Hedonic Price Modeling of New Residential Property Values in Xi'an City,China

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   With the urban growth in Chinese cities, residential property values have become one of the most important determinants measuring urban economic development. However, it is complicated to carry out quantitative analyses focusing on residential property values in a whole city. This thesis estimates the implicit premium of several location influence factors affecting new residential property values in Xi'an, using hedonic pricing technique. Three types of given explanatory variables are created or collected to measure the location characteristic, characteristics specific to the housing itself and neighborhood characteristics from a 378-samples database. Hedonic pricing model is employed to estimate the capitalization effects of these influence factors in new residential property values. The empirical results show that the accessibility indices such as distance to CBD have well been capitalized into the residential property values. In particular, results indicate that a within-zone housing unit is sold 9.4% more than if it was outside the attendance zone of a Key Primary School. Besides, this study educed a specific threshold value (825 meters) about the residence inside a Key Primary School's attendance zone from several repeating regression processes in order to achieve the target with statistical significance at 5% level. An attempt is made to quantize the premium on the residential property from the influence of educational resources, i.e. home buyers have willingness-to-pay for the high-quality educational resource. In addition, we get a corollary that it is distinctive comparing with other metropolises that the accessibility to subway stations has not well and significantly been capitalized into residential property values in the real estate market of Xi'an City until April 2014. In other words, advantages of rail transportation had not yet adequately been brought into full play in Xi'an City.

   Then, it is verified that spatial local singularities caused by unobserved variables or estimation bias can be associated with Multi-regression errors. This thesis has explored an unconventional viewpoint to residual error problem, which combines the spatial particularity related to location differences (Coming from the aspect of real world) and the spatial distributions of singularities (Feedback from the aspect of data).

   Furthermore, this thesis classifies the new residences in Xi'an City into 5 agglomerations and aims to prove some hypotheses that following with results of the residual analysis, which can reveal the trend of housing price and the real estate market prospects of new residential properties within each region of Xi'an City.

   The author takes Xi'an City, which is thought as a comparatively un-modernized city, as the study area, which can provide one new research example of hedonic pricing model comparing with the other metropolises in China. Besides it is effective to provide scientific basis of decision-making for the real estate investors and planners.

Keywords: Cluster analysis, Hedonic price modeling, New residential property values, Residuals, School's attendace zone