

Abstract

Purpose – The research aims to investigate the effects of school quality and other unobserved determinants in generating variations in property sale prices. Previous studies have empirically examined the quality of private and public schools without a standard proxy that is accepted in literature. As a result, the research extends knowledge on this dynamic and measures the value of the quality of a former model C school (section 21) and its effect in property price changes in the local markets of the City of Johannesburg (region F).

Research Design/Methodology/Approach – The research adopts the hedonic regression models. It employs a multivariate analysis approach to evaluate and quantify the relationship between the identified predictor variables and property sale prices. The dependent variable was the property sale prices registered in the deeds registry from 2010 to 2020. The independent variables were school quality (i.e. pass rates, sport rankings and quality of facilities) and structural attributes (i.e. erf size, the number of bathrooms and the number of bedrooms) and the year of property sales. The regression models used in the research have been widely applied in previous studies, which was useful to ensure validity and reliability of the estimated parameters.

Findings – The research finds that both models (I and II) explain over 26% of the variation in the log of the property sale prices. The estimated price semi-elasticity of the quality of Jeppe Boys High School results to a 2.8% increase in property sale prices in both sampled areas. The dummy variable of the registered year of each property sale was statistically significant, but exhibited a weak relationship with property transaction prices. The logged erf size had the highest and strongest relationship with sale prices. Property structural attributes in both models contributed a capitalisation rate below 10%. The empirical evidence indicates that the VIF's of the explanatory variables were all considerably low (< 5), implying that plausible impacts of multicollinearity were effectively cured and under control. Further proving there were no signs of spatial autocorrelation, spatial autoregression, and heteroscedasticity being problematic in biasing the estimated regression coefficients.

Research Limitations/Implications – The researcher also attempted to estimate the effect of traffic noise in property transactions. As a result of time-constraints and limited resources reliable data could not be obtained which, however, did not affect the overall findings or conclusions. Further research is ad-hoc to contribute insight on the role of such dynamics in property markets.

Practical implications - The results indicate that quality former model C schools play a role in explaining the variation of property sale prices in the short-run. The research provides insight that policymakers, investors and real estate developers can adopt to enable them to isolate univariates that have high-sensitivity issues of spatial correlation and spatial autoregression based on the data and the appropriate functional forms used in hedonic modeling.

Originality/Value – The main contribution is uncovering the relationship between the school quality of a former model C school and property transaction prices in the local markets, using Kensington and Observatory as sampled areas. The research also moves further to test for the presence of multicollinearity, heteroscedasticity, omitted variable bias, particularly, spatial autoregression and spatial autocorrelation problems in hedonic modeling which are prevalent in some previous studies.

Key words: property sale prices; school quality; hedonic pricing models; location; environmental determinants; property-related structural attributes.