Editorial

Spatial analysis in real estate research

As guest editors of *Journal of European Real Estate Research JERER,* we are glad to have the second issue of Volume 12 on *Spatial analysis in real estate research.* Spatial analysis is a growing area with the help of computation technology and availability of geocoded data. We hope that this volume will be of an interest to real estate researchers on spatial analysis of property markets. As guest editors, we would like to thank the authors and referees for their contribution to this special issue. The papers in this volume are coming from a wide range of fields, ranging from retail property market dynamics (*Adebayo et al.*), spatial analysis of Twitter sentiment and property prices (*Hannum et al.*), spatial autocorrelation of price gradients (*Rehák and Káčer*), a spatiotemporal exploratory analysis of real estate sales (*Erdoğan and Memduhoğlu*), local and global determinants of office rents with the mixed geographically weighted regression (*Uyar and Bera*) and airport noise compensation model on real estate prices (*Batóg et al.*), time horizon and analyze the cyclical effect on capitalization and asset valuation for rent prime offices (*D'Amato et al*).

We try to give a general idea of the various contributions by each paper.

The paper by Adebayo, Greenhalgh and Muldoon-Smith investigates retail property market dynamics through spatial accessibility measures of the City of York street network. It explores how spatial accessibility metrics (SAM) explain retail market dynamics (RMD) through changes in the city's retail rental values and stock. The study further indicated that changes in retail rental value and stock have occurred within locations with good accessibility index. It also verifies that there are spatial and statistical relationship between variables and 22 per cent of RMD variability was jointly accounted for by SAM.

The paper by Hannum *et al.* constructs district-level sentiment indices for every district of Istanbul using a dictionary- based polarity scoring method applied to a dataset of 1.7 million original tweets. Findings indicate a significant but negative correlation between Twitter sentiment and property prices as well as price appreciation. They applied linear and SDM models to estimate the relationship between Twitter sentiment regarding a district and housing price appreciation in that district.

The paper by Rehák and Káčer analyses the price gradient of apartments in the city of Bratislava with different measurements of travel time and distance to the city center. The price gradient is analyzed by means of a hedonic price model. To overcome the problem with spatial autocorrelation in the data, the authors apply a spatial error model. Price gradients are usually analyzed in western European or American cities whose urban structure differs from the cities in central and Eastern Europe. Paper is the first in which the price gradient is estimated with different measurements of time and distance to the city center using a spatial econometric model.

Erdoğan and Memduhoğlu examine real estate sales in Turkey on a district basis to reveal the current state of real estate sales and any meaningful changes in the last period. They produced using Getis-Ord Gi* and local Moran's I indices, which showed the spatiotemporal change of sales and sales rate. They argue that real estate sales are more stagnant in the eastern and northern parts of the country. In addition, the authors found that the growth rate of annual average real estate sales was approximately seven times higher than the annual average population growth.

Uyar and Bera modeled local and global determinants of office rents in Istanbul by using the mixed geographically weighted regression approach. Their empirical results indicate

that the office rent determinants such as physical, locational, neighborhood and market operational characteristics have significant impacts on the level of the rent. The first paper to consider the global and local effects of the office rent determinants on the level of rent with the mixed geographically weighted regression approach. The paper provides new insights into the hedonic valuation of commercial real estates, especially for decentralized office markets.

The paper by Batóg *et al.* analyzes noise compensation related to the localization of single-family houses by linear models including spatial and generalized linear models. The set of explanatory variables quantitative and qualitative attributes of real estates included in the model and the influence of outliers indicated. An identification of real estate market heterogeneity and its estimation of compensation related to airport noise evidence using spatial components.

Rather than spatial perspective, D'Amato *et al.* focus on the time horizon and analyze the cyclical effect on capitalization and asset valuation for rent prime offices in the South Bank area of London, UK. The method proposed and applied is integration between a location-specific property valuation and the time-perspective of such value using the cycle as the proxy of the value dynamics. The estimations give a more stable valuation of offices and the theoretical explanation introduces the new concept of "cyclical asset", that is an asset with value bias due to market movements.

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