Editorial: Real estate ontology

In this issue, 16(2), the question of what is real estate is discussed and the breadth of the subject is reflected in the papers published. The methods and applications address factors affecting long and short term price movements, adding to the sizeable debate on these topics. Other papers, extend and develop newer fields of investigation and methods that have increasing prevalence in the literature. Mixed method approaches and consideration of the effects of limited data are also presented in the papers in this issue.

Beginning with the question of what is real estate and the ontological questions for the discipline, the paper by K'Akumu seeks to identify and document definitional challenges that hamper the delineation of the scope of real estate as a discipline and as an industry. He notes that in real estate conferences, finance and investment are the dominant topics in the body of knowledge of real estate research while for real estate education, this may require redefinition to include and address reputational issues facing the industry. His ontological approach is used to show that the role of real estate is grossly understated and misunderstood with implications for research and education.

The remaining seven papers in this issue address a range of real estate topics applying different approaches and methods reflecting a diverse and changing body of knowledge. Cajias and Zeitler apply a machine learning (specifically eXtreme Gradient Boosting) approach to examine drivers of housing demand in a world where Internet based search for homes has become ubiquitous. Applied to demand for rental apartments in Munich, the authors consider search intensity (contacts per listing) and show that this improves model performance in addition to hedonic and socioeconomic characteristics impacting home searching processes.

Also adding to the body of knowledge is the paper on automated real estate valuation using comparative judgments and deep learning by Despotovic, Koch, Stumpe, Brunauer and Zeppelzauer. They hypothesize that empirical errors in the interpretation and qualitative assessment of visual content can be minimized by collating the assessments of multiple individuals and through use of repeated trials. This led the authors to the development of an experimental approach for semi-automatic extraction of qualitative real estate metadata based on Comparative Judgments and Deep Learning. The research shows the added value of alternative data extraction approaches for AVMs.

While these two papers access and enhance large datasets, consideration is given to the impact of a lack of data in the paper on whether the absence of share deals distorts commercial real estate indicators by Ishaak, van Schie, de Hann and Remøy. They suggest that the absence of share deals could cause sample selection bias in real estate indicators. They construct share deal indicators based on transactions volumes, values and price changes using data from the Netherlands. They find that adding share deals would increase volume and value indicators. In terms of financial stability, the calculated risks would be larger and thus would volume and value indicators for commercial property transactions benefit from an addition of share deals. They further note the importance of legislation and specifically the tax treatment of asset and share deals.

Considering the different actors in real estate markets the paper by Lundgren, Hermansson, Gyllenberg and Koppfeldt examines landlords' and retail trade tenants' different beliefs in lease negotiations in the Swedish market. Data were collected from interviews and questionnaires to those involved in rental negotiations across the retail market in Sweden during the period of the Covid-19 pandemic. From 156 responses and 106 complete answers and using a principal components analysis approach, landlords were

found to value regional growth as more important than tenants. Differences were also found in beliefs on the importance of e-commerce, perceived trust and customer focus. Level of education also influenced differences in perceived importance of these factors.

Market transparency is a recurring issue in real estate markets where there is a heterogeneous asset, infrequent trading and illiquidity. Palm and Bohman examine auditor choice in real estate firms as a potential quality signal. They highlight the issue of information asymmetry and why signaling quality is important. Choice of credible auditors then becomes a significant issue. Using data on real estate owner firms in Sweden, the authors estimate logit models. They find that large mature real estate firms are more likely to use the "big four" auditors. Publicly listed companies are more likely to use the big four auditors, possibly suggesting that they have a greater need to signal quality to the market.

The increasing share of senior citizens in different countries and their choice of where to live poses interesting questions for housing markets in different locations. The paper by Taltavull and Gibler analyses the impact of international retirees on housing markets in destination countries. The paper focuses on the housing market in Alicante, Spain and the two largest groups of retirees, from Germany and the UK The specific characteristics of international retirees housing demand is considered by the authors, e.g. equity purchase, specific amenities and pension and wealth aspects that differentiate retirees purchase decisions from other age groups. A panel dynamic ordinary least squares (DOLS) model is applied. The authors find that German and British retirees caused a long term effect on Alicante house prices with German retirees causing a bigger price effect. Further, cash purchase gives retirees bargaining power and they could save around 10% of the purchase price.

While the previous paper identified long run effects of retiree migration on local house prices, the paper by Hoesli and Shmygel analyses short term house price bubbles and focuses on bubble detection in Ukraine. Reviewing the methods of bubble detection, the authors examine ratios of house prices to their fundamentals (income and rents) and regression analysis with demand and supply variables. Using the price-rent ratio, the authors find that for the capital, Kyiv, a bubble was detected around the global financial crisis period, and there were imbalances during the 2014/15 crisis linked to sharp currency depreciation. During the rest of the time period including the last decade, the ratio in Kyiv remained stable with properties fairly priced. Bigger bubbles were detected around the financial crisis period in regional cities including Donetsk, Dnipro, Lviv, Odesa and Kharkiv. Regression models show the importance of incomes and unemployment but also highlight the role of structural characteristics of the housing market, particularly the low exposure to mortgage debt in the Ukraine market.

I hope you enjoy reading the new research presented in this issue.

Michael White