level of correlation is not caused by sample selection, the author uses a subsample of houses at 0.15 miles from the nearest boundary to run the regression without boundary fixed effect, the results show no significant difference between the coefficients.

To sum up, this paper adopts the strategy of comparing similar houses on the opposite sides of attendance district boundary to evaluate the causal effect of school quality on housing prices. In addition, this paper underlines not only the values parents place on schools, but the importance of school quality to home owners and local politicians. The author shows that a one-point increase in standardized test scores could enhance the house values by \$70 million in Massachusetts. The results provides policy counterfactual in both education and real estate. Nevertheless, a limitation of this paper is the adoption of MEAP scores as a proxy for school quality. It may not be appropriate since test scores can also be affected by student's IQ in addition to schools' teaching quality.