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Volume 18

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- Professor Sr Dr. Hishamuddin Mohd Ali

International Real Estate Market Study: A Framework For World Class Office Development

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The Increasing Global Significance Of Asian Property Investors

- Professor Graeme Newell

Announcement

Notes to Contributors



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Objective

The Journal of Valuation and Property Services is a publication specifically intended for property professionals to keep abreast with the developments in the property industry as well as the real estate profession.

This journal serves as a platform for the exchange of information and ideas on property issues. It seeks to:

- i. address areas of major interest and practical relevance to the real estate profession.
- ii. create awareness of new theories, techniques and applications as well as related concepts relevant to the real estate profession.
- iii. discuss policy issues and regulations and their implications on the property market.

We therefore welcome articles with theoretical and practical relevance to the real estate industry and profession, property valuation, property management, property investment and market analysis.

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INTANGIBLE BEHAVIOURAL MODEL OF UNCERTAINTY IN PROPERTY VALUATION

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ABSTRACT

Instead of many plausible scientific and quantitative approaches to arriving at final valuation opinion, there is still a paucity of studies on the intangible 'art' of valuation, particularly pertaining to psychological and behavioural aspects of Valuers that influence the validity and uncertainty of property valuation. This study aims to identify and formulate the influences of intangible behavioural elements of uncertainty in property valuation, leading to the construction of intangible behavioural model of uncertainty inherent in property valuations which ultimately may reduce the uncertainty of property valuation. A phenomenological-case-study based focus group discussion with 10 experts was conducted. The model discovered that local Valuers are subject to various interwoven behavioural uncertainties in making their valuation judgement, of which the proposed solutions appear viable to curb them. The model provides policy insights to Valuers, academicians and market about the importance and understanding of behavioural property economics, aside from science aspect, especially in addressing the local property valuation status quo.

Keyword: Behavioural uncertainties; Property valuation; Intangible behaviour; Valuation judgement

1. Introduction

Traditionally, property disciplines are inescapable from applying rationalist (normative) approach / neo-classical economics and expected utility theory. It reposes on three basic assumptions (Mullainathan and Thaler, 2000). People are assumed to act independently based on full and relevant information, have rational and correct preferences among outcomes that can be identified and associated with a value, and firms are assumed to optimise decisions by profit maximising while individuals seek to maximise their utility. However, particularly in the property valuation and investment, it appears to negate these assumptions. Studies on the property valuation and investment demonstrate that judgements can be sub-optimal, and considered as irrational behaviour, a view supported by the findings of MacCowan and Orr (2008), Kucharska-Stasiak (2013) and commentary of Warren-Myers (2015). Hard information in fluctuating and illiquid markets and on property's heterogeneous legal and physical characteristics (spatial planning and legal requirements) are not always perfect, symmetric, up-to-date, accurate, reliable, adequate and available thus, high transaction cost (searching information) is resulted. There is evidence to suggest that property Valuers are exposed to various assumptions / speculation, emotional uncertainty, bounded / non rationality, heuristics and cognitive biases and errors, negligence (misconduct) and other behavioural issues, which include that their valuation patterns tend to follow trends and client's influence, in making valuation decision (see Iroham et al., 2014). Thus, research into such problem of uncertainty (symptom of error) is indicative of the emergence of new trends in valuation, especially pertaining to subjectivity of behavioural interaction. That is, Valuers are required to take into account the foregoing subjective behavioural interactions of market actors, including themselves that exhibits low efficiency and unobjectivisation of valuation, which thus ensue in low accuracy and precision of valuation as well as in high discrepancies between multiple valuations although on the very same property. Such problems, i.e., compounded behavioural uncertainties (biases) that lead to systematic errors are imperative to be tackled as they result in loss of investment and confidence of clients (see Naridtnan and Fredric, 2014). Kucharska-Stasiak (2013) asserted that behavioural valuation issues are inevitable as mathematical calculation will eventually rely on subjective interpretations and other behavioural uncertainties of Valuers who will make appropriate adjustments and assumptions in the valuation models (see Crosby, 2000). Thus, one must accept that valuation (estimation) is not a pure science, but rather, the value is predominately derived from art or soft aspect compared to science (Crosby, 2000; Warren-Myers, 2015), which has potential for inaccuracy, variation and bias that are responsible on the context of a Valuers' behavioural uncertainties (see also Damodoran, 2006¹).

While there is substantial and growing research on 'science' methodological analysis model and tangible comparables and input parameters selection in property valuation validity, the descriptive 'art' behavioural property valuation uncertainty is often neglected or still in its infancy, particularly pertaining to how property Valuers' subjective decision-making process contributes to inaccuracy and uncertainty of valuation. Studies by Kucharska-Stasiak (2013), Lowies et al., (2013), Whittle et al., (2014), Iroham et al., (2014) and Warren-Myers (2015) acknowledge this gap and they recommend further research into the need of behavioural uncertainties of Valuers in property valuation.

¹ Valuations is not a fact (RICS Professional Standards) or a true value as they are all unavoidably biased. The questions are how much and in which directions..

This is particularly true for local context as by far there is no single behavioural valuation research undertaken. Thus, to make the study more feasible, in which conventional normative valuation alone will never suffice especially for the local valuation status quo, this exploratory-descriptive paper aims to revise the notions embedded in the neo-classical theory as well as to transcend the “science” tangible aspects of valuation by introducing a more comprehensive set of intangible behavioural economics theory and psychological dimensions² to the local property valuation decision-making processes, after considering the fact that only anchoring, adjustment heuristics and some other limited types of cognitive biases have been studied in this line in earlier research (see Gallimore, 1994, 1996, 2004; Gallimore et al., 2000; Gallimore and Gray, 2002; Diaz, 1990, 1997; Diaz et al., 2002, 2007; Iroham et al., 2014). This research, in short, can be entailed as behavioural property (see Salzman and Zwinkels, 2013) or more precisely, behavioural valuation research (see Gallimore, 2004).

By delving into the area of behavioural valuation of property, this qualitative study attempts to formulate an intangible behavioural model that encapsulates the following objectives: (i) to investigate the intangible Valuers’ behavioural uncertainties and their influences in property valuation; and (ii) to suggest solutions in order to curb the intangible psychological and behavioural uncertainties in property valuation. More specifically, the study seeks to answer the following questions:

- a) What are the behavioural uncertainties that may influence the Valuer’s decision-making in property valuation?;
- b) How and why those intangible uncertainties (behavioural components) influence the Valuer’s decision-making in property valuation? That is, under what circumstances/ conditions trigger the Valuers to be subject to the behavioural uncertainties?; and
- c) What is the possible solution inherent in property valuations and how does it contribute to reducing the uncertainty within the property valuation?

Hence, in undertaking this research, the study can bridge the gap by contributing behavioural economics and psychological knowledge and insights to the field of property valuation research. Although it may appear that the above inaccuracy and high discrepancy / inconsistency of values problems are inherent in the valuation process, this transdisciplinary understanding of the underlying descriptive behavioural causes, along with non-experimental qualitative methodological approach, may help to, at least, counteract them (where possible) and enable a different and wider perspective on valuation figures by providing deeper understanding and explaining rationale behind it, i.e., the complex way in which Valuers make their decision. Thus, the issues of accuracy and uncertainty of valuation have theoretical, methodological and practical implications. They are of particular significant in emerging markets and vacant land, where objectivisation via information availability and comparison methods, seems to be more difficult (Salzman and Zwinkels, 2013).

² In fact, studies on heuristics and biases in judgments under uncertainty can be traced to the works of cognitive psychologists (such as Kahneman and Tversky, 1981, 2000; Slovic and Lichtenstein, 1971; Tversky and Kahneman, 1974; Simon, 1978). This idea was relatively late emerging in valuation field, until Ratcliff’s (1972) followed by Diaz’s (1990) works. Certainly, there are other types of behavioural aspects that will be further reviewed in the literature review section

The paper is structured as follows. Section 2 begins with a literature review, in which it analyses behavioural economics theories and psychological literature. This covers various types of behavioural uncertainties and their application to property valuation process and final figure decision. The examination is used to develop relevant theoretical and conceptual frameworks that underpin the research conducted. Next, in section 3, it continues with a full description of the qualitative research methodology used to gather and analyse the sampled respondents' data on their perceptions, experience and facts for the posed research questions. While a detailed set of results and findings are presented in section 4, discussions of the results are shown in section 5. Finally, section 6 presents the conclusions, implications and recommendations of the research.

2. Descriptive Model: Behavioural and psychological uncertainties in property valuation

Behavioural instincts change the decision-making of economic agents in many different situations and environments are presented accordingly. This paper analyses and conceptualises psychology and behavioural economics theoretical framework in property valuation discipline, which its literature mainly adopted from behavioural finance and investment of property and stock markets as well as little from property valuation (see Whittle et al., 2014). These cover MacCowan and Orr's (2008) fund management and property disposal and other types of property transactions instances that associated with behavioural disciplines, Gallimore's et al., (2000) small company's property investment, Salzman and Zwinkels' (2013) corporate and household housing investment and valuation, Naridttanan and Fredric's (2014) property valuation and investment confidence, Baum's et al., (2000) valuation bias and client influence on commercial property and so on. Succinctly, despite the various scopes of properties, mainly these behavioural uncertainties are reviewed as follows that include biases, heuristics, satisficing effects, client influences, ethics/ professionalism and negligence. This considerably confirms Diaz and Hanz's (2007) four lines of inquiry in behavioural valuation, which emphasised on (i) departures from normative models, (ii) comparable sales selection, (iii) valuation biases (see Sherin, 2002), and (iv) agency-related impacts or feedback.

a) Biases and Heuristics

Issue of Valuer's misjudgement has often been attributed to the adoption of cognitive heuristics habit (Diaz, 1997; Gallimore, 1996). Heuristics is the use of simplifying cognitive shortcuts in solving complex problems (making decision) (Simon, 1978). As complexity and detailed information increases, people prefer to use heuristics to eliminate alternatives, often with just a limited amount of information search and evaluation (Gallimore et al., 2000). This can ease the Valuers' time and effort (less transaction cost of searching and information) in making valuation decision. However, Hogarth (1981) acknowledges the potential biasing effect of heuristics (Diaz and Hansz, 1997). Heuristics or biases are of various types: representative heuristic, availability heuristic, anchoring and adjustment heuristic (Tversky and Kahnemann, 1974), and positivity/ confirmation heuristic (Evans, 1989).

Tversky and Kahneman (1973) indicates that a person evaluates the frequency of classes or the probability of events by availability; i.e., by the ease with which relevant or more making sense instances come to mind" (Tversky and Kahneman, 1973, p. 207).

Quan and Quigley (1991) show that Valuers make use of their memory, past successful and unsuccessful experience, lesson, belief/ philosophy, principles, preferences, perception, intuition, sentiments, interpretation, and human capital (prior knowledge/ expertise), when valuing property. The information via metacognition is easily available and retrieved compared with macroeconomic, market and property specific data. For example, Valuers will choose the most recent information or the information most easily and vividly recalled or obtained (Baum et al., 2000; Diaz et al., 2002). This recency biases/ anchoring is based on 1 or 2 examples, rather than on the basis of how frequently the event has actually occurred. This includes unclosed contract prices on subject and comparable properties. The availability heuristic is closely related to the confirmation/positivity bias and anchoring, and other types of behavioural biases as presented in the following sections.

Next, representative heuristic is similar to stereotyping. A Valuer classifies an event or object with others of a type that they are familiar with. Lessons are learned from experience and assumptions are made that the valuation is the same as that seen elsewhere. As contented by McCowan and Orr (2008), it is suggested that valuation decisions are biased towards the markets that the Valuers are more familiar with and hold good-quality data; thus, using them to stereotyping other similar properties, which this incurs inaccuracy of decision. This also applies to herding behaviour or cascade effect, which reconciles herd behaviour with the rational-choice approach. It induces one to decide on the “feel” of the herd by relying on their valuation information rather than on rigorous independent analysis and private information, which is easier and cost and time saving. It is because they are concerned of what others think of their valuation decisions; imitating their decision makes them felt that their valuation is more validly acceptable and correct. This tendency is accentuated in the case of decisions involving high uncertainty, such as pricing of heterogeneous assets in residential property (e.g., vacant land or commercial/ industrial assets) or technical knowledge.

The third heuristic is anchoring and adjustment bias. Valuers tend to solve problems by forming a-priori value estimates as a reference of what the answer/ standard might be (Iroham et al., 2014). Adjustment process to the initial starting estimate is generally insufficient and lead to bias that may cause Valuers to underestimate or overestimate the actual market value. Aside from the Valuer's own knowledge and experience (see availability bias), this anchoring/ benchmarking process can be performed through personal contact of experts' opinion (other Valuers (colleagues)/ property agents, negotiators as informers) (see Yiu et al., 2006; McCowan and Orr, 2008; Salzman and Zwinkels, 2013) via asking price technique (see Diaz et al., 1999), be based on uncompleted contract price of a comparable property, news media or advertisement which can be deemed ‘noise trading’ (see Shiller, 2002) and anchored onto their previously appraised values/ transacted price for similar property (see momentum effect) (see Clayton et al., 2001; see also Gallimore and Gray, 2002). A semi-rational model shows that property Valuers are often over-confident by overreacting when the informer's private information is confirmed (Wang et al., 2000; Salzman and Zwinkels, 2013). For instance, an interesting fragment of story provided by Valuers' contact of market information is more memorable than the routine market information. This ease of recall also adds a false impression of importance or frequency for that information, giving an erroneous interpretation of the market (Gallimore et al., 2000). Another biased phenomenon

is Valuers are often influenced by sensationalist news headlines or advertisement. This is deemed social epidemic (momentum effect) (Salzman and Zwinkels, 2013). At times, media or public's urges exaggeratedly intensify recent property price hikes or market boom, which consequently induce irrational exuberance of some Valuers to overreact by following the trendy popularity. Similar to representative bias, Hansz and Diaz (2001) show that the bias is even stronger, especially for expert Valuers working in unfamiliar markets (e.g., location of property).

The fourth heuristic, the positivity/ confirmation bias, was identified when Evans (1989) noted that humans have a fundamental tendency and strategy to seek information consistent with their current presupposition, beliefs, principles or philosophy, and avoid the collection of potentially falsifying evidences, although the latter are valid. In this regard, it is suggested that Valuers look for ways of confirming their individual perceptions of valuation, which can be linked to Valuer's attitude issues. In general, people tend to not adjust their expectations easily because they look around for a logic which explains and reinforces their beliefs. Salzman and Zwinkels (2013), Gallimore (1994) and Baum et al., (2000) evidence that Valuers tend to eliminate or underreact to negative evidence and facts than to evidence that supports their existing view. This bias may also lead Valuers to manipulation and adjustment of existing information just to fit in and confirm their ways (Havard, 2000) (see also opportunism issue of Williamson, 1975). This can be reasoned that since they have self-selected into a property oriented profession or other possible attitudinal issues (pride and reputation), they may have a deep-seated affinity for property valuation; thus, it is unlikely for them to reject their own worldview.

By virtue of the above implications of interwoven biases and heuristics, more alternative behavioural patterns of Valuers' satisficing effect, overconfidence (optimism) and subjective selection along with the respective instances are showcased as follows. Satisficing is a process by which a Valuer, in selecting a course of action, takes the first opportunity that meets the minimum criteria. The search for alternatives then ceases, even though there is no time pressure or strict deadline imposed by client (Gallimore et al., 2000). This can be associated with conservatism bias, in which conservative Valuers were found to be unwilling to change their opinion on prices of residential property assets. Senior Valuers were unwilling to incorporate new information which is relevant although the market had changed. Most of them were of the opinion that the decisions made in the past (experience) were the major basis of decision making process by the senior Valuers instead of current market analysis. Next, over-confidence is, just like over-optimism, a bias that originates from a mental illusion of control and knowledge and possibly from other forms of aforesaid biases (herding bias, personal internal anchoring). This includes hindsight bias, which is considered as availability bias. Meaning that Valuers think they knew certain events (property prices) in advance. Such over-confident/ oversimplifying behaviour refers to an underestimation of risk. Due to arbitrary reference point, from the speculative perceptions and vast experience (historical decisions) and reputational establishment, sophisticated and experienced Valuers are likely

to be overconfident in their own ability to judge asset values by ignoring current information in their analysis (Salzman and Zwinkels, 2013). As emphasised, selection of data from the same database source for valuation is not a mathematical exercise, but a heuristic process of Valuers' subjective preference or professional intuition and gut feeling (Klein and Kahneman, 2009), that could be derived from the above biases (systematic errors, e.g., herding, anchoring and availability) and mainly from random deviations³ or client's influences, who eventually select market/ macroeconomic data and comparables input on their own (see Mallinson and French, 2000; French and Gabrielli, 2003; Kucharska-Stasiak, 2013), without being able to provide detailed justification of how they choose and weight the parameters or define the necessary adjustments for comparables. In light of those biases and random deviations inherent in self- selecting process, large discrepancy or variation of valuation may result not only from the choice of different market and comparables (property) input data (e.g., its location), but also from the valuation principles/ assumptions (potential of property in terms of tenure of holdings whether it is based on unexpired term or whether it is based on existing use or future use) and methodological analysis techniques. For instance, although same macroeconomic and property input data are provided to Valuers, such uncertainty or subjectiveness results which involves whether to apply the income model (constant in the capitalisation method and variable in the discounted cash flow analysis) or investment or comparison methods, especially for commercial and office buildings (Smit and Vos, 2003) and the actual calculation process (e.g., the manner of incorporating exogenous data and accounting for rental value growth, vacancy rate, yield and property conditions) (see Havard, 2000)

b) Negligence, professionalism and misalignment of interest

Biases (i.e., being subjectively selective) in valuations cannot be explained by heuristics alone as another behavioural uncertainty found is negligence of Valuers (whether intentionally or unintentionally). Negligence could also be induced by the above heuristics and biases. At times, a Valuer, in arriving at his valuation, has simply miscalculated or wrongly calculated and reported the area of the holding, or failed to make a thorough site/ property inspection; thus, overlook important comparables features and market data or missed to make allowance for some item of expected future expenditure and many more, and that such a discrete error or omission can be shown in the erroneous valuation report, which have subsequently led to an over or under valuation to a specific degree (See Mallinson and French, 2000; Crosby et al., 1998; Crosby 2000 on case laws of valuation negligence). However, such carelessness, the mala fide one, is deemed unethical or unprofessional behaviour of Valuers who are discovered that they are likely to overstate the defensible property value (Levy and Schuck, 1999; Naridatanan and Fredric, 2014). Unethical/ unprofessional valuation is also related to issue of misalignment of interest (perverse incentives) that causes moral hazard⁴ (Cho and Megbolugbe, 1996). As Levitt and Dubner (2005) explain the roots of misalignment, it could be due to information asymmetry.

³ By far, there is no rules or standard of procedures dictate the qualification and selection of market and property data as well as valuation analysis techniques; thus, such deviation is inevitably necessary.

⁴ Such conflict of interest can occur within principal-agent issue. If the valuers' objectives and interest differ from the principal/ client, then the former may take advantage of the unobservability of actions to pursue his/her own ends' (Molho, 1997). In other words, this is an act of self-interest and

Oftentimes, Valuers (often an expert) are better informed and more informative and knowledgeable than their clients who are laypersons; thus, the former tend to opportunistically overstate the value of a property because of their incentive to set the appraised value to be equal to or greater than the transaction price, which that increases their revenues (see Naridttanan and Fredric, 2014). The moral hazard could be resulted due to undue institutional and political intervention (regulatory requirements) surrounding the property appraisals, which imposes a heavy burden of proof for low appraised values on public Valuers (Baum et al., 2000). Such political information, which favours government and public Valuers, for low values is unfair to their clients who are not aware of the internal political decision for undervaluation (information asymmetry). As the self-interested (unprofessional) government Valuers have no position and authority to reject their top management's decision if they wish to safeguard their valuation job, albeit ethically it could be right to do so if the call for undervaluation is not bona fide, they have to succumb to it; thus, this is a conflict of interest, i.e., the public Valuers should not be the appropriate agents for that valuation. Besides, unethical conduct and moral hazard in valuation involves the Valuers accommodating the requirements of a specific client instead of being an impartial, objective and independent Valuer (Amidu and Aluko, 2007) (see below on agency issue).

c) Client influences

Client influence or pressure is another behavioural uncertainty depicted in property valuation. Uncertainty of whether a Valuer subjects himself to the principal-agent moral hazard is posed. This is a summary of factors affecting client influence on the valuation outcome. These include (i) client type- sophisticated, individual/ institution client, (ii) procedural (methodological) influence, (iii) integrity of Valuers, (iv) age and experience of Valuers, (v) size of valuation firm, (vi) client size (firm and income generation) and their relationship and so on (see more Levy and Schuck ,1998, 2005, Kamalahasan, 2013 on client influence model in property valuation).

However, only several circumstances along with instances are discussed as follows. Such agency issue arises because there has emerged a 'mutuality of interests' (win-win situation) between Valuer and client, in terms of economic dependence and/or the provision of non-auditing services by the valuation firm (Baum et al., 2000). Generally, various types of clients (developer, bankers, chargor) pressure the Valuers by requesting or forcing them to alter the value estimates in order to meet the clients' expectation (Kinnard et al., 1997; Wolverton and Gallimore, 1999), even without supportive documentations. For instance, Valuers are being pressured by banks to inflate the value of homes (Rothacker, 2008) as this allows lenders to make bigger loans. This is similar to developer's intention for upward value in order to get more funding purpose.

As Gallimore and Wolverton asserted, rather than independently assessing the property value, Valuers are merely to validate or confirm the pending price. Pressures come in various forms. Levy and Schuck (1999) found that both sophisticated pressure, based on the use of property and market knowledge and information (process of valuation including

changing valuation purpose, addition and omission of input parameters or comparables and other transaction data, e.g., emphasising subject property's positive attributes, withholding negative information), and unsophisticated pressure, based on the threat of withholding and delaying fee payments or future assignments, were encountered by Valuers. Typically, client's size matters; the bigger the client in terms of firm and amount of fees given, the more likely are Valuers to revise their initial value to fit their client's demand. This is an acceptable practice and rational to safeguard business relationship as well as for future instructions. However, there are instances where neither client size nor the level of value adjustment influence the Valuer's decisions (Worzala et al., 1998). Such resistance of influence is not impossible and lesser, if firm integrity and high professionalism of Valuers, and large-size (established) and multi-service valuation firms with less economic dependence on clients are observed (see Kamalahasan, 2013 for other contributing factors).

Therefore, aside from suggesting different types of behavioural biases discovered in valuation and they are interrelated, at least in qualitative manner (e.g., herding behaviour and overconfidence issue), it is also illustrated that the client's influence (conflict of interest), ethical issue, heuristics, and negligence are deemed or linked to biases, due to their adverse selections made. All these biases/ moral hazards can ultimately be associated with self-interest or opportunism concept (see Williamson, 1985). That is, by virtue of personal interest (less transaction cost, i.e., less time and effort required), whether intentionally, Valuers may rather subject to unprofessionalism by choosing to dwell in their convenient and quick subjective experiential and opinionated assumption or even by succumbing to client's pressure than further searching mathematical evidences for justifying the property valuation.

2.1 Conceptual framework

To grasp one of the intentions of this paper, a conceptual (operational) framework (see Figure 1) that derived from the above underlying theoretical framework is demonstrated as follows. Apart from presenting diverse behavioural uncertainties involved in valuation, a nexus, which showcases an interconnection between the poor/ imperfect market and property input data, Valuer's intangible behavioural uncertainties involvement and inaccuracy and inconsistency of property valuation. In other words, the real inevitable bounded rationality issue on market and property input data that creates uncertainty subjects the Valuers' assumptions to their various behavioural and psychological uncertainties/ biases in biasedly justifying the property valuation (process and figure). Consequently, this is detrimental to valuation validity and reliability.

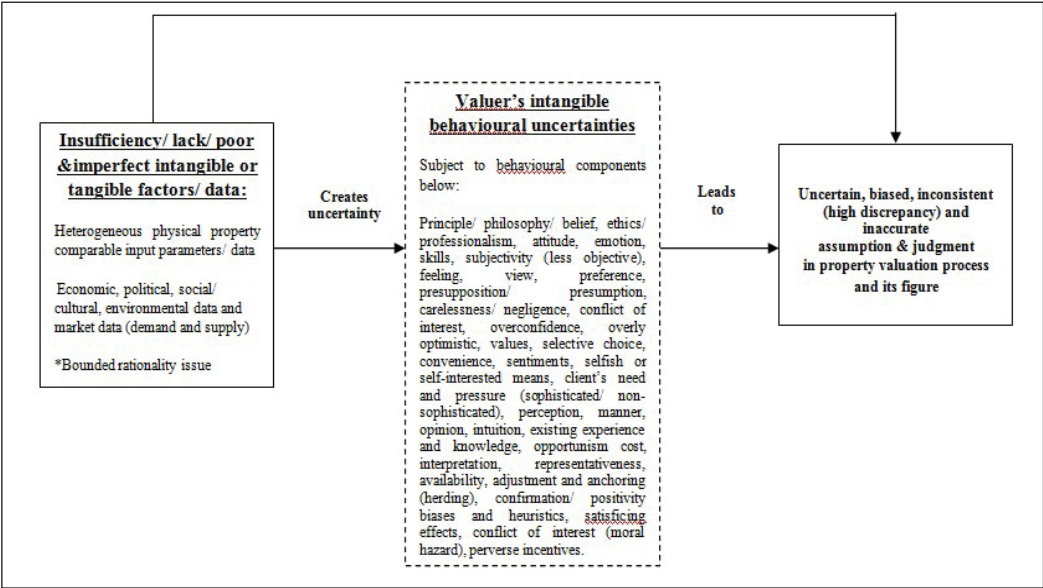


Figure 1: Behavioural Uncertainties in Property Valuation

Behavioural uncertainty approaches

There are approaches recommended by several studies in improving the valuation validity and discrepancy issues, in which some are relevantly useful at curbing behavioural uncertainties of Valuers. As merely ensuring Valuers to have high qualifications and experience will not eliminate the valuation uncertainty in terms of random deviations, one should seek to eliminate the systematic (behavioural) ones (Kucharska-Stasiak, 2013). These behavioural and psychological factors are necessary to be identified, compiled and made aware to Valuers. As Hardin (1999) posited property valuation theory and the task environment (empirical) should be integrated so that it can be investigated whether incorrect valuation exists because of insufficient knowledge, or other reasons. Through the root cause investigation, one can have know-how to manage each of the issues.

There should be a specific procedural guidance and rules on the recording of occasions when a Valuer discusses the outcome of the valuation with the client or any other interested party in the RICS red book. This includes the standards of best practice and minimum requirements for the conduct, monitoring and recording of draft valuation meetings designed to show what information was produced by the client which might influence the value derived, and how that information was used to influence, or otherwise, the final valuation figure (Kucharska-Stasiak, 2013). Also, aside from obligating professional ethics course in valuation (Hoyt et al., 2002), a new independent oversight body and code of conduct to remove undue influence (moral hazard) from the valuation process is necessary; emphasising the application of more stringent penalties for violating professional ethics regulations of property Valuers. Penalties include formal caution, note of warning, suspension of certification, and certificate withdrawal.

To reduce the discrepancies between valuation, an idea of margin of error (bracketing) with widely acceptable value range of 10%-15% should be introduced and enforced in the Red Book (Crosby et al., 2011; see also Kucharska-Stasiak, 2013). Provided that the process of deriving the final figure (i.e., methodology or calculations) is invalid, if the estimated value out of the bracket range, it acts as evidence of negligence and incompetence (Crosby et al., 2000). To limit valuation discrepancy, national valuation standards and policy should also provide for the measurement and reporting of valuation uncertainty, especially abnormal uncertainty. The standards should specify methodological analysis and standardise input parameters and comparables selection in a more exact and consistent manner for certain properties so that it could not be freely interpreted and arbitrarily chosen, thus limiting discrepancies arising from inconsistent assumptions concerning, e.g., the manner of accounting for rental agreements, the vacancy rate, the valuation models used, the manner of arriving at the yield and so on (Crosby, 2000; Francis, 2012). Such consistency and standardisation can also be substantiated via tribunals and courts institutions (as third party), in which it constitutes the expert witnesses (external Valuers) who determine the hearing over valuation validity; if a Valuer strays from the experts' verdict, this will be found negligent (Baum et al., 2000). Lastly, espousing other countries' best practices of valuation are necessarily important for improvements and ideas as the International Valuation Standards promote the development of the valuation profession and best practices around the world such as Australia, France, Germany, Italy, Netherlands, the UK, and Spain (see Hordijk et al., 2011) and cooperates with other organisations concerned with standards and regulation.

3. Methodology

As indicated earlier, the main research design adopted by this transformative (advocacy) qualitative action research (Waterman et al., 2001) was phenomenological case study (Yin, 2003) and its data collection method was one-day focus group discussion (Gill et al., 2008; Liamputtong, 2009). While such research strategy was suitable, especially to study in depth experiences, perceptions or opinions of experts as well as facts pertaining to the above research questions, the discussion technique is to understand meanings and interpretations of the group people in order to gain an understanding of a specific issues from their perspectives. This discussion is likened to group interviews, in which it involved both registered and non-registered ten (10) Valuer experts from Johor Bahru district, Malaysia.

Those expert Valuers were identified from The Board of Valuers, Appraisers, Estate Agents and Property Managers Malaysia and Malaysian Institute of Professional Property Managers database. The researcher directly contacted them via invitational email and phone call to enquire their willingness to undertake in the discussion⁵. The choice of the Johor Bahru town in Malaysia is due to the major and active/ diverse valuation operations being carried out for rapid property development and dealings. The Valuers consisted of both government and private sectors, although most of them represented local government and one from government institution and some from private firms. Besides showing their keen involvement in property valuation, management, investment and sales in heterogeneous properties (commercial, residential, industrial, agricultural and vacant land or mixed development) and scopes of work, be it corporate or individual valuation (such as loan, sales, rental, mortgages/ charges, investment, acquisition, etc.), they are also considered highly experienced and qualified due to their educational background, professional affiliations and positions in their organisations, namely senior/ deputy and branch managers or directors.

The issues of behavioural uncertainties are associated with various stakeholders (clients), e.g., bankers, sellers or buyers (land owners, property developers and managers) and so on. Next, altogether eight questions posed were in semi-structured form, begin with the exploration of Valuers' behavioural uncertainties that includes biases and end with the recommendations of valuation issues. A review of the literature identified the topic areas to be probed and the questions to be asked during the discussion (see content validity). Also, face validity (validated by peers) on the interview questions were carried out. The discussion was chaired and facilitated by the author (as moderator) and was carried out at a hotel's conference room. Including ice-breaking session, introduction (i.e., briefing of problems and aims of study) and breaks, it has lasted for about 3 hours (from 9am to 12pm), in which the discussion was voice recorded and field noted for transcribing purpose. Although there is no rule of thumb (magic number) for qualitative non-probabilistic sampling, the optimum size for a focus group is six to eight participants (excluding researchers). This is consistent with Bryman's (2008) and Guest's et al., (2006) argument that 10 experts are considerably acceptable, since themes concerning common views and experiences are garnered among relatively homogeneous people. It was sampled via purposive expert samplings, i.e., after few experts' responses gained, the researcher then asked their favours to recommend other relevant respondents perhaps their colleagues who also involved in this area (see Macmillan and Schumacher, 1997 on snowball and reputational sampling).

Thus, via the total of 22 content thematic (coding)⁶ analysis and five categorisation⁷ on the transcript, which derived abductively (i.e., deductively and inductively), the following section selectively reported the results and their main interpretations (i.e., findings) below. Along with the respective findings, two types of results presentations: some textual and diagrammatic (codes and categories) mind-mapping forms generated were illustrated accordingly to address the posed objectives and research questions. To ensure the research credibility (rigour) and dependability, especially dealing with the large and complex dataset, Atlas.Ti software was used during transcribing, analysis (coding process, relationships between codes and among the categories) and result generating processes.

⁵ Out of few attempts, there were some rejections due to inappropriateness of date and time of discussion. However, for those experts were willing, before the formal and actual discussion, a list of questions was sent to them via email so that they can be more familiar with the scope of work required and be ready for the discussion.

⁶ There are 15 thematic codes on the behavioural uncertainties of valuers, whereas 7 codes on recommendations of the behavioural issues. The entire coding process was executed by one same researcher alone. This was considered sufficient (see Campbell's et al., 2013) as intracoder is more suitable in this qualitative sense (i.e., superficially reviewed (re-assignment of codes) by the researcher for the 2nd time (see Searle, 1999)).

⁷ There are 4 categories on the behavioural uncertainties of valuers (such as biases and client influence) and 1 category on recommendations of the behavioural issues.

4. Results and Findings

(i) **Intangible Valuers' behavioural uncertainties and their instances in property valuation**

Generally, there are various intangible uncertainties of Valuers' psychological and behavioural biases involved in property valuation. These include: subjective preferences, overconfidence (optimism), past experiences for stereotyping, recency effect, existing knowledge, understanding, common-sense rules, and memory, opinions/ views/ principles/ beliefs, feeling/ intuition, anchoring and adjusting, satisficing, and herding behaviour, ethical issues which involve carelessness/ negligence, and both sophisticated and unsophisticated client influence either in valuation process or its final figure. Also, Valuers' decision may likely be subject to various institutional and political setting (government intervention) that bring issue of conflict of interest against the clients, carelessness/ negligence as well as subjective selection/ preferences are the two most mentioned Valuer's behaviour.

Local Valuers tend to ask around or obtain current market values of some property predominately from public Valuers (as a major market regulator) and some from their colleagues (private Valuers, bankers and real-estate agents), to use it as reference and benchmark. From there, some subjective adjustment is performed. Such anchoring or following-other-Valuers behaviour (herding issue) makes some private Valuers feel more certain and correct about their assumption in their valuation (less deviation from other Valuers), since most of the Valuers arrive at the similar values.

Also, although it is not rampant, the issue of recency occurred, whereby the Valuers are biased toward or tended to follow/ anchor the current unique market trend that stimulated by foreign investment, instead of overall and historical market of the property. Some Valuers are overly engrossed in that recent and specialised market that suddenly booms and have based on it to justify the nearby local residential valuation. Apparently, this may not truly reflect the local property market value.

Most of the local property valuations involve one common technique, i.e., comparison method. Due to less application of other techniques on certain properties (vacant land) such as investment or discounted cash flow method and typicality and frequent use of the comparison method, most of the Valuers subjectively choose this method, which is easier and convenient to be employed on residential properties. Meaning that, due to their frequent application, they tend to use it together with some typical and often used input parameters/ comparables. Valuers who have been used to standard comparables (input parameters) and procedures of valuation which are considered sufficient or 'good enough' in the sense that it is justifiable and logical that observed normal valuation practice, they may not attempt to search other relevant or unique data or comparables for that similar property valuation.

In addition to the subjective selection or preference issue, Valuers' choice on methodology and inclusion of input parameters (comparables) are highly biased. In other words, despite the practice and some general guidelines on valuation, since valuation requires discretion and judgement of a Valuer, subjectiveness is unavoidable; thus, selection and inclusion of data and methodology can be rather widespread among Valuers. More importantly, such subjectiveness is permissible as long as it does not go against the norm or practice of

valuation, since so far, no specific guidelines or laws and policies to address the issue. For instance, with similar methodology (comparison method), two different Valuers included quite a different type and number of input parameters (comparables) for one residential property, in which both can justify their selection. Thus, this intangible uncertainty also leads to inconsistency and discrepancy of valuation.

It is found that Valuers (both public and private) inevitably establish their valuation judgement based on their these following intangible uncertainties: various and diverse opinion, memory, understanding (knowledge), perception, experience (successful and unsuccessful) and feeling about the property valuation; thus, value of the same property will be valued differently, especially on the legal planning and land requirements (tenure system, planning guidelines) and market's opinion and views. Thus, questions on which Valuer's valuation is correct and which one is wrong is never being straightforward. However, the issue arises when a Valuer is overly dependent on employing the aforesaid elements, which this exposes higher risk of bias; thus, accuracy and credibility of valuation will be questionable, since ultimately, in the eye of court, proper and hard evidences as testaments are necessarily prioritised.

Moreover, another intangible uncertainty is human error. Due to certain reasons, Valuers are unavoidably subject to carelessness or negligence (not being cautious) in their property valuation decision, which particularly includes miscalculation of area or value, insertion of number, overlooking some input comparables search/ inspection, inclusion and omission, and inappropriate methodology selection.

It is also discovered that the local Valuers are highly vulnerable to client influence. The influence or pressure by client (buyers or sellers of property, bankers and developers) can come in various forms, mostly include final valuation figure alteration and methodology selection on the valuation. Interestingly, there are two types of client's influence found; the unsophisticated and sophisticated clients. The former is more frequently encountered by the Valuer. Question on whether or not the Valuers are influenced by them is not fully disclosed; however, some Valuers are found to be resistant to the client's unethical request by declining the offer of clients. For instance, the unsophisticated client normally attempts to influence/ pressure the Valuer by giving maximum fees and business in order to change the final figure of value or they simply quote/ offer their desired property value to the Valuers for confirmation or validation, rather than evaluation; if the Valuers decline then they may suffer loss of business, while the sophisticated client, their influence is indirect, which of course ultimately alter the final figure. That is, as it is disbenefitting, the client may not fully reveal/ withhold some necessary information or supply misinformation, as camouflage, (as perceived by them via some advertisements) that distort the property value. Also, some of them may intervene by urging their Valuers to change the technique or principle in arriving at the final valuation (e.g., either using highest and best use or existing land use).

It is also found that property valuation is subject to political (governmental) intervention. Although this is not rampant or subtly acknowledged, it is rather influential and critical. Public Valuers particularly, due to uncertain (dynamic) condition of local political setting, they are compelled to follow the instruction and discretion imposed by the top management (governments). This has suggested that conflict of interest/ moral hazard issue occurs as the

Valuers' professional position and decision can no longer stand impartially, e.g., although it is not governed or dictated by policies or laws, due to government's authority, Valuers *must* apply the imposed valuation method and principle (i.e., existing land use) on certain property (vacant land and low-cost housing) that may disbenefit or compromise the interest of sellers as it produces much lower value compared to market value.

Furthermore, the finding and results do not only suggest that Valuers are subject to the above behavioural uncertainties *individually* and *independently*, but rather, all the above behavioural issues are interconnected with each other. This thus entails that Valuers may *simultaneously* be exposed to various behavioural issues in making their valuation decision. This study shows that many heuristics (memory, knowledge, understanding, experience) and biased behaviours (herding, anchoring and adjusting, opinionated views, principles, instinct, sentiments and gut feeling) and subjective selection of Valuers' are associated with carelessness and negligence (overlooking) issue. Sometimes, those biased and heuristic applications can lead to negligence, i.e., Valuers may or may not realise that when they based on their personal preference, so-called vast experience which may lead to committing stereotyping and satisficing issue, (outdated) or insufficient knowledge, views and opinion that establish from the inaccurate and misleading information of clients, current (specialised) market, other valuation reports or colleagues, memory and do some adjustment based on them, gut feeling and instinct, without doing independent and further/ exhaustive research and analysis, they have in fact been directly and indirectly subject to carelessness or negligence as they may neglect or overlook some relevant comparables either by omitting or without including them in calculation, or without latest updates (especially legal: planning and land law setting), engage in wrong and inadequate information on location/ area/ status of land and property and so on.

It is also suggested that the above subjective preference or selection on the comparables and methodology in valuation are associated with the aforesaid biased and heuristic behaviours. This entails that based on the Valuers' past experience, perception, preference, memory, feeling, knowledge and opinion on the current surrounding market condition (e.g., recency issue), principles, other external sources with some adjustments (herding issue; anchoring on other Valuers' valuation), client's (whether sophisticated or unsophisticated) and political/ institutional pressure, they manage to influence by 'guiding' and assisting the Valuers to discretionally and subjectively decide on the valuation methodology application and input parameters selection. For instance, based on the past experience which have made some Valuers to be subject to stereotyping (generalising) and satisficing issue, as mentioned, they have shaped the Valuers to be predisposed to certain set of methodology and input parameters selection. Since those behavioural and psychological issues of Valuers and some other intangible uncertainties codes (client and political influences) are interrelated, it also revealed that the four categories for the behavioural uncertainties themes accordingly are interconnected as well. Aside from suggesting biases are the most rampant and common behaviour presented by Valuers in property valuation, more intriguingly, biases are also the most relatable element with other intangible uncertainties (client influence, heuristics and ethics), i.e., the former uncertainties are considered as the latter (biased behaviour). All of the above textual findings and results can succinctly be illustrated in the graphical result below (Figure 2), for better understanding. The 15 coloured boxes are indicated as codes, while the four white boxes are the categories of the respective codes which were linked with the red-dotted lines.



From the graphical result⁸ below (Figure 3), there are seven primary suggestions proposed to address the valuation status quo (e.g., biasness in valuation, huge discrepancy of Valuers' values, unreliable and inaccurate values, unethical/ negligent Valuers, and subjection to external pressures (moral hazard). These include the following: (i) more transparent and consistent land and planning institutions, i.e., plan for comprehensive and fair institutions; less rapid-changing policies and laws, as well as for better understandings of Valuers and agencies collaboration; (ii) less political and government intervention, which brings lesser moral hazard (conflict of interest) and corruption; (iii) more efficient governance and enforcement of the existing laws together with adaptive, more objective and knowledgeable Valuers, rather than having piles of unpractical, non-adaptive, and unenforceable laws and guidelines; (iv) high ethics and professionalism (i.e., with high integrity Valuers to withstand undue political and client's influence via some courses that are endorsed by the local enforcing body/ board, institutions, guidelines and laws); (v) technology assistance (remote sensing-satellite imagery and GIS techniques for the property attributes and surroundings, i.e., size, facilities and location); (vi) other countries' best practices (as reference) in property valuation, especially their methodology, policies/ laws, interpretations; and (vii) more sharings of practical experiences and knowledge pertaining to some specific situational property valuation via discussions and journal publications, which can usefully act as benchmark to facilitate Valuers' decision. Also, the suggestions are interconnected in some senses, mainly on (i) efficient governance and enforcement of institutions, (ii) free of political influence and (iii) consistent and transparent land and planning institutions. In order to have a more transparent and consistent system pertaining to property management and valuation which also includes land and planning institutions, it should not be influenced by unnecessary government or undue political intervention. Interestingly, while the former positively contributing to a wellbeing (integrity and professionalism) of Valuer (i.e., being more cautious, informative and knowledgeable Valuers), it is also required to contributing to a more efficient governance and enforcement.

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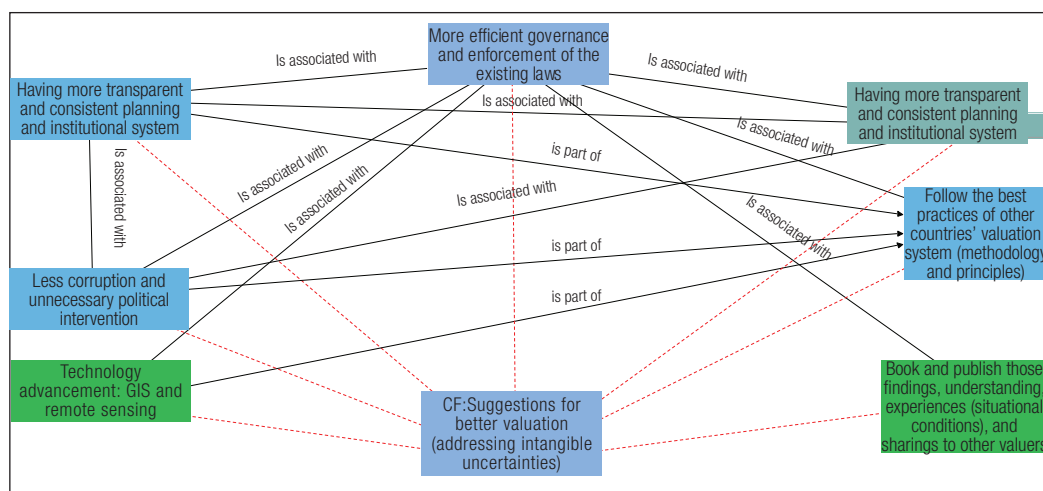


Figure 3: Suggestions to behavioural uncertainties in property valuation

5. Discussion

Instead of relying on purely scientific and quantitative evidence to arriving at final valuation figure, the above local findings generally sufficed to demonstrate public and private Valuers' inevitably behavioural biases and irrationality in their valuation decision, which involve various and diverse opinion, memory, principles/ philosophy, understanding (knowledge), perception, experience (successful and unsuccessful) and feeling about the property valuation; thus, value of the same property will be valued differently, especially on the legal planning and land requirements (tenure system, planning guidelines) and market's opinion and views (see availability biases, Quan and Quigley, 1991). That is, behavioural economics is proven more relevant and practical than normative neoclassical economics assumptions in this context (Kucharska-Stasiak, 2013; Warren-Myers, 2015) at explaining the discrepancy and inaccuracy of valuation, particularly in the realistic and rapid developing world where transaction (information searching) cost exists that caused by the imperfect and asymmetric market and heterogeneous property information (abnormal uncertainty on planning and legal aspects and location) (see Hansz and Diaz, 2001).

Since the local knowledgeable and experienced private Valuers are to benchmark the previous transacted prices or likely refer to by asking price opinion from their reliable colleagues (private and public Valuers) (Diaz et al., 1999) especially, and bankers, brokers/ estate agents' final figure of valuation either for confirming purpose (see confirmation/ positivity bias) (Havard, 2000) or enquiring purpose, particularly when they are unsure about the property features, and do some adjustment, aside from their own availability heuristic (Tversky and Kahneman, 1973), such valuation is also subject to biases (i.e., anchoring and adjustment and herding) (McCowan and Orr, 2008; Salzman and Zwinkels, 2013), despite the fact that this can be argued from the necessity of Cascade theory. This is vital because the Valuers feel more certain, comfortable, confident and correct about their assumption in their valuation (less deviation from other Valuers); thus, less rejection by the public Valuers (market regulator) whose decision is deemed standard. Another reason is the story provided by Valuers' personal contact of market information is more memorable that eases recalling process (see availability heuristics) (Wang et al., 2000; Baum et al., 2000; Diaz et al., 2002).

The anchoring and adjustment and herding biases in the local valuation has been ensued by the current unique/ specialised property market trend that stimulated by foreign investment (or mega developers), which booms the nearby valued housing property. Instead of looking into the historical and frequency data and suitability of the context (location and types and other features of property market), this tendency is likely as less objective and emotional. Valuers are influenced by noise tradings on the recent price hikes (sensationalist headlines, advertisement and news media) (see Shiller, 2002) or by the momentum effects of the herd on the current trendy popularity (Salzman and Zwinkels, 2013).

It is found that satisficing behaviour is observed in the local valuation, which the local Valuers have been stereotyping (see representative heuristics) on some similar properties by using same methodology and similar input parameters/ comparables (McCowan and Orr, 2008). This happens due to past experience (familiarity of other properties) and their tendency and frequent use of the comparison method, especially on housing estates.

Valuers who have been used to *standard* comparables (input parameters) and procedures of valuation which are considered sufficient or 'good enough' in the sense that it is justifiable and logical that observed normal valuation practice, they may not attempt to search other relevant or unique data or comparables for that similar property valuation. This (so-called standard/ conventional way) can cause inaccuracy to valuation, when the valued properties are abnormal, with different features which requires extra input parameters (Gallimore et al., 2000). This can be associated with conservatism bias that some local senior Valuers, based on their vast experience, alteration (addition) of the input parameters and comparables in the analysis may not be deemed necessary, although the property market is changed and requires updates. Undeniably, sophisticated Valuers' vast experience, pride, reputational establishment, and principles have led them to make such decision. This can be deduced that they are subject to over-confidence (over-optimism) (see Salzman and Zwinkels, 2013).

Despite some general local practice and general guidelines on valuation procedures as well as keeping the above biases at low as possible, questions of whether it is systematic error or random deviation is difficult to determine. Eventually, the Valuers' choice on methodology and inclusion of input parameters (comparables) are still highly subjective, e.g., between the highest and best use or existing use principles (see Smit and Vos, 2003 and Havard, 2000), that could be due to no specific and complete guidelines in the valuation process. By selecting their own input parameters and analysis and valuation principles, with least behavioural uncertainties, the final value can be rather widespread among Valuers. Generally, this is consistent with Mallinson and French's (2000), French and Gabrielli's (2003), Kucharska-Stasiak's, (2013) position on subjective choice. Moreover, the local Valuers admitted that negligence in property valuation process which affects the final figure is sometimes inevitable. Question of whether such negligence is intentional or not; however, the local Valuers' negligence are inherently associated with heuristics and biases (Crosby, 2000). The carelessness can be in various forms ranging from miscalculation of area or value, insertion and reporting of number, typographical errors, overlooking some input comparables search/ inspection, inclusion and omission of important details, e.g., no thorough background check as well as inclusion of misleading non-transacted value, to inappropriate methodology selection (see Mallinson and French, 2000; Crosby et al., 1998; Crosby, 2000).

Albeit it is indirect to suggest that client pressure or influence from buyers or sellers of property, bankers and developers occurs in the local property valuation process and final figure (see Kinnard et al., 1997; Wolverton and Gallimore, 1999; Levy and Schuck, 1998, 2005; Kamalahasan, 2013) which can bring 'mutuality of interests' (win-win situation) (see Baum et al., 2000), some Valuers admitted that they have successfully resisted by declining the offer to adjust the value without valid justification (Worzala et al., 1998). This is possible, although it is not likely, perhaps firm integrity and high professionalism of local Valuers, and large-size (established) and multi-service valuation firms with less economic dependence on clients are met (see Kamalahasan, 2013), e.g., some of them, from the profile background, they are highly reputable valuation firms. Despite that, the local valuation is still subject to unsophisticated big clients, especially those who provide maximum fees and business in order to revise the final figure of value or simply quote/ offer their desired property value to the Valuers for confirmation or validation, rather than evaluation. The clients coerce the Valuers, if they do not comply then they suffer loss of future business and late or no payment from them (see Levy and Schuck, 1999). Also, the rarely sophisticated clients with valuation knowledge are encountered as well that they may attempt to withhold negative information and emphasise on positive attributes (see information asymmetry) via some advertisement of media as well as pushing their Valuers to change the principles or techniques of valuation, i.e., from existing use to highest of best use of property which the latter can give higher value (Levy and Schuck, 1999).

All of the above-mentioned biases, heuristics, negligence and client influence have signified that the professionalism and integrity of local property Valuers is questionable and has been compromised (Naridtanan and Fredric, 2014). Moreover, the ethicality of valuation extends to undue political influence, subject to moral hazard (conflict of interest) (Cho and Megbolugbe, 1996). Due to information asymmetry, public Valuers particularly, who are more informed with government's decision compared to layman clients, they are compelled to follow the instruction and discretion imposed by the top management (governments) to apply the imposed valuation method and principle (i.e., existing land use), which this may disbenefit the interest of sellers as it creates much lower Valuer compared to market value (Baum et al., 2000). Imposing such undue obligation on local Valuers has subject themselves to dilemma between their prospective job and client interest/ valuation accuracy. Evidently, local Valuers rather choose the former over the latter. As Williamson (1975) asserted, most of the behavioural biases and uncertainties, if not all, in the local property valuation are inherently associated with opportunistic and self-interested of a Valuer. For their own sake (more and faster profit and fees), convenience, less macroeconomic information searching cost, Valuers may rather disregard their clients' interest and valuation accuracy. Although the common behavioural uncertainties discovered in local property valuation are paralleling with some studies, in some senses; involving various types of biases and heuristics (e.g., availability) (see Salzman and Zwinkels, 2013; Iroham et al., 2014; Whittle et al., 2014 on such systematic errors), subjective selection on input parameters/ comparables and methodology (random errors) (French and Gabrielli, 2003; Kucharska-Stasiak, 2013), negligence (Crosby, 2000), ethics, moral hazard/ conflict of interest (Baum et al., 2000; Naridtanan and Fredric, 2014), opportunistic and self-interested behaviour (Williamson, 1975) and client influence (Kamalahasan, 2013), this study establishes prominent differences as *simultaneous combination* and *interrelationships* of the aforesaid extensive behavioural uncertainties along with diverse local circumstances have occurred. This has indeed proven Warren-Myers' (2015) commentary on the significance and need of such study on intangible uncertainties or *Art* parts in property valuation because human-property interconnection is always varying in different context and circumstances.

Based on the local behavioural uncertainties above, the propositions by the local experts are similar to or have confirmed many scholars' ideas and suggestions, especially addressing the systematic deviations (Kucharska-Stasiak, 2013), aside from the random errors, which tenably contributes to better valuation accuracy and consistency. This includes (i) more sharings and publication of practical experiences and theoretical knowledge pertaining to some specific situational property valuation (Hardin, 1999), (ii) high qualification (Kucharska-Stasiak, 2013), ethics and professionalism of code of conduct (i.e., Valuers are able to withstand undue influence or other forms of moral hazard via some courses and penalties that are monitored by the local Board of Valuers, Appraisers, Estate Agents and Property Managers Malaysia (see Hoyt et al., 2002), (iii) more transparent governance with less political influence/ corruption as well as consistent planning and land laws with efficient enforcement (Kucharska-Stasiak, 2013) and (iv) the need of benchmarking other countries' best practices and International Valuation Standards (see Hordijk et al., 2011). Such practices can probably encompass the specification/ standardisation of valuation input parameters, methodology and analysis via national valuation standards and policies, guidelines (e.g., bracketing/ margin of error of 10-15% of final figure) (Crosby et al., 2011), and via tribunals and courts institutions (external Valuers) to monitor the implementation of valuation procedures and reporting of final figure in order to curb negligence issue (Baum et al., 2000).

6. Conclusion and recommendations

In conclusion, provided with various situational instances, these are the main theoretical findings emphasised in this paper: (i) intangible behavioural uncertainties of local valuation embrace the following *interrelated* biases and heuristics (availability, stereotyping/ representative, herding, anchoring and adjusting, confirmation, overconfidence, subjective choice, satisficing and recency effect), negligence, moral hazard, opportunism, and client (both sophisticated and unsophisticated) influence; and (ii) recommendations for addressing behavioural uncertainties require (a) high professionalism, qualification and ethics of Valuers, (b) consistent and transparent institutions as well as efficient enforcement and governance of property valuation, (c) integration and dissemination of valuation theory and practice, and (d) best practices of other countries' in valuation standards of procedure, guidelines, and analytic methodology. Thus, the above-mentioned model's empirical discoveries have achieved our set objectives. However, some methodological limitations are posed. As mentioned, this exploratory-descriptive paper's findings precludes us to draw a conclusive and representative causal-effect inference, especially with solely one-time focus group discussion session with only a group of Valuer experts. Hence, a longitudinal behavioural study via a more rigorous methodology (e.g., explanatory mixed method research with a combination of in-depth personal interviews and questionnaires surveys with quantitative structural modelling) is necessary, especially involving other stakeholders (developers, bankers, estate agents and buyers and sellers) for validation and evaluation. Due to data and time unavailability, although the sample of respondents was homogenised as best as possible (at least all of them are experience, highly qualified and knowledgeable and from property valuation and management background), we did not manage ensure well-rounded distribution of the number of private and public Valuers, as for the current study, the number of the latter prevails. Such different sector with wide-ranging scope, experience/ exposure and knowledge have contributed to broad and diverse yet rather superficial results on certain instances, rather than clearer and more systematic results which are executable via categorisation and delimitation of the background, sector and scope of Valuers. The latter approach is vital as they could be deemed the influential factors in behavioural valuation.

Some strengths of the study were discovered, however. Despite the diverse and broad findings, such initial and mainly exploratory-descriptive study may address the literature lacuna on intangible behavioural uncertainties in property valuation, particularly describing extensive behavioural economics components in real-estate discipline. Also, at least two local empirical contributions are offered by this study: (i) types of behavioural uncertainties (root causes) and their effects as well as the possible solutions in property valuation; and (ii) among the local behavioural uncertainties, identifying the most rampant and influential behavioural uncertainties (which will be biases and client influence) that the Valuers are subject to. The findings offer valuable messages (awareness) and insights to practitioners, particularly local policy-makers, that often-neglected behavioural property study is a *sine qua non* in determining the valuation outcome by suggesting to them that the status quo of local property valuation appears adversarial. It would be premature to conclude that this paper alone can solve the entire aforesaid issues. However, this is good enough as a spark; at least, they act as references of which direction should be focused in the future. Thus, more comprehensive behavioural valuation research should be carried out, in order to produce a sustainable property valuation environment.

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INTERNATIONAL REAL ESTATE MARKET STUDY: A FRAMEWORK FOR WORLD CLASS OFFICE DEVELOPMENT

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ABSTRACT

The 1997–98 Asian Financial Crisis provided the catalyst for many Asian countries to improve and strengthen their domestic financial sector and recognized the urgency to restructure its economy into a high value-added, knowledge-based service economy. Developing countries such as Cambodia, Thailand and Vietnam have turned to the development of international financial centers owing to the perceived various economic, financial and other benefits of hosting an international financial center. These centers are dominated by iconic tall office buildings often with world's tallest building ranking and are supported by other related uses e.g. retail centers, hotels, service apartments, recreational spaces etc.

Success of such centers depends on the findings of a comprehensive real estate market studies that support its feasibility. However existing traditional real estate market studies are able to identify suitable property development and investment opportunities at the local, regional and national level only. Existing methodology is not able to cater for international commercial development such as those of an international financial center.

This paper propounds a methodology for international real estate market study to identify the development potential of an international financial center.

The new methodology covers an evaluation of a nation's competitiveness, global city competitiveness, property market transparency, property market momentum, property investment intensity, SWOT analysis and positioning.

1. INTRODUCTION

The Asian Financial Crisis of 1997–98 provided momentum for many Asian countries to improve and strengthen their domestic financial sector and recognized the urgency to restructure its economy into a high value-added, knowledge-based service economy. Several countries have turned to the development of international financial centers to anchor this change owing to various economic, financial and other benefits of hosting an international financial center. Such centers are dominated by iconic tall office buildings often with world's tallest building ranking and are supported by other mixed uses e.g. retail centers, hotels, service apartments, recreational spaces etc.

The financial industry is a high value-added sector that has positive spillover effects on the overall economy. A dynamic international financial center creates a virtuous cycle through the combination of economic and financial globalization and the development of modern financial infrastructure and supporting industries integral to it.

International financial centers (IFC) are active in international loan syndications, asset management, trade financing, mergers and acquisitions, initial public offerings, and other activities. In addition, such centers attract many non-bank financial institutions such as insurance companies, finance holding companies, and international investment and hedge funds. Multinational companies also prefer to locate their regional headquarters in such centers because of their proximity to major financial institutions and excellent telecommunication and transportation infrastructure.

Many developing countries in Asia have embarked on large scale high-end commercial property development that are built and targeted for the international market. Such projects are characterized by landmark and signature office buildings complemented by large modern shopping centers, 6-star hotels and supporting luxurious service apartments and condominiums.

These commercial spaces are often targeted to be leased and sold at a premium rental and capital values relative to the existing property market spaces. However for these property development projects to succeed, it requires a strategic development concept and implementation that could provide the much needed fundamental support for these up- market commercial spaces.

The current framework of real estate market studies is able to identify suitable property development to meet local, regional and national demands. Demand and supply analyses are carried out in market studies to identify a development potential gap. However current real estate market study methodology is not capable of identifying the types of international property development and investment projects to be carried out. This paper explore this gap in the real estate market study literature and propound a framework for international real estate market studies that identify the right development concept that could meet the demand and supply for world class property development in a IFC.

2. REAL ESTATE MARKET STUDY FRAMEWORK

A market study is concerned with the determinants of development/investment profitability and its sustainability e.g. population, households, employment and income etc. Market study is the identification and study of the property market for a particular development/investment. The market study specifically relates market conditions to the property under evaluation. It must show how the interaction of supply and demand affects the feasibility or attractiveness of the development/investment. The study is used to determine whether there is market support for new property development or an existing property in the foreseeable future (Geltner et al. 2013).

2.1 Limitations of existing market study framework

A survey of past literature on market studies indicate that existing market studies are focused on localized property development and investment situations (Brett and Schmitz, 2009; Fanning, 2005; Myers and Beck, 1994 and Wincott and Mueller, 1995). Malizia (1992) shows that market studies are conducted to cover the following property development and investment situations:

- (a) A use in search of a site (use given, site unknown)
The market study attempts to identify and select the best site for the identified use for maximum profit and growth.
- (b) A site in search of a use (use unknown, site given)
The study attempts to determine the most fitting and probable use by studying and comparing legal, physical, market and financial aspects of alternative uses.
- (c) Market and financial feasibility are carried for an identified scheme (use given, site given)
The study determines the market and financial feasibility of the proposed project.
- (d) Capital in search of investment (use known, site unknown).

Myers and Beck (1994) has proposed a 'four-square design' approach to take into account of the present-future and macro-micro dimensions to conduct a comprehensive market study. A good market study should take into account of present and future market conditions and also the macro and micro aspects of the property market. Real estate professional associations that issue guidance on the preparation of market studies have also focus on the development potential of localized property development. In US, a position paper on market analysis was adopted by the Joint Valuation/Research Subcommittees of the National Council of Real Estate Investment Fiduciaries (NCREIF) in 1995. This was released in an article by Wincott and Mueller (1995) in *The Appraisal Journal*. An update of the position paper was released by NCREIF Valuation Committee on 21 May 2012 (NCREIF, 2012). Again the scope of market studies has not extend beyond demand and supply in local property markets.

In Malaysia, upon the aftermath of the Asian Financial Crisis, the Bank Negara has recommended that banks should request for property market studies to support lending to the property sector. In response to Bank Negara's requirements, a guideline known as "*Market and Feasibility Study Guidelines for Property Projects or Property Investments*" is prepared by The Association of Valuers and Property Consultants in Private Practice Malaysia (PEPS) in 2001. However, there is no guidance on property development that could meet the demands from the international property market.

Traditional market studies are generally conducted in relation to national, regional, state or metropolitan or city level. Many of the market analytical techniques used in real estate market studies are similarly defined by national, regional, states or city boundaries. In the globalization era and the more open economies, rapid flow of capital and goods, global telecommunication networks, analyses within national, state and local levels are not adequate to cater for the analysis of demand and supply for cross border development and investment.

The generally lack of property development targeted at the international level in the past has not spurred the need or urgency to develop frameworks or methodologies to conduct international real estate market studies.

2.2 Rationale for international real estate market analysis

With globalization, there are increasing international development projects, cross-border investments in real estate, multinational real estate ventures and integrated urban centers, not just in developed markets such as Europe and North America, but increasingly in the real estate markets of the developing countries. Property development of high grade commercial properties do not exist in a vacuum. World- class office property development relies on an international network of activities to make it viable. A single landmark office building in the form of being one of the tallest building in the world does not make the development world class nor the catalyst to form an IFC. Yet this approach have been adopted by many countries.

A multitude of factors needs to be considered before the appropriate type of world class property development in an IFC can be proposed. The following section discuss some of these key factors.

3. FRAMEWORK FOR INTERNATIONAL REAL ESTATE MARKET STUDY

In view of the literature gap on the scope of real estate market studies, this section will propound a framework for international real estate market studies. This proposed framework will focus on office development particularly in the context of the demand and supply of office spaces in IFCs. The various stages to carry out the study are shown in Figure 1 and discuss in the following sections.

Stage 1: Global competitiveness of the country

Competitiveness is define by World Economic Forum as the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the economy can achieve. The Global Competitiveness Report published by the World Economic Forum has monitored and benchmarked the factors and institutions that determine productivity in close to 140 countries for the past 40 years. The Global Competitiveness Index (GCI) of the report ranks countries based on its economic competitiveness based on twelve elements. The GCI will help to establish the ranking and competitiveness of a national economy in terms of factor-driven economies, efficiency driven economies and innovation driven economies (refer Figure 2).

Different nations exhibit different features in different stages of economic development. These stages and features have been identified by Rostow (1964) and Porter (1990) which helps in understanding the development status of a country. An assessment of the competitiveness of a nation is necessary to establish it's comparative advantage relative to other countries.

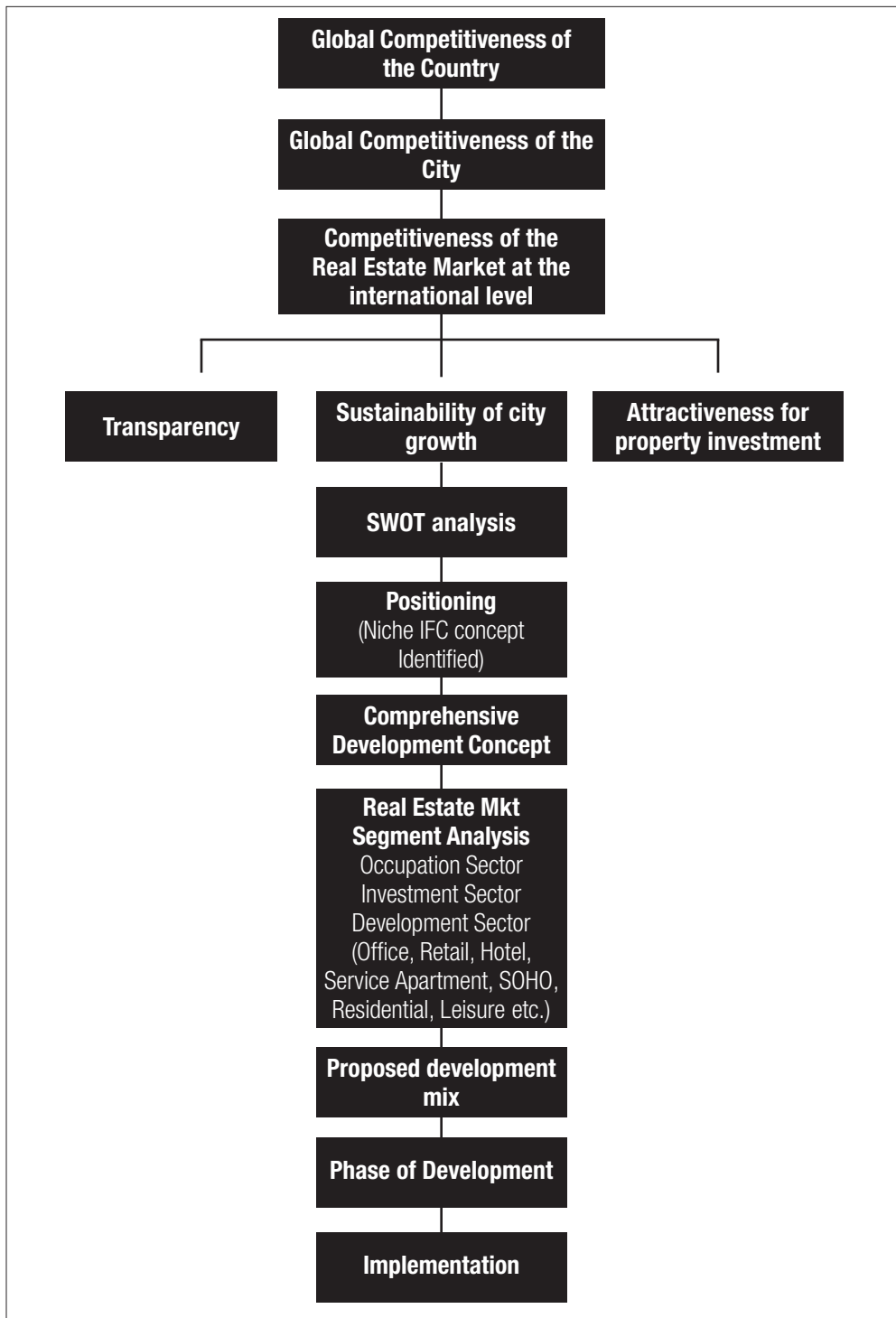


Figure 1: International Real Estate Market Study Process
Source: Author, 2018

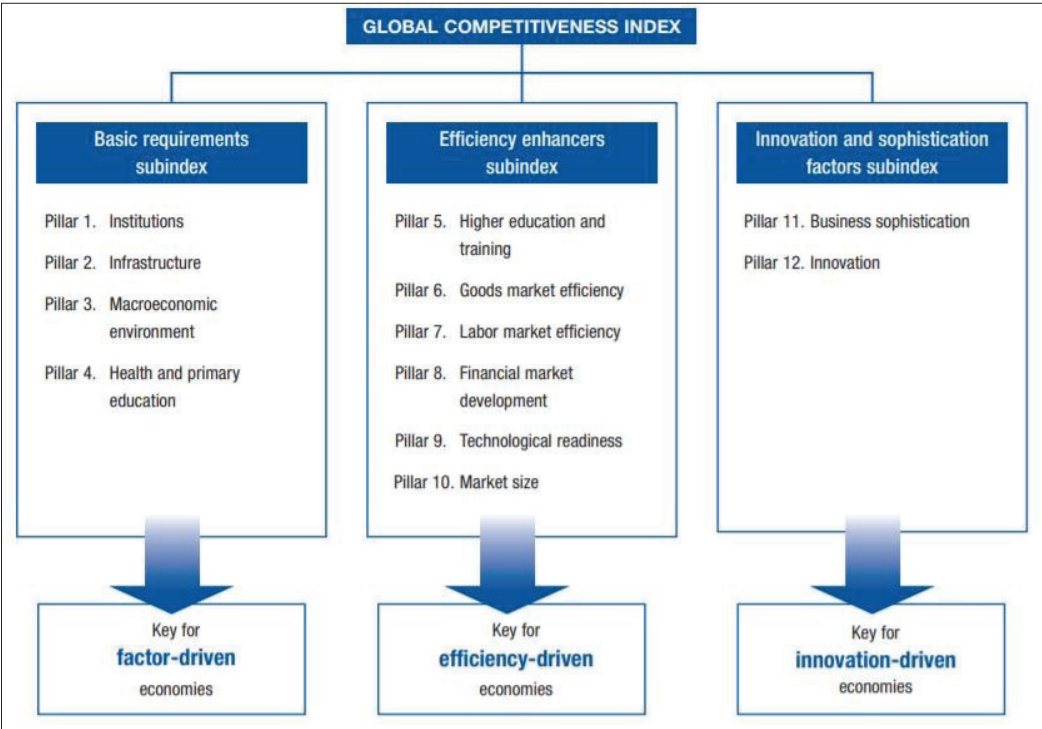


Figure 2: WEF Global Competitiveness Index 2017-2018
Source: World Economic Forum (2017)

Stage 2: Global competitiveness of the city

The world city/global city literature have established the existence of world city hierarchy (Friedman, 1986), a global network of cities (King, 1990) and global cities (Sassen, 2002). The essential idea is that cities or urban regions form part of a global hierarchy determined by the global system of capital, trade and business flows.

The economic globalization forces which drive globalization are noted to be centered in cities and have a spatial impact on cities differently. The role of cities is central to globalization process (Sassen, 2002). Intensifying economic globalization has resulted in competition among cities.

Urban competitiveness is taken to mean the ability of a city to exploit or create comparative advantage and thereby to generate high and sustainable economic growth relative to its competitors (D’Arcy and Keogh 1999). The factors affecting urban competitiveness according to Kresl (1995) are economic determinants (e.g. factors of production, infrastructure, location, economic structure and urban amenities) and strategic determinants (e.g. governmental effectiveness, urban strategy, public-private partnership and institutional factors). Keum (2000) asserts that urban competitiveness is not merely an economic issue but also a multifaceted issue comprised of environment, social, ecological infrastructure and human development. Kresl and Singh (1999) have developed measures of urban competitiveness that is both quantitative and comparative in terms of competitive strengths and weaknesses.

Several global city indices are available to make the assessment on the global competitiveness of a city.

Stage 3: Competitiveness of the real estate market at the international level

Stage 3a: Transparency of the national real estate market

Different international property markets are at different levels of development and maturity. The attractiveness of a property market depends on its market transparency. The relative transparency of property markets among different countries can be examined using JLL Global Real Estate Transparency Index (GRETl). This index categorises the level of property market transparency of 109 countries into five categories: high, transparent, semi, low and opaque transparencies. It applies 139 individual transparency measures that cover the following aspects:

Performance Measurement	- 25%
Market Fundamentals	- 20%
Governance of Listed Vehicles	- 10%
Regulatory and Legal	- 30%
Transaction Process	- 15%

Figure 3 shows in detail the criteria in determining the levels of market transparency. Figure 4 shows the transparency of international property markets using GRETl.

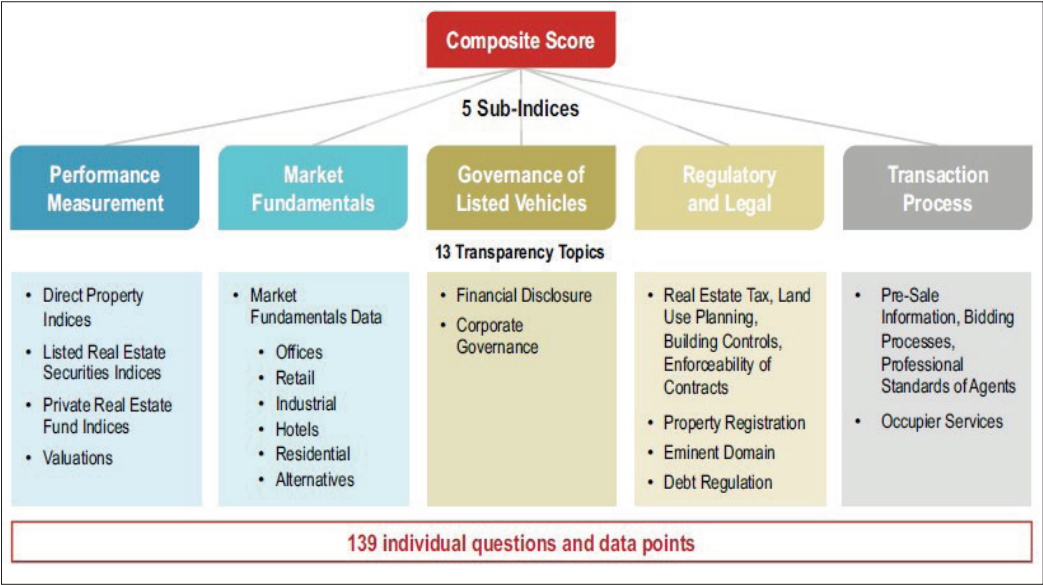


Figure 3: Assessment criteria of GRETI 2016
Source: JLL, LaSalle Investment Management

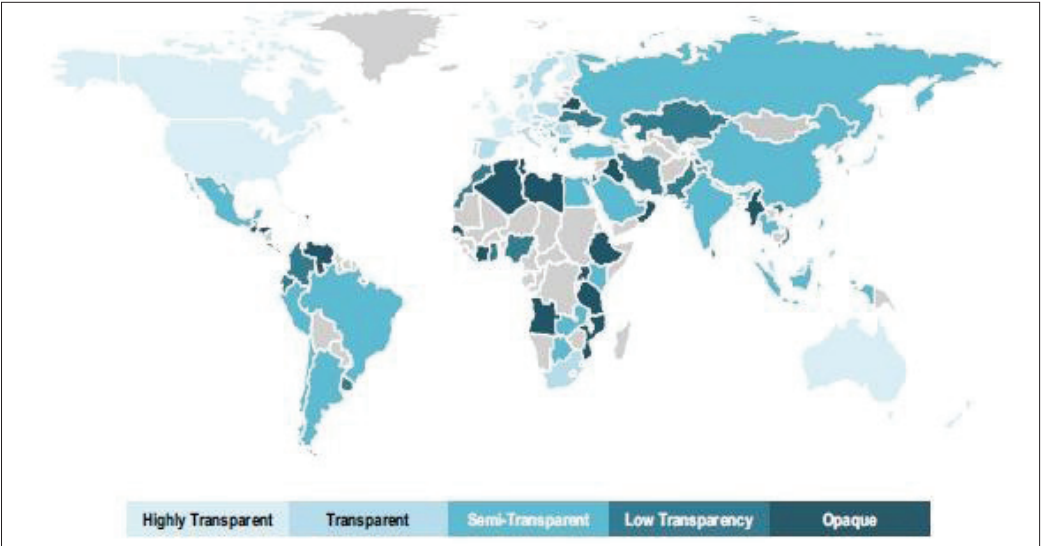


Figure 4: International real estate market transparency 2016
Source: JLL, LaSalle Investment Management

Property markets that are less transparent, opaque, corrupt practices, poor corporate governance and failures in regulatory enforcement will fail to attract businesses, corporate activities and investment flows. International investors and occupiers will focus more on transparent markets. A transparent real estate market not only act as a facilitator of new development, investment and business activities but also community well-being and inclusiveness. Figure 5 shows the importance of real estate market transparency.

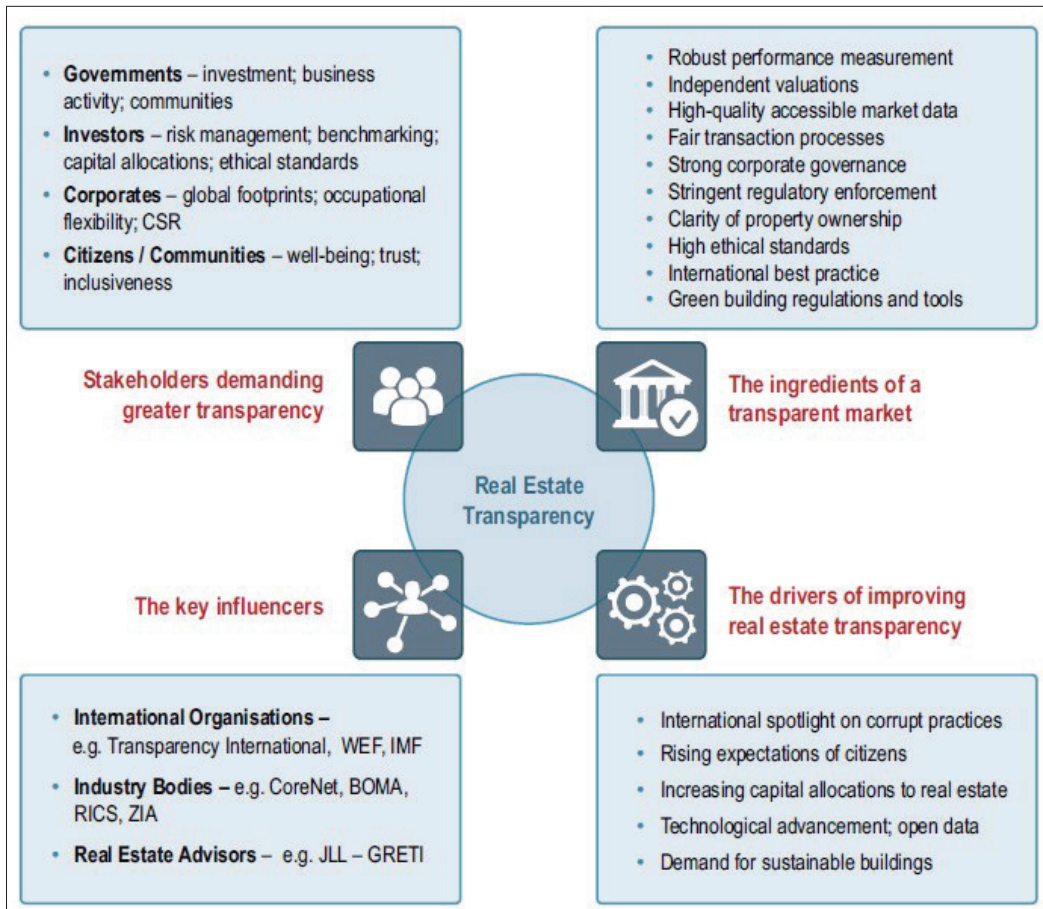


Figure 5: Importance of real estate market transparency

Source: JLL, LaSalle Investment Management

Stage 3b: Sustainability of City Growth

Sustainability of city growth can be termed as “city momentum” which refers to the performance of a city in the short term and its potential to continue to perform in the longer term. The JLL City Momentum Index provides information on this aspect (refer Figure 6). The components of the City Momentum Index enable cities to be clustered according to levels of short term economic and real estate momentum:

- (a) Socio-economic momentum relating to changes in city GDP, population, air passengers, corporate headquarters and foreign direct investment (FDI).
- (b) Commercial real estate momentum relating to changes in absorption, construction, rents, investment volumes and real estate transparency covering the office, retail and hotel sectors.
- (c) High-value incubators relating to the ability of the underlying attributes of a city to maintain momentum over the longer term (i.e. its future-proofing capacity) in terms of higher education infrastructure, robust innovation economy, high levels of technology business start-ups and patent applications, and high air quality and environment.

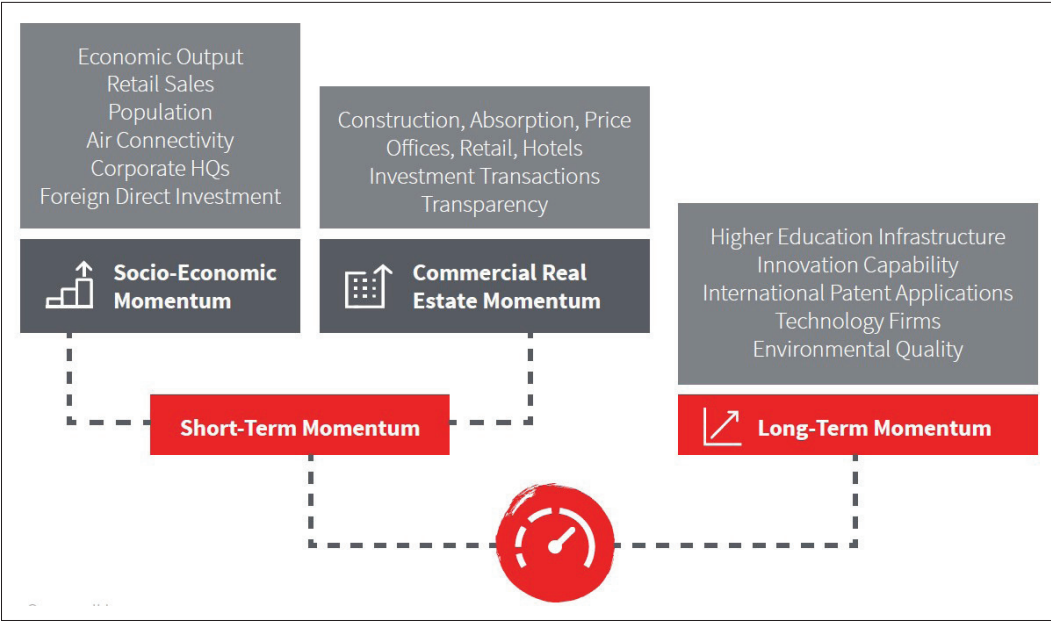


Figure 6: JLL City Momentum Index
Source: JLL, LaSalle Investment Management

Stage 3c: Attractiveness for property investment

Growing real estate allocations from institutional investors and new sources of capital targeting the direct property sector will expand the competition for direct property investment. Investors will look increasingly to 'Emerging World Cities' to satisfy their requirements, since an estimated 60% of the global office development pipeline up to year 2020 are in emerging markets. A measure on the level of attractiveness among cities will be useful to evaluate the relative attractiveness of cities as a destination for property investment.

JLL's Investment Intensity Index compares the volume of direct commercial real estate investment in a city over a three-year period relative to the city's current economic size. The Index provides a measure of real estate market liquidity, as well as a useful barometer of a city's overall health, highlighting cities that are performing well in attracting real estate investment.

The index is able to indicate the top cities for cross-border investment intensity, identify the leading 'Emerging World Cities' and provide a breakdown of which cities are attracting the most intensive investment activities into the office, retail, hospitality and leisure sectors.

Stage 4: SWOT analysis

A SWOT analysis will examine the macro perspective at a country level, the suitability to develop an international financial center. The analysis involves (a) identifying and assessing strengths and weaknesses of a country and (b) identifying and assessing external opportunities and threats at the regional and global level in developing an IFC.

Stage 5: Positioning

An understanding of the institutions and strategic characteristics of the nation and city, together with SWOT analysis will reveal the potential for the development of an international financial center. A further analysis on the existing and proposed competitive IFCs in the region will narrow down the possible type of IFC to be proposed and to find a niche in the international finance marketplace.

Table 1 shows the types of IFC classified by various criteria. The competitiveness of a new IFC can be evaluated by examining the business environment, human capital, infrastructure, financial sector development and reputation (refer Figure 7).

Table 1: Classifications of international financial centers

	Criteria	Types of IFC	Characteristics of IFC
IMF (2000)	Scope and level of financial services	1. International financial center 2. Regional financial center 3. Offshore financial center	Large full service IFC providing global services (London, New York, Tokyo) Intermediate service IFC servicing surrounding regions (Hong Kong, Singapore, Luxembourg) Smaller limited specialist services (Bahamas, Cayman Islands)
Park (2011)	Sources and uses of funds	1. Primary center 2. Booking center 3. Funding center 4. Collection center	Serves worldwide clients (London, New York, Tokyo) A financial entrepot where the sources and uses of funds are oriented toward the outside regions (Nassau, Cayman Islands) Channels offshore funds from outside their market areas toward local uses (Singapore, Panama) Primarily in outward financial intermediation (Bahrain, Dubai)
Seoul Financial Forum (2003)	Operational and geographical reach	1. Global financial center 2. Regional financial center 3. Niche financial center	Broadest range of financial services, new financial products and new risk management techniques (London, New York, Tokyo) Cater to regional market clients (Frankfurt, Tokyo, Shanghai, HK, Singapore) Specialize in certain financial service sectors for having developed special expertise and reputation. (Sydney, Zurich, Edinburgh)

Johns (1994)	Clusters based on linkages to a major onshore center and its time zone	Cluster 1 Caribbean – Central America Cluster 2 Europe Cluster 3 Middle East Cluster 4 Asia-Pacific	Time zone – New York Time zone – London Time zone – Dubai Time zone –Tokyo
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Source : Author's Compliation

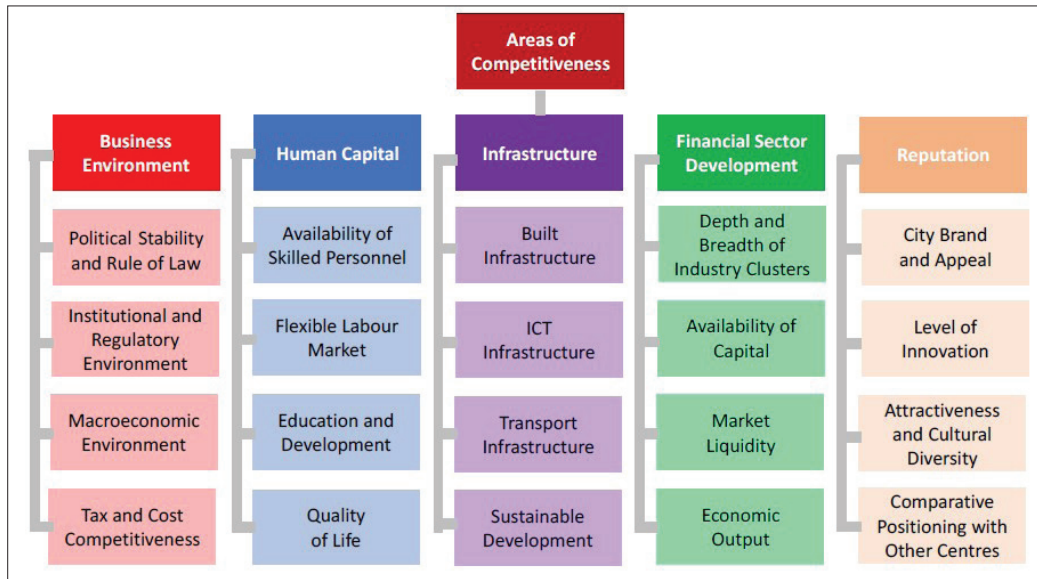


Figure 7: Assessment criteria for IFC

Source: The Global Financial Centers Index (Sept 2017)

Stage 6: Comprehensive development concept

Based on the niche IFC identified, a comprehensive development concept will be developed comprising mixed land uses that support the proposed IFC such as retail, hospitality, cultural, leisure, MICE and luxurious residential uses to make the IFC an integrated development. The concept will take into account existing and future accessibility, access connections and linkages, mass transit modes, visibility and other site characteristics and conditions to enhance the attractiveness of the new development,

A successful IFC is not merely a mixed commercial development but need to be supported by residential, cultural, institutional and entertainment/leisure uses, where these supporting activities are physically and functionally integrated to the IFC.

The real estate market segment analysis in the following stage will analyse existing and future property market conditions to identify the suitable types of development that may meet the future demand of space from the IFC and the necessary supporting amenities and facilities.

Stage 7: Real estate market segment analysis: Occupation, Investment and Development sectors

The analysis of the real estate market segment will be based on the occupation, investment and development sectors for each of the office, retail, hotel and residential sub-sectors. The drivers of the components of the real estate markets i.e. occupier market, investment market and the development market will also be analysed. Specifically the demand and supply of office spaces to meet the office demand and requirements by the IFC will be carried out.

For each property sub-sector, existing and future demand and supply situations will be examined. Existing and future rental and capital values will be analysed in the context of vacancy rate, yield, future supply and demand, investors preference etc. Analyses based on building grade and green buildings according to geographical locations and distributions will provide insight into future demand on office spaces. Projections and analysis on new job opportunities in IFC will indicate the types of spaces and supporting amenities to be provided to meet the demand and requirements of the occupiers of the IFC.

Stage 8: Proposed development mix

The findings in Stage 7 will be able to establish the detail development components of the IFC. Guidelines and development criteria such as land use, plot size, plot ratio, density, height etc. will be detailed. The indicative building size, floor size, building specification, targeted tenants, indicative rentals and capital values by property types will be proposed.

Mixed-use developments combine living, shopping and working space into one location. Traditionally, mixed-use developments involve office, retail, residential units and some elements of leisure and entertainment. There are elements of pedestrian-oriented communities and often have park settings with fountains, gardens and children's play areas.

Tourism and leisure also play a critical role in mixed-use developments. Tourists add to the demand for hotels, restaurants, shops and entertainment. Green design elements will make the high density, condensed land use features of mixed-use developments a conducive commercial built environment.

Stage 9: Development Phasing

Appropriate development phasing of the whole IFC development will be determined based on the infrastructure, capital availability, the state of the real estate market, economic conditions etc.

To unlock the growth and development potential of the proposed IFC requires a phased approach to aid viability and deliverability. Utilities infrastructure requirements and highways capacity are the key drivers behind the phased approach to the delivery of the IFC masterplan. Each phase of development should leverage on any new and existing access linkages (e.g. monorail, LRT, MRT, highways etc.) and infrastructural capacity to unlock the next development precinct until total build out is achieved. This is an important function of the phased approach and any development that is brought forward out of sequence will need to be considered carefully to ensure that it does not impact upon the viability of subsequent growth.

4. CONCLUSION

Existing real estate market studies are catered to development at the national regional, metropolitan and city level. The methodology of these studies do not cater to property developments that are targeted at international real estate markets.

This paper introduced the conceptual and methodological underpinnings of international real estate market study for the proposal of an IFC. The framework may be improved to take into consideration other evolving factors in the future. New real estate drivers and trends in the sharing economy such as FinTech, co-working, PropTech etc. will need to be examine in terms of their impacts on future office space demand. In particular, it is pertinent to consider how the growth of the disruptive technologies, automation and digitization of work processes will affect future office demand.

Other components of an IFC are also affected by emerging trends such as e-commerce affects the retail spaces, shared accommodation services affects the hospitality sector and co-living may affect residential properties.

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MAKING HOUSING AFFORDABLE

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This paper is an extended version of the executive summary in the Making Housing Affordable report. Readers can download the full report at http://www.krinstitute.org/kris_publication_Making_Housing_Affordable.aspx

ABSTRACT

The provision of affordable homes remains a major problem facing policymakers around the world, with Malaysia being no exception. Malaysian policy initiatives which focus on ensuring affordable housing have typically involved the transfer of physical or financial resources to low-income households who cannot house themselves adequately. The scarcity of such resources then forces government housing agencies to focus on a small and limited housing agenda and stymies efforts to understand or manage the housing sector as a whole. As Malaysia becomes more urbanized, the demand for housing that is affordable will only increase. Trends in Malaysia indicate that both the bottom 40% and middle 40% of income earners are likely to require some form of social housing if the relevant interventions are not made urgently.

Interventions in the housing market have largely been on the demand side, by making housing financing cheaper or providing subsidies for home-buyers. 'Sophisticated/innovative' financing packages and cash transfers are provided to home-buyers to buy houses they could not afford. The supply side interventions have been by direct provision of low-cost houses or subsidising housing costs. These measures are unsustainable as they can drive price increases, result in more household debt, and incur opportunity costs on government finances that potentially could be used more productively.

This paper considers the problem of supplying affordable houses from the perspectives of both an institutional arrangement (national business system) and the firms (industry value chain analysis and the economics of governance). Current policies have focused on controlling house prices once the consumer receives it at the end of the production process. This paper proceeds differently because the evidence seems to suggest that it is far more efficient to enhance capacity in the supply side to develop a sustainable and responsive housing sector that caters for all sections of the population.

Keywords: Housing, public policy, supply-side strategies, national business system

1. INTRODUCTION

This paper examines the issue of housing affordability in Malaysia, viewing it within the context of housing as an economic sector rather than simply as a social welfare concern. Housing interventions have focused primarily on demand, and in doing so, subsidizes a non-responsive supply sector. We examine housing affordability with the view of ensuring that supply is able to meet effective demand, thus improving the affordability of housing in general.

The provision of affordable homes remains a major problem facing policymakers around the world, with Malaysia being no exception. Malaysian policy initiatives which focus on ensuring affordable housing have typically involved the transfer of physical or financial resources to low-income households who cannot house themselves adequately. The scarcity of such resources then forces government housing agencies to focus on a small and limited housing agenda and stymies efforts to understand or manage the housing sector as a whole.

Therefore, it is important to move towards a broader agenda of guiding and managing the housing sector as a whole. The sector must also be viewed as one that is important and productive, where policies have serious repercussions for overall economic performance and not, as is commonly viewed (especially for low-cost housing) as a sector which is a drain on productive resources.

2. CHALLENGES OF MAKING HOUSING GENERALLY AFFORDABLE

Gaps are beginning to appear in the provision of housing, exemplified by the growing concern of middle-income households who are neither eligible for social housing nor are able to afford private sector-supplied houses. The challenge is particularly prevalent in urban areas: while Malaysian home ownership as a whole stood at 72.5% in 2010 (the year of the latest Population and Housing Census), urban home ownership was 69.1%. In Kuala Lumpur, it was 53.5%. Demographic factors will make the problem more acute: our population is growing at around 2% per year and will reach 38.6 million by 2040; urbanisation is increasing; and households are getting smaller – in 1970 there were 182 households for every 1,000 people, by 2020 there will be 250 households for every 1,000.

Housing affordability is a function of both house prices and income. At the national level, median house prices were 4.4 times median annual household income in 2014. According to global standards, this signifies a 'seriously unaffordable' housing market. An 'affordable' market should have a 'median multiple' (median house prices as a multiple of median annual household income of 3.0x).

However, house prices are also heavily dependent on location, and so some states in Malaysia have more affordable housing markets than others. Melaka for instance is 'affordable', with a median multiple of 3.0x whereas Kuala Lumpur (5.4x) and Pulau Pinang (5.2x) are both 'severely unaffordable'

Although DoS' household income statistics measure both informal and formal income, there is a significant amount of housing units that are not accounted for in NAPIC's calculations for housing stock. This means that the median all-house price calculated by NAPIC does not comprise the entire number of housing units. To adjust for this potential shortfall, we have assumed that house prices in states where 60% or more of housing stock is accounted for by NAPIC are representative of the overall housing market (Table 1). Given this cut-off, our analysis of median-multiple affordability of each state's housing market focused on Kuala Lumpur, Pulau Pinang, Johor, Selangor, Negeri Sembilan, and Melaka, with the other states being deemed as having insufficient house price data for the assessment.

Table 1: Comparison of housing affordability based on annual household median income and median all-house price across states in Malaysia, 2014

Area	Monthly Median Income	Annual Median Income	Market Median-3 Price	Median All-House Price	Multiple Median affordability	Affordability	Accounted Living Quarters by Naptic, 2010
Terengganu	3,777	45,324	135,972	250,000	5.5	5.1 and over Severely unaffordable	22% 
K. Lumpur	7,620	91,440	274,320	490,000	5.4		88% 
P. Pinang	4,702	56,424	169,272	295,000	5.2		74% 
Sabah	3,734	44,940	134,820	230,000	5.1		24% 
Pahang	3,389	40,668	122,004	200,000	4.9	4.1 to 5.0 Seriously unaffordable	58% 
Kelantan	2,716	32,592	97,776	157,740	4.8		16% 
MALAYSIA	4,585	55,020	165,060	242,000	4.4		60% 
Perak	3,451	41,412	124,236	180,000	4.3		57% 
Perlis	3,500	42,000	126,000	181,000	4.3		34% 
Johor	5,197	62,364	187,092	260,000	4.2		73% 
Selangor	6,214	74,568	223,704	300,000	4.0	3.1 to 4.0 Moderately unaffordable	81% 
N. Sembilan	4,128	49,536	148,608	188,888	3.8		74% 
Sarawak	3,778	45,336	136,008	164,667	3.6		32% 
Kedah	3,451	41,412	124,236	140,000	3.4		50% 
Melaka	5,029	60,348	181,044	180,000	3.0	3.0 & Under Affordable	64% 

The 3.0x median multiple signals that the market provides a distribution of housing and house prices that are subject to minimal distortions – housing supply is responsive and able to meet effective demand. Unaffordable housing markets are ones in which supply either falls far below demand, or is too inelastic to changes in demand. It is a measure of how affordable the housing market as a whole is performing. It is not a measure of what any particular household can afford as that would depend on that particular household's circumstances.

Another measure of affordability is down-market penetration. An overview of Malaysia's residential market reveals that in aggregate, new launches within the lowest-price range has dropped from 36.4% out of total launches in 2004 to only 19.7% in 2014 (Figure 1 and Figure 2). Since publicly-available house price data for Malaysia is only in the form of price ranges, the data depicted in Figure 1 is used to estimate the range of down-market penetration for the Malaysian housing market. In 2014, the down-market penetration for the lowest-priced dwelling unit ranged from 0.9 to 1.8 times, quite significantly below the 3.4 global value previously estimated. Relatively low down-market penetration ratios also held in the six state housing markets analysed in the previous section, even for the 'severely unaffordable' markets of Kuala Lumpur and Pulau Pinang (Table 2).

Table 2: Range of down-market penetration ratios for selected states, 2014

AREA	DOWN-MARKET PENETRATION RANGE
Kuala Lumpur	2.7 - 3.2
Pulau Pinang	0.9 - 1.8
Johor	< 0.8
Selangor	0.7 - 1.3
Negeri Sembilan	< 1.0
Melaka	< 0.8

Source: KRI calculations

An important caveat when assessing down-market penetration ratios for Malaysia is that while the house price data supplied by NAPIC only includes prices for houses supplied by the private sector, NAPIC cannot certify whether these houses were built without the benefit of subsidies, including land-swap arrangements with the government. Hence, the down-market penetration ratio estimated from this data may be an underestimation of actual values.

Nonetheless, the available data signal that nationally and within these markets, privately supplied housing does reach some below-median households, although without more disaggregated and detailed data, it is unclear whether the allocation of such housing is adequate.

For the last five years, 60,000 houses have been launched on average.

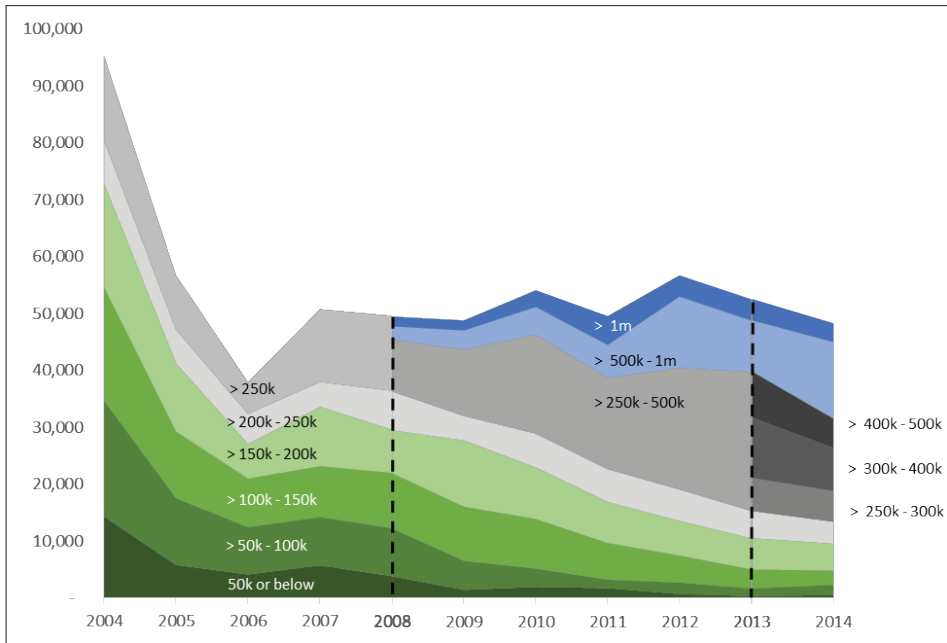


Figure 1: Number of launched residential units by price range, 2004 – 2014¹

Source: NAPIC (various years),
KRI calculations $k = \text{thousand}$
 $m = \text{million}$

1. The type of properties included are: Single storey terrace, 2-3 storey terrace, Single storey semi-detached, Detached, Town-house, Cluster, Low-cost flat, Low-cost house, Flat, and Condominium.
2. NAPIC uses different house price ranges from 2004 to 2007, 2008 to 2012 and 2013 to 2014, therefore the charts are divided according to the respective range.

¹ NAPIC data for new launches according to price range is only available from 2004 onwards.

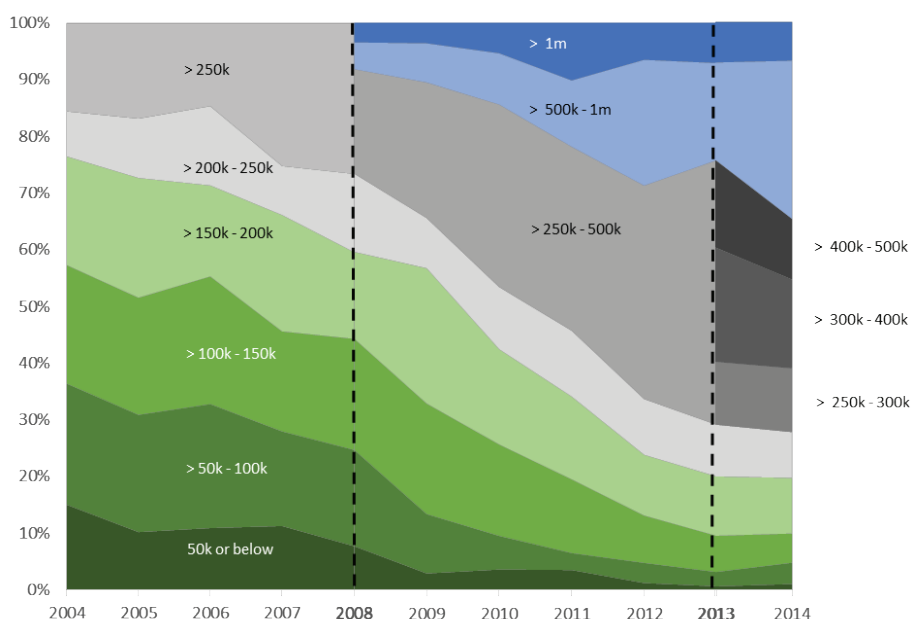


Figure 2: Composition of residential units launched by price range, 2004 – 2014

Source: NAPIC (various years),

KRI calculations k = thousand

m = million

1. The type of properties included are: Single storey terrace, 2-3 storey terrace, Single storey semi-detached, Detached, Town-house, Cluster, Low-cost flat, Low-cost house, Flat, and Condominium.
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Interventions in the housing market have largely been on the demand side, by making housing financing cheaper or providing subsidies for home-buyers. The supply side interventions have been by direct provision of low-cost houses or subsidising housing costs. These measures are unsustainable as they can drive price increases, result in more household debt, and also incur opportunity costs on government finances that potentially could be used more productively.

Housing supply is driven by land costs and use, planning policy, and construction costs. High housing prices are often blamed on land costs, but the causality actually runs in the opposite direction; rising house prices result in rising land prices as the price a developer is willing to pay for new land rises as the market price for housing increases. As for construction costs, in Malaysia these have been falling with no attendant drop in house price.

The answer to making housing more affordable then, lies in improving the elasticity of housing supply or, in other words, in making the supply of housing more responsive to the needs of all sections of population. In this report, we examined the national business and procurement systems for housing through five case studies of Malaysian property developers. The findings were then compared to a case study in the Philippines housing sector – 8990 Holdings, Inc.– which is a mass housing market developer that has managed to supply affordable homes by marrying cost and time-saving building technology with highly integrated procurement and business systems.

3. RESEARCH METHOD AND FINDINGS

In this report, we consider the problem of supplying affordable houses to the general public from the perspectives of both an institutional arrangement (national business system) and the firms (industry value chain analysis and the economics of governance). This is based on the premise that improvements are needed at the level of construction projects and firms in order to increase the affordability of houses at the national level.

Six case studies were conducted in order to examine the mechanisms adopted by firms to implement good order and workable arrangements in their construction projects. Five case studies were of firms from Selangor, Johor Bahru and Pulau Pinang in Malaysia², and one case study was of a firm from the Philippines. Six criteria were devised to identify eligible participants for the case studies in Malaysia. These criteria suggest that the companies selected have had experience and are successful in building houses and therefore can provide the “highest resolution” in terms of giving their perspectives on the subject matter being investigated.

The criteria were:

1. Housing development companies that are listed in Bursa Saham Kuala Lumpur.
2. Housing development companies that have received acknowledgement for the good quality and/or design of houses through being granted the country’s prestigious awards.
3. Housing development companies that were among the top 20 largest firms on Bursa Malaysia in terms of market capitalisation during the year of analysis.

² Deemed moderately unaffordable, seriously unaffordable and severely unaffordable markets respectively, as at 2014.

4. Housing development companies that have a good reputation in the country for delivering houses on time and that are perceived to offer value for money.
5. Housing development companies that have been in business for more than 15 years.
6. Housing development companies that have undertaken at least five housing projects within the past 15 years.

A group of experienced developers were selected to provide insights as to how their organisations performed within the institutional framework as well as instituting economic governance³ in the multi-organisation created for the selected projects⁴.

The selection of the construction projects was also based on predetermined criteria to provide consistency in the types of development under analysis in order to produce the high resolution needed in describing the patterns and themes observed. These criteria were:

1. The type of development, ie housing.
2. The procurement route, ie TGC with PAM 98 Standard Agreement and Conditions of Building Contract.
3. Projects must have been completed within the past five years.
4. Developments must be large-scale, ie more than 80 units for each project.

4. WHAT ARE OUR LIMITATIONS IN PRODUCING AFFORDABLE HOMES BASED ON CURRENT INSTITUTIONAL CONTEXT?

Table 3: Comparison between 8990 Holdings and Malaysian property developers

	8990 Holdings, Inc.	Malaysian property developers
Framework agreement with key materials suppliers	8990 Holdings has an agreement with the material supply-sector, and therefore negotiated the contractor's services as a cost- plus item in the bills of quantities.	Property developers give this role to the construction company, and this is covered in the existing construction contracts (fluctuation clauses are normally eliminated)
Integration of design and construction	8990 Holdings has an integrated design and construct group that permits improvements to the production processes from design to installation on site.	Improvements in design and buildability on site are done in different firms and there are limited opportunities to improve since design changes are executed through variation orders, which makes innovation non-existent. Which party would want to bear the costs of faulty design or installation?

³ See Appendix 4 in the Making Housing Affordable report for an explanation of economic governance.

⁴Bryman (1996) and Chan et al. (2001)

Investment in production technology and innovation	8990 invests financially in their own product and process innovations. Product innovation (eg IBS) is done internally and is tailored to the specificities of the construction site. For example, if the site is in a dense city-area with limited access, they bring the moulding process on site. Process innovation is needed in situating product innovation. For example, in IBS technology, the Mechanical and Engineering (M&E) design input must be given before moulding is done. 8990 will have internal discussion with both the design and construction teams in one conducive environment.	Property developers in Malaysia rely on their construction firms to innovate, without investing financially. Contractors will depend on external IBS or proprietary systems for product innovations, therefore it is an out-sourced facility. The design team might not be familiar with the design and installation of such technology. Training is generally not provided by the contractors, design team, or IBS manufacturer on how the components are connected with other parts of the building. Hence construction workers will not be able to assemble the design on site.
Skills training	8990 provides training for all construction workers/operatives so that the product innovation designed by the design team is able to be executed on site. The construction workers are also encouraged to give feedback on problems with executing the design on site.	Training of construction workers are not done due to the transient nature of the work force.
	8990 Holdings, Inc.	Malaysian property developers
Management and maintenance of amenities	8990 maintains the shared services (amenities) within their facilities management unit. The general public will need to pay for the services but the unit owners within the complex can use the facilities for free. This to ensure that the facilities are well- kept and is in good workable order at all time.	The public amenities managed and maintained by the management Committee

These conclusions (Table 3) suggest that the consolidation of the supply chain follows best practices as exemplified by 8990, whereby firms themselves invest in adopting new technologies as well as in training site operatives to execute the newly introduced technology. The recommendation for institutionalising reforms and restructuring the procurement system is important since it will improve the overall efficacy of the firms that are involved in the production process in terms of time, costs and quality at the construction project level. This will lead to cost efficiencies for the housebuilding industry.

If the restructuring of the procurement system is not made to reflect the new production value-chain, then firms will not have the opportunities to innovate or invest in technological advancements. This is the primary recommendation of this report: the creation of a conducive institutional and governance structure for firms to anchor their new production methods.

We propose that the relevant government agencies work with a select group of committed and experienced companies who will have a framework agreement with the material supply section in order to improve the overall efficacy of the delivery of housing units.

The economics of governance is an effort to implement the study of good order and workable arrangements⁵. Therefore, the alliances of firms will need to be anchored within a new designated national procurement system. This entails a move away from using the TGC procurement route towards a design-and-build or turnkey governance structure.

The new structure is designed to change attitudes and alter the way in which members of the professions and contractors work with one another, with a view to creating a fully motivated and cooperative building team and removing the duplication of effort between designers, quantity surveyors and contractors, which is prevalent under the TGC governance structure.

⁵ See Appendix 5 in the Making Housing Affordable report

The nature of the integrated approach should promote the creation of designer– contractor–supplier clusters. Figure 3 shows the difference between the existing and the new proposed governance structure.

The suggested structure has the characteristics listed below:

- The integrated approach will provide a single-point responsibility for the contractor, designer, and developer in the event of building failure, thereby safeguarding home purchasers' and the government's interest.
- It will provide a comprehensive package comprising site-seeking and purchase, obtaining planning permission and building regulations approval, financing facilities, and other associated development components, with the support of the government.
- It may use a proprietary building system or modular building form which reduces design time and the time required for the approval of the building components within a partnering agreement with the materials supply sector.
- These building components (such as IBS) are often readily available so that manufacturing time is minimal and construction time may be correspondingly reduced because manufacture of components and work on site can proceed concurrently. In most countries that have the enabling institutional arrangements, the cost savings range between 10%-30% .
- The government will develop mandatory standard building specifications/ plans in order to facilitate the adoption of IBS and other off- the-shelf proprietary systems for the construction of affordable homes.
- The integrated nature of design, construct and assembly on site will produce product innovation since faulty designs will be filtered back to the design team and the manufacturer of the building components. Collaboration at the design stages is critical especially for the design of structural building systems and mechanical and electrical services
- Constant communication between all parties will encourage process and product innovations as well as a reduction of the construction period, enabling early occupation of the houses and a reduction in overall financing costs for the builders.
- The contractor's knowledge and experience of the cost implications and buildability of design variables may be utilised to good effect because he or she contributes to the design.
- The use of both fixed-price and incentive contracts will provide financial incentives which encourage contractors and suppliers (proprietary systems, IBS, modular systems) to undertake design detailing economical to construct.
- It is also designed to redefine risks and re-establish awareness of real costs among all members of the design and construction team and to eliminate practices that absorb unnecessary effort and time and obstruct progress towards completion of the project.

- Competition between proposals based on competitive tendering should ensure economical tenders and alternative design concepts. It is suggested that an open-book system is adopted, whereby the construction firm will disclose its costs of production after the tender has been awarded, and the percentage margin would then be agreed mutually with the developer

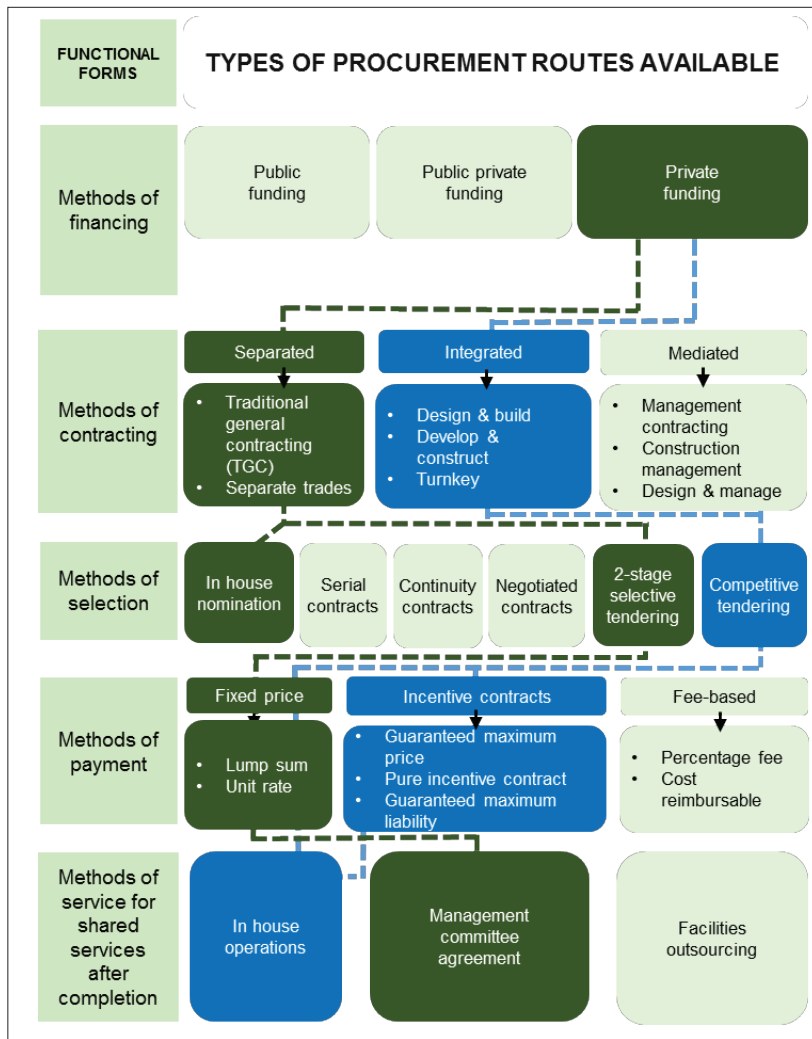


Figure 3: The functional form and the selected governance structure of the five case reports and the suggested new governance structure

1. The dark green coloured boxes represent the governance structure that was used in the five case reports.
2. The blue coloured boxes represent the suggested new governance structure

As demonstrated by 8990 Holdings, ***a willingness to participate in the wider concerns of building liveable cities and communities will ensure that these cost efficiencies will be passed to housing consumers.*** But more importantly, these measures have proven to be a sustainable business model and financially viable for the company and its allied industries in the long-term

5. POLICY RECOMMENDATIONS

The policy recommendations and the actions needed are the below interlinked supply-side interventions to the housing market:

- **Develop measures to improve the efficacy of the construction industry's delivery system to supply housing at affordable prices.**

The new production methods embedded within the new production system are intended to make housing supply more responsive to the purchasing power of populations at specific locations. The 11th Malaysian plan has in its Strategy D2⁸, a focus on driving productivity by increasing technology adoption, modernisation of construction methods and on reducing dependency on low-skilled labour.

It also encourages the adoption of the IBS by the industry through revision of the public procurement policy and Uniform Building By-Laws; as well as wanting to improve on existing regulations to ease construction-related business processes. The below policy recommendation and steps will attain the desired objectives of Strategy D2.

1. A new designated procurement delivery system that allows for the consolidation of the resources of firms within the supply chain. This entails a move from using the TGC procurement route towards a design-and-build or turnkey governance structure and forming framework agreements with the material supply section.
2. Extending the consolidation of the supply chain in the design-and-build approach into a clustering approach with key material supply firms under a framework agreement would enable a strong resilient housing supply cluster to be built.

⁸ See Appendix 5 in the Making Housing Affordable report

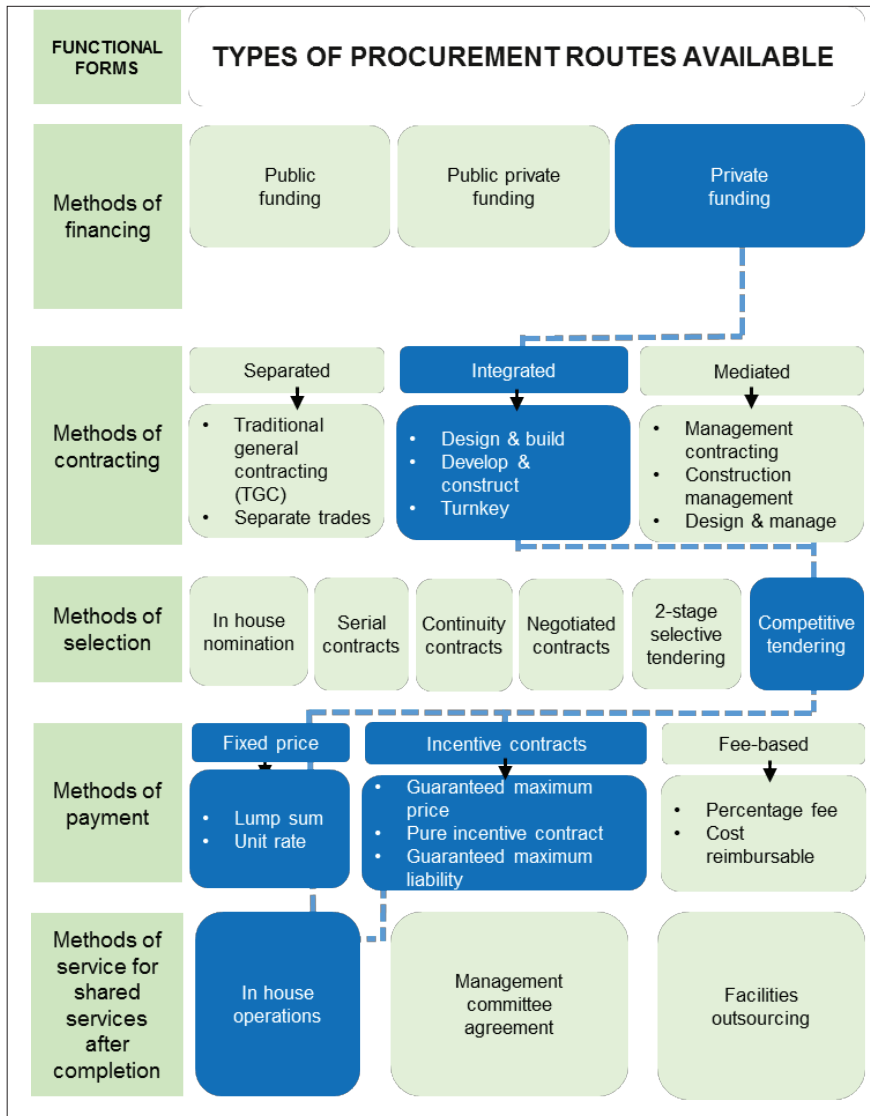


Figure 4: The functional form and the suggested new governance structure

1. This new procurement structure will create institutional arrangements with designers, contractors and material suppliers to encourage improvements in their factor productivities and efficacious management of building materials.
2. The cost-savings accrued as a result of lower construction costs based on construction innovation will be translated into higher floor areas for the newly constructed homes.
3. The creation of this new cluster of firms will improve the prices of new incoming stock of

houses (making them more affordable to the general public) as a result of:

- the lower costs of construction resulting from the use of proprietary building systems and the integration of design, construct and assembly processes
- the support of government in site-seeking and purchase, obtaining planning permission and building regulations approval, financing facilities and other associated development components
- the support of government for the development of mandatory standard building specifications for the newly constructed homes.

4. Rent-seeking activities will be discouraged through the introduction of a moratorium of five years for house buyers as well as the provision of data on new incoming stock of houses (refer to the policies discussed below).

- **Develop measures to reduce pressures leading to rapid house price escalation.**

It is recommended that the housing units built under the proposed new scheme be subject to a limited-period moratorium, sufficiently long enough for the next batch of housing stock to be supplied into the market at affordable prices as well.

1. The supply of new stock of houses produced through the newly-designed procurement route needs to be insulated from short-term speculative behaviour in order for the initiative to be successful.
2. For houses built through the new designated procurement route, a moratorium is needed to create a buffer period for new stock to come in at affordable prices as well. If the new stock is affordable and costs are lower than the speculative prices, this will evidently diminish the gains from speculative activities. A moratorium has the objective of curbing the rapid price escalation of houses. Therefore, if there is an urgent sale before the period of five years, then the unit can still be sold but based on nominal values.

- **Develop measures to plan for a steady supply of housing at affordable price.**

In order to match this steady supply to demand efficiently, detailed information leading to efficient planning is required. This in turn entails a national data repository on the conditions of demand and supply of housing at specific locations.

The 11th Malaysian Plan⁹ has highlighted the mismatch in demand and supply for affordable housing. The document highlighted the escalating House Prices in Major Cities (following the World Bank Affordability Index which is three times the annual household income) and cited the lack of integrated planning and implementation as one of the reasons for this problem. In Strategy B2: Strengthening planning and implementation for better management of public housing, the document recommends the establishment of an integrated database for all relevant stakeholders (to ensure housing supply matches demand according to locality, price and target groups). The policy option of creating a National Housing Survey as detailed below will have the desired outcome of Strategy B2.

1. A National Housing Survey will provide guidance to Federal and State governments and local authorities, enabling them to plan for a steady supply of housing at affordable prices through housing programmes at the mukim level, which are based on effective demand and land suitability.
2. If made public, information collected in the National Housing Survey will also provide the general public with the requisite knowledge to make better house-buying decisions. As housing consumes a significant proportion of their household incomes, the general public needs to be able to plan for the purchase and to choose between different types of houses at different prices, which in turn will lead to better financial planning on their part as well.
3. The proposed National Housing Survey should include:
 - demand-side analysis: covering the distinct demographic patterns between States at the mukim level (for example, whether mukims consist predominantly of young dependents and families, working populations or retirees) and incomes.
 - supply-side analysis: a land suitability assessment including the current land-use patterns and zones.

The demand- and supply-side survey and analysis performed for each state could be repeated every five years to reflect the dynamic and organic nature of housing programmes.

⁹ Focus area B: Providing adequate and quality affordable housing in Chapter 4: Improving wellbeing for all (EPU 2015)

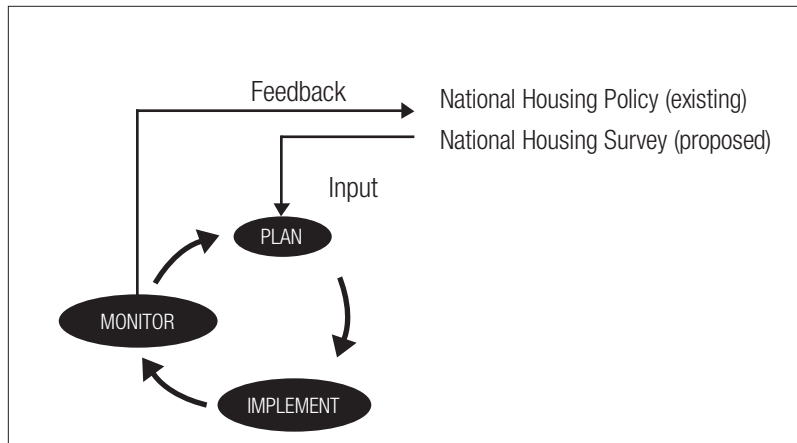


Figure 5: Planning and implementation of a National Housing Survey

As shown in Figure 5, the National Housing Survey will provide input to each State to enable it to plan for adequate and suitable housing stock to meet the different needs of the general population at strategic locations. The state and local councils would be required to monitor the quality and quantity of these new housing stocks and provide more information (input) for the next National Housing Survey.

4. Currently, there is data available to undertake a supply-side housing land and suitability model. However, the demand-side data is limited, hence the need to undertake a National Housing Survey. Both sets of demand and supply conditions could then be analysed to determine the need and policy appropriate at each state and district level.

The National Housing Survey will enable the development of various models with greater resolution and accuracy. This will provide information on the different solutions needed for each state. Among the possible outputs are:

- population forecasts
- housing demand range
- migration patterns
- household size by housing type
- social housing against social economic variables
- land suitability for different housing types

5. The National Housing Survey would be best undertaken by both the Federal Town and Country Planning Department (JPBD) and the National Housing Department (JPN).

6. CONCLUSIONS

Available evidence suggests that the provision of social housing for the majority of the population will exert unnecessary financial pressures on government spending. While the problem in Malaysia may not be as acute at the present moment, as Malaysia becomes more urbanized, the demand for affordable housing will only increase. Trends in Malaysia indicate that both the bottom 40% and middle 40% of income earners are likely to require social housing if the relevant interventions are not made urgently. We have to reform the supply-side for housing and strengthen market efficiency in the sector.

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THE INCREASING GLOBAL SIGNIFICANCE OF ASIAN PROPERTY INVESTORS

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ABSTRACT

Recent years have seen increased international property investment activity from both traditional property investors and new property investors. This specifically includes property investors from Asia, including China, Singapore, South Korea, Japan, Taiwan and Malaysia. Examples include CIC, GIC, NPS, Anbang and EPF. This paper uses the Real Capital Analytics (RCA) database of over \$9 trillion in global property transactions over 2007-2017 to assess the changing dynamic of international property investors in recent years; particularly highlighting the increasing role of Asian institutional property investors (e.g.: Asian pension funds, sovereign wealth funds and insurance companies) in capital outflows to real estate, as they seek to grow and diversify their property portfolios both locally and internationally. The strategic property investment implications of this changing property investment dynamic of cross-border real estate capital flows by Asian property investors are also highlighted.

Keywords: Property investors; international; Asia; RCA; pension funds; sovereign wealth funds; insurance companies; outbound cross-border capital flows

1. INTRODUCTION

Asia-Pacific real estate has taken on increased importance in recent years largely reflected in the expected future market growth opportunities in the emerging markets (e.g.: China, India) (see Figure 1) and the improvement in real estate market transparency in many of these Asia-Pacific markets (see Table 1).

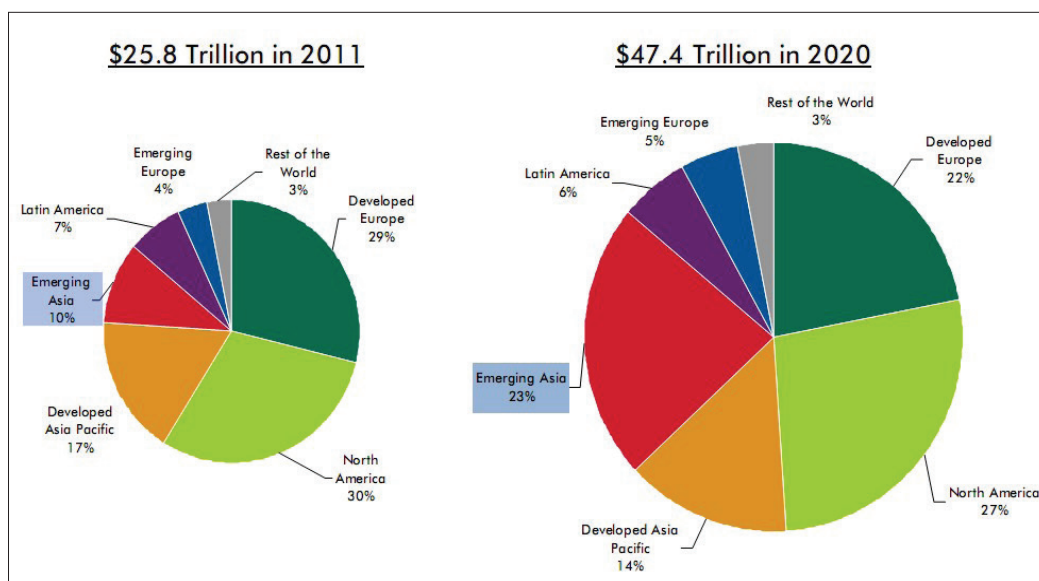


Figure 1: Global Investable Universe of Real Estate
Source: PREI (2012)

Table 1: Asia-Pacific real estate market transparency: 2016

- **High transparency (2/10):** Australia (2), New Zealand (6)
- **Transparent (5/20):** Singapore (11), Hong Kong (15), Japan (19), Taiwan (23), Malaysia (28)
- **Semi-transparent (11/37):** China-Tier 1 (33), India-Tier 1 (36), Thailand (38), India-Tier 2 (39), South Korea (40), Indonesia (45), Philippines (46), China-Tier 1.5 (49), China-Tier 2 (55), India-Tier 3 (52), China-Tier 3 (66)
- **Low transparency (3/21):** Vietnam (68), Sri Lanka (69), Macau (70)
- **Opaque (1/21):** Myanmar (95)

Source: JLL (2016)

This now sees the full profile of real estate investors with Asia-Pacific real estate as a key ingredient in their global real estate investment strategy (see Table 2). The establishment of ANREV (Asian Association for Investors in Non-Listed Real Estate Vehicles) and APREA (Asia-Pacific Real Estate Association) as professional associations to represent Asia-Pacific non-listed real estate and listed real estate respectively has also been a key factor in this improved real estate transparency. This has resulted in many of the leading real estate investment managers, setting up non-listed Asia-Pacific real estate funds to capture growth opportunities in these dynamic real estate markets as part of their multi-billion dollar real estate activities (see Table 3).

Table 2: Players in the global real estate investment landscape

- | | |
|---------------------------|-----------------------|
| • Local | • International |
| • REITs/PCs | • Non-listed RE funds |
| • Private equity funds | • Pension funds |
| • Sovereign wealth funds | • Insurance companies |
| • High wealth individuals | |
-

Table 3: Major real estate investment managers globally: examples

- Brookfield : #1
 - PGIM : #2
 - TH Real Estate: #3
 - Blackstone : #4
 - CBRE Global Investors : #6
 - **CapitaLand : #8**
 - LaSalle : #16
 - **Mapletree : #37**
 - **GLP : #41**
 - **Gaw : #64**
-

Source: I & P RE (2017)

This includes both international players (e.g.: Blackstone, PGIM, CBRE Global Investors, LaSalle, Hines) and Asia-Pacific players (e.g.: CapitalLand, Mapletree, Gaw, Fortress, Global Logistics Property, Red Fort), using a range of real estate investment strategies. The top 100 non-listed real estate investment managers have over US\$2.7 trillion in their real estate portfolios, with the Asia-Pacific non-listed real estate component being over \$250 billion; accounting for approximately 10% of their global real estate investment portfolios (see Table 4) (I&P RE, 2017).

Table 4: Level of Asia-Pacific real estate by leading real estate investment managers

APG: 26%	Blackrock: 25%	Blackstone: 8%
Brookfield: 6%	CapitalLand: 97%	CBRE GI: 9%
Deutsche AM: 7%	Gaw: 61%	GLP: 39%
Hines: 3%	Invesco: 9%	LaSalle: 13%
M&G: 6%	Mapletree: 93%	Morgan Stanley: 4%
PGIM: 6%	Principal: 4%	Prologis: 21%
Savills: 12%	TH RE: 2%	Tishman Speyer: 9%
UBS: 19%	Union: 4%	

Source: I & P RE (2017)

This has resulted in a dynamic real estate investment landscape in Asia, comprising both international players and local Asian players in real estate fund management (see Table 5). This has also seen major real estate institutional investors (e.g.: GIC, ADIA, APG, CIC, CPPIB, CalPERS, NPS) actively involved in global real estate investment (see Table 6); including in the Asia-Pacific region. Importantly, many of these major real estate institutional investors are in Asia and include Asian pension funds, sovereign wealth funds and insurance companies (see Table 6). In recent years, they have sought to grow and diversify their property portfolios both locally and internationally, with extensive real estate cross-border capital outflows.

Using the Real Capital Analytics (RCA) database of over \$9 trillion in global real estate transactions, this paper assesses the increasingly important role of major real estate institutional investors in Asia in expanding their global real estate portfolios by investing internationally.

Strategies and channels for acquiring this global real estate exposure using this outbound real estate capital over 2015-2017 are also highlighted.

Table 5: Major Asia-Pacific real estate players: fund managers

• International players		
- Blackstone	- Carlyle	- LaSalle
- CBRE GI	- Aetos	- Invesco
• Local players		
- Fortress	- Gaw	- Red Fort
- Macquarie	- CapitaLand	- Mapletree
- Global Logistics Property		

Table 6: Major real estate institutional investors

• ADIA • Allianz • APG • CPPIB • CalPERS • PGGM • OTPP • National Pension Service • GIC • China Life	• CIC • Anbang • HK Monetary Authority • Samsung Life Insurance • EPF • Temasek • Cathay Life • PingAn
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Source: I & P RE (2017)

2. METHODOLOGY

Much of the earlier research regarding Asian real estate markets has involved Asian REITs / property companies (e.g.: Liow and Adair, 2009; Liow and Newell, 2012; Newell and Osmadi, 2009; Newell and Peng, 2012; Newell et al, 2015; Peng and Newell, 2012). This paper specifically draws upon global commercial property transactions assessed over the period 2007–2017 using the Real Capital Analytics (RCA) database. RCA is an independent US-based property research organisation which tracks the sale of commercial property and development sites valued at a minimum transaction of \$10 million. RCA currently collects data for over 75 countries in the Americas, Europe, Middle East and Africa (EMEA) and Asia-Pacific. To ensure data integrity and comprehensive reliable information, RCA tracks transactions via published reports, public filings, industry relationships and leading data partners in specific markets, making the database the largest and most comprehensive available and one that is used extensively by major institutional property investors and the research community. Over the full period of 2007-2017, over 300,000 transactions at \$9.8 trillion are the basis for the property transactions in this RCA database. Only commercial transactions over 2015-2017 are assessed in this paper. Only Asian real estate players are considered (excluding Australia and New Zealand real estate players).

RCA data has been utilised in a number of other studies and is increasingly recognised in research circles as the leading database in the real estate transaction space. To illustrate the diversity of research that has employed RCA data, examples include transaction activity during the GFC in Asia (Newell and Razali, 2009), cross-border investment flows into European real estate (Newell et al, 2010), investment transactions in the retail sector in major Australian capital cities (McGreal and Kupke, 2014), capital market flows into Australian commercial real estate (Newell et al, 2013), global investment activity in the hotel sector (Newell and McGreal, 2015) and an analysis of global development sites (Newell and McGreal, 2017). Hence the adoption of the RCA database for this study, given its depth, coverage of real estate transactions, its global dimension, robustness and reliability that can be placed on the data.

3. DRIVERS AND RISK FACTORS

Drivers

Key drivers have seen international property becoming an increasingly important feature in the real estate portfolios of many Asian institutional investors (see Table 7). A critical factor has been the liberalisation of regulations in specific Asian countries (e.g.: China, Taiwan, South Korea); both in terms of allowing international real estate investment and improving procedures for international real estate investing. This has seen early adopters use a range of strategies to achieve this international property exposure (e.g.: channels, sectors, markets, asset versus portfolio, international linkages), with various Asian institutional real estate investors seen as exemplars or champions in the international real estate investment space (e.g.: GIC, NPS, EPF, Temasek, CIC, Anbang).

Table 7: Specific drivers for international real estate investment by Asia RE players

• Liberalisation of regulations		
- China	- Taiwan	- South Korea
• Low government bond yields		
• Higher risk-adjusted returns @ RE		
• Under-weight in RE		
• Pension fund, insurance co.: supportive reforms		
• Ageing population, demographics		
- mismatch regarding assets / liabilities		
• Early adopters versus new entrants: strategies		
• Exemplars, champions		

Risk factors and challenges

However, there are also risk factors and challenges for international real estate investing by Asian institutional players (see Table 8). Lack of experience and internal capacity in international real estate investing sees a significant reliance on real estate advisory players (e.g.: JLL, CBRE etc.) and real estate fund managers, although this internal skills base has improved considerably in recent years with high quality in-house teams established; in many cases, using different channels for their international real estate exposure (e.g.: direct, indirect). Changes to capital outflow controls and regulations can also have a significant impact on long-term real estate strategies. The August 2017 restrictions on capital outflows by China for Chinese investors will have a significant impact on reduced international capital flows into international real estate by Chinese players going forward.

Table 8 : Asia real estate investors: risk factors and challenges for international RE investing

- Lack of previous global RE exposure
 - Lack of internal capacity and expertise; improving
-
- Lack of local knowledge @ international markets
 - Regulatory hurdles; approval process
 - Capital outflow controls; changes
 - Currency risk
 - Tax considerations
 - Competition with other international investors
 - Shortage of quality assets: Asia
 - Strategies: different channels
-

4. INTERNATIONAL REAL ESTATE INVESTMENT: 2015: ASIAN PLAYERS

Figure 2 highlights the global real estate capital flows in 2015 (RCA, 2016). The top 10 real estate buyers globally (local and international) in 2015 are given in Table 9, with Asian players accounting for 4 of the top 10 players in 2015. The critical element now needed is to identify the role of these Asian players in the international cross-border space, as distinct from their domestic real estate investment roles.

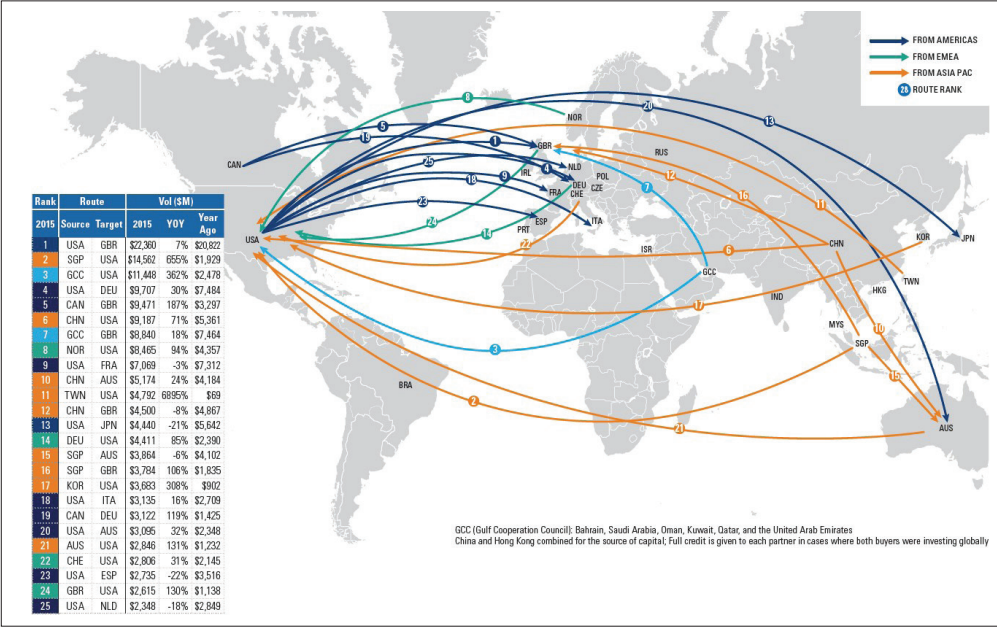


Figure 2: 2015 global RE trade routes: cross-border
Source: RCA (2016)

Table 9: 2015: Top RE buyers globally

- #1: Blackstone
- #2: Lone Star
- #3: QIA
- #4: GLP
- #5: GIC
- #6: Caisse de Depot
- #7: China Poly
- #8: China Resources
- #9: NBIM
- #10: ADIA

Table 10 highlights the significant role that Asian real estate investors played in the various regions, with the top 5 players identified. While Asian investors dominated the Asia-Pacific region (5/5) with their domestic and pan-Asia real estate investment strategies, they were also leading players in the Americas, accounting for 2 of the top 5 investors (e.g.: GLP, GIC). Asian investors also figured prominently amongst the top real estate transactions in 2015 (at both the individual property and portfolio levels) (see Table 11); particularly Anbang, GIC and GLP. With \$50 billion in international real estate investment in 2015, this built on the \$36 billion in international real estate cross-border capital flows from Asia in 2014. Table 12 details the top 25 global cross-border real estate buyers from Asia in 2015, reflecting significant international exposure across the regions i.e.: Americas (\$35.7B; 72%), EMEA (\$10.6B; 21%) and Australia (\$3.2B; 6%).

Table 10: 2015: Top RE buyers globally (by region)

Americas	Asia-Pacific	EMEA
#2: GLP	#1: China Poly	Asia: 0/5
#3: GIC	#2: China Resources	
	#3: China Vanke	
Asia: 2/5	#4: Greenland	
	#5: Evergrande	
	Asia: 5/5	

Table 11: Top RE transactions globally: 2015

Individual properties:

#4: Anbang: NY: hotel

Portfolio:

#1: GIC/GLP: US: industrial

#7: GLP/ China Life: US: industrial

Table 12: Top 25 global cross-border RE buyers from Asia: 2015

Investor	(\$M)
Global Logistic Properties	\$12,601
GIC	\$10,145
China Life	\$4,558
China Investment Corp	\$2,401
Anbang	\$2,364
Gaw Capital	\$1,640
Temasek	\$1,615
Mirae Asset Financial	\$1,552
Shanghai Jinjiang Int'l Hotels	\$1,458
Mapletree	\$948
EPF	\$942
Central Group	\$904
Cathay Financial	\$868
Lotte Group	\$850
China Taiping Insurance	\$820
A-REIT	\$776
China Nat'l Travel Serv	\$625
Unizo	\$622
Bank of China	\$600
China Oceanwide	\$593
Andrew Tan	\$590
Ping An Insurance	\$553
NTT Urban Development	\$520
SAFE	\$517
Kuafu Properties	\$506

5. INTERNATIONAL REAL ESTATE INVESTMENT: 2016: ASIAN PLAYERS

2016 was an even more dynamic and significant global real estate capital flows context (see Figure 3) (RCA, 2017). Table 13 identifies the top 10 real estate buyers globally (local and international) in 2016, with 2 of the top 10 players being from Asia (i.e.: Anbang, CIC).

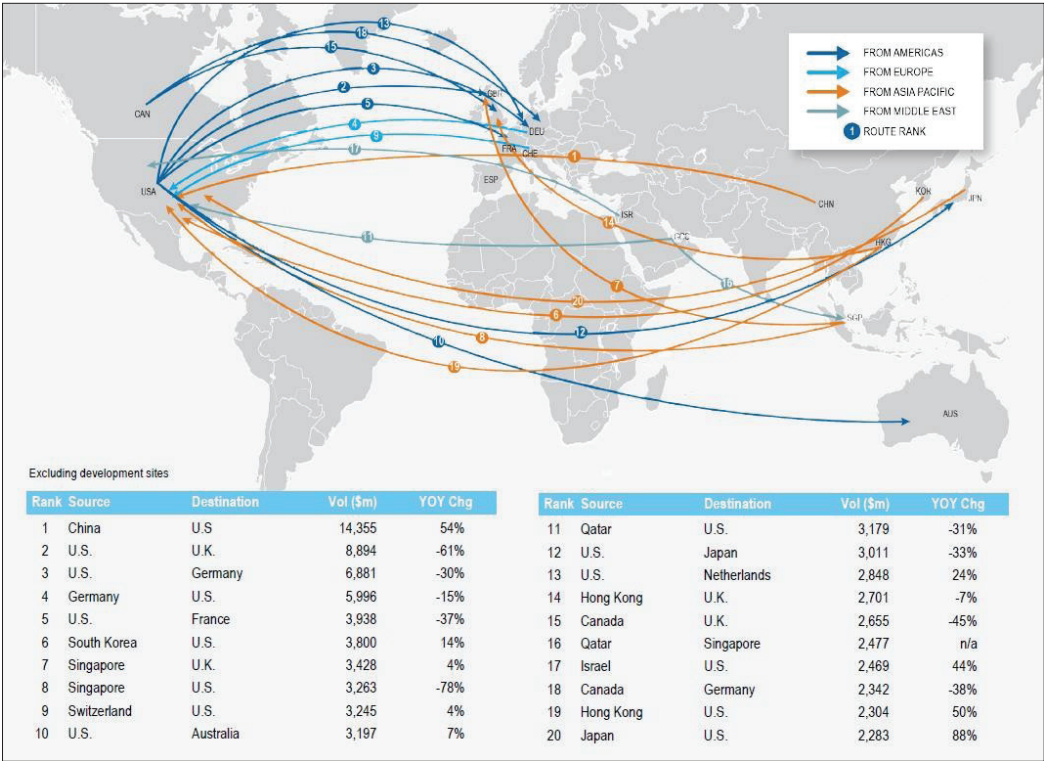


Figure 3: 2016 global RE trade routes: cross-border
Source: RCA (2017)

Table 13: 2016: Top RE buyers globally

- #1: Blackstone
- #2: Brookfield
- #3: Starwood
- #4: CBRE Global
- #5: Merlin
- #6: Anbang
- #7: Invesco
- #8: QIA
- #9: CIC
- #10: PGIM

Table 14 highlights the significant role that Asian real estate investors played in the various regions, with the top 5 players identified. In the Americas, Anbang was #3, seeing one of the top 5 investors being from Asia. Asian investors also figured prominently amongst the leading individual properties and property portfolio deals in 2016 (see Table 15); seeing \$60 billion in cross-border real estate investment in 2016; across the various regions (see Table 16). The leading sources of capital for this \$60 billion in cross-border real estate investment were China (\$28 billion) and Singapore (\$12 billion) (see Table 17). The 2016 level of \$60 billion exceeded the 2015 level of \$50 billion in cross-border real estate investments by Asian investors.

Table 14: 2016: Top RE buyers globally (by region)

Americas	Asia-Pacific	EMEA
#3: Anbang	#1: ARA	Asia: 0/5
Asia: 1/5	#2: China Vanke	
	Asia: 2/5	

Table 15: 2016: Top RE transactions globally

Individual properties:

#1: ARA/China Life: Shanghai: office
#6: Evergrande: HK: office
#8: Everbright: HK: office
#10: HKMA: New York: office

Portfolio:

#2: Anbang: US: hotel
#10: GIC: Europe: industrial, office

Table 16: Asia: outbound real estate investment capital flows: 2016

Americas	\$25.5B
@ 43% EMEA	\$16.2B
@ 27% Asia-Pacific	\$18.4B
@ 30% Total outbound	\$60B

Source: CBRE (2017)

Table 17: Asia: outbound real estate investment sources of capital: 2016: \$60 billion

China: \$28B:

- office
- hotel

Singapore: \$12B

- office
- industrial

Hong Kong: \$8B

South Korea: \$7B

Japan: \$3B

Source: CBRE (2017)

6. INTERNATIONAL REAL ESTATE INVESTMENT: Q1-Q3 2017: ASIAN PLAYERS

For Q1-Q3:2017, GIC was represented in the top 10 global real estate buyers (see Table 18). At a cross-border level, GIC was the #2 player investing in the US (see Table 19), as well as at individual transaction and portfolio. Asian real estate players figuring prominently transaction levels see Table 20.

Table 18: Q1-Q3 2017: Top RE buyers globally

#1: Blackstone

#2: GIC

#3: CBRE Global

#4: Regency Centres

#5: AREIM

#6: Starwood

#7: Greystar

#8: AXA

#9: Digital Realty

#10: APG

Table 19: Q1-Q3 2017: Top RE buyers globally (by region)

Americas	Asia-Pacific	EMEA
#2: GIC	#1: IGIS	
	#2: Anbang	
	#3: YanGo	
	#4: NTUC Income	
	#5: NTUC FairPrice	

Table 20: Q1-Q3 2017: Top RE transactions globally

Individual properties:

#2: NTUC: Singapore: retail

#4: GIC: NY: office

#6: Gaw: Yokohama: office

Portfolio:

CIC: Logisor: logistics

7. INTERNATIONAL REAL ESTATE INVESTMENT: CHANNELS

While direct real estate investment was the preferred strategy to obtain this cross-border real estate exposure by the Asian real estate investors, separate accounts and non-listed real estate funds were also used as effective real estate investment channels. Table 21 details major examples of these different real estate investment channels used over 2012-2015 (CBRE, 2015). This reflects a range of strategies used to obtain exposure to both the mature and emerging real estate markets, for investors in Singapore, China and South Korea in the mature markets and emerging markets (e.g.: Brazil, China).

Table 21: Asia real estate investors: property funds investment in real estate: major examples

Investor	Invested fund	Vintage	Invested market	Committed (US\$ mn)
Singapore SWF Fund	Exeter/GIC Europe-Focused Logistics Partnership	2015	Europe logistics	320
South Korea Pension Fund	European Property - Separate Account II	2014	Europe	400
South Korea Pension Fund	Separate account	2014	Asia Pacific	400
South Korea Pension Fund	Invesco Real Estate Fund III	2013	United States	150
South Korea SWF	China Logistics Fund I	2013	China logistics	n.a.
South Korea Insurance Company	AXA Ropemaker Place Club Fund	2013	Office in London	n.a.
Australia SWF	Mershire Multifamily Value Fund III Co-Investment Fund	2013	United States	300
China SWF	GLP Japan Income Partners I	2012	Japan	183
China SWF	GLP Brazil Income Partners I	2012	Brazil	n.a.
South Korea Pension Fund	Tishman Speyer Brazil Fund III	2012	Brazil	200

Source: CBRE (2015)

8. INTERNATIONAL REAL ESTATE INVESTMENT: EXAMPLES: BY LEADING ASIAN PLAYERS

To highlight the stature of these international real estate investments by Asian players, Figures 4-5 give specific examples of various major cross-border real estate investments. In particular, Figure 4 highlights some of the EPF London acquisitions (some of which have been subsequently sold by EPF). Figure 5 highlights examples by Anbang (New York hotel), Ping An (London office) and Samsung SRA (London office) in obtaining cross-border real estate exposure by leading institutional investors from China and South Korea.

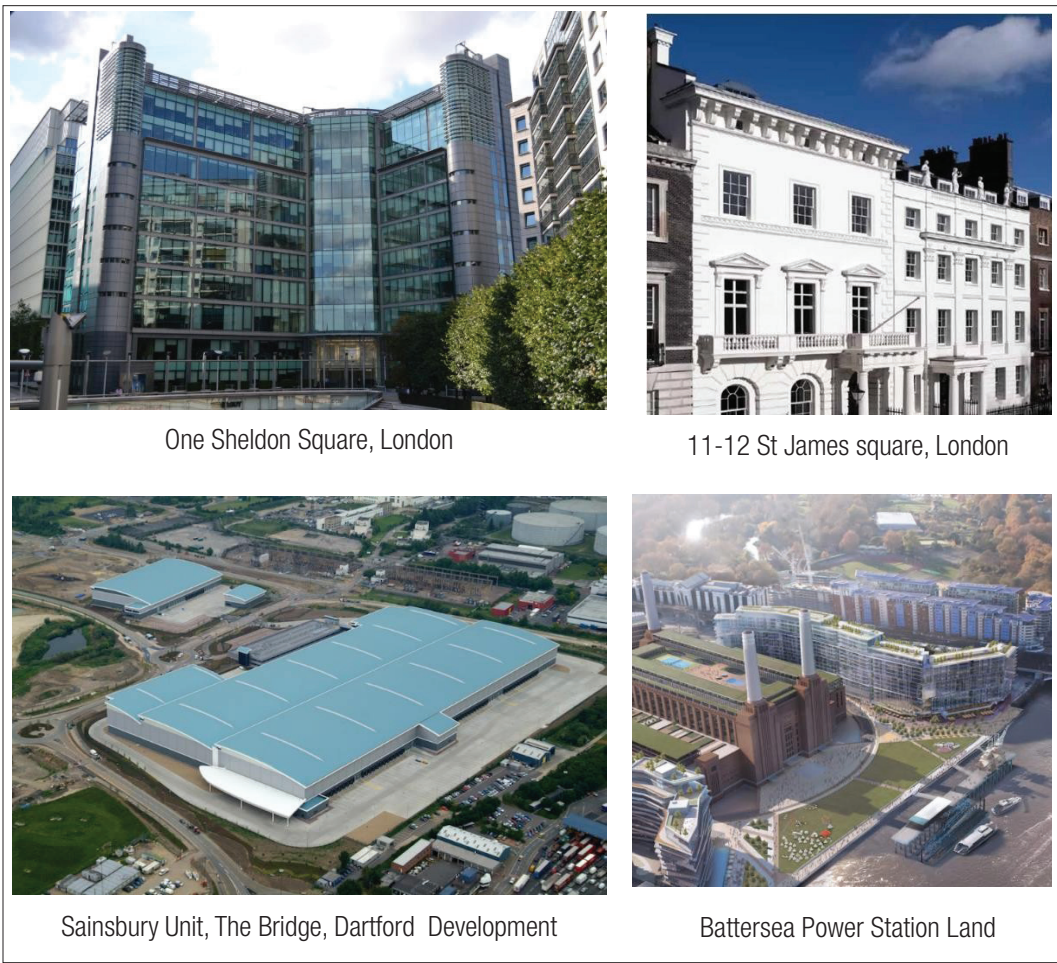


Figure 4: EPF cross-border London acquisitions



Anbang: Waldorf Astoria Hotel, New York



Samsung: 30 Crown Place, London



Ping An: Lloyd's Building, London

Figure 5: Recent major Asia cross-border real estate acquisitions: New York and London

8. CROSS-BORDER REAL ESTATE INVESTMENT IMPLICATIONS

This paper has clearly highlighted the increasing role of Asian institutional real estate investors in the cross-border global real estate investment landscape. This has seen over \$150 billion invested in cross-border real estate investments by Asian players over 2014-2016, from a range of Asian pension funds, sovereign wealth funds and insurance companies. In particular, a range of real estate investment channels have been used by these major Asian players to effectively achieve this global cross-border real estate exposure, including direct real estate, separate accounts and real estate funds.

Whilst China's revised overseas investment policy in August 2017 will see major restrictions in the ability of Chinese real estate investors to further expand their off-shore real estate portfolios, this area of cross-border real estate investment is expected to continue to be a significant element of the global real estate investment landscape for real estate investors from a wide range of Asian countries. A potential significant future role in this cross-border space by the large Japanese pension funds (e.g.: GPIF etc.) is anticipated, as they expand their commitment to real estate investment in both local and international real estate markets. Further sophistication in these cross-border real estate investment channels are also expected as the Asian players increase their real estate investment exposure and understanding of the global real estate markets.

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