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Real estate research in Asia - Past, Present and the Future

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This study reviews research papers on Asian real estate markets published in 17 real estate selected academic journals. Characteristics of these studies are identified and future directions of research are speculated upon.

Keywords

Asia, Real Estate.

Introduction

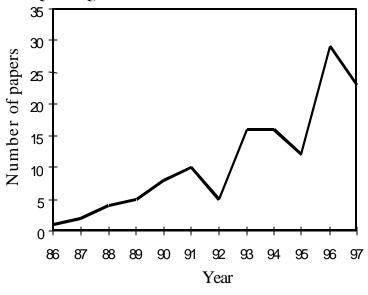
The growth in real estate research in Asia has been very significant over the past decade. Figure 1 shows the trend of the research papers on Asian real estate markets published in 17 real estate academic journals¹. A list of the journals surveyed is shown in Table 1. This number represents only a fraction of all the studies on the Asian real estate markets since books, research monographs, research reports, conference papers, and journal

¹ Since there is no universally accepted definition of real estate related research, the choice of the journals is a difficult one. The list here represents the author's subjective judgement of peer reviewed journals relevant to this study and may not concur with individual reader's opinion.

papers published in languages other than English are not included. Figure 2 shows the breakdown by markets.

Table: List of Journals Surveyed	
1	Australian Land Economics Review
2	International Journal of Urban and Regional Research
3	Journal of Housing Economics
4	Journal of Housing Research
5	Journal of Property Finance
6	Journal of Property Research
7	Journal of Property Valuation & Investment
8	Journal of Real Estate and Construction
9	Journal of Real Estate Finance and Economics
10	Journal of Real Estate Literature
11	Journal of Real Estate Portfolio Management
12	Journal of Real Estate Research
13	Journal of Urban Economics
14	Property Management
15	Real Estate Economics
16	Regional Science and Urban Economics
17	Urban Studies

Figure 1: The Trend of the Research Papers on Asian Real Estate Markets (19861Q-19972Q)



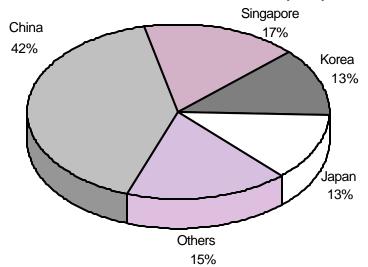


Figure 2: Research on Asian Real Estate Markets - Analyzed by Market

Apart from the emergence of real estate as a new academic discipline, one of the major reasons for the growth in research in the Asian real estate markets is the opening up of the Asian economies and their real estate markets since the early 1980's. This has had several effects. First, as the markets have become more accessible to international investors, there has been an increasing demand for information and knowledge about these markets, especially regarding their structure and dynamics. Second, along with the development of Asian real estate markets there has been an increase in real estate data gathered by both government departments and private consultants. This has facilitated empirical research. Third, the changes that have taken place in these real estate markets have had significant political, social and economic implications, which have interested academics, practitioners and policy makers alike.

Past and Present

Just more than half of the work on Asian real estate markets is quantitative empirical research. Most empirical research has been cross-section analysis, typically research utilizing hedonic pricing models (Crane et. al., 1997; Gu and Colwell, 1996; Huh and Kwak, 1997; Kanemoto and Nakamura, 1986; Lin, 1993 and Mok et. al.; 1995) and tenure choice models (Ahmad, 1994; Cho, 1997; Chou and Shih, 1995; Daniere, 1992; Gyourko and Han, 1989; Horioka; 1988;

and Zorn, 1986). This trend has to a large extent been driven by the nature of the data available. In Hong Kong, for example, all real estate transactions have to be registered with the government (Land Registry). The transaction records include information on transaction prices and important attributes such as age, use, location, floor level and so on. The data are also computerized and accessible to the general public. The information is computerized and can be obtained from the government at a reasonable price. In addition there are now a few value added data suppliers in Hong Kong. They purchase the transaction records from the government and add extra information to it (such as size of the unit) and sell the data to various organizations including Universities and private consultants.

There have been relatively fewer time series analyses undertaken on Asian real estate markets. Examples of studies utilizing time series data include Brown (1996); Cheung et. al. (1995); Chiang and Ganesan (1996); Chau (1997); Eng (1994); Hastings and Li (1996); Ho and Tay (1993); Kim and Suh (1993); Lee-Khor and Yu (1996); Liow (1996); Ong (1994); Newell and Chau (1996); Newell et. al. (1996); Tse (1996a and 1996b) and Webb et. al. (1997). This is probably due to the lack of reliable long time series data. Most Asian real estate markets are much less well developed compared to western countries and efforts to keep and gather real estate and economic statistics has only recently started. Real estate price indices have also been constructed in a very crude manner, which has undermined the reliability of the indices for serious empirical research.

Focusing on policy issues, is another characteristic of research work on Asian real estate markets (Adams, 1987; Chen, 1996; Dowall, 1994; Firman, 1997; Ho, 1994; Kong and Yeoh, 1994; Lee, 1993; Lee, 1997; Li, 1997a; Li and Yu, 1990; Ma and Fan, 1994; Ooi, 1991; Quan, 1991; Reece, 1996; Tse, 1996c; Wang and Murie, 1996; Winchester and Chalkley, 1990; Wu, 1996; Xu and Fang, 1996; Zhao and Zhang, 1995; and Zhu, 1994). Some of these studies have addressed issues related to housing, (Chang, and Ward, 1993; Chua, (1991), Dowall, 1989; Dowall, 1992; Kim, 1992; Kim, 1993; Lodhi and Pasha, 1991; Low, 1996; Ong and Chew, 1996; Peng and Wheaton, 1994; Seko, 1993; Shefer, 1990; Smart, 1988; and Teo and Kong, 1997), land price and policy (Dowall and Leaf, 1991; Green, et. al., 1994; Hannah et. al.; Kirwan, 1987; Li, 1997; Strassmann and Blunt, 1994), urban planning and development policies (Alperovich and Deutsch, 1996; Cuthbert, 1991a; Henderson, 1991; Hsu, 1996; Lai, 1997; Sit and Yang, 1997; and Tang, 1994). Some have also touched on issues related to transportation and environmental management (Tanaka et. al.; 1996; Tse et. al. 1997). Most of these studies are based on the application of, and deduction from received theories in housing economics (Gu and Colwell, 1997; Kim, 1990; Ohtake and Shintani, 1996; Pasha and Butt, 1996;

Ravallion, 1988; Struyk, 1990), urban economics (Ahmad, 1993; Daniere, 1994; Fujita and Kashiwadani, 1989; Hatta and Ohkawara, 1993; Head and Ries, 1996; Lee, 1990; Lim and Lee, 1993; Rose, 1992; Suh, 1991; Suh 1993; Tabuchi, 1990; Zheng, 1991), regional economics (Gabriel et. al.; Li, 1997; Shefer, 1987), political economy (Li, 1997; Teo, 1997) and political science (Cuthbert, 1991b). Due to the lack of empirical data, some of these studies are purely theoretical or based on case studies.

A number of studies on the newer and emerging markets (such as cities in Mainland China) are descriptive with little or no formal analysis of empirical data. These studies typically concern institutional relationships, especially the legal and administrative system under which the real estate market operates (Acharya, 1988; Acharya, 1989; Chau and Lai, 1994; Leaf, 1993; Li, 1996; Li, 1997a; Li, 1997b; Li and Walker, 1996; Sharkawy et. al.; Walker and Li, 1994; and Walker and McKinnell, 1995). This is understandable since we know very little about these markets and empirical data for rigorous analysis is simply not available.

Due to my lack of language capability, I am not able to review studies published in the majority of Asian languages. However, perhaps I can say a few words about studies on real estate markets in Mainland China (that are published in Chinese) albeit based on my very limited knowledge. One characteristic of these studies is the emphasis on policy issues, especially on how real estate market is organized and administered, as well as the implications of different administrative policies. This trend is likely to be demand driven since these are very practical issues that need to be resolved and resolved quickly. Other major practical issues such as how real estate professionals should be trained and how the professional bodies should be organized are also common themes.

The Future

As Asian real estate markets develop and more reliable data becomes available, the proportion of empirical research is bound to increase. The nature of these studies will be on the application and testing of theories used in economics and finance. The trend of future research in Asian markets will be based on stronger theoretical foundations, together with richer empirical evidence, which has also been the global trend. This emphasis on establishing rigorous theoretical foundations and empirical evidence is also important for studies related to policy issues and their implications.

The role of descriptive studies will become much less important as the Asian markets mature and the institutional relationships become more stable and

transparent. However, this should not deny the value of descriptive studies as more rigorous analytical research cannot be undertaken without the knowledge of the how these markets are organized and the legal and administrative framework under which these markets operate.

However, of all the potential areas of research, there are certain areas that perhaps merit greater attention since they are also related to the special and/or particular characteristics of Asian markets.

First, cross-section analysis utilizing hedonic pricing models is suitable for markets exhibiting high degrees of liquidity such as Hong Kong. Hong Kong is an ideal place for studies involving the estimation of cross-section hedonic price models for four reasons. First, transaction data including the relevant property attributes are readily available. Second, the Hong Kong real estate market is very liquid. This is in fact an advantage even over most western markets. The volume of transaction per year is, on average, approximately 10% of the value of the total stock. Third, the tax system in Hong Kong is very simple. Fourth, the residential units are fairly homogeneous, this means the number of independent variables is small compared to the number of observations. Other major cities in China, such as Shanghai and Guangzhou, are developing centralized computer databases for real estate transactions. The availability of such information to researchers would certainly facilitate cross-section analysis of these markets.

Tenure choice, which is very important politically on many Asian economies, will continue to be a popular area of study. Although most economies in Asia are much more open than before, governments still have significant powers of invention in these markets. Fiscal policy, monetary policy, land policy, housing policy and immigration policy affect tenure choice either intentionally or unintentionally. Modeling and estimating how tenure choice is affected by these policies would be an interesting and practical area of study.

With the development of the financial markets such as the development of a secondary mortgage market in Hong Kong (as well as other Asian economies), there will certainly be a demand for empirical analysis on the behavior of these markets. In the very near future, there will be sufficient data for analysis on the pricing of mortgage backed securities and empirical estimation of default and prepayment risk and factors affecting prepayment rates. Option pricing and its application to direct and indirect investment would be another important and fruitful area of research.

As the length of time series data increases over time, more empirical studies utilizing time series data will become viable. Examples includes analysis of the dynamics of various sub-sectors of the real estate market, application of portfolio theory to corporate asset management, informational efficiency, interaction between the stock and real estate markets. The latter is particularly interesting in the Hong Kong context since approximately half of the earnings of public companies in Hong Kong are derived from real estate and more than 40% of Hong Kong people's wealth are similarly in real estate. Associated with time series analysis is the study of the reliability and bias of existing real estate price series. This is particularly important for Asian markets as most real estate price series are constructed using very primitive methodologies.

At present, reliable time series is still too short for any meaningful analysis on most Asian economies. Therefore it pays to spend time and effort on the construction of real estate price indices from historical transaction data. The underlying theory for different methods such as repeat sales, hedonic pricing, or a combination of the two has been a focus of advances in recent research.

Different markets have different characteristics; therefore it would be interesting to undertake comparative analyses between different Asian markets and between Asian markets and other Western markets. Such comparisons may provide an insight for advancement within the boundaries of urban land economics.

Finally, the production side of the real estate business (i.e. the construction industry) has been neglected by most real estate researchers. Traditionally, this area has been regarded as within the domain of the engineering profession or the construction manager. However, real estate researchers can achieve a wider and more insightful perspective if they can understand the management, economics, finance and legal aspects of the production process. In fact, in some Asian economies, it is easier to undertake empirical analysis on the production side since engineering data is more readily available. Similarly there are many interesting areas that have not to date been well researched, by engineers or construction managers. Examples include the effects of design on property values, determinants of the choice of construction procurement systems, agency problems in relation to various contractual arrangements of the different parties involved in the design and construction processes. Empirical studies in these areas of research may also shed light on some specific theoretical issues in economics, finance and management.

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