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Articles

Geographically and temporally weighted regression for modeling spatio-temporal variation in house prices

Bo Huang, Bo Wu & Michael Barry

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Abstra

By incor on (GWR) model, a egression (GTWR), tionarity simult GTWR integ to capture spatial a ghting scheme pecial cases of GTWR ith global ordinary statistical measure ary, Canada, from 20 in modeling both spatial and temporal nonstationarity simultaneously. In the test sample, the TWR,

GWR, and GTWR models, respectively, reduced absolute errors by 3.5%, 31.5%, and 46.4% relative to a global ordinary least squares model. More impressively, the GTWR model demonstrated a better goodness-of-fit (0.9282) than the TWR model (0.7794) and the GWR model (0.8897). McNamara's test supported the hypothesis that the improvements made by GTWR over the TWR and GWR models are statistically significant for the sample data.

Keywords:

geographically and temporally weighted regression | geographically weighted regression | spatial nonstationarity | temporal nonstationarity | housing price | Calgary

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