

The Effect of Alternative Estimators of the Hedonic Model on the Revisions of Hedonic Imputed Residential Property Price Indexes

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The main objective of the paper is to study the effects that choices made in modeling, estimation and prediction of the transaction price have on the computed hedonic imputed price index. The paper first presents a general representation of the hedonic model that serves as a general framework to allow a discussion of alternative estimators and predictors. These lead to a number of alternatives that vary in the conditioning set used, the estimated time-path of shadow price parameters, and the restrictions imposed on the variance-covariance of the model (such as the presence and time-invariance of spatial correlation). It is argued that the theoretically consistent model is one where the parameters vary over time following a defined stochastic process estimated using the Kalman filter as this combination results in minimum revisions to the index while incorporating information of transactions in previous periods. Using data from a town in the state of Queensland, Australia, preliminary results are presented using two alternative hedonic imputed indexes and two estimators that do not lead to revisions in the previous values of the indexes as new sales are observed.