

The Effect of Hedonic Modelling and Index Weights on Hedonic Imputation Indices.

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Abstract

Housing price indexes are generally computed using variants of hedonic housing price models. The commonly used methods are the time-dummy method, the hedonic imputation method and the rolling window hedonic models. In addition, hedonic models that explicitly account for spatial correlation in prices reflecting the price determining role of locational characteristics have been recently developed. The main objective of the paper is to develop a class of hedonic models which explicitly account for time-varying nature of the coefficients of the hedonic model as well as for the presence of spatially correlated errors and to provide an assessment of the predictive performance of various alternatives currently available. Construction of housing price index series with alternative weighting systems, plutocratic versus democratic, is also considered in the paper. Seasonality in the house sales data is considered in constructing monthly chained indices and annual chained indices based on averages of year-on-year monthly indexes. The empirical results presented in the paper make use of residential property sales data for Brisbane over the period 1985 to 2005. On the basis of the Root Mean Square Prediction Error criterion the time-varying parameter model with spatial errors is found to be the best performing model and the rolling-window model to be the worst performing model. The results indicate the presence of three episodes of housing price escalation during the study period.

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