



MEMORANDUM

To: Roger Barnes
From: Lori Raineri *LR (BY AP)*
Sean Powers *AP*
Date: April 16, 2008
Re: Studies Re. Effect of School Quality and/or Spending on Property Values

Roger, please find below a summary of several research studies and articles analyzing the effect of school quality and/or school expenditures on property values.

Haurin, Donald R. and Brasington, David, "School Quality and Real House Prices: Inter-and Intrametropolitan Effects", December 1996

Background

The purpose of the study was to explain variations in house prices located in multiple areas. The study used 134 jurisdictions in the six largest metropolitan areas in Ohio to test competing explanations of why house prices vary. The study looked at dozens of different variables, including school quality. As a measure of school quality, the study used the percentage of ninth grade students passing all four parts of a proficiency test administered by all public schools in the State of Ohio.

Results

After analyzing over two-dozen different variables potentially affecting house prices, the study concluded that "superior school quality is capitalized into property values" and, amongst the variables analyzed, "School quality is the most important cause of the variation in constant quality house prices".

Bogart, William T., and Brian A. Cromwell, "How Much More Is a Good School District Worth?", *National Tax Journal*, June 1997

Background

The purpose of this study was to estimate the value of school quality on residential housing prices (single family home sales and multi-family rents) by sampling four cities in the State of Ohio. The authors utilized price data in the specified area from 1976 through 1994, school services (expenditures), and public perception of school quality. Since quantifying school services is very difficult, the study used local property taxes as a proxy. The econometric model tested the level of correlation between house values and school services, thereby distinguishing the "value", quantified in house price, of school services provided in a specific attendance area.

Results

The study found that figuratively "relocating" a home from an area where the perceived public school instruction quality was low to one in which it was higher, the home would "expect to pay between \$374 and \$885 per year more in property taxes. However, its value would increase by between \$5,303 and \$11,648 as a result of the unobservable differences between the school districts."

In sum, the benefit of higher home value as a result of being located in the attendance area of schools which were perceived to be high quality outweighed the higher property taxes paid in such areas. The study concluded, "high-quality school districts provide services valued in excess of the higher taxes that they levy."

Black, Sandra E., "Do Better Schools Matter? Parental Valuation of Elementary Education", *The Federal Reserve Bank of New York*, September 1997

Background

This study focused on comparing single-family housing price data in Massachusetts' suburbs with the associated elementary school attendance areas from 1993 through 1995. Unlike previous studies, the author compared homes on opposite sides of selected attendance areas, in order to control for property tax and neighborhood differences. An econometric model was derived, which attempted to remove the influence of external factors that affect housing price fluctuations between attendance areas, save for those which demonstrated school quality.

Results

The author concluded, "per-pupil spending is positively correlated with housing prices, and the coefficient suggests that a \$500 increase in per-pupil expenditures leads to a 2.2% increase in the house price." Regarding academic achievement, the study determined that higher test scores are associated with higher home prices and, specifically, that a 5% increase in elementary school test scores leads to an approximately 2.1% increase in the amount a home buyer is willing to pay.

Crone, Theodore M., "Housing Prices and the Quality of Public Schools: What Are We Buying?", *The Federal Reserve Bank of Philadelphia*, September/October 1998

Background

This article examines the different variables that may contribute to higher homes values in suburban and metropolitan areas, including neighborhood condition, school financial resources, academic performance, family characteristics, and the per group effect (i.e, the influence of a student's peers on their individual performance). The author asserts that a variety of "statistical studies support the common assumption that differences in the quality of local schools are reflected in house prices." Instead of providing an independent statistical analysis, the author reviews and evaluates numerous published studies that focus on a single, or multiple variables that potentially contribute to student achievement and/or school quality.

Results

With regard to school resources, (i.e. school expenditures), the article states "most studies have found that after accounting for other neighborhood characteristics, the prices of *similar* houses are higher in school districts with higher expenditures on pupils". This statement is congruent with the author's conclusion that "most researchers agree that when extra resources are used

wisely, they can enhance the quality of education and thereby contribute to higher house prices". Interestingly, this phenomenon extends beyond expenditures to improve academic achievement to include "other dimensions of school quality, such as the physical attractiveness of the school . . ."

Haurin, Donald R. and David Brasington, "Educational Outcomes and House Values: A Test of the Value Added Approach", *Department of Economics, Louisiana State University, January 2001*

Background

The study used student test scores from over 120 suburban school districts (K-12) drawn from six metropolitan statistical areas in Ohio and more than 27,000 house prices to analyze and generate its conclusions. The goal of the study was to determine to what extent fixed district-specific factors (i.e. inputs to schooling and attributes of student peers) affect housing values.

Results

The study found that "the district's average proficiency test scores and real expenditures per pupil influence household's valuations of their local public schools." Regarding the subsequent impact on home valuation, the study concludes, "housing increases in value as average student achievement rises." Furthermore, through analysis the authors determined that "the housing market values additional expenditures" on schools. Interestingly, this result was independent of student achievement, and one possible reason suggested is that expenditures per pupil may buy activities not measured by test scores, such as high quality comprehensive sports and arts programs, other extra-curricular activities, up-to-date technologies, and safety.

Figlio, David N. and Maurice E. Lucas, "What's in a Grade? School Report Cards and House Prices". *National Bureau of Economic Research, Revised 2002*

Background

The study used real estate transaction data of comparable homes in Gainesville, Florida neighborhoods from January 1995 to July 2000. Each neighborhood was located within the same elementary district, with very stable attendance boundaries over the study period. In 1999 elementary schools were graded by the State of Florida based on a dataset including attendance, suspension records, and three standard performance exams, with the goal to explore "the degree to which these school report card grades are capitalized into housing prices." Following the assignment of grades, among houses sold within the target area between 1995 and 2000, 27.4% were in the attendance boundaries of an "A" school (representing the highest rank), 36.3% were in the boundaries of a "B" school, 17.8 percent were in the boundaries of a "C" school, and 18.4% were in the boundaries of a "D" school.

Results

The analysis began by looking at the highest valued neighborhoods. The study looked at the prices of homes in these neighborhoods both before and after a letter grade was assigned to each school in 1999. The study revealed that house prices in the attendance area of "A" rated schools responded with a significant increase in price after the letter grade was assigned. One of the two "A" rated school neighborhoods increased in property value by 11.2%, while the other increased by 20.4%. In contrast, three of the four "B" rated school neighborhoods, within the same housing price range, experienced decreasing property values, while the fourth only increased 2.6%.

Amongst the relatively less expensive neighborhoods, both of the "A" rated school neighborhoods increased in property value while three of the four "B" rated school neighborhoods decreased in value. The difference between State assigned grade "A" schools and grade "B" schools represented an 8% change in market value, after taking into account other factors related to school quality, neighborhood, and property attributes. Similarly, the value difference between "B" and "C" rated schools represented a 12% change in market value. The results of the analysis allowed the authors to conclude "the housing market responds significantly to the new information about schools provided by these 'school report cards' . . ."

Bayer, Patrick, Fernando Ferreira, and Robert McMillan, "A Unified Framework for Measuring Preferences for Schools and Neighborhoods". *Economic Growth Center, Yale University, November 2003.*

Background

The study used data from six contiguous San Francisco Bay Area counties: Alameda, Contra Costa, Marin, San Mateo, San Francisco, and Santa Clara. This sample contained approximately 650,000 people and just fewer than 244,000 households. In addition, the study calculated the ratio of house prices to rent prices in over 40 sub-regions of the Bay Area counties to allow for conversions between the equivalent home sales and rent prices. This study was similar to the Black (1997) study in that it compared homes on opposite sides of attendance boundaries in an attempt to control for variables such as neighborhood quality that might affect housing values independent of school quality. With regard to student quality, the study used the "average test scores for each school, averaged over two years". These scores became the basis for classifying the higher versus lower performing schools.

Results

The study found that for homes within the boundaries of higher performing schools, residents were paying, on average, approximately \$91 in monthly rent or \$24,100 in house value for the higher performing school. Specifically, the authors explain that ". . . on average households are willing to pay an additional one percent in house price when the average performance of the local school is increased by 5 percent . . ."

Conclusion

Roger, I hope you find this informative, and please feel free to call us if you have any questions or comments. We have attached the research papers, just in case you wanted to review the more detailed information.

LR:SP/abo

6 Attachments