

Making economics relevant

November 17 2015, by Nadia El-Awady

A team of researchers at Singapore Management University investigates the complex relationships between economy, geography, real estate and health to unravel important policy implications.

Land [prices](#) in Singapore are driven up over short periods of time due to the strategic bidding behaviour of land developers, according to the results of a new study conducted by Li Jing, Assistant Professor of Economics at the Singapore Management University.

Professor Li, who specialises in urban and [real estate](#) economics, says that studying how land prices evolve along with rapid successive auctions is an essential step towards understanding the dynamics of real estate markets in Asia.

Together with her colleagues, she set up a model that captured the sequential bidding behaviour of land developers, while also taking into consideration the final phase of property construction. "This helped us gain more insights into how developers priced their final developed properties and how that determined their bidding prices for land sales," she explains.

The team of researchers described the process and its shortcomings by using an actual bidding process that they had closely examined. Three neighbouring plots of land were put up for sale in Singapore within six months of each other. Different companies won the bids each time. The team discovered that earlier winning bidders displayed a tendency to submit higher bids in subsequent tenders even though they had little

hope of winning them. Their intention was to push up the subsequent auction prices and make their previously won plots more competitively priced. Consequentially, knowing that this would be the case, other bidders increased their own tender prices in order to win.

Professor Li explains that understanding this bidding mechanism has policy implications. If the government wants to keep housing prices low, it should try to avoid auctioning geographically close and similar land plots within narrow timeframes, she says. The government may also consider supply-related cooling measures such as forbidding companies which were awarded previous tenders from submitting bids on land plots close to what they had won. Winning bidders tend to place a higher bid on a second land parcel to drive up land cost in that area, thus making their property from a previous bid more competitive in price.

Besides the research on Singapore's strategic sequential bidding, which is in its final stage, Professor Li also has her research on real estate pricing.

Understanding the economy through real estate fluctuations

"Researchers working in these areas explore why cities exist and how space in cities is demanded and used for various economic activities," Professor Li says. "It is this need for space, together with short-term supply, that eventually determines real estate prices," she explains.

In 2013, Professor Li published her study "Further Evidence on the Spatio-temporal Model of House Prices in the United States" in the Journal of Applied Econometrics that investigated changes in the United States housing market prices between 1975 and 2011, as well as their relationship to per capita disposable income, an economic indicator often used to gauge the overall state of the economy. She found that

even though housing prices deviated from predicted prices; in the long run, they did not deviate from per capita income, with half of the short-term deviations levelling out in three and a half years. "Housing prices always revert back to what have been predicted by economic fundamentals, such as per capita disposable income, interest rates, and the population size," concludes Professor Li.

Professor Li conducted a follow-up study in Singapore in which she examined the relationship between sale and rental prices of condominiums. Rent prices were used in this study instead as rental units in the local condominium market share similar characteristics to owned units, making this approach convenient. Professor Li found that, similar to the previous study, home purchase prices did not significantly deviate from the corresponding rental prices, and thus from the general state of the economy, in the long-term.

The economics of healthcare

Another research area Professor Li is interested in is health economics. It is important to understand why healthcare resources are highly concentrated in certain areas and how this concentration affects healthcare outcomes, she explains.

Along these lines, Professor Li published two studies in 2013. One, titled "Intermediate Input Sharing in the Hospital Service Industry", investigated whether hospitals found in more concentrated locations tended to outsource services, such as clinical lab services, to intermediate parties. The other, titled "The Influence of State Policy and Proximity to Medical Services on Health Outcomes", looked at factors related to geographic variations in [health outcomes](#).

In her first study, Professor Li found that hospitals in the concentrated areas were more likely to outsource to intermediate suppliers, suggesting

that "agglomeration economies" exist in the hospital service industry. Agglomeration economies are the benefits that arise when companies and people are located near one another in cities. She also found that the presence of nearby smaller hospitals increased the tendency to outsource. This "agglomeration effect", however, decreased with distance.

In the second study, Professor Li found that it was beneficial to live in close vicinity of concentrated healthcare services in the United States, especially if the services were in the same state. People living near concentrated services that were across a state border did not tend to benefit from this proximity as much due to state restrictions on out-of-state doctors.

"The state-specific rules that prohibit out-of-state doctors from treating in-state patients lead to inefficiencies in the healthcare system," says Professor Li. "Healthcare policy makers should consider establishing more general state reciprocity policies that make it easier for doctors to travel and treat patients elsewhere," she says.

Professor Li's research contributes to a broader set of literature that has important policy implications. Her research also contributes to the literature on agglomeration economies and health economics by offering a new perspective on the impact of geographic location on health outcomes.

In her future research, Professor Li says it would be interesting to collaborate with colleagues at SMU's School of Information Systems who specialises in digitalising and analysing data related to geography, which could shed light on various issues related to urban structure at the micro level. She is also interested in the combination of economics and psychology, which has created the relatively new field of behavioural economics, making economic theory more relevant to a variety of real-

life scenarios.

Provided by Singapore Management University

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