ECON613 Reading Notes #3

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This paper focus on the relationship between house price and the school quality(elementary school). After removing the variation in other aspects(taxes, neighborhood etc.) that may affect the house price, the empirical result shows that parents are willing to pay more for their children's test score increase.

Previous research on the relationship between house price and school quality uses following equation:

$$ln(p_{iaj}) = \alpha + X_{iaj}\beta + Z_j\delta + \gamma test_a j + \epsilon_{iaj}$$

However, the problem is that, given Z_j is the vector of neighborhood and school district characteristics, which cannot be directly observed. Therefore, the empirical results remain to be biased because of omit(proxy about school district assessment are omitted and they may vary over location, particularly those that closed to the boundaries of the districts).

To solve this omitted problem, this paper replaced the variable that captures characteristics Z_j with K_b, which is a vector of dummies and includes a dummy about whether this house located at the boundaries.By doing so, the analysis can capture the discrete change(not continuous) in house price in the area close to the attendance district boundaries. Then the equation turns to be:

$$ln(p_{iab}) = \alpha + X_{iaj}\beta + K_b\phi + \gamma test_a + \epsilon_{iab}$$

In addition, to prevent the omitted problem, this paper use same city's data and add the spending controls.In data processing, this paper divided districts by large rivers, parks etc.(large stretch of land) and grouped the house by the distance to the boundaries to avoid the omitted problem caused by the neighborhood close to the boundaries.

Starting with the empirical result on equation (1), the sign of the parameters are within expectation. The characteristics of both house and school quality have effects on house price. And then, this paper use boundary controls on different samples, including groups of houses that have different distance to the boundary. As the restriction changes to closer distance to the boundary, the house price can hardly change by the factors other than school characteristics, which is, the coeffcients on house characteristics do not change significantly when group changes, so as the coefficents on school characteristics.

In addition, this paper verified the houses at the boundaries by regress them with those on the opposite side of the boundaries. The results indicates that these houses close to the boundaries are more similar in characteristics. By comparing the result between control or not control the neighborhood characteristics, the empirical analysis suggests that the effects of the school qualities will be highly overestimated if do not control the neighborhood characteristics.