Free term paper about the effect of school quality on price of housing in a metro...

Sociology, Community

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This study attempts to show the close connection between the quality of schools and residential property values in the metropolitan area. In as much as the quality of education has been integrated into pricing models of residential property, other factors such as the close proximity to each school where the house is zoned and certain neighborhood characteristics have been found to have an impact on property house values. The closer proximity to schools has a positive value to the house prices while an increase in the distance has a negative impact. The quality of education at all levels (elementary and high school) in a school district has the strongest impact on house prices.

Introduction

It is a common in America to see that a household with school-going children consider the quality of local public schools before finally deciding to settle in a given area or neighborhood. Real estate agents are, usually, aware of this need and hence respond by identifying the school and providing the information on the information sheets of houses on sale. Many research projects and statistical studies support the assumption that the quality of local schools is reflected in the prices of houses in the neighborhood. In many metropolitan areas around the world, certain schools have a reputation of being better than others in terms of quality of education and the graduates that they churn out year in year. It has been noted that the way people purchase local public services such as education differs greatly from how people purchase ordinary goods for normal consumption such as food. Public goods, as many researchers have noted, can be purchased indirectly by buying or renting a house in a certain neighborhood. Summers & Barbara (1), state that people indirectly pay for high-quality public education through real estate markets and purchasing homes that are in proximity with schools that are perceived to be offering quality services.

Quality is difficult to measure because of the many parameters that can be used and the various perceptions of different people. Quality may be in terms of school resources such as library facilities and playgrounds, appearance, teacher quality and student performance among many other parameters. People have different opinions about the quality of a school and in most cases it is difficult to find a unanimous agreement. Researchers have found out that objective measures of quality were the surest ways of

determining the connection between school quality and price of houses. Objective measures such as school resources and student performance are now being used to estimate the school premium on the prices of houses. This is an assumption as quality not only depends on the objective measures. The standard measure of the school's resources and the expenditures per student has been found to have a significant effect on the prices of houses. Higher prices for houses have been reported in areas whereby a family spends more on the pupil with regards to tuition fees and other costs (Hanushek, 4). The performance of students in schools, whether in test scores, arts or extra-curricular activities, can also be used by home buyers in determining the neighborhoods they would live in. Higher achievement in test scores has been associated with higher prices for houses. According to Kwame et al. (1), higher quality education may contribute to a cohesive community and improved economic performance, but it also has a private value. School choice, as argued by Hanushak & Yilmaz (2) has always been tied to residential location decision which ultimately leads to increased house prices in those areas.

In this paper, we will try to show the relationship between school quality and the prices of houses in the metropolitan area. We will formulate motivating hypothesis for the presence of these effects of school quality on house prices. We will then test these effects on a metropolitan area (Cleveland area) using standardized test scores to measure education quality. We find that indeed the effect of school quality is huge on the pricing models of houses in this metropolitan area. Our results are in line with the findings of

Bogart & Cromwell that the quality of the school district translates to higher prices for houses in the Cleveland.

Literature Review

There are many factors that come into play in the determining the value of a particular residential property. Some of these factors would include: the building characteristics in terms of its size, design or features, neighborhood characteristics such as crime and air quality among others and other factors attributed to land (the lot size and proximity to other locations). There is a vast majority of literature concerning the determinants of property values in a metropolitan area, but in our study, we would be arguing that differences in school quality are usually capitalized in housing price models. Literature on the quality of public schools suggests that the highly rated schools cause the prices of houses in a metropolitan area to increase. The other argument brought forward by literature is that high property values would lead to quality local public schools. Our main concern is on the first argument. The first argument is that the quality of local public schools would attract potential residents which would in turn result in the bidding up of prices of houses closer to these highly rated schools (Summers & Barbara, 11). Information regarding this notion and school perception can be obtained from various local real estate agents and online. The high performance of schools in relation to standardized test scores is a major consideration in this argument. It is argued that the high performances of students in relation to test scores accounts for quality of public schools. Other schools characteristics such as library resources are also a factor in this argument. It

has been noted that potential residents with school-going children would always seek information related to the quality of public schools before they finally agree to purchase a house or rent in a metropolitan area (Mills et al. 23).

Many academic researches, in the recent past, have indicated that if all the other factors are held constant, a person would pay a slightly higher price for houses in districts with high quality schools as compared to those districts where schools have a lower rating or an average reputation. A lot of empirical studies have established a link between local public goods and price variations of houses in certain neighborhoods. The Tiebout hypothesis that established a link between local public goods and price variations has been the sole reason for the increased interest in this sphere. The Tiebout hypothesis found out that an increase in school expenditure significantly raised the property prices. Theoretically, two models exist with regards to urban location and local public finance. They include the urban residential location model and Tiebout model of community choice. In the urban location theory, a household determines its residential location by considering the trade-off between accessibility and space. This model is concerned with how to model residential choice in a place whereby the driving force is accessibility to the workplace and the community costs. This type of model holds the view that people with a high income live in urban areas. This model emphasizes on transportation and ignores local public goods and services such as education.

The Tiebout models of community choice, on the other hand, states that a household would consider local public goods and would choose a community

that best satisfies their interests. This model has been widely used by researchers in relation to the topic of the relation between school quality and housing prices and it would form a bulk of this literature review. This model assumes that a community would attract a given household type based on their income and tastes (Tiebout, 1). This is one of the short coming of this model given that communities can be heterogeneous with regards to income. Oates, one of the first researchers into the relationship between prices of houses and the quality of public goods and services, employed the Tiebout model and found out that individuals considered the quality of local public services in making decisions regarding locations. He went on further to note that an increase in the expenditure per pupil resulted in increases in the property value while an increase in tax rates resulted in a decline in property value.

In 1973, Thomas King carried out a study to determine how a community evaluation of a local school affected the housing prices using the Tiebout model. He carried out the study in New Haven, Connecticut area. His survey included questions on quality of schools in the area. King found out that the price of houses in the least desirable neighborhoods and the better neighborhoods had a difference of more than $ 5000. King found out that the ratings of the local elementary and high schools were the most important factors in determining the price of houses in the most desirable neighborhood. William Bogart and Brian Cromwell (1997) found out that the house values were much higher in areas that had schools with much more better reputations. They examined the price of houses in the Cleveland metropolitan area. They studied three neighborhood areas with different

school districts. They found out that one of the school districts had a better reputation than the others and the neighborhood showed a significant higher house prices as compared to the other two. They came into a conclusion that the quality of schools translated into a measurable difference in the prices of houses. A current study by Redfin that purported to put the hard numbers on the pricing differentiation in house prices, used a large database of close to 407, 000 home sales, close to 1000 elementary school districts in 51 metropolitan markets. The study found out that the buyers paid close to $50 more for homes in the high-quality school districts as compared to the average rated schools. This study was carried out on near identical houses. Currently, in the analysis of the effect of school quality on house prices in metropolitan areas, researchers have adopted the model developed by Rosen (1974) known as the hedonic pricing model. This is after the discovery that the other two models (urban residential location and the Tiebout models of community choice) were found not to indicate reliable indications of comparative features. In the hedonic pricing model, the price of a house is the function of its characteristics that are comparable as well as the quality of school and neighborhood characteristics. Comparable characteristics would involve features such as number of bedrooms, the size of the house in square meters among many other features. In recent times, there have been a number of research projects that have been focused on the hedonistic analysis tradition of education such as an increase in spending per pupil. Hanushek (11) found out that school inputs had no impacts on student achievement and hence they could not be used as a measure of quality. He

proposed the use of output based measures such as standardized scores to determine the quality of schooling in a schooling district.

Hypothesis

Under this section, I shall discuss the motivating hypothesis that can generate effects of school quality on house prices. The first hypothesis is that in area that is heterogeneous and the potential buyers prefer school quality and certain neighborhood characteristics, the potential buyers with a stronger preference on education would concentrate their search efforts in the areas where other high-quality seekers live. This is particularly true because, as the quality of a school increases, there would be an influx of more buyers and hence, there would be competition for this housing market. The prices of the houses would increase in relation to the demand and inelastic supply. Second, the availability of other schooling alternatives such as homeschooling can provide house buyers with educational quality even if they decide to live in low quality school districts. Alternative schooling methods have been proven to improve education quality in many places. The third hypothesis is that school quality can be regarded as a luxurious good as it is only found in rich neighborhoods. This is true in the sense that most people who live in proximity to quality schools, usually, as the increase in come from the high classes of people.

Model

This paper builds on the hedonistic pricing model as it offers comparative statics (features). The objective is to construct a model that adequately captures the basic reality of the urban structure setting. The study focuses

on a single measure of the school quality (performance of students) for each level of education in the metropolitan area as well as the proximity to each of the schools. Under this model, the house price reflects all the relevant attributes that make up the house such as physical characteristics and the location specific characteristics e. g. proximity to schools or social amenities. The assumption in this pricing model is that the comparative characteristics do not fully capture the quality of the houses like for example furnishing or painting. These characteristics might be different in some of the places.

Data

The study focused on Cleveland Metropolitan area and the secondary and unified school districts that are found there. It involves a total number of 3927 houses. The school districts varied in the fraction of households with children in public schools. In this study, our attention was focused to single family residences and elementary attendance schools. Each of the observation corresponded to the house and described its physical characteristics, quality of the public elementary schools that the children in the households attended and the characteristics of the neighborhood. The main source of data was collected from the Metropolitan statistical area and American Housing survey. Quality of schools was assessed using the report cards issued to students by the various schools used in the sample.

Variable MeanMedian

Results

In our analysis of the results, we restricted our attention to single-family houses and elementary school attendance zones across the metropolitan

neighborhoods. Each observation reflected to the house described by the quality of its physical qualities, the quality of the local public elementary school the children of the household attend and the characteristics of the surrounding neighborhood by which the house is located. Data concerning the prices of the houses and the characteristics were obtained from a local real estate agent firm. We were mostly keen on the single-family houses sold over the period between 200-2014 in the Cleveland metropolitan area. Data from the county property records provided information on the houses' characteristics, area covered in terms of square meters, age of the structures and number of rooms.

Housing characteristics did not seem to have a significant effect on the sample we selected. When we employed the hedonic regression model, as expected, the results showed a strong connection between school quality and prices of houses in that metropolitan area. Neighborhood characteristic also had a significant effect on the overall prices of the houses in the area.

Conclusions

Our study focused on the explaining of variations in the house prices in metropolitan areas based upon the quality of education in the school districts. Explaining the differences in these house prices of different school districts required the formulation of a hypothesis drawn from the hedonic price model. We found out that there is a significant effect on the prices of houses based on school quality. This can be evidenced by the higher prices of houses in the school districts with higher education quality. Our hypothesis is true in the sense that the school district with an increased

quality in education would attract more house buyers and tenants to the neighborhood. This increased demand in higher education quality would ultimately affect the house prices as more people would want to settle in that neighborhood (Mills et al. 13). We can conclude that school quality is the most important causal factor in the variation of prices of houses in the metropolitan area. Other factors such as proximity to quality schools and neighborhood characteristics had similar effects but not to the extent of school quality.

Amenity values are important in the value of houses. The hedonic price model was used to determine the impact of school quality, and the proximity to schools has on the residential properties of the Cleveland Metropolitan area. School quality and the proximity to schools have a significant effect on the prices of houses as they are both responsible for the rising property value. School quality and proximity are doing not only to the affect parents with school children but also the home owners in such neighborhoods. It is, therefore, my hope that these findings would be of great benefit to the large number of families faced with difficult decisions of trying to locate new schools for their children. Whereas parents would favor these short distances to school by their children and the quality, they are to get, property owners would also reap big from the escalating rise in property value.

This paper provides unity between the urban location theory model and the Tiebout models of community choice. The ability to involve comparative measures in the model clearly presents an actual picture of an urban setting and the prices of houses depending on the quality of education in the school district.

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