Course: ECON 613

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Reading Notes of "DO BETTER SCHOOLS MATTER? PARENTAL VALUATION OF ELEMENTARY EDUCATION"

The paper aims to assess how parents value schools' education qualities by calculating the price of houses located in different attendance district boundaries. The author first applies standard hedonic function model ln(priceiaj) = α + X'iajβ + Z'δ + γtestaj + εiaj (Equation(1)), where p is the price of house, Xiaj represents characteristics of house i , Zj is a vector of neighborhood and district characteristics; the primary regressor testaj is the average test score in the school. Under this model, the causal effect of school quality on house prices is usually disturbed because high-quality schools prone to locate in better neighborhoods. The value of better schools may be overestimated because of the omitted variables from neighborhood characteristics. Then the new model compares houses on opposite sides of attendance district boundaries. ln(priceiaj) = α + X'iajβ + K'φ + γtestaj + εiaj (Equation(2)), where K_b is a vector of boundary dummies. By applying this revised model, the paper finds that parents are inclined to pay 2.5 percent more for a 5 percent increase in students' test scores, and it still holds under several sensitivity checks.

The paper intends to evaluate the value of better schools. Given the difficulty in calculating the relationship between school quality and student outcomes, the author turns to use house prices to reflect the value parents put on school quality. The housing price data covers all purchases and sales from 1993 to 1995 in counties of Massachusetts. It incorporates 22,679 single-family residences within 39 school districts and 181 attendance district boundaries. The mean house price from this sample is $188,076 with standard deviation $113,923, and the median is $157,931.1. The evaluation of school quality is based on MEAP, focus primarily on the sum of the math and reading grades, averaged over the three years.

There are five Tables in this paper. Table I uses several census block group variables to represent neighborhood characteristics. Table II column (1) shows the results from equation (1) that includes house level characteristics. To apply equation (2) which includes boundary fixed effects, the sample is restricted to houses located within 0.35, 0.2 and 0.1 miles from the nearest boundary from the attendance district boundary, shown in Table II, column (2), (3) and (4). Column (5) shows that sample size does not affect the results; regression is run from the subsample of houses located within 0.15 miles from a boundary, and the coefficient on elementary school test score is similar to the results from the larger sample. Table III shows how the houses on the opposite side of the boundary become more homogenous as houses are closer to the boundary. Table IV compares the results from Table II, which contains coefficients on elementary school test score, percent change in house price as a result of a 5% change in test scores as well the values of better school. In the end, Table V is for sensitivity tests. The author is concerned that the houses being compared on opposite sides of attendance district boundaries are also in different neighborhoods. For example, Table V column (1) eliminates the concern that district boundaries also represent the neighborhood division. After excluding railroad tracks, highways and major streets, the new estimate is still insignificantly different from the previous ones. Then the author impose 6 other restrictions and the estimation still stand. From the regression, the author finds that for every 5 percent increase in elementary school test scores (roughly one standard deviation) , resident is willing to pay approximately 2.1 percent more, or $3948 at mean house price of $188,000. This estimation is approximately half of the amount from previous hedonic housing price regressions.

In conclusion, the author presents the process of how much parents value schools' education qualities by regressing the price of houses through two hedonic functions. The paper makes improvements from the typical hedonic function model by using boundary dummies to make a contrast between houses that are close but on different sides of attendance district boundaries. It effectively remove the disturbance factors in neighborhoods, taxes, and school spending. However, the limitation of this paper is that it is written 1999; hence the finding does not shed light on our current research because the dataset requires updated.