

## Data, regional perspectives and sophisticated methods to understand real estate market processes

The increasing availability of large and detailed databases as well as advances in econometric methodology, have contributed to a significant advancement in real estate research. The particularities of real estate and its markets, such as high heterogeneity, difficulties in transmitting and finding the necessary information to adjust market signals have contributed to real estate analysis being one of the richest research areas in terms of plurality and complex techniques to be applied when modelling the markets. The growing quality of researchers' training in this discipline and the availability of information is serving to shed light on the behaviour of neighbouring markets, which, just a decade ago, would have been unknown.

The contributions published in this issue 11(3) of the *Journal of European Real Estate Research* provide good examples. They look at researchers' analyses of issues relevant to different real estate markets, each making a distinct contribution to knowledge. At the same time, they clearly reflect the challenges a researcher faces when choosing real estate as the area of analysis for his professional or academic life. There are three common elements to the six articles published in this issue: the identification of the differential impact on markets of the global financial crisis and idiosyncratic market responses to similar pressures; the use of very varied methodologies to address the challenges of testing hypotheses with the heterogeneous data and its availability and, finally, the focus on regional and sub-regional analysis that has turned spatial econometric techniques into a fundamental tool in research within the real estate discipline.

The six articles focus on the analysis of three areas. The first one relates to the financial area, with a detailed focus on the effects that financing and indebtedness have on REITs leverage after the GFC, and the new loan formulas of the sharing economy that provides funds to real estate. The second group of papers apply spatial analyses of residential markets and housing prices, both in terms of the differential impact of the crisis in local markets and the different responses of housing prices to specific environmental or social characteristics. Finally, the effects of changes in habits or tastes on real estate markets cover the third group of contributions. In all cases, establishing a boundary that separates the issues by paper is difficult because in one way or another, the articles brilliantly combine topics and methodologies in a rich way, using research tools to provide answers to economic and social circumstances from the real estate perspective.

The leverage on shareholder returns of European REITs in three periods is the focus of the *Morri and Jostow* paper. Their analysis tests how in seven different European countries, the role of leverage has been significant as a consequence of financial distress, creating larger losses than the tax savings for those REITs with greater size. The leverage effect is analysed using cross-sectional tools with several control variables and by accounting for regional differences. Their results confirm that the cost of financial distress affects REITs returns at different rates at the European level, depending on the region.

Distortions in the financial system and posterior constraints on credits have increased the relevance of the alternative sources of finance out with the formalised financial system. Peer to peer (*P2P*) lending is analysed in *Gibilaro and Mattarocci* who describe its features in the real estate field, the type of solutions, relevance and risk. Their paper also focuses on geographic areas (at three-digit postcode area) by analysing the relation between lending



exposure and the population's income in the largest five cities, to verify whether or not the portfolio allocation of funds in *P2P* is concentrated or dispersed among UK regions. Data come from one of the main companies specialising in *P2P* and the methodology includes the construction of a Hirschman index to analyse concentration degrees. Results suggest that *P2P* does not show exposure associated with high-income, geographical areas and that the prices of real estate transactions do not persistently affect the allocation of new loans, compared with the UK market.

*White and Papastamos* do find significant regional concentration in the response of house price to changes in macroeconomic variables in Greece resulting from the GFC. In a large dataset, the paper models housing price responses using a bias-corrected least squares dummy variable model (LSDVC) in a dynamic panel. The fact that they find significant different responses in the regional Greek housing market suggests the need to apply heterogeneous housing policy measures depending on the evidenced distinct differences in housing price reactions to similar macroeconomic shocks.

Housing prices also respond to environmental features existing at the micro level. *McCord, MacIntyre, Bidanset, Lo and Davis* calculate how air quality and noise pollution are capitalised into housing prices in the Belfast housing market using a sophisticated spatial model which includes a large georeferenced database where infrastructure, environmental features and housing prices have been merged. The paper uses three different econometric approaches to estimate a spatial hedonic model (OLS using spatial dummies, a Geographically Weighted Regression and a Spatial Lag Model). The results suggest a negative impact of pollutants in the area on housing prices, and that noise-effects varies significantly across housing areas.

*AlKay and Kaya* analyse the spatial distribution pattern of urban residents based on their socioeconomic characteristics. Using a two-step analysis strategy, the paper estimates the Factor Ecology score and a geostatistical analysis using Kriging to determine the spatial dimensions of social, economic and housing features of the Turkish population in medium-sized cities. Results suggest the existence of a homogenous distribution of similar groups of neighbourhoods and low inner differentiation mainly within lower income areas. Ethnicity and income differentiation are respectively the principal determinants of socio-spatial distribution. Furthermore, they found that local housing market constraints facilitate the remarkable separation among groups.

Lastly, *Vimpari* analyses how changes in housing needs related to space could create a dilemma for both landlords and tenants. He estimates the effect on housing rents of not moving from the housing unit as a consequence of these needs. Using option pricing theory, this paper values building adaptability to find the optimal rent for renter and owner. The study suggests that new needs could be met in the interests of both if the tenant's space can be downscaled rather than leaving it vacant, thus saving relocation costs.

Every paper shows quite new information which expands our knowledge about European real estate markets, and a skilled combination of analytical methods which, I am sure, the reader will enjoy.

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