

A critical examination of property valuation variance in Dubai

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In loving memory of Dad

My hero and devoted father - you taught me the value of time, love and family

ABSTRACT

This research investigates the extent and possible causes of property valuation variance in Dubai (United Arab Emirates). It complements the wide body of academic research examining valuation in new global markets. A literature review was undertaken and two questionnaire surveys circulated to local commercial property valuers. The surveys revealed that valuers in Dubai are on par with variance observed in other international case studies. The surveys found the main cause of variance to be a result of information efficiency; including sparse transactional evidence; wide yield assumptions; and a lack of standardisation in key areas of the valuation process. Individual client behavioural influences were also pertinent in the cause of valuation variance. An exam-based analysis of postgraduate real estate valuation students also highlighted a number of critical observations relating to variance and valuation methodology. The research, through an industry focus group, recommends a range of solutions to manage variance. Greater market transparency through the pooling of property data and more detail within transactional evidence would ensure more consistent valuation advice. It is expected with an improvement in temporal data the local valuation profession will be better informed and client pressure exerted when finalising the valuation figure will subside. This new research is a useful starting point to expand the range of global studies in property valuation. In addition, the findings undoubtedly assist in improving valuation practices in Dubai and wider GCC/Middle Eastern markets.

DEDICATION

It is only in the presence of hindsight that we see things with enough clarity to appreciate why things have happened; to understand how things have happened and to truly appreciate those that have helped us along the way. The next few lines are my opportunity to thank those dearest to me.

I would not be where I am today without the love support and guidance of my parents, Roger and Susan. You are my greatest teachers, words simply cannot express how much love, admiration and gratitude I have for you both. Your guiding hands will never be forgotten nor lost and I will continue to make you both proud.

To my loving wife, Dinna, who has supported me to always do better, showing contentment with who I am. Your positivity and strength is testament to how one can always strive forward and achieve greatness.

And last but not least, to my daughter, Lily, who starts her own journey. Your pages are yet to be written...

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I would like to thank local industry practitioners who assisted greatly in the completion of this research and to all those who spent time contributing to the survey work contained within this report.

DECLARATION STATEMENT

Research Thesis Submission



A critical examination of property valuation variance in Dubai

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Declaration

In accordance with the appropriate regulations I hereby submit my thesis and I declare that:

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- 2) where appropriate, I have made acknowledgement of the work of others and have made reference to work carried out in collaboration with other persons
- 3) the thesis is the correct version of the thesis for submission and is the same version as any electronic versions submitted*.
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CHAPTER 1 – INTRODUCTION

Valuation approaches and their reliability in Dubai have been discussed extensively but never empirically tested. As opposed to developed markets, Dubai's real estate industry has a very limited range of academic studies. This first chapter provides a general overview of the research that has been undertaken in the study of property valuation variance, highlighting the relevance to evaluating the same topic in more global locations, particularly new or emerging markets. The study has chosen to examine valuation variance in Dubai as there is very limited academic research that has benchmarked the local valuation profession. At the same time Dubai has implemented a range of legislation surrounding the governance of property valuations. Therefore, a study that begins to examine the effectiveness of these new legislations is warranted. While evidence of the accepted range of valuation variances have been established in developed real estate markets, only a limited range of studies have investigated the same within developing or emerging markets, and no such studies have investigated the Middle East real estate markets. The chapter will progress onto discussing the theoretical base from which variance studies have evolved, ultimately offering support to the purpose of this research. The key research questions will also be defined alongside a brief description of the research methodologies used to answer each question. The chapter concludes by reiterating the significance of the study and how the findings are important to valuation practice in Dubai and the wider Middle Eastern markets. The chapter is finished by outlining the organisation of the thesis.

1.1 BACKGROUND

Variation and accuracy play a fundamental role in investor confidence and inward investment, particularly in relation to institutional investors. Commercial property valuation is an area of professional practice that entails the estimation of value (or most likely selling price) of property assets. The issues surrounding valuation accuracy; variance and consistency have therefore been the subject of an increasing amount of academic research, predominantly in developed markets, notably the UK, the USA and Australia. Over the last 30-40 years, a range of academic research papers have accepted that value ranges are a function of the uncertainty inherent in the valuation process. UK academic studies have highlighted the presence of inaccuracy in property valuations (Hager and Lord (1985)), alongside more recent empirical studies by Matysiak and

Wang (1995); IPD (1988 onwards) and Crosby (2000) supporting the accuracy of valuations. Progressively more has been done to examine individual attributes contributing to valuation variability (Hutchinson *et.al.* 1996), with equivalent studies taking place across Australia, Europe and the US.

There have been increasing criticisms of the ability of emerging or new economies to undertake property valuations in an reliable and accurate manner (for instance: Brazil; Ghana; Jamaica; and Nigeria). Studies in these countries have found that there is a wide variance of valuation estimates from the sale prices and concluded that independent or regulatory authorities should ensure that variance in valuation is minimised, by way of providing a historical databank to provide unambiguous records of property transactions. Other envisaged consequences of unchecked inaccuracy and inconsistency include (Aluko (2004)):

- Limitations on property performance analysis as a consequence of valuation uncertainty may reduce investment demand;
- Lack of professional relevance of the valuer and if valuations can be highly variable, the client may question why a valuation is necessary at all;
- Inability to provide credible professional advice on the assumption that valuations are a good proxy for prices; and
- Lack of confidence imposed on the property market if valuations are highly variable.

Unlike developed markets, emerging real estate markets have had limited academic attention. A number of academic benchmarking studies related to assessing valuation accuracy and variance have been carried out in Asia and Africa, but none to date within the Middle East region. While the Middle East remains a relatively small investment market from a global perspective, industry commentary does note its future growth potential (CBRE, 2017). A main area of investment focus has been the United Arab Emirates, notably Dubai since legislation in 2002 allowed foreign ownership. The emergence of new, indirect REIT investments in Dubai are also likely to see international investment levels increase further. Such changes in ownership patterns, particularly in relation to emerging markets, will mean local governance and

professional standards need to meet international client expectations. At the forefront of these, valuation standards are most critical, as new investment flows will largely be bound by the confidence institutions have in property valuations. Market participants and professionals may also be unaware of anomalies that affect the valuer's opinion in Dubai and so there is significant benefit from empirically testing local valuation practices.

The internationalisation of property standards has been a focus on the professional agenda over the last 15 years, partly driven by a similar globalisation of financial reporting, international accounting standards, and increased volumes of international trade in real estate assets¹. Valuation and measurement standards in the UK are regulated to a large extent by the Royal Institution of Chartered Surveyors (RICS). The RICS as a professional body is able to: ensure accountability; establish education and training requirements; set standards; impose disciplinary procedures; as well as regularly publish a variety of guidance notes and professional standards ('The Red Book'). Therefore, in markets like the UK there is a high level of consistency expected amongst the value assessments undertaken by different valuers. However, in new markets like Dubai there is a multitude of disciplines working within the sector, often coming from non-cognate disciplines like engineering, enabling different standards applied to commercial property valuations. Furthermore, a high percentage of working expatriates means the valuation industry, like other business and financial sectors is made up of a diverse range of professional training backgrounds. This diversity in a valuer's professional background makes Dubai a very interesting case study location to examine valuation practices and measure its consistency, through the study of valuation variance.

The sustainability of real estate investment and market maturity in Dubai has been highlighted above, in part, to the development of standard valuation practices. Many emerging markets are stereotyped as suffering from valuation inaccuracies. Price Waterhouse Coopers (2012) reports that a lack of consensus on valuations is one of the main reasons for transactions falling in many emerging markets. In relation to Dubai,

¹ *The growing emergence of institutional owners, such as REITs, pension funds, foreign institutions and other financial entities*

more benchmarking is needed before such statements can be validated. Anecdotal evidence points to the lack of reliable property market information as the major challenge to valuation variance. However, it would be prudent to undertake rigorous analysis that will report on the variance of valuations and to compare this with other international markets. Studies of this nature would also allow policies to be formed to improve practice in local markets. The findings of this new research are likely to support movements to improve market maturity and valuation services in Dubai.

In order to evaluate variance, the findings will be analysed against a wide range of international research that has defined a range of mean variance. In addition, the research will look to examine the cause of variance. This new research is a useful starting point to expand the range of global studies in property valuation. In addition, the findings undoubtedly assist in improving valuation practices in Dubai and the wider GCC markets. With an increasing global research effort working towards better understanding valuation variance, more recent works have focussed on the impact of client influence. This research is well positioned to add new information to these debates. It will strengthen the academic and professional understanding of valuation variance in emerging economies, of which little work has been carried out to date. This research will add value to both property professionals, regulators and clients of valuation work in Dubai and the Middle East region.

The next section moves on from these international observations to provide a theoretical overview of why valuation variance is a relevant study.

1.2 PROBLEM STATEMENT

Theoretical commentators of real estate valuation call it “*an art and not a science*” – a statement that implies that valuations are prone to erroneous application; are filled with a number of subjective assumptions and are heavily reliant upon skill and expertise. However, as markets have matured the quality and availability of property data has markedly improved. This has meant that there has been a greater level of scrutiny placed upon the valuation profession, especially during market downturns. Discussions regarding the speed to which values have been marked down; indices lagging the market; and the suitability of comparable evidence have all provided evidence that

questions whether there is enough market data to produce reliable valuations at recessionary time periods (or in opaque or thinly-traded markets). In relation to this, academic research has broadly been separated into two main types - that of examining valuation accuracy and that of examining valuation variance. Previous studies have defined valuation accuracy as:

“the ability of a valuation to correctly identify the target. If the valuation basis is market value, this is the ability of the valuer to identify the sale price of the property (or rent on letting if market rental value). In accuracy studies, this target is usually taken as a subsequent sale price transacted in the market place”

(Crosby, 2000: 131).

Whereas, valuation variance has been defined as:

“the variability of the value estimates... irrespective of their relationship to actual values - other words, intervaluer variability”

(Skitmore, 2007:13).

Valuation variance is a measure of consistency amongst a group or groups of valuers at a snapshot in time. This measure is therefore measuring how wide value estimates are at a particular point in time. Valuation accuracy is how close a valuation is to a subsequent sale price. Variance is therefore concerned with how one valuer’s opinion could differ from another at a particular point in time. A market that has large variance could also be considered as being volatile. Variance is the static assessment whilst accuracy is more temporal. It would be expected that in a fast-moving market (rising/falling rapidly), accuracy would be more volatile and as such this would have a knock-on impact on variance. If the new information was lagged or slow entering the market, it would be expected that the differences amongst valuers would be heightened in those subsequent periods, albeit mean-reverting in the long-run. Studies referencing ARCH models point to the same fact (Engle and Patton, 2000). In many other studies these two areas of analysis have been tackled interchangeably which can lead to confusion. This PhD research will look to examine only the variance of valuations and not accuracy. However error will be addressed as this does account for some variability between

different valuers. Property valuations are greatly exposed to sources of valuation error; be it through misunderstood definitions of what ‘market value’ is; the influence of client behaviour and bias; as well as inappropriate knowledge and understanding. Such factors increase the possibility of a greater level of variation and inconsistency in reporting. McAllister *et.al.* (2002) states that issues such as the nature of the property, variation in valuation techniques, the subjective interpretation of market information and information efficiency are prominent reasons for valuation variance or inaccuracy.

The RICS Red Book (2017) does highlight professional guidance for valuers to manage uncertainty under VPGA 10 ‘Valuation in markets susceptible to change: certainty and uncertainty’. Within this it states that variability should be expected within professional valuations:

“All valuations are professional opinions on a stated basis, coupled with any appropriate assumptions (or special assumptions). A valuation is not a fact it’s an opinion. The degree of subjectivity involved will inevitably vary from case to case.”

In relation to valuation variance, it might be an apparent to state that:

“there ought to be no reason why two or more valuers valuing the same interest in a property for the same purpose and at the same time should not arrive at the same (or similar) results if they make use of the same data and follow the same valuation approach.”

(Udo-Akogha (1985) cited in Ayedun *et al* (2012))

This body of research has therefore sought to examine consistency amongst valuers. It no longer considers the externalities of the valuation profession, but instead the professionalism of valuers, notably ethics and skills/education. However, academic studies over the last 30-40 years have begun to question the integrity of such a statement, with the emergence of more complex property investment markets in the 1990s being a catalyst for investigations into valuation accuracy and variance. For instance, Bretten and Wyatt (2002) found that valuers do not operate with perfect market knowledge and are faced with the challenging task of making subjective

assessment based upon the market's high degree of heterogeneity. In a broader understanding of valuation variance, market observers are in agreement that:

- All valuations are opinions, each holding a varying degree of subjectivity
- Uncertainties affect all properties however different uncertainties are determined by the individual characteristics of a property and its location
- With the reliance upon the comparable method in property valuations, data availability and information efficiency are paramount to the accuracy of real estate valuations
- In open and transparent markets one can gauge market value relatively straightforward with comparable evidence. In emerging markets this is more complex

In the case of valuation variation, a range of studies have concluded that variation exists (for example, Hager and Lord, 1985; Hutchinson *et.al.*, 1996; Brown and Matysiak, 2000; Crosby *et.al.*, 1998, 1999; Ogunba, 1997; Ogunba, 2003), while others (such as Brown, 1985; Mokrane, 2002) provide opposing evidence. The findings across studies of accuracy are equally indecisive. Some UK studies show inaccuracy exists (Brown, 1985; Cullen, 1994) whilst others reached consensus to suggest valuation estimates are adequately predicting prices (IPD, 1997; Matysiak and Wang, 1995; McAllister, 1995). Similar contradictions were found to exist in emerging countries, such as Nigeria (Ogunba, 1997; Ogunba and Ajayi, 1998; Aluko, 2000; Ojo, 2004). With such evidence presented, one may elude to the fact that the evolution of historic data and the establishment of a time-series, is the determinant of valuation accuracy, rather than any contradiction in the authors' findings.

Investigations of the legal context of property valuation variation indicate that judges have allowed up to $\pm 20\%$ following expert evidence from valuers. However in some instances, studies have suggested this range needs to be increased. In developed markets, Skitmore (2007) suggested that a $\pm 30\%$ variability range should be expected in commercial property valuations, rather than the $\pm 10\%$ range of earlier commentators (Brown *et. al.*, 1998). Whilst comparison between previous research results is not straightforward (different time periods, methodologies, sectors, and

locations), an evaluation of global studies and the development of new research is going to add depth to understanding the causes of variance. The impetus behind this research is to assess whether differences are to be expected in different countries, where there may be different approaches to valuation and different underlying processes (or levels of market transparency). In addition it provides an opportunity to start to build on some of the possibilities explained in past studies. Notably, the research has been extended to see the extent to which valuer's methods, research and professional experience control the valuation process and intra-valuer variability.

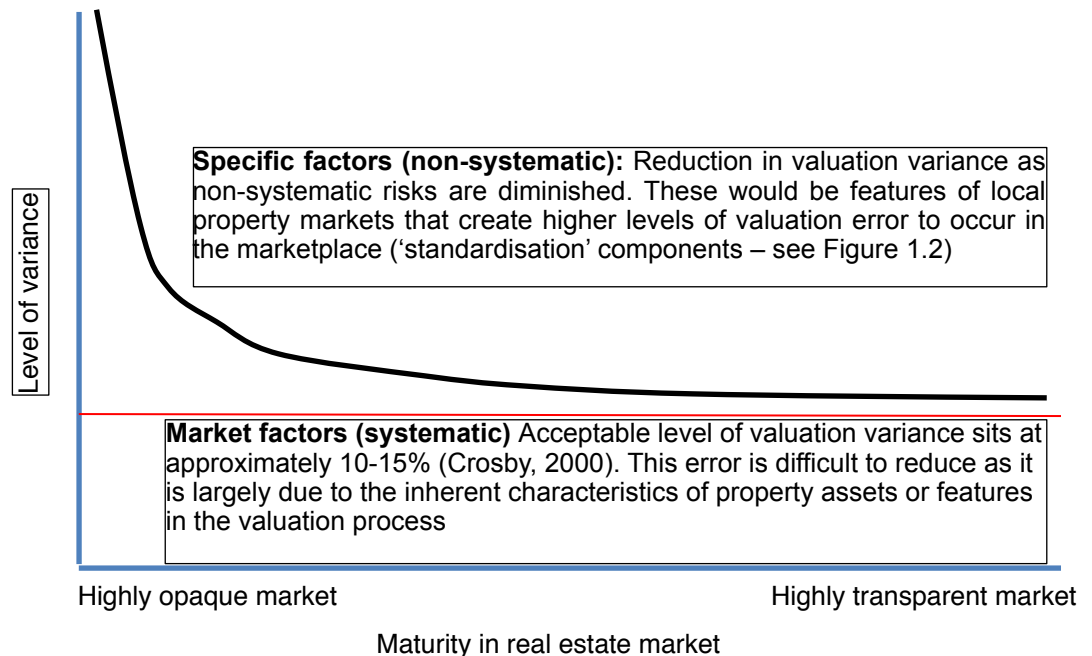
Within the aims of this study, benchmarking the levels of valuation variance in Dubai, will assist in the development of new regulation and improve the way in which the industry operates. The findings of the research will lead to a better understanding of valuation practices in a newly emerging global real estate market. It has important ramifications for valuers, lending institutions and will assist in building practices to attract new inward investment especially from long-term institutional investors.

1.3 CONCEPTUAL FRAMEWORK

This section will introduce the conceptual framework used for studying valuation variance, and highlights the core variables that appear part of the cause of variance and volatility (or standard deviation measures). Figure 1.1 puts forward the analytical framework that valuation variance (and error) is an inherent part of the property sector and the factors controlling valuation variance can be defined under 'non-systematic' factors and 'systematic' factors. Figure 1.1 highlights that the levels of valuation variance can be removed through a range of non-systematic factors. In essence the presence of such factors develops as the maturity of a country's real estate market also develops. However, there is a natural margin of variance (shown by the red line) that cannot be reduced due to the subjectivity of real estate valuations as well as determined by property asset characteristics (such as heterogeneity, time lags in market information). This margin may be referred to as systematic or non-specific risk, and is created by the general characteristics of property assets. These general factors will have an influence on the level of valuation variance on all property assets (to a varying degree, ranging from small for residential to much larger for more complex valuations, like hotels). This research claims that non-market risk for properties is a higher

proportion of total valuation variance than in other major asset markets. The latter is also a subject of market maturity for individual countries when looking at global comparisons of valuation variance.

Figure 1.1 Conceptual views on real estate valuation variance

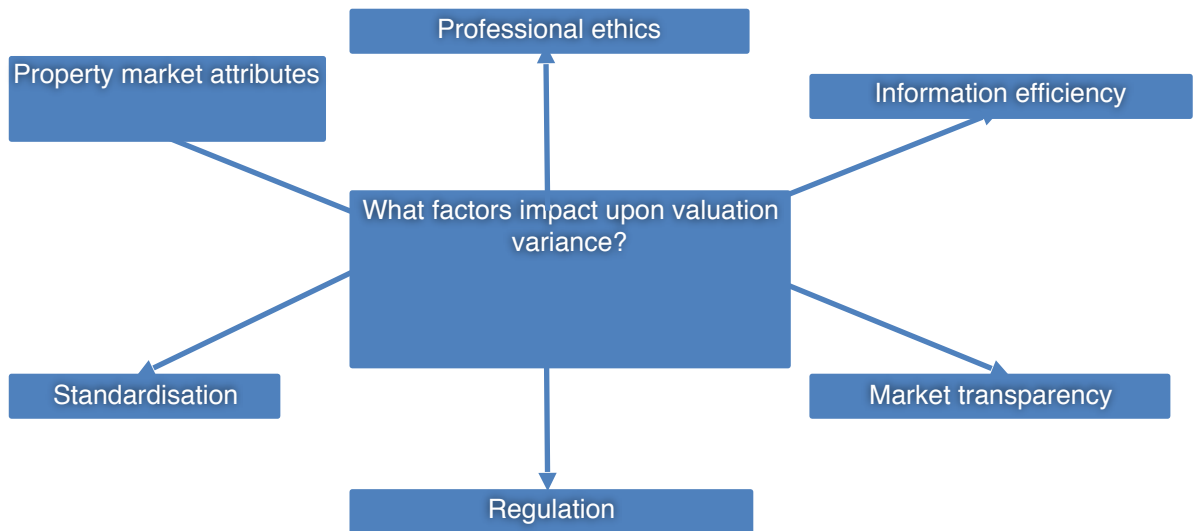


Source: Author's own

It is suggested that variance is shown to be somewhat dependant upon local variables such as the extent of available information; variability of local cycles and the heterogeneity of the stock itself (Dunse et.al. 2010) . Figure 1.2 goes on to highlight the broad categories of market factors and practices that may affect valuation variance. It is this framework that will be used to assess the context of Dubai's real estate sector, to which non-systematic factors are a greater source of valuation variance.

The next section will outline Dubai's real estate market and its established characteristics. This provides a backdrop to the research and precedes the development of the main research questions.

Figure 1.2 What Affects Valuation Variance in Commercial Real Estate?



Source: Author's own

1.4 DUBAI ECONOMY AND REAL ESTATE MARKET

The United Arab Emirates (UAE) is considered to be a leading and significantly developed economy within the Arab Gulf. While there is still some dependence upon an oil-based economy, the UAE has been making huge investments in the tourism, financial and construction sectors. In 2017, Dubai government statistics showed that oil-based activities accounted for 16.7% of national output, while wholesale/trade for 12.8%, construction and building activities for 10.3%, financial services activities amounted to 10.1% and the transformative industries activities by 9.5%, approximately. Total non-oil based economic activity as a proportion of total output has steadily increased over the last 5 years from 61% in 2012 to 83% in 2016.

Dubai (as one of the seven Emirates of the UAE) is a relatively young city in global terms. That said, there has been remarkable growth over the past 40 years in terms of its population, growing from 370,000 in 1975 to over 2 million in 2014. Jones Lang LaSalle's City Momentum Index (CMI) has also ranked Dubai as the world's third-most dynamic city, taking note of its strategic global location, calling it "*the crossroads of Europe, Central Asia, South Asia and Africa...with more than two-thirds of the world's population living within an 8-hour flight time.*"

Dubai's economy and regulation of private sector activities has been kept to a minimum, aided by nil taxation on corporate profits or personal income. Furthermore, a US Dollar denominated currency (pegged at US\$1.00=AED 3.678) and liberal visa policies has attracted investment and skilled labour from across the globe. In terms of its real estate market, Dubai has increasingly become a leading destination of global investment since 2002 when it opened its real estate investment borders to foreign ownership structures (Matly and Dillon (2007); Hvidt (2009)). Attractive investment yields supported by high salaried expatriate populations and open trade as well as no/low tax environment has driven investor interest in both residential and commercial real estate. This is in spite of the wider challenges of political instability across the Middle East geographical region. This recent upswing in global investment interest has been attributed to both openness of the economy and liberal controls on capital flows (World Economic Forum, 2015). The concept of nation building and government investment in key infrastructure has also boosted the local real estate market and wider economy.

In 2014 the IMF made considerable effort to warn Dubai of an overheating real estate market, recommending a series of policies to soften the high inflationary price and rental values being observed between 2012 and 2014. However the impact of hosting the forthcoming World Expo in 2020 will see GDP growth forecasts increase as government spending in infrastructure is ramped up over the next 5 years. Since 2002, Dubai has operated a free zone investment policy with freehold ownership rights related to real estate in selected areas of the city. Any transfer of ownership deeds need to be registered with the Dubai Lands Department and are subject to a transfer fee of 4% (payment depending upon negotiation between parties). Leases are governed by a series of legislation, namely in relation to the security of tenure and rental increases. Currently, both commercial and residential leases are governed by the same legislation. Commercial lease agreements are usually in the range of 1-3 years (certainly less than 5 years) and are considered tenant friendly in relation to automatic rights to lease renewal and clear guidance on how landlords are able to vacate their premises. Rent for lease extension or renewal is negotiable and a rental disputes committee is available if parties cannot agree. The Real Estate Regulatory Authority (RERA) rental index also governs clear guidelines on how much the rent can be increased by relevance to the location and

current passing rent. If parties fail to follow these guidelines, again, a dispute committee is available to ensure compliance. Rental caps are based on the tenant's previous rent versus that of average properties in same locations (as per the RERA index) The rental increase laws are summarised as 10% or less than the average similar rent - landlord cannot increase the rent; 11-20% less than the average similar rent - landlord can increase by 5%; 21-30% less than the average similar rent - landlord can increase by 10%; 31-40% less than the average similar rent - landlord can increase by 15%; and over 40% less than the average similar rent - a increase of 20% is allowed. To exercise this a 90-day notice period must be given prior to the expiration of the lease term. Leasing of commercial spaces is subject to the same tenancy laws as residential assets, however pricing is typically expressed on a per sq. ft. basis and not a fixed annual sum. In addition, a commercial lease may include the rental increases for the entire term - appears as a fixed %, so if the term was 5 years the lease may outline an annual increase of 5% per annum. Tenancy Laws (Law 26 of 2007, as amended by Law 33 of 2008) offers parties clear guidance on what is required for a lease to be valid and enforceable and also stipulates for the governance and for rights to dispute committees all leases by be registered on Ejari.

The development of real estate legislation in Dubai was pronounced between 2002 and 2010. Following the creation of Dubai's RERA in 2007, the market has seen it playing an increasingly public and crucial role in developing and supervising Dubai's real estate regulatory framework. These legislative developments were initially for financial institutions related to a registration of lender's pre-mortgage interests and were extended to cover loan-to-value lending criteria; landlord and tenant responsibilities as well as the enhancement of valuation practices.

Despite such positive statements, the Dubai real estate is relatively new and immature having witnessed its first significant real estate cycle over the last 8 years. Table 1.1 illustrates the volatility experienced during Dubai's first property cycle. Whilst all sectors of the local market experienced volatility, the residential sector has perhaps dominated local media and industry commentaries.

The World Economic Forum (2015) attributed Dubai’s real estate volatility to a lack of transparency stating that:

“...lenders and investors faced a lack of accurate market data on which to base their decisions. This dearth of information on supply, take-up and pricing contributed to over investment in real estate in 2006-2008...despite improvements in transparency...it lags behind more mature global cities.”

Table 1.1 Overview of the Dubai Property Cycle

Date	Stage	% change in sale price	Market conditions
Jan. 06/Aug. 08	Rapid growth	+ 92	Excess liquidity and limited supply
Aug. 08/Jan.11	Correction	- 36	GFC and local debt crises
Jan.11/May.12	Stabilisation	+ 10	Gradual return of confidence
May.12/Aug.14	Rapid growth	+ 61	Market cooling after period of unsustainable growth

Source: Reidin, JLL (cited in World Economic Forum (2015))

Recent market data suggests that more stable market conditions now exist. At the macroeconomic level, this has been attributed to both better real estate regulation and funding restrictions across the industry (JLL, 2016). Accordingly, there has been a degree of certainty introduced that improves stability but also allow valuers a better chance of forward-looking market dynamics. For instance, RERA has enacted as law upon rental increases and security of tenure for tenants (Dubai Lands Department, 2018).

Although such commentary is encouraging, little academic research has been undertaken to examine Dubai and the dynamics of it’s local real estate profession. The role of valuation in global markets is vital to a stable economy (RICS, 2013). Valuations underpin much of a nation’s economic wealth as real estate typically accounts for as much as 75% of a nations GDP (World Bank, 2015). The data from valuation work

provides the basis for performance analysis, transactional and development advice as well as dispute resolution. Research into the consistency of property valuations will offer critical commentary that will safeguard future inward investment. Despite valuation variance and accuracy research in other international markets over the last 40 years, Dubai has not yet been the topic of such investigation. Whilst market analyses have examined Dubai in the context of global transparency of property data benchmarking (JLL, 2016), no studies have examined property valuation. This new PhD research will examine Dubai in the context of valuation variance, and build upon the international comparisons made by JLL on global data transparency.

1.5 RESEARCH QUESTIONS

The main focus of the research is to critically examine valuation variance (not accuracy) in Dubai's commercial real estate market. It will be aligned to previous international research. This research will involve an analysis of local valuation practice and procedures applied by local valuers. The main research question is posed as follows:

“Valuation variance is a direct function of market maturity and will it be greater in emerging economies, such as Dubai?”

The question assumes that the core factors shown in Figure 1.2: professional ethics; information efficiency; market transparency; regulation and standardisation are relevant areas of valuation practice that are linked to market maturity. For instance, a less mature market will have less transparent property data or less formal approaches to valuation methods. Therefore, the research will look to examine each of these factors and link the findings back to answer the main statement above. Furthermore, it is expected that variance can be exacerbated by behavioural aspects of the process, with client influence being a key externality. It is argued that if a market has less regulation; less transparency; less ethical legislation and such like, then the valuer's work is open to influence from the client. This is a new addition to most studies of variance and will also be explored in this study.

Therefore, in order to address the main question, the research will address a series of sub-questions. These include:

1. To what extent does valuation variance exist in Dubai's commercial property market ?
2. Is variance a direct function of market maturity (and its core components shown in Figure 1.2)?
3. To what extent does client influence have an impact on variance?

1.6 RESEARCH AIMS AND OBJECTIVES

The aim of this PhD study is to critically examine the level of valuation variance in Dubai's commercial property market, benchmarking it against a range of other international studies. The specific objectives of the research are to:

1. Examine the patterns of valuation variance that have been observed in Dubai and make comparisons to other international studies.
2. Evaluate the causes of variance in property investment valuations in Dubai
3. Define property market efficiency in relation to Dubai's commercial real estate market and implications for valuation variance
4. Expand recent international academic discussions on client influence introduced to the valuation process in a new geographical area

1.7 RESEARCH METHODOLOGY

In order to address these research objectives, a range of research methodologies were used. The mixed methods research approach allowed for the collection of both qualitative and quantitative data. While the research was separated into four stages of data collection, the quantitative data focussed on providing interpretations to measure valuation variance and qualitative enabled analysis of causal observations. The four stages of data collection include:

- Stage 1 research involved the collection of information via an online survey that picked up on the general factors that may be creating valuation variance in Dubai.
- Stage 2 focussed on the decision-making elements of the valuation processes, involving a series of case study experiments.
- Stage 3 analysed a sample of exam-based responses related to different valuation methodologies
- Stage 4 was a focus group and industry workshop to discuss key recommendations and validations related to the Stage 1 and 2 findings

From reviewing previous literature the research looked to separate the sampling strategy and research design into specific themes. These included:

- **Number of years of experience:** Variance as a result of the level of experience of the valuer. The sampling strategy will seek responses from new/trainee valuers (<2 years of local experience) and experienced valuers (>2 years of local experience);
- **Data availability/transparency:** Variance as a result of data availability. The sampling strategy included provisions to vary the level of information given to the sample groups as well as a requirement for respondents to provide information based upon their local knowledge
- **Professional regulation/qualification:** Variance as a result of professional association/regulation and/or applied methodologies. The sampling strategy will seek responses from both RICS qualified and non-RICS qualified valuers.

This new research investigates the extent to which valuation variance occurs in commercial property in Dubai. A literature review benchmarks the levels of valuation variance across a range of mature and emerging markets. The primary research investigates the presence of variance in commercial property valuations in Dubai and make comparisons with the literature analysis.

The use of hypothetical valuation instructions was required so that the research could stipulate what information was supplied to each participant, enabling cross-referencing

of the responses to match specific factors under investigation. For instance, the sampling strategy included provisions to inform one sample group that the respondent is to use a specific valuation method and a requirement for another sample group to select a suitable method based on their interpretation of the instruction. All respondents were also asked a series of supporting questions to provide some depth to understand their decision-making processes. As valuation variance is described as differences between valuations undertaken on identical property by valuers, variance was presented as a standard deviation from the mean. Further details of the research methods and techniques and how they relate to the research aims and analyses are in Chapter 5.

1.8 RESEARCH JUSTIFICATION

The suitability of professional regulation for valuers in Dubai has been the topic of extensive discussion since the Global Financial Crisis (GFC). A main performance indicator for the profession is the variation between different valuers qualified in the field. Internationally, the issues of variance and consistency between valuers has been well researched. However, limited academic studies exist on the same topic within Dubai or wider Middle East region. The significance of investigating such issues in a newly emerging market is important for multiple reasons. These include:

- Investor or client confidence is impacted upon and negative perceptions or expectations of valuation variance adversely impacts the relevance of the role of a valuer (as discussed by Waldy, 1997), implying that ‘professional advice’ is unwarranted
- Damaging to the confidence of a property market particularly that of international inward investors whom rely on valuations to be confident measures of what the market expectation is for tradable property assets.
- As stated by Havard (1995), “*prime roles of valuations are to act as price predictors or as an substitute for having to sell an asset*” and an investment market in real estate “*cannot operate unless reliable and accurate valuations are produced.*”

The reason why valuation variance was chosen to be the subject of this research and not valuation accuracy was largely due to the availability of market data that could be used

in accuracy studies. Valuation accuracy relates to the difference between a valuation of a property and its subsequent sales price. Thus, it is the exactness or otherwise of the valuation using the sales price as a reference point. Whereas, the subject matter of studying valuation variance, is considered more reasonable to establish. According to Crosby (2000), to examine variance, the basis of the valuations and the valuation instructions should be the same, which can be established more reasonably through experiment than that of valuation accuracy. It is for these reasons this PhD research has chosen to examine valuation variance as the initial study into Dubai's commercial real estate sector.

The survey work introduces a relatively unexplored part of academic research where participants are likely to be coming from a range of professional backgrounds. For example, in the UK many of the commercial valuers will be regulated by the RICS. In an international marketplace like Dubai one could expect this to be less likely and therefore the research will look to examine the level of variance as a consequence of different professional governance. To test this research question the survey will examine the decision making of commercial valuers who are RICS members and those who are not, yet might belong to a similar local or international professional body. In the circumstances of being a non-RICS member it stands that there would be a greater risk of arriving at a higher level of variance amongst commercial valuers.

By researching the details of valuation variance in a newly emerging market, it would facilitate the ability for various stakeholders to better align their expectations to a global international benchmark rather than ambiguous or uniformed values. Therefore, the implications of inaccuracy and variance in Dubai potentially could undermine the valuation profession, as well as the underlying property market itself. Without any rigorous benchmark studies on the topic, there is a danger that the repercussions of valuation variance or accuracy could halt progress towards new inward investment and development of maturity in the UAE's real estate market.

The research concludes by offering a range of working recommendations to improve any notable issues related to variance in Dubai's property valuations. It also allows the development of global research into the 'acceptable' and 'reasonable' margins given by

valuation professionals and will guide legal professionals towards what is and what should not be considered negligence. Research that is able to provide original observational analyses on valuation variance in Dubai will undoubtedly assist in relevant developments of future legislation and regulation in real estate valuations. Such progress enables investors and institutions alike to make more informed property investment decisions.

1.9 SCOPE OF THE STUDY

The scope of this study is defined in line with the research objectives stated above and limited to the mainstream commercial property market in Dubai (office, retail and industrial). The study therefore does not include in its analysis residential buildings nor specialist commercial premises (e.g. hotel, leisure). The rationale for focusing on commercial property rather than residential buildings is based upon the higher levels of subjectivity in residential valuations (noted through the comparable method of valuation). That said, future studies could potentially examine the variance between residential valuers.

1.10 OUTLINE OF THESIS

The outline of this study is summarised in Table 1.2 below and has been structured in a systematic order that addresses the earlier stated research objectives. Table 1.2 (overleaf) provides a clear layout of chapter headings; a summary of purpose; and how each chapter links to the stated objectives.

Table 1.2 Outline of the thesis

Outline of thesis	Purpose	Research objectives
Chapter 1: Introduction	Summary of research background; problem statement; research aims/objectives; methodology brief; justification and scope of study	
Chapter 2: Real estate market maturity and transparency	Analysis of market maturity and data transparency and how it may impact variance	3
Chapter 3: Theoretical definitions related to the study of valuation variance	Overview of key terminology and definitions used within the study of valuation variance (and error)	1,2
Chapter 4: International observations	Analysis of key findings from other international studies related to measuring valuation variance	1,2,4
Chapter 5: Research methodology	Overview of the research methods and techniques used to evaluate valuation variance	
Chapter 6: Analysis of commercial valuations in Dubai	Critique of commercial property valuations in Dubai based on market observations and survey responses	1,2,3,4
Chapter 7: Data analysis	Analysis of key findings from primary data collection	1,2,3,4
Chapter 8: Conclusions and further research	Synopsis of key findings and linkage to other international studies; linkages to further research and statement of research limitations	1,2,3,4

(Source: Author's own)

Within this first chapter a general overview of the study has been provided explaining: the research background; statement of purpose; research questions; aims and objectives; a synopsis of research methodology; research justification; and finally a scope of study. In order to evaluate valuation variance, the next three chapters will consist of a detailed analysis and literature review comprising of the following discussions:

- Chapter 2 ‘Real Estate Market Maturity and Transparency’ sets out an analytical framework from which this research can establish from grounded theory, information on property market maturity. This introductory chapter expects that immature markets are more prone to valuation variance (as highlighted in Figure

1.2) through a heightened range of imperfections. This chapter aims to highlight those areas of market maturity most prone to cause valuation variance.

- Chapter 3 Literature Review Part I ‘Theoretical definitions related to the study of valuation variance’ highlighting the main terminologies, processes and methodologies used in the valuation of commercial property globally. Specifically, the chapter explores the definitional issues around investment valuation, highlighting key areas such as yield assumptions and the measurement of risk. It also explores some relevant academic discussion on the advantages and disadvantages of existing valuation methods.
- Chapter 4 Literature Review Part II ‘International observations on valuation variance’ reviews the range of similar global studies into variance and quantifies the range of values from groups of valuers. The chapter enables the research to set out an academic review of work to then benchmark the primary survey work in relation to variance in Dubai’s commercial property sector.

The subsequent chapters relate to the primary research and fieldwork. Chapter 5 examines the choice of research methodologies used to evaluate valuation variance in Dubai. The mixed methods applied are explained to the reader and justified alongside important considerations related to the sample representativeness, management of research bias and ethical considerations. The data analysis in Chapter 6 and 7 takes the form of two key sections. Firstly, there will be an analysis of commercial valuations in Dubai to explain some of the key findings relating to the market maturity framework. The follow on chapter will explain the quantitative data from a range of valuation case experiments, both a postgraduate student survey and an industry questionnaire. Chapter 7 also looks to detail a range of quantitative statements and observations made from an initial industry questionnaire survey and the focus groups. Chapter 8 is the final chapter used to present the summary of key findings from across both the primary and secondary data analysis. It places these findings in the context of the international survey work from Chapter 4 and offers a range of recommendations and ideas for future research.

CHAPTER 2

REAL ESTATE MARKET MATURITY AND TRANSPARENCY

The main research question within this study is to assess the impact of market maturity on valuation variance. Therefore, it is important to define real estate market maturity and examine the body of academic literature that has assessed the role of maturity in other markets. This makes an analysis in Dubai consistent with those previous studies. The chapter will also discuss the impact of transparency on variance. These findings are predominantly drawn from the JLL global transparency index. The chapter ends with a summary on how the academic and practical literature on market maturity and transparency is likely to impact valuation variance in Dubai.

The impact of globalisation and international real estate investment has brought relevant debate regarding market maturity and global competitiveness. Many of the emerging economies of Asia, central Europe and the African nations have been examined as international investment in these countries becomes more attentive. A common theme amongst these studies is that emerging property markets are highly dependant upon global trends in terms of market developments; evolution and adaptation of best practices (Cohen and Galiniene, 2014). The market characteristics across these global locations are bound to differ, for example, in lease law, planning and regulatory processes of purchase and sale. Maturity therefore becomes a study of relativity and competitiveness (the ease of ‘doing business’). Whilst the concept of real estate market maturity was first established by Keogh and D’Arcy (1994), a range of similar global studies have followed suit (such as Lim 2000; Chin and Dent 2005). The common themes that have been established to signal market maturity include; data transparency; market information; sophisticated property professionalism; transactional demand; and a presence of foreign investment (Keogh and D’Arcy, 1999). Maturity is highly applicable to investor decision making. It is also highly applicable to the valuation profession, largely as the valuers’ role is to evaluate what investors ought to be doing. The examination of property market maturity in Dubai throughout this chapter will give an introductory commentary to the issues faced by commercial valuers. It provides an essential body of discussion as later chapters will go onto evaluate variance levels. This chapter is divided into three key sections. Section one reviews the theoretical concept of

maturity and defines its established criteria. These are used to provide a benchmark for evaluating maturity in the context of Dubai's commercial property market. Section two examines the characteristics of Dubai's commercial real estate market. It will assess how the concept might impact property professionals, more specifically valuers within this case study location. Section three sets out to define market maturity in Dubai. Having defined property market maturity, Section 4 concludes by examining how the level of maturity in Dubai is likely to impact real estate valuation. The chapter will conclude by analysing market maturity in Dubai as a key dependant variable of valuation variance within the study's aims and objectives.

2.1 THEORETICAL DISCUSSIONS ON PROPERTY MARKET MATURITY

A key observation from relevant studies on market maturity has been that property markets in different countries behave very differently. Furthermore, maturity of real estate markets are not determined by the passage of time (Loizou & French, 2012). Academic consensus shows that mature markets are those with modern legal structures and a wide product offering, both direct and indirect. According to Keogh and D'Arcy (1994), a mature property market has the ability to accommodate a full range of use and investment objectives, diversified investment mechanisms such as the formation of property unit trust or funds, the shares of publicly quoted property companies, and the securitisation of individual properties. Less developed markets often only provide direct options. Within this context, one of the most important determinants of maturity is the ability to accommodate the full range of use and investment objectives (Arvanitidis, 2014). Accordingly, a real estate market is considered to be mature to the extent that it has a wide range of possibilities for exchange through processes such as property trusts/funds and legal mechanisms for the securitisation of individual properties. For instance, in Dubai, investors are largely restricted to direct property and a limited range of indirect vehicles², albeit their presence does signal a sign towards maturity. Keogh and D'Arcy (1994) argue that "...social, political, legal and institutional characteristics influence market performance, and the operation of these forces are linked to the extent that a market has developed or matured." As the market matures then the operations of the market become increasingly effective. The process of emergence, development and

² *Emirates REIT and Abu Dhabi REIT*

maturity has been perceived as a sequential path (Seek, 1993). However, Armitage and Keogh (1996) criticise this approach because it implies the same common evolutionary path is followed by all markets. It fails to take account of the different forms that a market at a given level of development might take, which are described as developing rapidly but have very different institutional, legal and economic structures. They also stress that maturity should not be seen as a final end state as markets need to continuously evolve as the requirements and perceptions of users and investors change. Maturation may vary in duration and is in effect a heterogeneous process.

Keogh and D'Arcy (1994) define "market maturity" as a function of the following: the degree of diversification of user and investor opportunities; flexibility of adjustment of property interests; market openness; the existence of information and research systems; professionalisation, and standardisation of property rights and market practices. Their analysis points to the fact that a mature market is more open; has more available information and as such attracts a higher proportion of international participants. A range of academic studies have characterised market maturity and typically refer to one or more of the following attributes:

- Maturity is related to the broader evolution of market systems (Keogh and D'Arcy 1994)
- Maturity is not always improved by the passage of time, there are differences with the pace of evolution of markets
- Maturity is a relative process and its definition can be considered dynamic

Keogh and D'Arcy (1994) refer that mature markets are capable of overcoming problems of indivisibility in property transactions, thus widening the possibilities for exchange. Relevant examples include: shares in property companies; property trusts like REITs and the securitisation of individual properties. The authors also acknowledge the temporal short-run (user and investor objectives) and long-run adjustments (development). This suggests maturity has some relevance to its ability to be responsive and for it to "...*permit a flexible reaction to [development] opportunities in different market conditions.*" (Keogh and D'Arcy, 1994).

In order for a market to run efficiently there must be a free-flow of information. However, even a mature market is likely to remain relatively informal and decentralised. In these circumstances the flow of information and the availability of specialist advice become important. The transmission of market information becomes the preserve of professional networks, perhaps with one or more professional bodies regulating the quality of service provision. Emerging markets may see the transfer of information as being more informal or based upon social networks. One key element of market maturity is therefore the adequacy of an information base. This might range from general qualitative commentary to more rigorous econometric quantitative analysis. Furthermore, research may be expected to increase in status and consist of both practitioners and academics in more mature markets. This area of debate within the existing text on market maturity has been highlighted as significant to the case of Dubai, where much commentary exists to show that Dubai is a market with very little transmission of comparable evidence or central pooling of information. Therefore, data availability will remain as a key area of debate in relation to valuation variance in Dubai.

Mature property markets are regarded as being most open. The term 'open' is partly a reflection of available market information as well as its spatial form (i.e. market become more open with the introduction of international participants). Thus, collectively available information breeds foreign investment and a free flow of capital investment. Sectorally, mature markets exhibit more synergy between asset classes with the presence of substitution between property and non-property interests become recognised. Subsequently, this supports the need for a wider range of professional advice and expertise. As a result of such internationalisation, the standardisation of property rights and market practices often takes place, signalling a route to market maturity.

Keogh and D'Arcy (1994) stress that real estate markets undergo a development process that exhibit certain common features, although they do so at different speeds. These common aspects of evolution can be used as reliable indicators of market maturity, and should be the basis of analysing the performance of real estate assets. In relation to this established analytical framework for evaluating property market maturity in Dubai,

Keogh and D'Arcy (1994) identify six factors that are indicators of real estate market maturity (see Table 2.1 overleaf). In terms of some more explanatory details these include:

- A mature market should provide investors and users with a diverse selection of property products so individuals can tailor their property rights to their specific needs. The development sector will also become specialised in order to provide this broad range of products. At its simplest level, the market should cater for the separation of user and investor rights through the creation of licences or lease contracts. The market should also provide for the subdivision of the legal interest in a property into smaller lots. For example, in the form of sub-letting for the user market, or the creation of unitised and securitised investment vehicles.
- A mature market will have the mechanisms to enable demand and supply to respond rapidly and be flexible in both the short and long run, so that market participants can react effectively to new information and opportunities.
- Mature markets will have extensive information flows so that participants are informed of changing market conditions. The market will also be well researched.
- The most open markets in spatial, function and sectoral terms are generally more mature. The greater the level of openness, the wider the information available to outsiders. This facilitates information flows throughout the market and allows market participants to operate across boundaries.
- A mature real estate market will contain a sophisticated property profession with the quality of service regulated by codes of practice and/or laws.
- The more mature the market then the more market practices and property rights are standardised.

Any meaningful form of analysis should take these factors into account. Since the earlier above mentioned academic works, commercial practice has also sought to

provide some analysis of market maturity to support client decision making. The most rigorous of these market commentaries is that of JLL and their Global Transparency Real Estate Index (GRETI). This index has been argued as being a more sensitive approach to assessing property market maturity (Akinbogun *et. al.* (2014)). Whilst this index incorporates some elements of Keogh and D’Arcy’s maturity characteristics , its objective as an investor’s toolkit, means that it extends to some of the wider investment attributes of countries. That said, the JLL transparency index is a relative index based on the assessment against a range of investment criteria, rather than reference to any stage in market development. The synergy between Keogh and D’Arcy’s maturity framework and the JLL Transparency Index is summarised in Table 2.1 below.

2.2 CHARACTERISTICS OF DUBAI’S COMMERCIAL REAL ESTATE MARKET

GCC countries have largely been dependant on oil as a major source of its economic development, financing the various economic activities in the industrial, commercial and real estate sectors. Real estate investment volumes in the UAE (Dubai and Abu Dhabi in particular) saw a tripling and quadrupling in investment volume and their real estate markets in 2008 were estimated to be the fastest growing in the world during that time (JLL, 2008; McKinsey, 2008). Despite this strong investor interest, the number of real estate funds established in the Middle East is relatively small when compared to other emerging regions in Asia and Latin America. At the same time, across the GCC (UAE, Saudi Arabia and Qatar), a range of measures have been effected to boost the foreign direct investment into key assets, such as real estate. Most notably, in Dubai, restrictions on foreign ownership in designated areas were lifted to boost investors, and allowed for a higher degree of foreign ownership in certain sectors.

Table 2.1 Characteristics of a mature property market

Principal aspects of Keogh and D’Arcy maturity framework	Characteristics	Relevance to the JLL Transparency Index
A market’s ability to accommodate a full range of use and investment objectives	Existence of a well-developed investment market environment: * full range of investment objectives * diverse demand of occupiers for space * developed investment culture * no burdens of ownership	Market fundamentals
Flexibility in a market’s adjustment in short and long term	Effective property trade and market actors’ ability to react to new information and opportunities	Regulatory and legal Performance measurement
Existence of sophisticated property profession with associated institutions and networks	A market’s regulation and professional market players’ practice	Regulatory and legal Transaction process
Extensive information flows	Transparency level of the market	Performance measurement
Market openness in spatial, functional, and sectoral terms	Allowance of market players to operate with no boundaries	Market fundamentals
Standardisation of property rights and market practices	Role for local property market culture	Regulatory and legal Governance of listed vehicles

(Source: modified from Keogh and D’Arcy, 1994/JLL GRETI (2016))

The Dubai office market has not been as dominant as investment in residential property in terms of media attention or market commentary. This has largely been a consequence of the lack of institutional grade commercial stock available in the market. The commercial sector has seen a widening in yields between prime and secondary assets (Knight Frank, 2019). The wider property investment market has proved particularly vulnerable to optimistic assessments of value and over-confidence by investors and developers alike, and was extremely hard hit by the recent property crises of 2008. It currently faces both short-run over-supply and longer term strategic problems concerning the ability of providing enough quality stock to attract institutional level investment, although the yield compression seen in recent years suggest good demand

from institutions (Knight Frank, 2019). The effective deregulation of foreign ownership restrictions in 2002, the so called 'freezone' regulation were formed to take advantage of the new opportunities which would be created in this emerging and fast-paced economy. This policy spearheaded strong speculative growth in floorspace requirements. Some inevitable adjustment occurred in response to the GFC crash of 2008. However, the user market in Dubai offices remains unrecovered, much to do with the selective approach to asset allocation favouring single-owned commercial building in key footholds of the market, like DIFC; Media City and other TECOM commercial freehold areas.

Studies in other emerging property markets have shown the significance of international organisations as both occupiers and investors (Adair et al. , 1999; Keivani et al. , 2001; McGreal et al., 2002). In these countries' economic transitional period there had been significant international investment and their presence had a significant bearing upon the creation of commercial real estate markets. It suggests that markets must be able to attract institutional stakeholders in order to reach maturity, largely based upon the requirement to introduce global best practices. This process has not yet been fully established in Dubai. The RICS' UAE Commercial Property Monitor Q3 2018 Investment Sentiment Index continued to register weakening sentiment, although there appears a growing demand from institutional investors setting up new property funds (RICS, 2018).

Despite growth in investment in Dubai over the last 10 years post-GFC, commercial property market data is very uneven and difficult to obtain. There are a limited number of data sources. Therefore the valuation analysis is most likely to be affected by these limitations. Although there are a great many property agents, a significant number of transactions fail to pass through their hands. As a result it appears that the tradition of informal information exchange between agents is not so established in Dubai. The entry of international agents seems to be changing this so that there is now considerable consensus about key values in the market and a growing output of practice-based research. However these relate to a fairly narrow range of property types and locations. Furthermore, the temporal scale of this information is short with most only managing 5-10 year time frames. The Dubai property market is considered perhaps less

professional than many others and lacks the tradition of extensive specialist advice that is found in the UK, US or other mature markets. Whilst there is a presence of chartered surveyors, vocational education geared to employment in the property markets is limited to a very few specialised centres. Instead much of the trained profession have come from different geographical regions as reflected with the high percentage of expatriates in other sectors. With this brings uncertainty in standards employed and means that the market is much more likely to operate through a diverse number of international practices. This suggests standardisation and practices are key to the success of limiting valuation variance in Dubai. In addition, there is little or no tradition of academic research on the Dubai market, which has meant independent scrutiny of market practices have rarely taken place.

2.3 DEFINING MARKET MATURITY IN DUBAI

The range of studies highlighted above have concluded that a mature market consists of: a wider range of use and investment objectives; more flexibility; more specialised and sophisticated property professions; better availability in data and accuracy of information with research being undertaken; more open; and standardisation of rights and practices. An emerging market is less developed in respect to these six factors. In order to start to examine the implications of this maturity framework to valuation practice, Table 2.2 draws some comparison between London (mature) and Dubai (emerging).

The side-by-side comparison highlights some key areas of differentiation and as such establishes some expectation that Dubai valuers are faced a greater challenge when it comes to limiting variance. From this comparison a brief overview of each of the main maturity framework components will be discussed within the context of Dubai.

During the 1990s the United Arab Emirates (UAE) government set out to establish Dubai as an international business centre. The focus was on offering commercial organisations an attractive tax haven for business operations, development was undertaken by state supported companies and demand was attracted by a series of ‘free zones’. This inherently led to demand for commercial offices space and business premises. The ability to cater for a wide range of use and investment needs is an

important determinant of maturity. This is partly influenced by the business and financial environment of the country and the presence of highly developed capital and financial markets. It is also determined by the investment culture towards real estate instilled into these markets. Emergent markets are much more limited in the range of opportunities they provide, and are more inclined to focus on the symbolic nature of owning property.

Table 2.2 Comparison of mature (London) and emergent (Dubai) market

Characteristics of the maturity framework	UK (London)	UAE (Dubai)
A market's ability to accommodate a full range of use and investment objectives	Full range	Limited
Flexibility in a market's adjustment in short and long term	Relatively flexible	Relatively flexible in terms of new supply
Existence of sophisticated property profession with associated institutions and networks	Specialised	Professional licensing and presence of local RICS offices
Extensive information flows	Good	Limited/opaque
Market openness in spatial, functional, and sectoral terms	Open	Limited
Standardisation of property rights and market practices	Good standardisation	Moderate

Source: Author's own

The real estate market in Dubai in 2008, like many other global markets, was hit with a vote of no confidence and many of the developers who entered on the back of high price growth and market opportunity in the preceding years, left projects incomplete or derelict. The lack of consumer protection at the time hurt many investors who seemingly lost out on the gamble of high returns from off-plan sales. Since then, regulators have looked to proactively support investor protection and improve transparency, establishing escrow accounts to protect investor deposits, as well as more open channels of dispute resolution.

These developments have undoubtedly risen investor confidence and demand for local investment. Property registration is also more developed as previously many investors were wary of their security of tenure and system of registered freehold titles. In addition, land registration data availability has improved with more public dissemination of transactions available. Yet, records are notoriously opaque and local valuers have called for more detail to be provided.

The limited range of property products is the main restriction on the market's evolution. The level of foreign involvement in the market represents its level of openness is also important. Exchange controls and legislation that prohibits foreign ownership are characteristics of emergent markets. The freehold laws of 2002 relating to foreign ownership in designated areas allowed the creation of strata title as an alternative form of tenure for residential and commercial space (Hvidt, 2009). It represented a significant step towards the development of a modern market because it increased the range of property product available to the market and created more favourable conditions for smaller occupiers. It enabled the market to be more flexible to accommodate demand and made the market more effective in meeting diverse requirements of market participants. In line with these changes, the volume of transactions grew and property is now seen as a tradable commodity with owners more active in speculation activity. Foreign investment and market openness is another important factor in developing a mature market. Foreign and institutional ownership of land is restricted in Dubai to designated 'free zones'. Direct ownership of property assets by institutions is also restricted by the perception that direct property is not a secure form of investment. There has also been minimal development of indirect property investment vehicles with only several REITs active in the market. These also come with limited structure and the lack of institutional grade office space is a barrier to new waves of large foreign investment.

The maturity of a market is also defined by its flexibility. This relates to the ability of users, investors and developers to respond to changing market conditions. Less mature markets are less able to respond quickly and fully to market information. Changes to modify the type and location of floorspace may be inhibited by tradition, limited

perceptions of opportunities and a restrictive planning framework. The urban planning system plays an important role in a market as it strives to move to modern forms of market activity. A flexible and speedy adjustment of supply in a maturing market depends on the planning system. Delays in planning systems, uncertainty over planning permission and development taxes all limit the ability of the market to adjust to changes in demand. These restrictions constrain market activity and in doing so hinder evolution. From a historic perspective, Dubai has operated with relatively short development time lags and this has meant a rapid growth of a number of central business districts, beginning with Dubai Internet City and including Dubai International Finance Centre (near the CBD) in 2004. Up to 2002 property development had only been undertaken by state sponsored companies but in that year the UAE government permitted foreigners to hold freehold property (and UAE nationals). The government therefore have demonstrated the potential of Dubai as an emerging global office location.

Mature and emergent markets also differ regarding the level of professionalisation within the market, and the provision of market information. Emergent markets are less extensively professionalised and there may be a lack of specialist property education and no single body to regulate practices. In addition, an emergent market would have limited information flows. This information may be extensive but its reliability is questionable because it is inaccurate or subject to misinterpretation. The extension of international agents in emergent markets is improving the reliability of data and the standardisation of market practices. Yet, the development of analytical skills and the level of research undertaken is generally still limited in emergent markets while the standardisation of market practices still has a long way to develop. Dubai has introduced new measures that have improved training and education in the Emirate, alongside a valuer registration scheme and licensing. These are discussed in more detail in Chapter 6.

In relation to Dubai, there has been a range of new initiatives introduced over the last five years that largely address the previous criticisms of investment into Dubai's real estate market. These have included: rental caps; lease registration and generally better levels of statutory and consumer protection. Although there has been raft of changes in

legal and regulation since the global financial crisis, some critics still argue that laws are conflicting and unclear and legislations have been developed poorly, most noticeably how little investment guarantees existed for foreign investors, particularly more so around off-plan sales. Nowadays the situation is more robust with government initiatives and relevant dispute resolution services available to manage these expectations better. Alongside the legal aspects, Dubai property market also witnessed an exceptional amount of investment demand from 2002-2008 as a result of its open-border policy to foreign investment in key designated areas across the Emirates, known as 'free zones'. However, the range of investment products and locations are still somewhat limited, largely as institutional Grade A office supply is somewhat limited. Much of the foreign investment demand has remained for the residential sector.

The above analysis has been able to establish Dubai against a systematic property market maturity framework. It has shown that although Dubai is a relatively new player as an investment location, much development has taken place in a relatively short span of time to reach some level of internationally recognised practices. At the same time there is progress to be made. Whilst an evaluation of the market maturity has proved useful as scene-setting, the next section will look to examine in more detail the relationship between maturity and the valuation profession itself. An analysis of how valuation is impacted upon is likely to be able to shed light on local valuation practices, its regulation and the resultant impact upon valuation variance.

2.4 RELATIONSHIP BETWEEN MARKET MATURITY AND VALUATION

The role of market information is a central component of commercial property valuations. The direct comparable method as well as relevant comparable information drawn into an investment valuation relies significantly upon the availability of evidence. Property market maturity largely governs the ability for valuers to undertake market assessments. The evaluation of market maturity in a number of global cities has emerged over the last 30 years. Keogh and D'Arcy (1994) concluded in their study of several European cities that "*maturity does not necessarily imply market efficiency...*" and "*...argue for a broader agenda for property market research which include the characteristics of local real estate culture, the use and misuse of information and the role of property professional within a given market.*" With reference back to the

maturity framework in Table 2.1 and Table 2.2, valuations are most likely to be affected primarily by the level of professionalism as well as the openness and transparency in market data.

In practical terms for the valuer themselves, the link between market maturity and valuation comes with the establishment of risk and uncertainty and the management of this in the valuation process. Uncertainty is a feature of investment in real estate regardless of the geographical location or level of market maturity. However immature markets, particularly those without key performance measurement or transaction data are likely to see the role of vital valuation assumptions or processes break down. If we assume that valuation methodologies are largely centred on market value defined by international valuation standards, then we can see that market maturity and the bounded efficiency of these markets undoubtedly influence valuation outputs. Bywater (2014) highlights that in the UK:

“...where the investment market is relatively open and transparent, information about market transactions are often publically available...market value can be normally estimated with reference to other comparable investment and occupational transactions.”

At the same time the valuer is constructing an assessment of risk and return, applying techniques based on acknowledging that there is a tradeoff between the two. In markets where transactional evidence is light, it is more likely that the valuer would then increase the risk aspect (or yield) of the valuation to compensate for the increased uncertainty (or lack of a ‘track record’). A cash flow can be anticipated through leases and legal rights to income, however valuers will compensate on income security more so in emerging markets, where the probability of failing to anticipate market changes and future income is heightened. It is therefore both the initial assessment of the yield for the asset and the subsequent risk assessment of income security that appear most prone when valuing in a less mature market.

In addition in Dubai with the relatively short leases it is reversionary income that remains most uncertain as it is not an income stream that is contractually bound over a

long time period. Typically commercial leases run at 1-3 years. That said, the legislation governs rental increases and this mean that with the exception of periods of market volatility, rental rates in occupation are largely predictable. Occupancy, vacancy and yield evidence is the larger unknown in many cases due to the lack of market commentary that is available on these aspects.

In order to better understand the challenges of valuation in Dubai derived from market maturity it is important to examine some of the main characteristics of the local real estate market. The structure of this analysis up to this point has centred on Keogh and D'Arcy's maturity framework with professional standards and data transparency primary influences on valuation variance. A further analysis is required on these aspects. Therefore an analysis of market transparency will evaluate Dubai in a global context adding a dimension of relativity when comparing valuation transparency and variance later on in this research. The next section looks to review the findings of the global JLL transparency index and establish a better understanding of the level of market knowledge, information flows and professional regulation present that would most likely bear an impact on valuation variance in Dubai. It also allows for a discussion of temporal developments that may have some bearing to how maturity is likely to develop in the future.

2.5 ANALYSIS OF MARKET TRANSPARENCY IN DUBAI'S REAL ESTATE MARKET

This sub-section will highlight the key developments that have taken place in Dubai from 2004 to 2016 in relation to market transparency. The JLL GRETI is based on a combination of quantitative market data and information gathered through a survey of the global business network of JLL and LaSalle Investment Management. The latest index covered 109 markets in 2016, up from 102 in 2014. For each market, the survey data comprises of a collection of both qualitative (75 out of 139 scoring factors largely based on a Likert scale scoring) and quantitative (64 out of 139 scoring factors largely based from internal and third party data) measures. The JLL index is made up of a number of real estate transparency sub-indices namely; investment performance; public company performance; market fundamentals; regulatory; and legal. Within their classification there is a range of outputs to include; opaque; low-transparent; semi-

transparent; transparent; and highly transparent. Markets are then assigned to one of five transparency tiers, based on a composite score (Tier 1: Highly Transparent (1.00 – 1.69); Tier 2: Transparent (1.70 – 2.45); Tier 3: Semi-Transparent (2.46 – 3.46); Tier 4: Low Transparency (3.47 – 3.97) and Tier 5: Opaque (3.98 – 5.00).

Table 2.3 JLL Global Transparency Index, Components

Core area	Sub-themes	Valuation specific areas
Performance Measurement (25%)	Direct Property Indices Listed Real Estate Securities Private Real Estate Fund Indices Valuations	Independence and quality of 3rd party appraisals; Use of market-based appraisal approaches; Competition in the market for valuation services; Frequency of 3rd party appraisals
Market Fundamentals (20%)	Existence and Length of Time Series on a range of property data and coverage (location and individual buildings)	Rents; Take-up; Vacancy; Yields; Capital values; Investment volumes; Property transactions
Governance of Listed Vehicles (10%)	Financial disclosure and corporate governance	Accounting standards; financial reporting; public share of real estate market
Regulatory and Legal (30%)	Regulation Land and Property Registration Eminent Domain/Compulsory Purchase Real Estate Debt Information	Contract enforceability; Land registry; Availability of land registry records; Availability of time series data
Transaction Process (15%)	Sales transactions Occupier services	Quality and availability of pre-sales information; fairness in bidding process; professional and ethical standards

(Source: JLL website, 2016)

Table 2.3 summarises the main areas of analysis considered within the index over 5 core areas, the weighting of which are also highlighted. Within each of the core areas, specific attention has been drawn to the scoring factors that are relevant to valuation practice. It would appear if one was to cross compare with the findings of the previous section; performance measurement; market fundamentals and transaction process are the most relevant areas to track, as they have most bearing to data availability and

professional standards. The subsequent discussion will look to highlight the development within these areas in more detail.

Dubai's commercial property market history is relatively short compared to developed markets, however the JLL index does show some significant progress related to its maturity level. The earliest report in 1999 excluded Dubai and therefore the historic analysis can only go as far back as 2004, when the UAE was included. In 2010 there was a further separation of the UAE to UAE (Dubai) and UAE (Abu Dhabi) as they have differing governance. Table 2.4 (overleaf) summarises the developments made in global transparency rankings for Dubai since 2004.

Despite the importance of a country's overall rating within the index, the market fundamentals sub-index appears most relevant to valuers. This sub-index examines the availability of time series information on major data including; supply, demand, vacancy rate, rent and yield for offices and other investment properties. On further examination, many countries rank highly across the overall assessment, but few have a data coverage with a time series. In the context of Dubai this can only become a reality on the establishment of quality data sources which currently has a relatively short temporal scale, only covering a period since 2008. However, now established, data is improving, and this area of transparency should be generally predictable. Earlier reports noted other global markets improving transparency largely through the improvements of information provision, stimulated by a widespread global introduction of REITs and more active cross border capital flows. This trend is still maturing in the context of Dubai.

Table 2.4 Summary of JLL Transparency ratings in Dubai (2004-2016)

Year	Rating	Transparency	Global ranking	Synopsis of major changes
2004	4.31	Low Transparency – Tier 4	45/50 (90.0%)*	1st data recorded
2006	3.77	Low Transparency – Tier 4	44/56 (78.6%)*	No significant change
2008	2.78	Semi Transparent – Tier 3	32/82 (39.0%)*	A booming market led to greater transparency (through higher transaction volumes and calls for improved legislation from investors). In 2008, Dubai recorded the largest improvement in transparency, moving up one full tier
2010	2.93	Semi Transparent – Tier 3	37/81 (45.7%)*	The 2010 report noted a slight deterioration in transparency levels, being one of several countries to record a drop in transparency. Dubai has however, also taken the lead in introducing important regulatory reforms that have the potential to improve market transparency over the next few years. Positive notes include collaboration with international bodies, broker certification, complaints process, valuations workshops, market data, and dispute resolution committees
2012	3.05	Semi Transparent – Tier 3	47/97 (48.5%)*	In 2012 the JLL report began to introduce sustainability measures to the index and the lack of developments at the time may have been a reason for the drop in the rankings, alongside the continued addition of new countries.
2014	3.11	Semi Transparent – Tier 3	49/102 (48.0%)*	Dubai that have featured among the top improvers in previous surveys appeared to have lost some impetus between 2012-2014.
2016	2.9	Semi Transparent – Tier 3	48/109 (44.0%)*	Transparency is generally improving in MENA, led by Dubai, which has made further progress but remains in the ‘Semi-Transparent’ group.

Source: summarised from JLL GRETI 2004-2016 * relativity of global ranking overtime the lower the % the higher the relative global ranking (Author’s own)

Another key area of significance is that of performance measurement. However in Dubai these have been sporadic or in-house and as above, their reliability towards transparency will only really come into fruition after they have been available for a reasonable period of time. The JLL index points to the fact that regulation and improvements in performance measurement were most significant during the 2008 reforms whereby improvements included:

- Freehold law allowing foreign investors to purchase land/property in pre-defined 'freehold' areas (security of title).
- Market regulation through the creation of RERA, particularly in terms of dispute resolution between landlords/tenants and developers/investors.
- Formal sales registration through the Dubai Lands Department.

In Dubai one of the key barriers has been the administration of property transactions and timely title registration. However in recent years this has been significantly improved. The latest findings in 2016 point to the fact Dubai remains the most transparent real estate market in the Middle East, rated as semi-transparent. The key changes that have led to an improvement in its world ranking (48th) include the UAE Central Bank launching initiatives to monitor commercial real estate markets more closely. According to the 2016 report, the Dubai government has continued to develop innovation around improving transparency which has seen an increase in the levels of foreign direct investment. The sharing of information between public and private stakeholders (open data legislation); standardisation of real estate processes and contracts; and the prompt resolution of real estate disputes has aided the improvement in its global transparency rating. According to the latest JLL transparency index in 2016, Dubai has been classified as the top performer in the Middle East region. Whilst Dubai was ranked 48 out of 109 countries, it scored relatively well in relation to the listed vehicles (26th out of 109, 1.9) but poorly in relation to investment performance (46 of out 109, 3.4). This suggest there are still areas of development needed to improve the ability of professionals to fully evaluate investment performance; value and risk.

Trends in property prices have begun to be charted using time series data which in turn can help a valuer gain confidence and consistency in the values that he/she is assessing. However, these time series are still in their infancy and do not yet extend beyond 10

years. The tracking by JLL GRETI does note the importance of further development of detail in public information to allow a better quality of data for valuers. There is still some reliance upon asking prices, but less so in Dubai than Abu Dhabi. Many trained professionals use this information wisely to add evidence to price movements (albeit asking) in the real estate market.

This section has highlighted some of the major challenges for valuers in Dubai and explains key factors that may influence valuation variance.

SUMMARY OF CHAPTER

The Dubai commercial property market has taken a different evolutionary path to maturity. It has gone through a remarkable transformation, from being largely non-existent in the 1990s to a significant global hub today. Unlike other emerging markets where foreign funds and institutions have played a leading role in market developments, Dubai was built largely by domestic entities. Today we see a sporadic number of examples of institutional office space being provided by foreign multinationals.

This chapter has highlighted that a mature property market should be able to offer extensive information flows (including information standardisation, easy availability and good quality) to enable a high level of research activities providing input into the property decision-making process (Keogh and D'Arcy, 1994; Armitage, 1996). Market information standardisation has a huge bearing upon supporting real estate service lines, such as valuation and consultancy. There is no property investment performance index in Dubai. The continuity of the property market data and the consistency of property data standards are poorly implemented. This contributes to low transparency of the Dubai property market which is domestically driven, and growth and physical development largely took priority over transparency during 2002-2008. Today there is a growing number of professional consultancies who collect their own market data and information, and produces research reports for clients. A rudimental amount of this market data is made available in the public domain.

Within the framework of Keogh and D'Arcy (1994) and the JLL global transparency index the commercial property markets in Dubai could be considered to be moderately

mature, but remained as emerging markets, with developments in market practices; regulation and property market information availability impeding progress. Anecdotal commentary over the last ten years has also viewed the transparency, especially in the legal system, as low, legal enforcement as weak and the financial market as not yet well established. These areas need formalising together with market information more publicly shared to help improve transparency and reduce uncertainty. This has important implications for valuation practice in Dubai and it also has a significant influence on the risk premium that investors apply to commercial assets.

The next chapter will examine the theoretical definitions of property valuation and apply normative approach to how each component is most likely to impact the levels of valuation variance. It will be a good foundation from which to build up the analysis of measuring variance later on in the research. A range of academic studies have also been compiled across disciplines that explore how human error; judgement and behavioural psychology influence the valuation process. Chapter 3 concludes by highlighting the sources of variance from a range of academic literature, a prerequisite to Chapter 4 which examines a number of international research on valuation variance in other global markets. The findings from these analyses will be used as benchmarking data to evaluate Dubai and its position in terms of valuation variance.

CHAPTER 3 – LITERATURE REVIEW: PART I

THEORETICAL DEFINITIONS RELATED TO THE STUDY OF VALUATION VARIANCE

A key requirement of this research is to evaluate the main causes of variance in property valuations. The previous chapter has shown that a significant contributing factor to the level of valuation variance is market maturity. More specifically, data availability and information flows are key to consistency amongst valuers. It suggests that if valuers are not able to pull comparable information readily from the market then variance is likely to be heightened. Following on from the type and quantity of information available, the research needs to evaluate how valuers use the information sourced and the consistency between valuer methodologies. This chapter, one of three literature reviews, begins by exploring the core definitions related to the study of valuation variance, drawing a distinction between variance, accuracy and bias. The chapter also presents findings from a range of proxy studies that are relevant to valuation processes and the study of variance, including; the role of mathematical processes; spreadsheet applications; human error and human decision-making psychology. The chapter ends with a summary highlighting how human and/or professional judgment impacts the level of variance in commercial property valuations. These areas of discussion have been highlighted as macro-level components of variance from an academic perspective. Chapter 4 will extend these discussions by evaluating a range of empirical research findings that quantifies variance.

The first section will now look at defining valuation accuracy, variance and bias.

3.1 THE DISTINCTION BETWEEN ACCURACY, VARIANCE AND BIAS

Academic literature on real estate valuation errors have focussed on three main interrelated concepts - valuation accuracy, valuation variance and bias (Crosby, 2000; Levy and Schuck, 2005). Despite the notable difference in each of these three concepts (see Table 3.1), they are of course somewhat inter-related (Adair *et.al.*, 1996). Table 3.1 summarises each of these as separate definitions.

Table 3.1 Definition of valuation accuracy, variance and bias

Key term	Definition
Valuation accuracy	The difference between a valuation of a property and a target price, such as its subsequent sale price (exactness)
Valuation variance	The difference between two or more valuations to produce the same outcome, a measure of the difference between two or more valuations on the same subject property (consistency)
Valuation bias	The measurement of consistent over or under valuation of property

Source: summarised from Crosby (2000)

Most research has developed on the basis of quantifying valuation accuracy and variance. According to Crosby (2000:131) in the UK, the term ‘accuracy’, was defined as:

“...the ability of a valuation to correctly identify the target. If the valuation basis is market value, this is the ability of the valuer to identify the sale price of the property (or rent on letting if market rental value). In accuracy studies, this target is usually taken as a subsequent sale price transacted in the market place”

The academic discussion regarding the accuracy of a real estate valuation revolves around property diversion, absence of a central market place (knowledge-sharing), and information restrictions. Crosby (2000, 65) describes a critical issue that *“...precision of valuations is the skill of a valuation to identify the target where the target is measured to be the subsequent sale price or market rent”*. A valuation is a subjective process describing the normative viewpoint and is, therefore, not an exact science. This exposes valuation to error; bias and variance. Whilst professionalism is required, accuracy is not guaranteed. According to Crosby (2000), *“...a variety of possible answers have been accepted in legal judgments that can be professionally applicable provided they demonstrate following prudent processes”*. Furthermore, he suggests that a due process should be followed in case of legal proceedings under the guidelines articulated by the RICS. The result is a derived framework providing the place for surveyors to operate. Nevertheless, it is viable that the foundation of this valuation methodology is based on comparisons regarding complications and imprecise foundations of the valuation methodology. Ball *et.al.* (2008: 112) presented the opinion that the biased output modifications and the limited range of comparable transactions are the causes resulting

in the broad range of forecasted selling prices. That said, one can observe that valuation accuracy might be a condition of procedural aspects evidenced in the market (Crosby 2000, 87). These might include:

- Valuation skill & ethics
- Market transparency
- Regulation of valuation practices
- Standardisation

Although studies on valuation accuracy exist (Dunse et. al. (2010); Cullen (2004); Crosby (2000); McAllister (1995)), the ability to test the accuracy of valuation is largely restricted to, and affected by, the time lapse between valuation and subsequent sales date. Studies have shown that the accuracy of valuations have broadly enhanced overtime, perhaps in relation to improve information efficiency and standardisation of market practices.

Within Dubai this issue of valuation accuracy is the function of available information. In line with Baum et. al. (2000) valuations can create misleading pricing providing their bias towards market price, as the information contained in a valuation report can be used by a buyer or seller to evaluate likely market price. The inaccuracy of valuations appears somewhat correlated to the recurring change in the market conditions (rapidly rising and falling markets) as a direct result of the opaque data and the disparity between valuers of transactional evidence.

This new PhD research has chosen to examine valuation variance largely due to the lack of available information related to make a detailed analysis on subsequent sale price. A key requirement to the study of valuation accuracy relates to measuring the difference between a valuation and its subsequent sale price. Thus, largely due to market opacity and a lack of property specific transactional evidence this was considered not possible. Whereas, the subject matter of studying valuation variance, is considered more reasonable to establish in the context of available information and resources in Dubai. It also raises a more fundamental initial research enquiry, which is to measure consistency rather than accuracy. According to Crosby (2000), to examine variance, the

basis of the valuations and the valuation instructions should be the same, which can be established more reasonably through experiment than that of valuation accuracy. It is for these reasons this PhD research has chosen to examine valuation variance as the initial study into the source(s) of valuation error in Dubai's commercial real estate sector.

Appendix A contains a range of key valuation terminologies and explains an overview of the investment method of property valuation. The key principles related to the investment valuation theory and terms have been collated to discuss the theoretical definitions and concepts relevant to the study of valuation variance; including definitions of key terms; the investment approach to commercial property valuation; the nature and function of using a yield in property valuations. This appendix has noted the need to examine key definitions and terminologies as a source of valuation variance, particularly when it comes to the inclusion and exclusion of explicit costs and transfer fees. By examining these methodologies (and the similarities and difference in application), one can begin to see where variance is most likely to be present within different valuers' approaches.

The next section moves on to examine the theoretical processes used by valuers and highlights whether the valuation methods themselves are a likely source of variance.

3.2 VALUATION METHODS AS A SOURCE OF VARIANCE

The investment method of valuation requires the valuer to capitalise a future income flow or series of future benefits to form an opinion of present value. To achieve this the valuer must understand the concept of "time value of money" and be familiar with financial mathematics (at the very least compounding and discounting). The valuer's role is to make a series of assumptions based on risk and security of income. As discussed in Appendix A the most common assumptions regarding commercial real estate assets include (Wyatt (2013); Baum *et al.* (1998)):

- Generally, in the long run, property investments are secure in real terms and income is in the form of rent
- The valuer is using the lease as a document that then outlines a series of periodic payments (rent) for a finite period

- The valuer makes assumptions on the payment of the rent, typically in the UK quarterly in advance but can have variations in different markets or contract negotiations
- The valuer has to factor in growth assumptions, again largely governed by the lease, concerning areas of the lease such as frequency of rent reviews, and provision of break clauses

In the UK there are two approaches to undertaking the investment method. These are the conventional (traditional) and the contemporary (modern) methods. In the context of investment valuation as opposed to investment appraisal both methods should produce an equivalent answer (subject to rounding errors). As discussed in Appendix A, the contemporary methods have evolved in response to criticism to the traditional. Both approaches are used and each has an important role in the valuers “toolkit”. (French 1996). The essential difference between the two approaches is the manner in which they treat future cash flows. Each of the income streams are valued by the same principle but require different formula. There are four basic assumptions underlying this approach:

- Income is fixed
- Income is expressed in current (present day) terms
- The income is perpetual
- Income is paid annually in arrears.

When examining the components of these methodologies, one could assume that there are two key areas within this that would govern the levels of valuation variance between two valuers, including :

- The comparable yield drawn from comparable rent/sale transactions
- The split yield adjustment

Any numerical difference applied to the reversionary yield will of course have the largest impact as it is assumed this income stream is in perpetuity, whereas the term will be for a finite period. Critics of the traditional methods also argue the process is mathematically flawed (Baum (2015); French (1996)). Often, the traditional approaches

are no longer doing what the valuer thinks they are. Within the current investment market, they are a mathematical “fudge” that produce a reasonably accurate valuation when there is adequate comparable evidence and the investment has “typical” market characteristics. The mathematical flaw centres on the implicit nature of the all risks yield and its application to reversionary freeholds (French and Gabrielli (2004)). The valuer applies the ARY (with adjustments depending upon whether the split or equivalent yield is used) to both the term and reversionary income. But these two income streams have very different characteristics. The term income is fixed until the next rent review or until the end of the lease when the property will be re-let. The reversionary income has growth potential, but yet the valuer applies the growth implicit all-risk yield to both. As a result the valuer is over-valuing the term and under-valuing the reversion. By chance the two errors roughly cancel each other out and produce a value that fairly reflects market expectations. However, when the cash- flows no longer demonstrate a normal pattern (e.g. over-rented property, short leases, break clauses, lease incentives) the errors do not cancel each other and the short-comings become very apparent. Despite this and the move towards a DCF valuation, when used as a valuation technique both the conventional and contemporary methods should produce very similar answers. This is due to the fact that the growth rate applied explicitly to the income stream is derived from the all-risks yield which is similarly obtained through the analysis of market evidence.

Having reviewed the main areas of common valuation methodologies related to commercial investment property, one can identify where variance is most likely to enter the methodology and calculation processes. It would appear the most variable components of the valuation task would include:

- Analysis of comparable evidence
- Definition of yield (initial yield and subsequent reversionary risk adjustment)
- Human error through data interpretation and the calculation processes
- Error through conventional spreadsheet applications

Each of these areas will be discussed in more detail below:

3.2.1 Variance from the analysis of comparable evidence

The determination of the MRV and yield in a valuation is done by using comparable evidence of recent transaction (new lettings and sales) of similar properties (type, construction, age and quality) in similar locations (preferably within close geographic proximity). The process is the same as the comparable techniques but rather than determining the capital value directly it seeks to find evidence of new lettings and sales of investment property to determine the yield and rental value. The analysis of comparable evidence is simply valuation in reverse.

In many circumstances direct comparison may not be possible because of differences in the size of different properties. Thus units of comparison are required. For commercial office space for example, the unit of comparison would be AED/\$ per unit area, which is commonly known to be based on a Net Internal Area (NIA). This would then be measured typically on a sq.ft basis. The main challenges lie in the interpretation of the lease across all comparable information as well as and the timeliness of the sale price and any 'hidden' incentives. These differences would create some, albeit a limited range of variance amongst a group of valuers. Assuming all valuers had access to the same market information, the standardised approach to documenting comparable evidence seems a fairly straightforward process.

3.2.2 Variance from defining the yield

Global property markets have long-been noted for consisting of both risk and uncertainty. Much of this risk and uncertainty stems from the inherent attributes of real estate assets as well as the lack of efficiency in its economic pricing system (implied from the discussions in Baum (2015)). Chapter 2 showed that the largest inefficiency is opaque data and the lack of information available to make rationale decisions. The global valuation profession has made do with such a dilemma and used a defined yield to reflect risk. The conventional approach to the yield is that it should be a measure of comparison with various other investments. The chosen yield reflects all the different qualities between the investments that form part of its analysis. Another school of thought argues that the yield should be analysed to reflect these different and distinct qualities. The valuer would therefore present a “real value approach”. Table 3.2 highlights a wide range of common considerations related to the valuer’s mindset on

risk-adjusted yields. The sheer number of different variables that could be considered would mean that variance on these approaches, and therefore on the resultant yield itself, is likely to be a source of variance amongst valuers.

Table 3.2 Common considerations in risk-adjusted yields

Risk variable typically included in yield	Increase yield	Decrease yield
Potential for future growth	Low	High
Strength of covenant	Poor	Strong
Economic conditions	Poor	Strong
Location risk	Poor	Excellent
Level of competition (supply)	High	Low
Financial uncertainty	High	Low
Legal uncertainty (rent reviews)	High	Low
Physical obsolescence	High	Low
Occupational uncertainty e.g. break clauses	High	Low
Leasing uncertainty (void periods)	High	Low
Valuation uncertainty (e.g. lack of comparable evidence)	High	Low
Length of length	Short	Long
Market uncertainty	High	Low

Source: Authors own adopted from the discussions in Baum *et al.* 1995

3.2.3 Variance from human error (data interpretation and calculation processes)

Analysing and measuring valuation variance without an appreciation to human reliability would be an incomplete analysis and somewhat misleading. Valuation involves both an analytical component (cognitive) and a processing component (calculation/computation). It would be reasonable to assume that both these processes are bound by subjectivity and error that would influence valuation variance. The following review of academic literature looks to summarise the results of a range of proxy studies that have quantified human error. The selection of these studies have been aimed at similar processes and tasks as those undertaken in property valuation. Firstly, Swain and Guttman (1983) identified the following forms of error in relation to human processing activities. Table 3.3 has been adapted to include these definitions in the first

two columns and an additional column on the right hand side highlights some relevant examples in property valuations.

Table 3.3 Types of error in property valuation

Type of error	Action	Example in property valuation
Errors of omission	Omit actions	Valuer failed to include all relevant information
Errors of commission	Carry out actions incorrectly	Valuer included irrelevant comparable information, used asking prices instead of transactions
Errors of sequence	Actions in wrong order	Deviations from RICS Red Book
Errors of repetition	Actions repeated unnecessarily	Valuer fixated on producing the 'right' value
Qualitative error	Too much/too little	Data reliability/bias
Time error	Too early/too late/too long	Timely information

Source: adapted from Swain and Guttman (1983)

A range of academic studies have looked at quantifying human error (Embrey (2004)) This analysis will allow us to disclose an approximate proportion of variance that might typically enter a property valuation as a consequence of human error. Table 3.4 (overleaf) shows human error rates in a variety of contexts, proxy data for valuation processes. The errors reported within this group of studies shows that they can be broadly categorised into three main areas. These include:

- Error rates are for mechanical errors (data entry/reading interpretation). A good general figure for mechanical error rates appears to be about 0.5% to 1%.
- Error rates for computational error (calculations). An observation from a single study referred to a 1-2% error rate.
- Error rates for forecasting error (forecasting). An observation from a single study refers to a range of 30-60%

Other academic work stated a general conclusion that the error rate for more complex logic errors (computer programming) is about 5%. In laboratory experiments, students were asked to compare results to other known or experimental values. These studies

have sought to state a percentage difference between different students work. This body of work states that in most cases “*a percent error or difference of +/- 10% will be acceptable...if the comparison shows a difference of more than 10%, there is a great likelihood that some mistakes have occurred.*” (Panko, 1997)

The findings from these studies have shown that percentage error and percentage difference can be observed for a range of similar processes carried out in property valuation. These can be stylised. The differences (or variance) in property valuations arise, in general, from three types of errors.

- *Systematic errors:* These are errors that impact all measurements alike, and relate to industry standards or imperfections in processes adopted by all (reproducible inaccuracies). These errors cannot be reduced through sampling or increasing the number of observations. They can only be compensated for by applying a suitable correction factor.

In property valuations this might be as a consequence of measurement tool calibration or as a result of an incomplete definition. For instance, the way in which we measure a floor area is not always clearly defined. This can be minimized by evaluating a standardised approach to measurement, such as the introduction of the IPMS.

Failure to account for a particular value factor. Studies have shown that the best way to account for these sources of error is to discuss key findings with peers and colleagues about all the factors that might be relevant in the analysis. This should be done at the beginning of the instruction to account for confounding influences before recording data.

- *Random errors:* These are errors for which the causes are unknown or indeterminate and relate to chance. These errors may be limited by applying an averaging over a large number of observations. In property valuations, this might be a consequence of variations in data quality between valuers on a single instruction and therefore cannot be assumed relevant to all other valuation instructions.

Table 3.4 Human error rates for a variety of contexts

Research study	Description of human task	Error rate (%)
Baddeley & Longman (1973)	Entering mail codes. Errors after correction. Per mail code.	0.5
Dhillon (1986)	Reading a gauge incorrectly. Per read.	0.5
Dremen & Berry (1995)	Percentage error in security analysts' earnings forecasts for reporting earnings. 1980 / 1985 / 1990. That is, size of error rather than frequency of error.	30/52/65
Melters & Harrington (1982)	Students performing calculator tasks and table lookup tasks. Per multipart calculation. Per table lookup etc.	1-2
Potter (1995)	Errors in making entries in an aircraft flight management system. Per keystroke. Higher if heavy workload.	10
Swain & Guttman (1983)	Error reading chart recorder. Per read.	0.6
Swain & Guttman (1983)	Error reading a graph. Per read.	1

Source: Panko (1997)

- *Personal errors:* These errors are related to the individual themselves. It might include failure to give sufficient attention to the process or even negligence; poor techniques or human bias on the part of the valuer. The valuer may measure incorrectly, or may use poor technique in taking a measurement, or may introduce a bias into valuation by expecting (and inadvertently forcing) the results to agree with the expected outcome.

In other industries there are processes in place that evaluate the occurrence of human error and risk management. The Human Reliability Assessment (HRA) is one such model. It has 3 main parts:

- Human error identification (what errors can occur)
- Human error quantification (how likely are the errors to occur)
- Human error reduction (to improve reliability)

For property valuations to better understand these components of human interaction with automated systems, more research is needed to highlight where human judgment affects the variance and accuracy of valuation work.

The findings discussed in this section support the need of some safeguarding to the valuation process to ensure that human error is kept to a reasonable minimum and not simply bundled into the inherent variance of valuation outputs. The section has highlighted that it would be likely that human error could account for up to 5% of valuation variance. Future forecasting would increase this gap further according to the evidence presented in other academic research related to financial markets. An increased body of research is needed to examine the most likely sources of computational error. The survey work contained within this research will look to quantify error in an experimental environment and draw out the most likely source of error and variance within valuation methodologies and calculation processes (see Chapter 7).

3.2.4 Variance through conventional spreadsheet error/application

Although the previous section was intended as a review of the broad assumptions and methods used in investment valuation studies, it has already started to identify areas where these assumptions are sub-optimal in terms of vulnerability to mechanical or constructive errors. Another relevant discussion point is to identify the most likely types and sources of mechanical or construction errors in valuation activities. It is difficult to be definitive about this and cite real world examples as few valuers would be willing to advertise or admit to their mistakes. However, Havard and Waters (2013) broadly assumed the most common sources of errors would include:

(i) *Errors due to time pressure:* Many workplaces are high-pressure environments with valuers having to do often complex work within a short timescale

(ii) *Failure to properly audit the valuation:* Auditing can eliminate errors from the spreadsheet but every creation of a spreadsheet item or change to a spreadsheet model requires an audit trail to be followed which is time-consuming. Standardised models such as Estate Master IA or Argus do not need the same audit therefore save the valuer

considerable time in checking the mechanics of the calculations. However, only a portion of the local market have stated that they use such software (see Chapter 6).

(iii) *Application of an existing assumptions to new valuation instructions*: it is a natural thing when considerable time effort has been invested in the creation of a spreadsheet model to spread the cost (and save time) by applying and adapting the model for different projects. This opens up the possibility of modification errors but also perpetuation errors from earlier projects. The assumption will have been made that the applied model will have been audited and is error free on the earlier projects, but this may not always hold true.

The emergence of the electronic spreadsheet came about as there was demand for financiers to examine and analyse large corporate deals. These applications were soon rolled over to real estate valuation work. However according to many authors including Diemer (2002) the emergence is not one that has come about without erroneous application. According to his paper, “*a primary cause of spreadsheet risk is user error*”. In support of such a sweeping statement, studies have shown that somewhere in the region of 30-90% of all spreadsheets suffer from “*at least one major user error*” and another similar study undertaken by a large global accountancy firm found that 91% of all spreadsheets audited contained errors. Further analysis showed that more significant levels of error emerged when users were working with a spreadsheet created by another person. Of course not all spreadsheet errors are on the danger critical scale. Given that business and investment decisions are being made based on the outputs of an electronic spreadsheet, add to that the magnitude of the monetary sums being invested, even the presence of fractional errors could potentially be disastrous for valuation variance.

One of the core reasons behind the presence of errors in conventional spreadsheets has been the lack of monitoring and ability to track the changes made between users. The lack of transparency between users and their ability to make changes, intentional or non-intentional, makes mistakes more difficult to track. The spreadsheet approach when compared to audited software products lacks any real consolidation of information that can be easily followed by multiple users. The significance of spreadsheet applications in property valuation tasks clearly cannot be completely pushed aside, as there is

functionality for real estate professionals. However, their limitations in terms of longevity and cross-departmental attributes do appear to suffer. Advances being made in the programming of appropriate software databases, such as Estate Master, are building on the benefits of spreadsheet interfacing, however they also remedy the limitations or perceived drawbacks of electronic spreadsheets discussed above. For instance, cash flow forecasting for the income returns needs to be explicit in the assumptions and may include a tenancy schedule separately with explicit assumptions for vacancies, rent reviews, lease expiries and so forth. This is often overlooked in conventional spreadsheet applications. The valuation undertaken needs to demonstrate consistency between variables and methods applied as well as a need to be mathematically accurate. The process of including rationale assumptions also needs to be transparent such that each component of the valuation is capable of explicit explanation or scrutiny. These requirements are challenging tasks to achieve in the opaque world of a conventional spreadsheet.

In summary, much of the decision-making as to how much variance might increase as a result of spreadsheet error includes:

- purpose of the valuation;
- professional ethics;
- attitudes towards satisfying due diligence and professional indemnity;
- budget;
- staff retention and turnover; and
- valuation skills (and expertise of the team).

There is, therefore, a requirement for a high level of consistency, accuracy and transparency in the forecasting used for commercial valuations in Dubai. The valuation undertaken needs to demonstrate consistency between variables and methods applied as well as a need to be mathematically accurate. Some organisations with a limited budget, or lack of appreciation to the complexity involved in valuation work may, and indeed do, settle for an in-house manual spreadsheet to serve valuation functions. The calculations and cell linkages are derived from an MBA-educated list of assumptions and typically built with a current instruction in mind. It is “fit for purpose”, however its applications are written within a narrowly-defined brief. These same functionalities

cannot be transferred over to the newly-instructed shopping mall valuation, for instance. The primary data collection in Chapter 5 will highlight the consistency in valuation methodologies and also look to examine the likely source of error in valuer's work.

The next section will examine academic research that has investigated the decision-making processes of humans. It is believed that by reviewing this body of research, links can be made as to the impact of rationalisation in valuations from individual valuers. The observed differences in approaches to decision making will undoubtedly be a source of variance, however research has not previously made such behavioural links to real estate valuations.

3.3 DECISION-MAKING PSYCHOLOGY, HEURISTICS & IMPACT OF THE INDIVIDUAL VALUER

In parallel with traditional theoretical research, there is a growing body of work, examining human decision-making behaviour. Muradoglu and Harvey (2012) suggest that “*individuals do not always make decisions in an optimal manner*” than that assumed by economic or financial theory. There is a range of financial academic research that has been designed to evaluate how investors process quantitative information. This is seen as relevant to the understanding of valuation variance and the findings this research can offer useful insights as to how real estate valuers interpret numerical data. Duclos (2015) examined the process by which investors process visual data to both predict future value of assets as well as investment decision making. The paper concluded that visual biases in data interpretation impact financial decision-making and risk-taking, yet this bias faded when participants processed data numerically, stating that “*...graphs depicting a sequence ending downward (upward) led participants to expect lower (higher) prices...*”. The research also found that recent price changes influence investors substantially more, yet recent price movements were no more informative than earlier ones. The research drew up key observations that would also be relevant to the psychology of decision-making in property valuation:

“Facing large amounts of data, people seem to simplify their decision-making by focusing on specific data points. When these datapoints are attended to because of their

saliency (not their representativeness of a series), however, investment decision can go awry.”

In relation to the body of research on anchoring effects, Duclos (2015) points to the fact that “...*the essence of anchoring research consists of showing that early/initial pieces of data have consequences on subsequent tasks (e.g. predictions, calculations)*” and decision-makers can “...*automatically and spontaneously latch on to numbers to inform the decision at hand (i.e. without being explicitly asked to).*”

In markets like Dubai where comparable evidence is few and far between and further complicated by the freehold and non-freehold legislation variants, valuers could be more reliant upon the information presented in market indices. Furthermore, property consultancies usually summarise their ‘market intelligence’ for ease of interpretation. This research also points to the challenges of future forecasting. Figure 3.1 shows a theoretical framework for analysing future decision making as denoted by Tonn (2003).

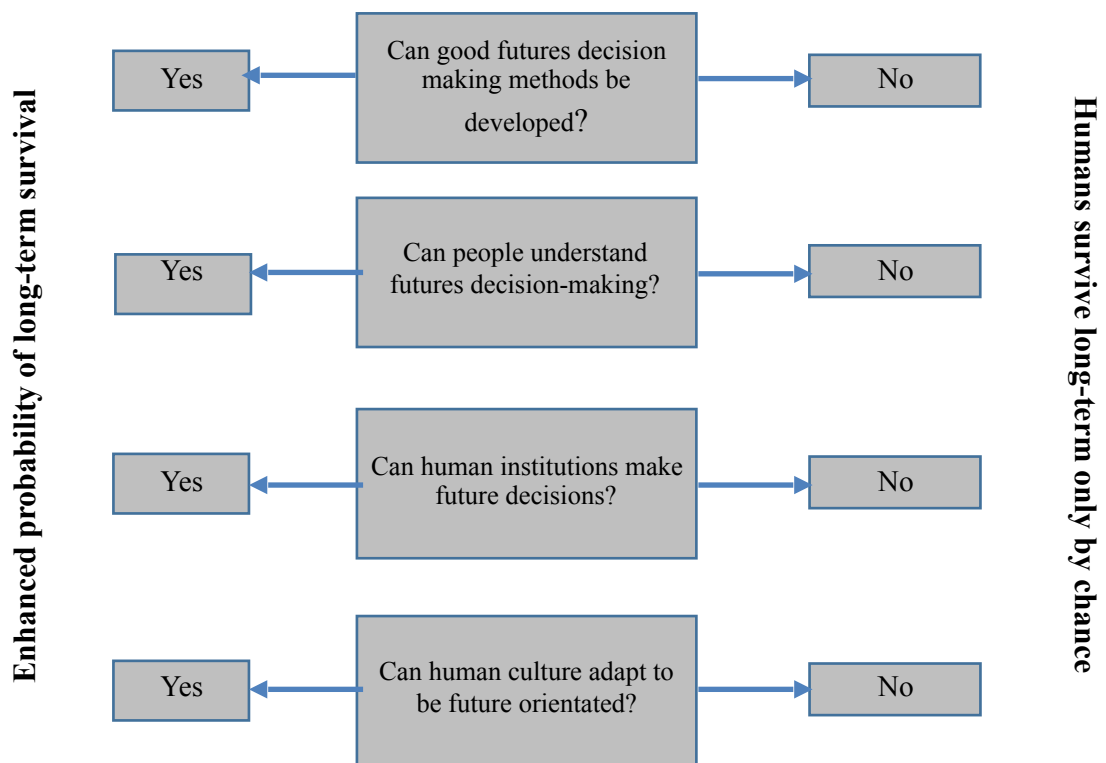
The first part of the commentary will outline the four elements in general terms and then go onto explore their relevance to real estate valuations. The criteria is set out to discuss the key issues raised in the literature so far including; valuation methodology; cognitive understanding of valuation analysis and outputs from both valuers; institutional factors; and the wider society and economy. Each of the four links have been referred to as ‘biases’ and each will be briefly discussed below:

- Methodological biases: The first link in the decision making chain is methodological, calling that robust methods are needed to support decision making. For instance, a mathematical technique that people can use to represent or rationalise risk and uncertainty. This supports the notion that humans are more responsive to data, information or quantification of risk rather than qualitative information. The number of possible future decisions are overwhelming in scale, multiplied in magnitude by uncertainty and its measurement. The human mind is imperfect to deal with such information complexity unaided (Tonn, 2003).

- Cognitive biases: The second link is related to human cognitive capabilities. The more rigorous the methods and techniques needed to deal with decision making problems, the harder it is for people to understand the methods and techniques as well as their inputs and outputs. Inherent cognitive biases and heuristics can impede the analysis of risk and uncertainty (Tonn, 2003). Training and education alleviates these issues somewhat, however future decision making will discourse and the frameworks will not be capable of moving forward. Cognition is a process that is not a natural process for the majority of people. The body of research on cognitive psychology has shown many people are challenged by straightforward decision tasks, comprehending future outlooks is likely to create further complexities. Tversky and Kahneman (1971) stated that individuals are not good statistical reasoners and Covello *et.al.* (1983) found that people find it hard to communicate the meaning of probabilistic information.
- Institutional biases: The third link is institutional. This relates most notably to the market structure of the valuation profession as well as the presence of client influence. The roles, norms, and incentives may combine to promote self-interested decision agendas that could impact the profession in the longer-term.
- Cultural biases: The fourth link is cultural. This relates to the collective intentions of society. According to Tonn (2003), our economies and political systems tend to revolve around survival; be it in the next quarter; the next year; or the next 5 years, rather than the longer-term considerations.

This framework is a holistic one, and states that all four elements must be met for ‘enterprise’ to be successful. The process of valuing commercial real estate is made challenging as the future is uncertain. One problem may be that current techniques are not able to adequately deal with the large degree of uncertainty. Sensitivity testing can alleviate the uncertainty of a valuation report as well as explicitly show risk factors to the client. However, these techniques can suffer from insufficient reasoning and variance is likely to be a key byproduct of an individual valuer’s perception of future uncertainty.

Figure 3.1 Elements of future decision making



Source: Tonn (2003)

The next stage in the process would be the validation of how to judge what the valuer already knows. It has been clearly defined in the main literature review chapters that judgments about comparable data and yield information can be highly subjective in the absence of good transactional evidence. Academic literature from finance explores a remedy by combining the former information with qualitative systems to guide the subjective judgments. Better systems of data validation are important to reduce intra-valuer variability. Data validation activities point to variance caused by two procedural components:

- Operational complexities (i.e. bad data, or deficiencies in process and methods);
- Application issues (i.e. those that might be a consequence of out-of-data estimates, where transactions no longer sit within reasonable timeframes)

Tonn (2003) set out the idea of a possible worlds framework. This established that as the time horizon is extended, the number of possible outcomes increases. In order to apply this ideology in commercial real estate valuation it is worth looking at possible ‘income

break points' that exist in Dubai, that is factors that will determine the end to a rental income. Once these have been established it might be for the valuer to then rate the likelihood of this happening as a risk-score and applying a build up approach to defining the yield. The next section extends this discussion by examining what has been considered through the study of heuristic behaviour.

The study of heuristic behaviour in professional conduct was pioneered by Kahneman and Tversky (1972) and Evans (1989). The authors identified four types of heuristic behaviour affecting professional conduct: representative; availability; adjustment and positivity. Representative heuristics is described as a form of stereotyping, whereby an evaluation is done based upon a set of experiences of similar objects and events. Availability heuristics refers to the pre-conceived ideal of the decision-maker to assess essential components from past experience. Anchoring and adjustment heuristics refers to the tendency of the valuer to stick to an initial estimate before evidence is considered. It would be that under these circumstances the valuer holds a rigid viewpoint and is unwilling to adjust a value despite contrary evidence. It has been considered a significant reason for factors affecting valuation accuracy and consistency overtime. Studies such as Gallimore (1994) have found that valuers can form an early opinion on a subject project and then seek information from which to confirm this preconceived opinion (despite contrary market evidence). This could be exacerbated in unfamiliar locations (Havard, 1999) or in thinly-traded markets where a valuer may want to report what is expected of them. This postulates that there is a lesser chance of valuation variance in such locations. However, greater variance may occur when the valuer is adopting an inappropriate initial anchor and provides insufficient adjustments or in fact relies upon opinions from the client or a third party. This new research in Dubai is seeking to examine 'anchoring' and 'adjustment heuristics' as it does appear to affect valuation variance.

In relation to two observable constructs:

- There is a greater tendency among valuers to anchor and adjust from previous valuations than to undertake fresh market analysis in valuations. This is likely to occur in Dubai as information availability is scarce and less likely to allow for new data to inform or challenge preconceptions from previous valuations

- The less familiar the location, the greater the tendency for insufficient anchoring and adjustment from past valuations. This is likely to occur in Dubai as the majority of valuers are expatriates with a diverse range of professional backgrounds. In the survey the average valuer has worked 4 years in Dubai.

This section has discussed a number of areas that are likely to impact the level of valuation variance in Dubai. It has presented ideas as to how human behaviour and experience bears relevance to variance. A range of processes have been shown to be susceptible to creating variance, including human error; forecasting; and the level of professional experience.

SUMMARY OF CHAPTER

The literature has revealed a range of issues supporting the presence of valuation variance, much of which relies on a combination of procedural and behavioural factors. The factors of valuation variance have been identified around a range of theoretical observations pertaining to; market definitions; valuation methodologies; errors; availability of market information; standardisation as well as the influence from individual decision-making, strategies and behaviours. The discussions in this chapter have identified that there are a wide range of factors contributing to the presence of valuation variance and it exists in both mature and emerging markets. There is certainly commonality between variance and human behavioural influences (including error) on the process.

Whilst understanding the combination of procedural and behavioural factors is key to improving the consistency of valuation work, one must also examine the quantification of variance across international benchmarking. Without such an assessment, it would be easy to be overcritical of the issues that face Dubai's property market. Therefore, Chapter 4 will be related to examining a range of international studies that have quantified valuation variance. This would then allow the primary research to assess an accepted level of variance in Dubai. The next chapter will also explore and reach consensus on the global research themes most relevant to the study of valuation variance including; market efficiency; professional ethics; and client influence.

CHAPTER 4 – LITERATURE REVIEW: PART II

INTERNATIONAL OBSERVATIONS

This chapter begins with an overview of the global observations and lessons in the analysis of valuation variance, based upon both legal cases and empirical studies. It will then move on to discuss the more recent research relevant to the analysis. The studies relevant to valuation variance were identified under three systematic themes: market efficiency, professional ethics and client influence. It is felt that by understanding these three bodies of international research the analysis can draw out key implications for Dubai. The review of relevant literature in this chapter has also been used to form an appropriate range of research methodologies for the primary data collection (see Chapter 5). The first section will now look to discuss the findings of a range of international studies.

4.1 COMMERCIAL VALUATION VARIANCE - INTERNATIONAL FINDINGS

The international research related to studies of valuation variance and valuation accuracy have come about from two main streams: one based on academic scholars seeking to advance knowledge and awareness to the topic; and one based on legal cases that have concluded claims of negligence against professional valuers. The first section of this chapter will look to examine the findings from legal sources of discussion, as this has tended to focus on quantitative ranges. The latter sections will move into more qualitative analysis, exploring large bodies of financial and real estate literature. The literature review will begin by examining valuation negligence and its findings related to variance.

4.1.1 Valuation negligence and variance

International courts recognise that there is subjectivity in valuation. A body of cases has proved that two valuers may reach different valuations of the same property at the same time without either of them being negligent. This tends to then be met with a follow-up question relating to the range of values that could be given by a reasonable valuer. Any claim of negligence has to prove that a valuation falls outside defined limits. In

particular, the valuation report must link the comparable information with the final valuation figure clearly and transparently as well as set out the thought processes and reasoning used to arrive at the valuation. This is considered a defence against negligence claims.

The legal profession has therefore built up a consensus of what range of variance could be considered reasonable. A number of leading cases have decided what 'bracket' (the range) should be for a particular valuation. The courts are also considered in any assessment towards specific errors made by the valuer. If there were, this increases a case of potential negligence. Therefore, what appears more important in any legal assessment of variance is confirmation that the valuer has followed process rather than fixating on a specific end figure. The legal standpoint therefore has been to ensure not only an accepted range or bracket of values should exist but also it must be evident that the valuer has acted within the tests of reasonableness to derive the value.

In recent years the valuation profession has had to address a number of significant issues including that of: greater propensity of desktop valuations; fee competitiveness; supply of suitably qualified valuers; and skills and education. With that has also come the increasing level of negligent claims against the valuation profession. The complexity of legal and financial arrangements often means that proving whether a valuer has been negligent is often a difficult task and seldom is the case of proving the valuer has given the wrong figure. More commonly it has been regarding their advice on specific investment criteria, for instance, rental growth prospects and investment yields. A significant negligent valuation case in the UK, *Capita Alternative Fund Services (Guernsey) Limited (1) Matrix-Securities Limited (2) v Drivers Jonas [2011]*., investigated whether the valuer had overvalued the subject property. It was considered that the advice on rental values and yields to be made in the absence of an appropriate retail analysis. It was decided that the valuation firm had been negligent in their valuation of the shopping centre and were ordered to pay £18 million in damages for negligent advice.

The professional negligence case of *Paratus AMC Ltd v Countrywide Surveyors Ltd [2011]* was based upon several expert valuations and found the defendant's original

valuation was within the acceptable margin of error, held to be 8% in this case. Many of these cases when taking a legal standpoint reference that the scope of the valuer's duty may be implied or explicit but should be based upon the standards defined by the laws of tort, which for the professional is to exercise 'reasonable care and skill.' The courts accept that two competent valuers can give different values, yet it would be expected for these values to sit within an acceptable range or bracket. In relation to valuation accuracy, the bracket has found to be somewhere within 10-20 % of the sales price. Although, legal authorities also make clear that this is dependant upon each specific case. suggesting ranges can be closer or wider depending upon the asset type and unique property characteristics.

UK case law has been able to discuss the 'margin-of-error' that is a legally accepted. *Mount Banking Corp. Ltd v Brian Cooper & Co. [1992]* suggested a margin of 10% either side of a notional figure as appropriate (Foster et. al. (1998)). Earlier UK research into valuation variation identifies the relevance of statements from the Court of Appeal. A statement made in relation to *Zubaida v Hargreaves [1995]* in that "*Valuation is not an exact science, it involves questions of judgement on which experts may differ without forfeiting their claim to professional competence.*" (cited in Crosby et. al. (1998)). A 10-15% 'bracket' now appears to have become routinely accepted by UK judges based on the ruling from *Singer & Friedlander Ltd vs John D Wood & Co [1977]*). This range has also been justified by reference to empirical studies.

There has also been an appreciation that different property asset classes should have higher variance. For example, *Corisand v Druce & Co [1978]* (15% for hotel valuation); *Mount Banking Corp. Ltd vs Brian Cooper & Co [1992]* (17.5% for land valuations). Crosby *et.al.* (1998) commented that under normal circumstances +/- 10% margins should be expected, rising to 15% if the property type or market conditions were particularly challenging. In a later paper Crosby (2000) disclosed three leading legal cases in Australia that examined the difference between expert witnesses with an average variance of 9.64% between valuers (ranging from 7.14% to 11.11%). The margin of error principle is also somewhat subjective and a hypothetical definition and "...will be heavily influenced by the evidence as to value which is provided by...expert witnesses." (Crosby *et.al.* (1998)). It appears that judges' rulings can be equally

ambitious and be simply one of blended averages or figures that fall somewhere between the figures of two or more valuers. That said, no judge ruling has adopted a margin greater than +/- 15%, with more recent cases stating that a variance of +/- 25% would constitute negligence (*Abbey National plc v McCormick & Merrifield* [1996])

There have been several recent cases in Australia dealing with valuation accuracy and negligence (Boyd and Irons, 2002), perhaps the most cited is *Interchase Corporation Ltd v ACN 010087573 Pty Ltd and Others* (2000) QSC 013 and relates to the valuation of the Myer Centre, Brisbane. The case has been selected for discussion as it brings out certain points relevant to the topic of valuation variance. Firstly, there was an obscurity in terms of the valuation methodology used by the valuer, opting to use a rate per square meter for the retail premise, rather than the more widely accepted investment method. In addition, the judge found the valuer to have been “*inappropriately influenced by the client...and led to too high a valuation figure.*” Thirdly, allegations pointed to unjust assumptions on vacancy rates, lease conditions and inaccurate rent predictions (Boyd and Iron, 2002). The study went onto to examine the level of variance from five valuers who took part in the instruction. The ranges around the determined value indicate that Valuer C and Valuer D were considered as representing the best guides to market value, being 7% above and below the determined value (defined as the midpoint (\$410m) between the values determined by Valuer C (\$380m) and Valuer D (\$441.5m)). Valuers A and B who were 20% and 22% outside this determined value were found to have no evidence of negligence against them as “*...it could be argued that a range of 20% may be acceptable for complex valuations.*” In terms of valuation methodology, the valuers showed a greater emphasis on the comparable approach rather than the DCF. Boyd and Iron (2002) concluded on a number of other legal cases that:

- Reasonable care requires a valuation exercise to be free of major errors.
- Reasonable care cannot rightly be measured in terms of a valuation range or valuation variation.
- Reasonable care requires the identification and quantification of the uncertainty of the input data.

Notwithstanding the discussions above on the issues of negligence of firms and individuals, commentators also believe the lack of internal regulation and disciplinary guidance is also missing. Furthermore, government enforcement of valuation practice and the establishment of disciplinary avenues have also been weak – with both developed and developing economies insufficient in the procedural steps of enforcing minimal standards to the profession. However the authors notes that using empirical evidence to determine an appropriate margin of error to testing negligence can be seen inconclusive (and fundamentally flawed) as it relies on the sample valuations themselves being non-negligent. That said a margin of +/- 20% appears consistent.

The next two sections will examine a range of qualitative and quantitative findings from international property variance studies. This will begin by looking at the quantitative analyses.

4.1.2 Quantitative findings from valuation variance research

The pioneering study by Hager and Lord (1985) gave 5% to be the expected variation either side of the mean. The survey established that variance amongst 10 valuers should be +/- 5% of a control figure. The study showed that only 50% of the valuations were within 5% of the control valuations and 80% were within 10%. This study has been vetted as anecdotal rather than one of rigour. Nonetheless it does point to the vulnerability of commercial real estate valuations. This was also supported by Mackmin (1985) who also stated “...*the valuer’s belief is that (they) will be valuing to within 5%.*” The experimental flaws of these early studies may mean that this figure is unreasonable. A number of later studies extended this figure slightly including “...for professional credibility, the range of valuations should be within a narrower range. Variations in excess of 10% must be viewed with some concern as this may prompt legal action from dissatisfied clients.” (Hutchinson, 1996). Subsequently Brown *et.al.* (1996) also gave the perception amongst valuers that a variance of more than +/- 10% would initiate concerns of negligence. However, the study pointed to the fact that this acceptable range had come about arbitrarily.

Matysiak and Wang (1995) looked at the reliability of appraisals in different market states and suggest appraisals are higher/lower than prices when markets are falling/ rising. This has consistency with other international studies (Newell and Kishore, 1998).

Crosby *et.al.* (1998) noted that the level of variance will vary according to the circumstances of the valuation. A lesser body of valuation research exists related to valuation variance than valuation accuracy, largely a byproduct of the fact that there is acceptance that variance is invariably created by human subjective decision-making.

A later study by Hutchinson *et.al.* (1996) which asked participants to value notional properties, each giving a range of specific characteristics. The results showed that 82% of office valuations (rack-rented) fell within 20% variance and increased to 97% for reversionary valuations. Hutchinson *et.al.* (1996) noted concerns that valuers would not produce accurate valuations in stable conditions, recognising that “...*the valuations were controlled, prime properties and the physical size, lease terms and covenant strength were given.*”, indicating in the real-world these levels of variance would be exacerbated further. On the counter-argument, valuers were not able to inspect the property and a large part of the decision making of a valuer is done whilst undertaking the property inspection. A common theme in a number of studies, both accuracy and variance research, has shown information is key. Valuers must be equally informed and that can only happen if market information is standardised. Further complications exist as differences in interpretation of the same information can also lead to variance (Brown, 1992). The latter element is much more complicated to govern.

Table 4.1 shows that earlier studies of Hager and Lord (1985) indicates that 80-95% of valuations fell within a range of 10% variance and only 5-10% fell outside the 20% limit. The findings of this early work were criticised as being oversimplifications of real-life valuation instructions with relatively small sample sizes. Morgan (1993) provides a more conservative range of figures, in that approximately 70% of valuations will fall within a 10% variance range and up to 15% of valuations exceeded the 20% limit. Adair *et. al.* (1996) gained a broadly similar set of results. Despite some contradictions between rack-rented and reversionary valuations presented by Hutchinson *et. al.* (1996) the proportion of valuations within +/- 20% remained significant. Crosby *et. al.* (1998) was able to reconfirm the findings of Adair *et. al.* (1996) and Morgan (1993) as well as Diaz and Wolverton (1998). These studies showed agreement in that 65-70% of valuations were within +/- 10% and 5-10% beyond the 20% range. A later study by Brown *et. al.* (1998) identifies caution in valuation variance suggesting valuers only

have a 20% chance of agreement within 10% of each other. The results provide key insights to a range of international studies that have looked to quantify variance in commercial real estate valuations.

Table 4.1 Overview of key research findings on valuation variance

Research study	Asset class	Proportion of valuations within margin, % (variance %)
Hager and Lord (1985)	Office Retail	Rack-rented 90% (<10%), 100% (<20%) Reversionary interest 80% (<10%), 90% (<20%)
Morgan (1993)	Commercial	Office 72% (<10%), 79 (<15%), 86% (<20%) All property 69% (<10%), 78% (<15%), 88% (<20%)
Adair <i>et.al.</i> (1996)	Commercial	Rack-rented 61% (<10%), 85% (<20%) Reversionary interest 69% (<10%), 90% (<20%)
Hutchinson <i>et.al.</i> (1996)	Commercial	Rack-rented 57% (<10%), 82% (<20%) Reversionary interest 74% (<10%), 97% (<20%)
Blundell and Ward (1997)	Commercial	50% (<10%)
Crosby <i>et.al.</i> (1998)	Commercial	65% (<10%), 90% (<20%)
Diaz and Wolverton (1998)	Commercial	70% (<5%), 95% (<10%)
Brown <i>et.al.</i> (1998)	Commercial	20% (<10%)

Source: adopted from Parker and Boyd (2002); Crosby *et.al.* (1998)

This analysis shows that international studies of valuation variance are based mainly on commercial valuations. Although there is a high degree of variation within the results, a mean range of around 10% is typical. Similarly (in general) about 70% of valuations are found to fall within the +/- 10% variance margin with about 80% falling within the +/- 15% margin. These 10% and 20% ranges will be used to benchmark the pricing data collected in Dubai. The next section will seek to examine the causal aspects of why valuations vary and build up a consensus of opinion from a range of international research.

4.1.3 Qualitative findings from valuation variance research

Understanding processes has become a critical part of understanding valuation variance. The examination of how appraisals/valuations are formed allows researchers to evaluate the opportunity for variance through different assumptions or training cultures. Recent

work to behavioural research. A number of international studies referenced by McAllister *et.al.* (2003) were summarised as follows:

- a) Valuers are partial to adjust data in response to new information. This requires a negative contemporary cross-correlation between valuation error and true market value (Quan and Quingley, 1991). This suggested that valuers ‘under-react’ to new market information.
- b) Historic valuations influence current ones through ‘anchoring’ bias (Clayton *et.al.* 2001)
- c) Valuation methodologies and institutional constraints drive valuers towards requiring market transactions in order to change value perception, and these being historic, produce a delay in market value commentary. Non-transaction based information is slow to be included.
- d) Minimum thresholds exist that need to be breached before a valuation is changed (Brown and Matysiak, 2000)

Valuation variance is identical to imprecision and is described as the haphazard distinction between the population mean valuation and other valuations of the identical property. A contrary to accuracy studies, prevailing market conditions do not play a key part in the level of valuation variance and thus these market conditions need not to be factored into the assessment when measuring the degree of variance. Crosby *et.al.* (1998) noted that “...it would be expected that a comparison of one valuation with another valuation would produce greater similarity than a comparison between a valuation and a...sale price.” That said there has been a number of contrasts between the findings of international research. There is a clear line of evidence that suggests 10-15% margins can be expected when different valuers give opinion on the same subject property. However, at this stage one should be mindful of the fact that if valuation errors of any type variates haphazardly around the mean value, a series of combined errors may in fact cancel the variance out (Bowles *et. al.* 2001, 143). Earlier chapters have attributed this margin to a range of inherent real estate characteristics, including the shortage of market data. In comparison with an equity market, the trading methodologies of the real estate market conflicts with one another. Furthermore, attributes such as: high search costs; bargaining, a small circle of buyers and sellers;

relative illiquidity; and most importantly a price diffusion on a consistent basis, cause a disparity in expectations of price for real estate versus the perfect market.

Property valuations can suffer from two main of sources of variance; the quality of current information and the future perception of risk. The results of the survey found that traditional valuation methods dominate and rely heavily upon transaction evidence. The survey respondents contradict this assumption and apply term and reversion in a market which they confirm “*lacks transparency*” and “*often is thinly traded in terms of transaction evidence.*”

Bowles *et. al.* (2001) comments on such attributes and concludes it would be unreasonable to expect valuers to forecast exact transaction prices. Furthermore, critics of valuation accuracy and variance observe that the market value of an investment must illustrate rationality (based upon a DCF approach). Yet humans are unable to accurately forecast, and as such ambiguity will be reflected in any assessment of market value, particularly if those are compared preemptively. This was a counter argument to negligence claims based on margins as discussed in the earlier section.

In Dubai, valuers attempt to function in an information-weak environment. This suggests that there would be a greater variance in valuation forecasts and possible imprecision when comparing these to transaction prices. Anecdotal evidences suggest that the market was prone to considerable under-valuations during recessions and over-valuations during booms, based upon the absence of hard evidence. Research in other markets share similar concerns basing it upon the methodology related to the valuers (Hinkelmann and Swidler 2008) and market prejudice from a methodical departure between valuations and actual sales price (Bowles *et. al.* 2001).

4.1.4 Variance from market terminologies

The interconnection between the three concepts of price, value, and worth, an area discussed in Chapter 2, also implies a variation through a range of noisy signals between these concepts and practice. According to Baum *et.al.* (1996), market price is the sum of money actually paid for an asset while worth is the underlying investment value. There are two different aspects to worth (Baum *et.al.* (1996)):

- Individual worth. The maximum bid price of an individual purchaser who takes account of all available information in an efficient manner; and
- Market worth. The price at which an investment would trade in a market, where buyers and sellers were using all available information in an efficient manner.

These authors emphasised the difference between the previous terms. Worth will differ from individual to individual and will depend on a variety of views and perceptions. However, this worth does not vary for each investor according to French (1996) and Byrne (1996) who state that an investor will view worth as a discounted value of the rental stream produced by the asset. In theory, this discounted value should be the same, but investors' perceptions vary considerably. In the case of market price and market worth, these two terms may not equate due to two reasons. First, it is well known that valuations do not always take account of all available information in an efficient manner, which results in influencing of prices. Second, sometimes a buyer pays a price for a property, which is a reflection of the value unique to the purchaser. While the former may affect the real estate market, the latter affects mainly an individual property and is clearly connected to the heterogeneity of real estate assets.

Valuation and market worth may also differ substantially. When valuations fail to include all available information in an efficient manner, then market price will not equate to market worth. In this case, it is suggested that valuers must explicitly make the distinction between market price and market worth in their valuation practices, since investors compare the real estate exchange value with their own assessment of worth. Finally, market price and valuation differ as well since valuers are often wrong when determining the most likely selling price. Hence, there are always buyers and sellers for investments, which ensures the functioning of the real estate market. Consequently, individual worth, market worth, market price and valuation do not always equate. These concepts and market observations from a range of academic studies suggest that valuation variance is a byproduct of different interpretation of market terminologies and its subsequent application to the valuing of a subject property.

However, Wyatt (2013) criticised such lines of argument. Wyatt (2013) saw “...no reason why the use of the traditional method of valuation cannot result in accurate estimates of market value”. He noted that if there is a market in which participants calculated bid and offer prices by incorporating explicitly risk, rental growth, and depreciation; then, real market prices could then be analyzed in the traditional way to determine a single, comprehensive yield, which could be used to estimate the market value of comparable property (Baum and MacGregor (1995)). The same authors state that mis-pricing in the property market would be reduced if actors were able to understand the links between the property market and both the economy and other investment markets. Furthermore, traditional techniques exacerbate mispricing while explicit DCF techniques require explicit consideration of key variables. This differs from individual worth since individual investors have different perceptions about individual properties. While there may be separations in a consensus to what leads to mispricing, it is clear that mispricing does exist as a result of the assumptions and subjectivity of terminology brought in by the individual valuer.

4.1.5 Variance from valuation approach and methodologies

The last section noted variance as a byproduct of accuracy and the valuer’s interpretation of terms. Equally important in variance studies has been the examination of an individual’s approach and applied methodologies. The second sub-section explains an overview of this body of research.

Whether valuers use conventional growth implicit or contemporary growth explicit techniques, valuers are typically criticized for offering valuations which are a backward-looking reflection of a single snapshot in time. French (1997) states that price and value should not be historic or backwards looking. Price because it is a reflection of the amount of money paid for a particular asset and value because it is determined in most cases by comparing the subject property to previous transactions of comparable properties. French (1997) states that traditional approaches are overlooking the main factor of value, which is buying the future. He expresses that “...*the price that is paid for that asset, or the value placed on it therefore represents either their assessment of worth of those perceived future benefits (if the market is efficient), or a figure below that worth assessment, so that if their view of the future proves to be correct they will*

achieve higher returns than their required opportunity cost'. Baum and Crosby (1995) suggest that worth calculations can help the valuer focus on the future. According to them, it is important for valuers to take into consideration the perceptions of investors and the technical information on future prospects of the market in order to provide more accurate estimates of market price. A range of academic research has stated that this should be done through the use of the explicit cash flow appraisal (DCF), despite the disadvantages (of further subjectivity).

French (1997) who expressed that there is a need to apply explicit models when faced with either insufficient comparable information, or where the worth analysis is too complex to find a single market indicator. Nevertheless, DCF is only adequate for market pricing if there is enough uniformity in the variables used in the analysis in order to be able to determine the "market". In other words, homogenous markets will have a surplus of players with similar views of the future. Hence, any valuation will provide similar estimates and this itself will result in market price. It also holds that if this was the case variance would be more confined.

Peto (1997) adopted a similar defense of the DCF method. He argued that better valuations mean more accurate pricing, which is dependent on two inputs: the use of appropriate methodology and the availability of market data. As far as the methodology is concerned, the comparison method of pricing is criticized since it does not require valuers to understand investors' motivation of buying and selling. They play a role of passive "score keeping". In that case, it is essential for valuers to understand: investor's total return requirements; to know over what time span their investment is to be held; what rental growth will be assumed; how investors will be funded; and such like. Once again, DCF is recommended as a way to provide rational pricing and calculation of worth provided that data availability is developed. In a similar way, Baum *et. al.* (1995) stated that property advisers should not only derive market prices and adjust them for individual properties; but also provide a complete investment panorama including likely selling price and market worth based on analysis of links between the subject property and the whole economy and other investment markets. This analysis would provide a representation of correct or incorrect pricing.

In Dubai, anecdotal evidence suggests valuers are seldom using DCF. Instead, the traditional capitalisation approach dominates. The primary data collection and survey work detailed in Chapter 5 will examine the consistency of valuation assumptions and also shed light on valuers' preferences for a particular approach. It would appear from these discussions that valuers would need to adopt similar methodologies (and assumptions) as well as have available to them the same level of market data, for valuations to be contained within a narrow range of variance.

The next section moves on to examine the wide range of academic discussions relevant to valuation variance and provides an analysis of real estate market efficiency and its resultant impact upon asset pricing processes. The section aims to highlight the inefficiencies in real estate markets and concludes by commenting on key areas that appear most relevant to Dubai's commercial property market.

4.2 MARKET EFFICIENCY, ASSET PRICING & VALUATION VARIANCE

The access to commercial real estate market information varies significantly from country to country. Numerous academic studies have argued the importance of transparency to investors (Dunse *et.al.* (2010); Brounen *et.al.* (2001)) and support the notion that information availability drives market efficiency. The broad understanding from such studies is that greater transparency will create confidence and more efficient decision-making. Conversely, the opposite can be said for opaque markets, with the latter being a key factor that controls inward foreign investment (Gordon, 1999). The availability of information and the efficiency of the market are central issues being explored throughout this thesis. Other attributes of a transparent market relate to low levels of corruption; professional integrity; political safety and clear financial disclosures within the reporting of investor relations. The process of determining market prices and making an assessment upon its relative accuracy cannot be analysed without investigating the operation of the market itself. Market inefficiencies will have significant bearing on how the market prices of assets are established. This section begins with a definition of market efficiency and investigates the implications that information efficiency will have on the valuation decision making process. Market efficiency and the efficient market hypothesis are then defined. The discussion then turns to the real estate market, where an attempt to define real estate market efficiency

is presented, based upon selected secondary literature. In addition, it describes ways to test the information efficiency of the property market. An application of these theoretical observations are then presented within the context of Dubai in order to evaluate the level of market efficiency and its bearing upon variance.

4.2.1 Market Efficiency through the Pricing System

From a review of academic literature, a frequently applied definition of an efficient market is that of Malkiel (1996) who states:

“...a market is said to be efficient if it fully and correctly reflects all relevant information in determining security prices. Formally, the market is said to be efficient with respect to some information set (...) if security prices would be unaffected by revealing that information to all participants. Moreover, efficiency with respect to an information set (...) implies that it is impossible to make economic profits by trading on the basis of (that information set).”

A distinction should be made between market terms and that of a ‘perfect market’ and an ‘efficient market’. These relate to the ability for exchanges taking place on the basis of predetermined information, most rationally through demand and supply criterion. The formation of price plays a central role in the market function and efficiency as it typically creates the point of exchange between buyer and seller. Economists will test the levels of efficiency through the pricing system. Decision making will then simply drawdown to the concepts of opportunity cost. These economic principles in brief terms discuss the pricing system. For market participants to be able to maximise investment decisions, the operations of the market need to be efficient. The conditions necessary for economic efficiency to be achieved through the pricing system include the following (Harvey & Jowsey, 2004):

- *Perfect Market*: price differences are quickly eliminated. Consumers and producers must seek to maximise utility (profits) and thus be unhampered by legal and other constraints.

- *Perfect Knowledge*: consumers are aware of any price differences which temporarily exist in the market. Furthermore, there should be no additional costs in obtaining such knowledge

- $P = MR = MC$: for this situation to occur there must be many producers each supplying such a small quantity to the market that so single producer can influence the market price. Freedom to entry to the market must also exist. Under monopoly too little is produced at too high a price.

A ‘defective market’, such as property markets, will impair the efficiency in which the market participants respond to a change in price. For instance, this might relate to supply side dynamics and how responsive a market is to new supply. Appendix A provides a more detailed comparison of the characteristics between a typical perfectly competitive market and a typical real estate market. Supply and demand will always influence the value of real estate, but it is the measure of response to information and decision making that is the key control. In a perfectly competitive market, supply and demand react quickly to changes in market conditions. However, in a real estate market supply is effectively fixed in the short run and therefore cannot respond quickly to changes in market conditions.

The level of efficiency in a market will play bearing to how wide valuation variance is in a specific location. An understanding of how efficiency is formed and how information flows amongst its stakeholders is critical in better understanding the challenges found by the valuation profession. The next section reviews this initially by examining the efficient market hypothesis (EMH). The analysis of EMH will develop a construct that is highly relevant to understanding variance.

4.2.2 Defining the Efficient Market Hypothesis (EMH)

The Efficient Markets Hypothesis (EMH), initially formulated under the scrutiny of the financial markets and later property markets, refers to information efficiency. The EMH states that asset prices in financial markets should reflect all available information; as a consequence, prices should always be consistent with ‘fundamentals’ (Beechey et al. 2001). Market efficiency requires prices to fully reflect all available information. The

efficiency of price adjustments to new information refers to the speed and quality of the adjustment. The term 'efficient market' was introduced by Fama almost 50 years ago, a central theme being that market prices adjust rapidly to new information. As with other economic assumptions it is largely based around the principles of perfect markets. The hypothesis is separated into three parts based upon the level of available information to participants; weak form (past prices); semi-strong form (public information such as company accounts, economic forecasts and strong form (meaning all information including public and private).

A key implication that is borne out from EMH is that of the random walk hypothesis. Fama (1970) presumes that a change in the asset price is random and independent of each other, largely one of an unpredictable nature. A fundamental market observation that stems from this argument is that neither excess investment profits nor incentive for speculation are available. Dunse *et.al.* (2010) point to the fact that market size is a fundamental determinant of information efficiency, based upon a similar premise to that stated for uncertainty. The level of transaction activity will ultimately drive the level of information flows and thus support a more efficient market. In locations where there is less efficiency there is the characterisation of a higher level of volatility (Dunse *et.al.* 2010).

In general, the EMH supports the notion that financial markets are efficient in relation to the information they provide. Price expectations are formed by rational expectations, and the expectations of future prices are therefore based on the perceptions of current and past market prices. The notion of market efficiency has evolved into one where a market is considered to be efficient if investors are unable to consistently outperform the market once information, search and transaction costs are taken into account (Dunse *et.al.* 2010).

More simplistically, one would expect that an efficient market would be one that correctly prices its products. In the property market, there are a number of problems with the determination of prices, including that of short leases and over-rented property suggesting that systematic mispricing over periods of time long enough for investors to react does occur (Ball, 1998). In an efficient market with homogenous goods, and

perfect knowledge then market price would equal market worth. Under such conditions, a valuation would be a good estimate of both price and worth. In the property market with heterogeneous goods, and imperfect information market price, market value and market worth may diverge. In this situation, valuations might influence individual worth and subsequently market price.

Following the issue of valuation variance, the valuation may bias the market price because it is used by a potential buyer or seller to establish a likely market price. The heterogeneity of property, lack of a central market and information constraints make valuations difficult (Baum *et.al.* (1996)). However, traditional valuation methods may also contribute to the difficulty and imprecise nature of the valuation procedure. The comparable methodology is seen to be a 'cornerstone of the valuation process' by Crosby (2000), however, this line of argument is only as good as the level of information supplied in the marketplace. In a relatively closed market like Dubai, the effectiveness of these comparable communications are called into question. Brown (1985b) acknowledges that different valuers will interpret information differently and produce different valuations, stating that such differences will be random and will therefore become irrelevant. This may hold true in a mature and transparent market, but in a market where secrecy surrounding information is high; the reliability of information sources are questionable; and unconstitutional sources of information can bias the market, the comparable method undoubtedly become less effective. Anecdotal market observations do tend to support the weaker levels of efficiency in Dubai. These viewpoints regarding market volatility and the availability of information need to be qualified by reference to other influences. Academics and scholar articles over the last 25 years have stated a range of factors that create a source of variation in the property market. Barras (1994), Key *et.al.* (1994) and Wheaton *et. al.* (1999) support the notion that time lags (in supply and demand dynamics) that give rise to property cycles are the greatest source of variation.

Dubai, as a reference point in this study, is perhaps the most recent global example of speculative-driven market forces. Despite criticism to its information efficiency earlier in the section, a side of caution needs to be taken in classifying the market as weak-form. More empirical evidence is needed as this is the first major cycle experienced in

its markets since establishing its freehold laws (that effectively opened the gates to international investment and speculation in the markets). The next section examines how efficiency has been tested in other global markets. It is a pre-requisite to the analysis of market efficiency in Dubai.

4.2.3 Testing the efficiency of the investment market

The notion of market efficiency has evolved into one where a market is considered to be efficient if investors are unable to consistently outperform the market once information, search and transaction costs are taken into account. Prior to the introduction of the EMH, the random-walk theory defines market efficiency in terms of a lack of dependence between successive price movements (Baum et. al., 1996). A price series that has independence between current and previous price movements was said *to follow a random walk*. This theory is the basis for markets that are weakly efficient, although the random-walk theory is a more rigorous definition than the weak form of the EMH. Under this assumption, a market with returns in one period that are independent of returns in previous periods (zero serial correlation) displays weak form efficiency. Therefore, future price movements cannot be predicted using past prices. Correlation coefficients, and runs tests, have been simple statistical techniques used to empirically test markets for random walk.

Statistical tests on the stock market suggest that shares follow a random walk and are weakly efficient (Rutterford, 1983). However, in a market where transaction costs are high enough to deter trading or where the dissemination of information to traders is slow (e.g. a property market) then a trend in the asset price, as it moved towards its new equilibrium, would occur. This would give rise to price changes that are serially dependent rather than random, and excess returns could be made by spotting the trends from charts or by trading on new information before prices fully adjust. The work undertaken in the US and UK commercial property markets tend to support the finding of weak form efficiency. However, this evidence is limited and there is concern with regard to the rigour of the testing procedures. In addition, the recent findings that price discovery exists in the property investment market invalidate the assumption that the market is weak form efficient. In fact, causal observation suggests that systematic mispricing is common in the property market. Brown and Matysiak (2000) dispelled

any suggestions that the property market exhibits strong form efficiency. The issue of efficiency in property markets is certainly well debated.

Shiller (1990) argues that speculative asset prices tend to show excess volatility relative to models of market efficiency. His work based upon a present value approach, found that speculative prices are partly predictable in relation to mean values (perhaps over the long-run). In terms of fundamentals, equity prices are strongly correlated with dividends in the same way commercial property prices are backed up an income-based approach. Price volatility, bubbles or cycles are largely speculatively based and often relate to investor exuberance and these imply market inefficiencies. These trending patterns in the context of Dubai and how they impact upon property valuation variance are discussed in the latter sections. The next section moves to a more real estate centric discussion of market efficiency.

4.2.4 Assessing efficiency in the real estate markets

In terms of assessment, we can look at a real estate market in terms of two broad characteristics: technical and economic. A brief overview of these will be discussed.

There are a range of technical and economic characteristics in a property market that govern market efficiency. These can be linked under the following headings: physical conditions; knowledge; transactional costs; and price signals.

- Physical conditions should ensure that price difference for the same asset within the same market are eliminated easily and quickly. This requires both parties to have an up-to-date knowledge of the price differentials and base their decision solely upon price.
- Knowledge within a property market is challenging and participants often find it difficult to obtain up-to-date information concerning transactional information or comparables. However, investors more so than occupiers will be able to better determine the appropriate pricing in the market with the presence of rental evidence, and so decisions can be broadly made more transparently through the use of the capitalisation method.

- Transactional costs should be a relatively small value of the transaction. A range of costs such as legal advice or knowledge gathering restrict the extent to which a small price change can motivate market activity.
- Prices signals which indicate change in the conditions of demand and supply. In turn supply and demand adjust to these signals. Where the markets are defective, price signals work at less than full efficiency, and adjustments to supply and demand are sluggish.

Any institutional or government action which serves to make knowledge better or more readily available, such as the freedom of information of Land Registry data or CoStar in the UK, is likely to be beneficial when examining market efficiency. Likewise commentators suggest that the removal of legal costs of transfer can help the market better adjust to small changes in price. A legal process is mandatory in jurisdictions such as the UK, but not so in Dubai. Many transactions in Dubai's real estate market are complete without both the presence of a solicitor nor abnormal legal fees and stamp duty attached. The transaction cost of buying and selling, including notionally all costs except the sale price itself, are typically 6-7%, which is low compared to many other international comparisons (particularly down to the absence of property-related taxes). That said the lack of institutional grade commercial assets impedes on the relativity of transactions. Subsequently, price signals and market information does not readily enter the market. Although commercial transaction do take place, the deal is often hidden.

The importance of economic characteristics cannot be overstated and the extent to which competition in the marketplace also drives market efficiency. The relevance of barriers to entry; number of market participants and its bearing upon price adjustment are all relevant. The conditions whereby monopolistic controls exist include: geographical divisions, leading to imperfect competition between local markets; imperfections of the capital markets may prevent some would-be buyers from borrowing large sums required for institutional scale acquisitions; and the spatial fixity of real estate puts certain owners in a strong position relative to the buyer (marriage value considerations of neighbouring plots for example). In the context of Dubai,

market participants are restricted geographically to purchase within ‘freehold’ areas (applicable to non-GCC citizens).

From this section we can summarise that the efficiency of real estate markets are reduced by the presence of:

- Imperfect knowledge
- Imperfect competition
- Relatively high costs of dealing/transactional costs/lack of transactions

Whilst important to the debate, one must not overemphasise the barriers in the real property market. Although one can say that given sufficient time all market prices will adjust to market conditions, the mechanism of each individual market is the key determinant of this elasticity in price movements. The next section will now look to examine a range of critical observations that have emerged in relation to market efficiency in Dubai, the conclusions of which will give important insights into their influence upon variance.

4.2.5 The implications for market efficiency in Dubai

The earlier section has already highlighted, in the context of Dubai, that transactional cost; market knowledge and restrictive participation might have a bearing upon market efficiency. These factors and others need further discussion.

The study carried out by Malpezzi and Wachter (2005) is perhaps one closely linked to market observations in Dubai’s property market. Their work highlighted that if prices are transparent, market participants will have good information about at least current pricing levels. The paper ascertains that markets containing a high proportion of short-term speculators contribute to both uncertainty and price volatility. In such situations, the presence of price volatility inhibits the continuous flow of accurate information within the market, thereby reducing levels of market efficiency. If historic price increases are then to be extrapolated in formulating future expectations then the market will undoubtedly observe further evidence of speculative driven cycles of boom and bust. This behaviour becomes detached from the cyclical patterns we would be observing in more mature markets, like UK, US and Australia, which are driven more

by the patterns of demand and supply fundamentals. Whilst academic literature observes a 'random walk theory', in that prices cannot be predicted based on past price information, elements of Dubai's real estate market appear to be informed based upon just that. The reluctance of price corrections in the Dubai market, particularly for non-favoured or less-established projects, appears to be maintaining higher pricing levels (asking prices that is). This anticipates the presence of weak-form efficiency within the Dubai's real estate market. One can further argue the point that despite the lack of market information, speculation will remain present (given the high proportion of investor acquisitions versus owner-occupier purchases). Therefore there is an ability for excess profits to be earned, by investors who know how other investors value real estate (based on prevailing market conditions and the capitalisation method). The investment method of valuation is very much the spear-headed approach to property appraisal in Dubai and thus drives the future values of the market. Accordingly, real estate prices and rent growth assumptions are central to the pricing of real estate in Dubai, at least in the short-term, given the prevalence of the capitalisation method applied in the market. The market is also readily driven by market sentiment and a detachment from observed price. Such a presence overexposes the market to higher levels of speculation as well as higher levels of uncertainty.

Following on from this one can link back to the earlier papers of Fogler *et.al.* (1985) and Scott (1990) that state that real estate assets may not be reflective of market fundamentals. Both authors advocate that real estate exhibit high returns due to the role of investor perception, anomalies created through their own decision making criteria or views of current or future rental growth prospects. In Dubai, like many other international markets, transactions are decentralised making it costly to gather information. That said, it does appear that property prices in Dubai are driven more by the changes in expected returns via perceived changes in current and expected future property income. It would also appear that the early stages of Dubai's property cycles are integrated with the application of the income approach to real estate valuation (echoing early international studies of Born and Pyhrr (1994)). Current passing data on rental incomes and the calculation of the all-risks yield are being applied to create a benchmark for present value of property assets. In such an approach, the past property information is being used to steer future values. Additionally, some rational speculators

(or informed agents) would perhaps buy assets today expecting that “noise traders” will buy at a higher price in the future. Fogler *et.al.* (1985) and Scott (1990) found that speculators would encourage other positive feedback traders to buy assets, moving prices further away from fundamental values. This was perhaps most recently seen in Dubai in 2013 when the Emirate won its bid to host the first World Expo in the Middle East (due in 2020). Decision-making across Dubai also appears to follow the early works of Clapp and Tirtiroglu (1994), suggesting that decision makers use information on recent rates of change in asset price determination. Within the context of Dubai, information could be distorted on the basis of a combination of both procedural and behavioural factors. A list of the most apparent influences to information efficiency in the local market are highlighted below:

- Standardised measurement practices (procedural)
- Data availability and performance measurement indicators (procedural)
- Professional awareness to ‘market value’ (behavioural)
- Transparency in market data (hybrid)

Each of these areas will be discussed in further detail to better assess the levels of efficiency within Dubai’s real estate market.

Standardised measurement practices

An essential part of property valuation is the use of comparable evidence. Valuers need a starting point in which to make decisions that seek to eliminate the presence of heterogeneity in property. The comparable approach is at the forefront of this methodology and the valuer is trained to put comparable evidence in a price/sq ft (or sq m) format. Historically, measurement practices have differed and been the source of much confusion, particularly related to the different stakeholders choosing to state gross rather than net values. Furthermore, a global study by JLL showed that different measurement standards could mean there as much as a 24% variance in the stated size of a property (JLL, 2014).

Historically, in Dubai, there has been no strict enforcement on the measurement of property. Local RICS members were using the Code of Measuring Practice, whilst other

practitioners would appear to be using something different. Market participants therefore can be presented with several opinions on the size of a subject property, which would make the issue of comparison per sq. ft. somewhat challenging. Anecdotal evidence of measured properties being somewhat higher than its true measurements does exist, a concern not only for valuers but also the wider investment market. Public information and sales portals show that some agents exacerbate the size of property so that it appears to be more competitive as a price per sq. ft rate on their listed properties. Furthermore, developers have differing measurement practices and ultimately this works against the grain of international valuation practices and impedes the valuer's ability to apply, with confidence, the comparable method. These market observations of unconventional practices will reflect and exacerbate valuation inaccuracy and variance in Dubai. Historically, a lack of standardised measurement practices in the market has upheld progress towards greater transparency and market efficiency. Performance measurement indices, which allow information efficiency, would have been further complicated by the presence of unconventional measurement or legal representation when faced with defining the size of property assets in Dubai.

The Dubai government mandated the introduction of International Property Measurement Standard (IPMS) for offices in 2014 and subsequently for other asset classes at future dates. This is an advantageous step and it ensures property assets are consistently measured bringing with it more transparency; greater public trust; stronger investor confidence, and increased market stability. That said, its implementation may be slow and hampered by lack of training. In addition, there will be a transition needed for property information to be fully incorporating these new standards.

Data availability and performance measurement indicators

The property market in Dubai, as well as many other global locations, has historically suffered from severe information constraints. There has also been a reluctance of both government and private-sector organisations to openly publish the valuation information they collect. This has been further exacerbated by the Dubai government who introduced a new law in 2015 that limits the ability of private companies to conduct surveys. Typically property information is provided at the national and city-wide level in the form of indices, while local data is more limited. Even then the published national

and regional indices tend to be only produced as a single composite measure for all-property and for the four broad property types (residential, offices, industrial units and shops). Data at the local level and in a more disaggregated form are available at a cost.

In Dubai, REIDIN is by far the largest provider of property data with its direct link to the Dubai Land Department title registration information. They provide a range of data information services as well as a composite sales and rental index. REIDIN uses monthly samples of offered and list prices (asking) which undermines the true definition of market value, suggesting asking prices do influence perceptions on value. That said, the index has become established as the leading benchmark against which most valuers measure their professional judgements. However, it represents only segments of the market and it largely criticised by practitioners as being too raw. Although transactional data is available through Dubai Land Department, it has come under a level of scrutiny with the lack of title registration that has taken place to date, the record of actual transactional evidence is rather scarce. Moreover, current title registrations that are being processed are often those relating to deals undertaken in 2007/08 and this also questions the reliability of the information offered to valuers and wider investors. Recently, DLD announced that it will begin to compile more building specific data on a wide range of metrics for both freehold and non-freehold areas, a positive step in the development of market data.

Alongside REIDIN many of the professional firms have constructed their own index monitoring within key specialist sectors. However, with each of these there are limitations as they individually only represent a small proportion of the market or in fact their underlying assumptions exclude certain market participants. For instance, the Colliers House Price Index (HPI) is based on mortgage data through a collaboration with key banking/financial providers which does allow transactional evidence to be provided (unlike some parts of REIDIN). Nonetheless, one must recognise that a lesser proportion of transactions are mortgaged in this market (according to Cluttons approximately one-third of buyers purchase with a mortgage). Therefore it does exclude cash sales that commonly take place in the market. With the lack of price information, through infrequent trading or title registration, very little information is made available on the finer details of the transaction. This makes the construction of transaction-based

indices problematic as well as limits the ability of a valuer to obtain true comparable information. In a broader context, the infancy of a historical timeframe of property information is also hindered by a lack of standardised methodologies in the marketplace. In the case of Dubai, the majority of transactions are private treaty (behind ‘closed doors’) and seldom do properties get auctioned, which is consider a more open and transparent mechanism for sales information to be collected. At present, it appears that most valuers rely on available indices (while managing their limitations) as well as sporadic information gained from external agents and investment teams.

Professional awareness to what constitutes ‘market value’ (behavioural)

Academic literature suggests that an efficient market would be one that correctly prices its products. In the property market, there are a number of problems with the determination of prices. Case studies of short leases and over-rented offices suggest that systematic mis-pricing over periods of time long enough for investors to react does occur (Ball, 1998). In an efficient market with homogenous goods, and perfect knowledge then market price would equal market worth. Under such conditions, a valuation would be a good estimation of both. Individual worth may differ from market worth but equilibrium would still prevail. In the property market with heterogeneous goods, and imperfect information market price and market worth may diverge. In this situation, valuations might influence individual worth and subsequently market price. Given the lack of available transactional evidence in Dubai for consumers and investors to freely observe (such is the case with the Land Registry data in the UK), one can expect that valuations and asking prices do have a strong impact upon market pricing. If price equals market worth then valuation of market price should equal market worth. If the market is mis-priced then valuations will reflect the mis-pricing rather than the true market worth. In line with this logical assumption applied to Dubai, Baum *et.al.* (1996) argue that valuations may cause mispricing. The valuation “...*may bias the market price because it is used by a potential buyer or seller to establish a likely market price.*” (Baum *et.al.* (1996)). The heterogeneity of property, lack of a central market and information constraints make valuations difficult. However, traditional valuation methods may also contribute to the difficulty and imprecise nature of the valuation procedure (Crosby (2000); Adair *et.al.* (1996)). None of these techniques involve an assessment of worth so they fail to inform the investor on the individual or market

worth of a property, and how that compares with the market price. In Dubai, market practice does tend to apply the traditional capitalisation methods to determine market value. From these observations, one could argue that the use of traditional techniques, the limited range of comparables used and the subjective adjustment of yields mean that a wide range of estimates of most likely selling price can be produced by valuers in the same sub-market. Thus it would be sensible to assume a large variations in valuations exist. Current valuation methods rely on historical market transactions for comparable sales. As such these viewpoints are backward looking and seldom link values to the capital markets (e.g. investors' target return linked to gilt yields) or the wider economy (e.g. rental income forecasts). These factors will impact market efficiency.

Transparency in market data (hybrid)

Investors rely on real estate returns data to guide investment decisions. Without historical returns indices, prospective international investors are impeded in terms of their ability to make rationale investment decisions. Thus, often reluctant to venture into opaque markets, and if so, only being able to apply guess work to market risk-return profiles. This makes them much less likely to invest, raising the cost of international capital. Access to information on the investment characteristics of commercial real estate markets varies greatly from country to country. A globally recognised benchmark for real estate transparency is that produced by Jones Lang LaSalle (JLL), an index that now spans over the last 10 years (as detailed in Chapter 2)

Dubai is the most transparent of the 15 markets covered across the Middle East and North Africa, and ranks in the semi-transparent category. There are a number of reasons why Dubai scores better. The relatively well-developed legal and regulatory framework is one factor, with the Real Estate Regulatory Agency being widely acknowledged as the best-in-class real estate regulator in the region. The DIFC is also emerging as the listing vehicle of choice for REIT's with a number of new investment vehicles having been recently launched or announced. However, progress in other areas is still relevant, with more needing to be done to increase the level of transparency of the real estate market. This is particularly so in respect to investment performance indicators and data on market fundamentals.

Importantly, progress has been made in MENA region, although many of the region's property markets are still lagging that of the rest of the world. As with the Asian financial crisis in 1997-98, the outcomes of the global financial crisis has seen a development towards greater transparency over the last 5 years in Dubai with, an 'enhanced' level of investor services provided. For instance, property companies including improved annual report transparency, interactive websites and regular analyst meetings to enhance investment appeal. The importance of this increased information transparency by listed property companies is widely acknowledged (Brounen *et.al.*, 2001). Markets with more transparent data are able to attract international capital as it allows for more performance measurement; benchmarking and risk management activities. The importance of performance data is therefore fundamental in drives towards improving both market efficiency and subsequent inward investment flows as well as essential tools for local valuers.

Since 2012 Dubai's real estate regulator RERA, has put in place measures which should further improve transparency. These include collaboration with international bodies, broker certification, complaints process, valuations workshops, market data, mediation committees and project review tools. Despite these initiatives, Dubai has suffered a slight decline in transparency due to the market still being in the early adoption phase of many laws and regulations, a substantial proportion of which are yet to be fully defined or deeply understood. This is further evidenced with the lack of participation from institutional investors. One of the characteristics of the regional real estate market is the low level of sales to large institutional investors. These organisations typically dominate real estate purchases in other global markets but are relatively underrepresented in the Middle East region. A fundamental reason for this is the high-risk premium that these investors apply to assets to compensate for the relatively poor levels of market transparency. The lack of accurate market data on demand, supply and other market fundamentals has also been a major factor in creating the oversupply that many sectors of the market experienced/are experiencing.

This section has provided an overview of four key areas to which market efficiency is likely to be governed in Dubai. There were: standardisation; professional awareness to market value; data transparency and data availability. The analysis has proved useful in

the assessment of market efficiency. It would also be reasonable to assume these market observations would be influential on the level of valuation variance observed in Dubai.

The next section highlights a relatively new area of debate in valuation research and introduces insight to how clients can influence variance.

4.3 CLIENT INFLUENCE AND VALUATION VARIANCE

As well as literature on real estate valuation variance and the impact of the technique, professional skill and market conditions, more recent studies have developed insights into psychological and behavioural effects. Diaz (2002) observed that the overall method of valuation employed; the ability to choose comparable sales information; biases and heuristics were important variables related to variance. The study also found significance in client influence and the feedback mechanism. Other studies have found client influence was heightened when permitting clients did review draft reports prior to formalisation (Fletcher and Diskin, 1994; Kinnard *et.al.*, 1997; Levy and Schuck, 1999, 2005; Gallimore and Wolverton, 1997; Chang, 2004; Smith, 2002; Chen, 2006). They also found prevalence of opinion shopping of clients amongst valuation firms. As valuations and appraisals are a fundamental component of corporate profitability there are clear incentives for clients to influence them, whether intentional or non-intentional (Crosby *et.al.*, 2010). Existing research has stated often expertise or profound local knowledge is used as a means to alter appraisal outcomes. Pressures for continued business development also act as impetus to adhere to ‘what the client wants’. Levy and Schuck (1999) argue that valuations are likely (at times) to be biased estimates of market values due to the influences that clients can bear on valuers and the valuation process. This is made possible by the exploitation of the leeway in valuers’ estimation of values or the range of defensible values (as explained in the earlier section of this chapter). The volume of research in the area of client influence has increased in the last 5-10 years. Crosby (2010) highlights that during periods of thin trading the ability for the client to influence the valuation is more pronounced. Smolen and Hambleton (1997), found that over 80% of respondents to a postal questionnaire believed that other appraisers would respond to client pressure to change appraisals and that “...*appraisers are sometimes under pressure by clients to adjust values*”. Martin (1997) reported similar results. Yu (2002) found a similar result in a questionnaire survey of appraisers

in Singapore. Hansz (2004) found that higher valuations were provided by valuers supplied with information suggesting that there would have been implications for repeat business. A number of similar studies conducted in emerging markets, have found similar evidence of client influence (see Amidu et. al. (2008); Amidu & Aluko, (2007)). A range of studies have therefore reported valuers being at risk of accommodating the client, though somewhat difficult to prove in practice.

It might be expected that clients would deny pressurising valuers and valuers would deny any influence. Generally, this is the response from international findings. Research into the valuation process suggests that the process allows clients to gain routine access to the valuer and that valuation uncertainty gives ample room for manoeuvre in their 'valuation negotiation.' This has also been confirmed in other emerging markets by Amidu and Aluko (2010). It seems well established in the discussions that valuation variance is a function of information availability. In Dubai's real estate sector this appears apparent and is further exacerbated by the expectations of clients and their influence upon valuations. Similarly, banks as lenders use valuations presented to them to assess loans. The findings from international research has shown that valuers who look to clients to validate assumptions, a byproduct of a lack of central data, will be prone to more client influence.

Within the valuation profession in Dubai the issue of client influence has become synonymous with ethics. Levy and Schuck (1999) confirm anecdotal evidence that, under certain circumstances, valuers have been influenced by their clients by both explicit and implicit means. The nature of the influence includes coercive 'reward-based' power and information power. 'Reward-based' power is the psychology of the valuer to make the client happy, a somewhat indirect, back-of-the-mind mentality to maintain a good business relationship. Information power has scope for a more direct influence. It reflects the dual role of clients in the valuation process, both as a source of instruction and often a source of relevant market information, particularly more so in data opaque markets. Studies have shown clients can bias the valuation through data omission (either intentional or otherwise). The outcome of the influence is a change in reporting values and, while it may be acceptable to change a value, the authors opine that, in the absence of any new relevant market evidence and in the face of reward/

coercive pressure, it is unethical to do so (Plimmer *et. al.* 2009). The pressure used tends to reflect the type of client, with sophisticated clients using expert and information power, while unsophisticated clients tend to use reward/coercive power as well as information. The characteristics of the valuer and the valuation firm, the purpose of the valuation, and information endowments of clients and valuer all impact the final valuation given. The literature on appraisal smoothing and valuer behaviour also contains frequent references to the “political pressures” faced by valuers. However, the vast majority of these are either unsubstantiated or based on anecdotal evidence and media speculations. Recent research focusing on the issue of pressure similarly suffers from either a lack of formal evidence that particular sources of pressure (e.g. client) actually exist or preconceptions concerning the effect of such pressures. In Dubai, it would appear that the degree to which clients influence valuations can be determined in the following situations; client-type; characteristics of the valuer and the associated valuation firm; the purpose of a valuation and the information endowments of clients and valuers.

With the emergence of large financial incentives for business development, it perhaps is not surprising the extent in which mortgage brokers or institutional lenders are willing to influence valuer to ascertain a higher valued asset. Kinnard *et. al.* (1997) found a direct relationship between client size and likelihood of valuers revising their reported values to suit the demand of their big clients. The valuers surveyed, however, were not aware that the size of the client influenced their decisions. The study by Levy and Schuck (1999) also confirmed this widely held belief. One important issue highlighted is the ethical dilemma faced by valuers as a result of relying on client-supplying information, which could be bias through omission, intentionally or otherwise. That said, the economic incentives offered in the financial markets have spilled over to the valuation profession and moving forward could jeopardise the existence of professional valuation services globally.

This section has highlighted that a range of global studies show that valuers can be influenced by clients. This influence, often undisclosed in practice, appears to relate to both information power and the maintenance of commercial relationships. Whilst it is not expected that a valuer would succumb to client influence to maintain a business

relationship, it is within the realms of reality that clients do have an information hold over the process, particularly more so in opaque markets. The author opines that in opaque markets, like Dubai, the potential influence of the client is exacerbated. Whilst the first part of this chapter identified that it may be acceptable to change a reported value as long as it is set within an accepted range. Academic studies have found that client influence is bounded to the client type, with “...*the characteristics of the valuer and the valuation firm, the purpose of the valuation and the information endowments of clients and valuers all relevant factors.*” (Plimmer et. al. 2009). The primary data collection in the new research will look to explore whether Dubai valuers are also pertained to similar valuation pressures. Chapter 5 details the approach to which survey work will look to gather information on how the client does influence the valuer in Dubai.

A relevant follow on discussion from examining the influence of clients, would be to evaluate the role of professional conduct and ethics. Professional bodies are present to uphold global valuation standards and have clearly defined processes to mitigate the external influences that can impact valuers. The next section discusses the relevance of professional ethics to valuation variance, drawing reference to a range of academic findings and observations.

4.4 PROFESSIONAL ETHICS AND VALUATION VARIANCE

Understanding the concept of professionalism and ethics can aid us in achieving higher working standards and are important concepts to critically assess. In the context of this study, professional ethics are considered a binding component of valuation variance in that, without it, unscrupulous behaviour and malpractices will lead to greater inaccuracy and/or variance in property valuation and appraisal work. In addition, ethics should not only be represented by evaluating the evidence of malpractices, but also that of assessing the presence of professional standards and an appropriately skilled workforce.

The RICS advocate that all surveyors follow a set of ethical standards in order to maintain the integrity of the profession and these are defined as five ethical standards: treat people with respect; take responsibility; act with integrity; offer a high standard of service; and be trustworthy. According to the RICS, ethics can be defined as ‘*a set of*

moral principles extending beyond a formal code of conduct. Working in accordance with these codes of professional ethics ensures that members resolve, for example conflicts of interests of the professional, the client and the wider community. Working ethics are an important issue for professionals as a profession is largely created by public demand and a business can only survive through public confidence. A high level of customer service, a willingness to suitably advise clients and adapting to their needs are examples of good practice. The business environment is highly competitive and ever changing. With such competition, satisfying clients through delivering best value and following professional codes of conduct are vital (LeRoux *et.al.* 2004). This section reviews evidence of ethical concerns within the global valuation profession and then examines the ethical dilemmas faced by valuers in Dubai. It is based on both the available literature as well upon evidence presented in local press, media publications and online debates/forums. Practitioners who have published works that highlight or discuss ethics in Dubai are also referenced. The range and focus of work that has been published on this topic largely merits the presence of codes of ethics (such as the RICS' core values) and much of it opines that only these rule-based codes can be regulated. Conversely, aspirational codes, which rely upon the judgement of individuals either fail to reflect the prevailing professional culture or are interpreted subjectively. In both cases, there is a risk of inconsistency (Dabson *et.al.* 2007).

There is anecdotal evidence and some public evidence of unethical conduct within surveying. These have largely been cases involving individuals and been concentrated in the areas of residential real estate agency, development and construction. Across the Middle-East, there appears anecdotal evidence to suggest what is "cultural business etiquette" and what is "morally accepted", often blurred. Whilst very few academic studies have looked at the UAE, authors in other emerging real estate markets, are placing ethics high on the agenda for both agents and valuers. For example, Agboola *et. al.* (2010) found in a recent paper that:

"...most practitioners in real estate agency consultancy believe that commercial or economic considerations are more important than an ethical stance in a real estate transaction. This raises a serious fundamental issue about the essence and practical

understanding of ethics by practitioners and what ethics entails in the discharge of their professional duty”.

Poon (2004) presents the results of a survey of ethical behaviours of surveyors, based on questionnaires sent to UK Chartered Surveyors and focusing on self-interest, company/organisational interest, fairness and public interest. The responses showed that the surveyors ranked “fairness” as the most important ethical behaviour, implying surveyors agree with the fundamental principle of ethics i.e. that of “just” and “right” standards of behaviour. Next in importance were the issues, which have a positive influence on ‘the company and organisation’, demonstrating similar traits. ‘Public interest’ was ranked of medium importance with ‘self-interest’ being the least important. However, 38% of the respondents reported a decrease in ethical standards, resulting from social factors (identified as commercialism, fee competition, increasing workloads and increasing cost conscious attitudes), a changing working environment (where the higher pressures on time and quality imposed ultimately affect fairness), and the changing beliefs of surveyors, which reflect the need to survive in an increasingly competitive environment.

The next section speculates about the “professional culture” of valuers, in that these are informed by: the inherent ethical experiences of the individual; the influence of corporate governance on individual and corporate behaviour; the market value that can be placed upon the public evidence of good behaviour; the crucial role of professional associations; and being seen to ensure the highest professional standards. Ethics are central to the expectations of a professional, often seen as equally applicable to any legally required standards. They often exist as a set of standards that uphold the behaviour of professionally regulated members. Yet, the global surveying profession is fraught with claims of unethical practices and often means valuers are ‘tarnished with the same brush’. Many studies have pointed to the issues of professional misconduct. Therefore, unsurprising professional bodies alongside national governments have worked to raise professional standards to boost public and investor confidence. This means ensuring that professional culture has the highest ethical principles at its core.

As a profession, valuers are regulated to follow a unified professional standard, and in the case of RICS members, this is self-regulated, governed by professionals statements

within the 'Red Book'. It has ensured valuers met a minimum level of technical standards. Therefore, RICS qualified valuers operate under a unified professional culture that has established them as market leaders in a wide range of global locations. Culture is defined as "*the collective programming of the mind which distinguishes the member of one group or category of people from another*" (Hofstede, 1991, 5). At the core of culture are the values which underpin our behaviour. The investigation of group culture is a relatively new subject of study. Nevertheless, both Hofstede (1991) and Trompenaars and Hampden-Turner (1997) recognises organisational culture, as:

"...organisational 'cultures' are a phenomenon per se, different in many respects from national cultures. An organisation is a social system of a different nature than a nation; if only because the organisation's members usually had a certain influence in their decision to join it, are only involved in it during working hours, and may one day leave it again."

Trompenaars and Hampden-Turner (1997) stated that "*...people within certain functions will tend to share certain professional and ethical orientations.*" Such observations are suggestive that where both firms and members share a similar culture or set of ethical standards, then conflicts of interest; negligence and client bias are not likely to arise.

In the light of this, the challenge is to identify what the real (not aspirational) "*collective professional 'pattern'*" is for property professionals and to articulate it in such a way that reflects the underlying assumptions and codes of the profession of valuers. Professional ethics must be viewed from the point of view of the individual professional, who is required to make ethical decisions; from the professional association which expects an ethical stance from its membership, and seeks to regulate and benefit from their ethical behaviour; and of the employer organisation which both influences and is influenced by the ethical principles of its professional employees. In all of this, 'good' ethics has a potential commercial value within the growing awareness of corporate social responsibility. Yet experience from on-line debates indicates that the market does not appear to fully recognise the value of having a higher standard of individual, corporate or professional ethics. It is suggested that such a culture is

influenced by the demands made, pressures imposed and tactics employed by clients in their relationships with professionals. Good governance, informed by the commercial value of corporate social responsibility needs to encourage a commercial ethic which supports and encourages the professional ethic.

Anecdotal evidence has suggested that there have been cases concerning malpractices in the global real estate sector, including; the client's ability influence valuations to the extent of stating 'preferred values'; fee setting and undercutting competitors fees in a bid to retain clients. Such allegations undermined the professional reputation of valuers. At the same time these claims are largely unfounded and largely based upon speculative enquiry, without empirical clarifications. Instead, users of valuation reports (particularly banks and other financial institutions) tend to be those that reinforce the notion that valuers often succumb to some form of pressure. However the impact of such claims of malpractices cannot be understated. Graaskamp (cited in Fraser and Worzala, 1994) This found that users (clients) of appraisals were the major culprits of the "demise" of the appraisal industry. Graaskamp indicated that a lender can control valuers by "shopping" to find valuers willing to provide the desired value, or threaten to withhold payment for valuation figures perceived too low for the valuation purpose desired by the client. It also alluded to lenders threatening to stop future business if a value is not high enough for the required loan amount. Evidence from a range of global studies also points to the prevalence of 'opinion shopping', with clients seeking what they want to hear, rather than that of which is objective and follows the valuers remit of professional diligence (Hendrikson and Espahbodi, 1991; Kohli, 1989). In addition, Geltner (1993) in his work reported that a valuer "*will typically be aware of the previous appraised value*" and will prefer not to be placed in a position where they have to be asked to come and explain or justify a large variance in value, especially if it is downward.

Further complexities arise for valuers in an opaque market, like Dubai, where many clients are supplying new information to the process, which may be absent from the public domain. In the absence of reliable data, valuers are understandably seeking greater steers from the information provided by clients, however it is somewhat jeopardized when the client may choose to withhold certain information, viewing it as counterproductive to the desired outcome of any valuation undertaken. Roberts and

Roberts (1991) emphasise the importance of market conditions in which the client's influence may be exacerbated. Furthermore, the implication of this was reconfirmed by Kinnard *et. al.* (1997) who found that in a sluggish market where it would be considered highly competitive amongst valuation firms to secure new instructions, a valuer may be more inclined to report a particular value that was 'fit-for- purpose', as to retain the client. At this point it should be noted that not all valuers nor valuation firms would follow such conduct. However, international studies, such as that by Ponemon (1992) and Rushmore (1993) have found that in the absence of regulation, the vulnerability of clients influencing a valuation are exacerbated, not more so than within smaller firms whom are faced with more challenging business development issues. Large global consultancies have a multitude of fee earning services in order to diversify their income sources from and so perhaps are not as inclined to fold under the pressure of valuation-fixing to match the clients' expectations. Smaller firms may feel pressured to offer clients the valuation they require to prevent them seeking alternative valuers, an issue of not only the final valuation figure provided, but that also of the agreed fee. That said, a larger firm who provides multiple services – such as agency, property management, fund management – may be more likely to comply to the clients wishes. Lindsay (1989) reported similar observations in professional accountancy firms. Gwin and Maxam (2002) found that a moral hazard problem exists in some valuations especially if the valuer is 'rewarded' with future business with 'successful appraisals'. This study confirms the presence of business development incentives whereby the client, a lender in this particular case, would continue to instruct a valuer if the value of a property was overstated. On face value it would seem counterproductive for a lender to promote over valuation, in that it places them under a greater level of risk-exposure as the asset may be unable to cover the remaining balance on a default loan. However, the perception amongst financiers may be that this increased level of risk exposure is marginal compared to the likely gains through the sale of loans in secondary investment markets (via securitisation). Subsequently, greater levels of trade would take place in the real estate sector. It is these forms of participatory effect that present a moral hazard to the real estate valuation profession. It would be reasonable, although not empirically tested, to assume similar pressures exist amongst valuers in Dubai, to that observed in other global markets. Studies from other emerging economies, such as Nigeria, (Aluko 1998, 2000) point to a deficiency in valuation training and education which creates

inefficiency and a general lack of uniformity in the application of valuation methods and their underlying assumptions. In turn this was found to be a large determinant of variance and inaccurate capital values. Aluko (1998, 2000) disclosed a range of factors impacting valuation variance in an emerging economy to be: skill, experience and judgment; presence of relevant data; problems of an imperfect property market; problems in value estimation and value prediction; client influence; unrealistic valuation assumptions; and unreliability of valuation techniques in unstable markets.

In Dubai, anecdotal evidence from the local industry suggests a range of tactics are employed in order to source the 'right' valuation, including; the promise of more instructions; a decrease in the number of assignments (for 'wrong' valuations); addition to an approved valuer's list; threat of legal proceedings; refusal to pay the fee; as well as bribes or other monetary incentives. However, less apparent, but perhaps more frequent, would be the subtle and indirect pressures exerted on valuers, which might include lavish hospitality or frequent touristic incentives.

The RICS consider valuations of real estate as vital to a healthy market and a stable economy, providing a basis for performance analysis, financing decisions, transactional or development advice, dispute resolution, taxation and various statutory applications. That said, grounded economic theory suggests that monopolistic economies controlled by only a few stakeholders are largely 'inefficient', 'volatile' and, in terms of real estate valuation, would suggest a high degree of 'inaccuracy'. Elliot and Warren (2005) spoke of the Australian property market being left an industry of clients who "*...really don't care about what we [valuers] do*". There was the belief that the profession was being undermined and public/client expectations were low and therefore put downward pressure on the fees, and thus valuers are forced to do less in their scope of work to support the lower fees. Similar trends of competitiveness and perception are evident in the Dubai real estate market, and it could even be said to go several steps further in that an 'inappropriate' level of suitably qualified staff are undertaking valuations and therefore undermining the professional integrity of the valuation profession further. Cost minimisation strategies will undoubtedly jeopardise the public image of the profession and in relation to this study widen the gap between valuations amongst valuers. If

valuers are to survive such critics, the elements of ‘skill’, ‘added value’ and professional ethics will be of utmost importance.

SUMMARY OF CHAPTER

This chapter has been able to provide a useful synopsis of a wide range of international research related to the study of valuation variance. Many of these studies have been conducted in the highly transparent markets of the US, UK and Australia, and collectively show that a significant number of valuers (95%) will value the same subject property within a 20% range. International legal cases on negligence have had an influence on the expectations of the valuation profession and as such stated a margin of 10-15% is reasonable variance. A valuer operating outside this margin may be open to investigations of negligence, however, it is by no means an automatic test. Both bodies of commentary observe variance as an inherent byproduct of valuation.

The discussion went onto evaluate three key market characteristics that would be related to the observations of variance. These included: market efficiency; client influence; and professional ethics. Market efficiency has been tested in mature markets and the discussion was able to draw out four key areas relevant to Dubai: two related to data (availability and transparency); one of professional applications (skills) and one of standardisation (measurement). Further testing of these key areas will be highlighted in the data collection and research design (Chapter 5) and evaluated in data analysis (Chapter 6 and 7).

Client influence is an international problem and the literature analysis suggests that it could be of greater impact in new markets like Dubai, where the ground-rules of valuation are yet to be fully established. It appeared that in opaque markets, the ability for the client to influence the valuer was also more prevalent. The call of repeat business from the client has impacted on the valuer’s perception of client satisfaction in a number of global studies, influencing the valuer to provide the “right” value. A relevant link and further discussion on professional ethics found that organisational cultures need to align with global best practice to safeguard key parts of the real estate industry. Large global consultancies have a multitude of fee earning services in order to diversify their income sources and so perhaps are not as inclined to feel client pressure.

However, smaller firms or subsidiaries located in new markets, may offer clients the valuation they require to prevent them seeking alternative valuers. Ethics not only helps safeguard the industry but also ensures members play by the same rules. It is this observation most relevant to the study of valuation variance applied to practice. However, more empirical testing is required.

The primary data collection and survey work will look to evaluate variance in Dubai and compare this with the international benchmarking studies discussed in this chapter. Chapter 5 will go on to explain the chosen research methodology that has been used to investigate valuation variance in Dubai.

CHAPTER 5 – RESEARCH METHODOLOGY

This chapter will discuss how the research was undertaken, including what types and sources of information were collected and which methods were used to obtain it. The sections will begin with a description of the theoretical underpinnings of the research and then move into a more specific discussion that will justify why particular research methods and data collection processes have been followed. Key methods from previous international studies will be referenced where relevant. There will also be reference to how the researcher has sought to manage the reliability and validity of the research and data collection processes. It will conclude by stating the main forms of analysis used, relating these to the research objectives stated in Chapter 1. This chapter will discuss the following:

- Research framework
- Types of data collected
- Sampling design
- Methods of data collection

Each of these areas will be covered within the following sub-sections. The latter part of this chapter will be a personal account of how the research process was managed.

5.1 RESEARCH FRAMEWORK

A wide range of academic research begins by exploring what the most suitable range of data collection methods are. Table 5.1 (overleaf) summarises the main themes related to the use of particular research methods and it points to the fact that no single method is likely to fulfil all the research aims set within an academic study. Research literature seemingly opts to suggest a mixed method approach (and triangulation) would be a more comprehensive approach. The following section explores these principals in greater detail.

Table 5.1 Research design principles/theory

Method	Form of research question	Requires control of behavioural events?	Focuses on contemporary events?
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival analysis	Who, what, where, how many, how much?	No	Yes/No
History	How, why?	No	No
Case study	How, why?	No	Yes

Source: Author's own

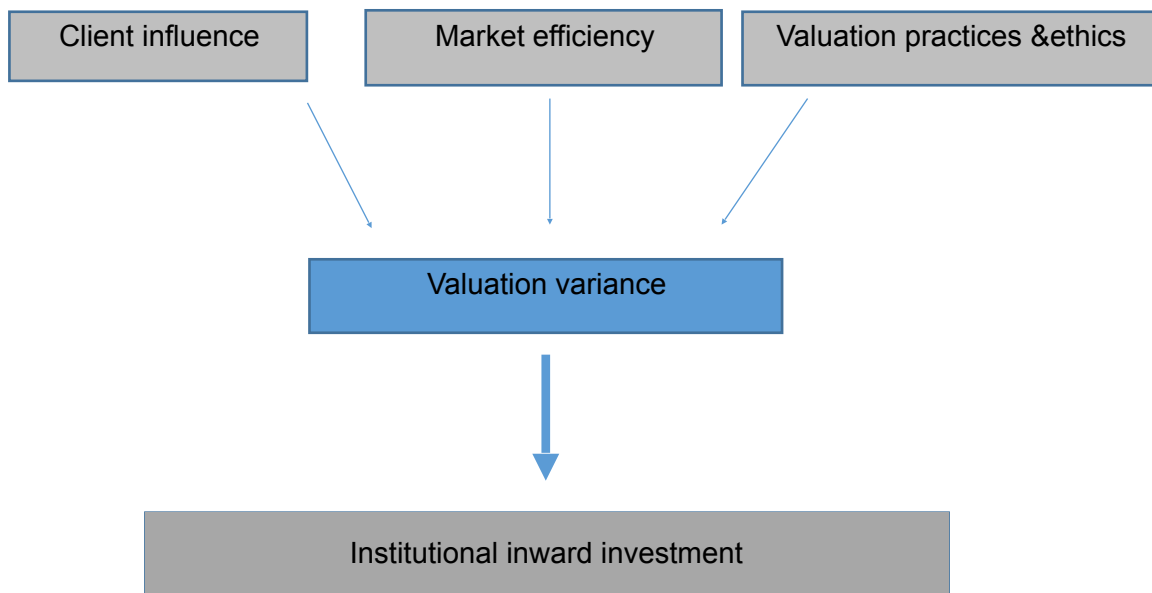
The main focus of the research is to critically examine valuation variance in Dubai's real estate sector. The main research question posed was:

“Valuation variance is a direct function of market maturity and will it be greater in emerging economies, such as Dubai?”

The aim of this research is to evaluate the presence of variance in Dubai and this initially points to the use of both experiments and surveys. In relation to Figure 5.1, the data required is amongst a group of participants at today's date, rather than a historical or archival analysis. Therefore, the research considers the first two methods appropriate for studying variance. The latter methods are perhaps more appropriate to a valuation accuracy study. The second component of the research question stated includes putting the findings into a similar context of other international variance studies. It would therefore be appropriate to evaluate the methodologies used by these earlier studies. This has been undertaken and is discussed in Section 5.4. The literature review chapters have picked up on a number of interesting and relevant themes that has helped form opinion as to the most likely causes of variance in Dubai's commercial property market. Therefore the research design has sought to validate whether these variables are also relevant to Dubai and these findings alongside the literature commentary are suited to

address the research objectives (in Chapter 1). In order to elaborate the key findings from the literature chapter, a testing framework has been created (see Figure 5.1 below).

Figure 5.1 Research testing framework



Source: Author's own

The aims of this research were stated in Chapter 1, but replicated below so that the suitability of the research design can be discussed. It is within these statements that the research design has been formed. The three main areas of investigation represented in Figure 5.1 can be stated as:

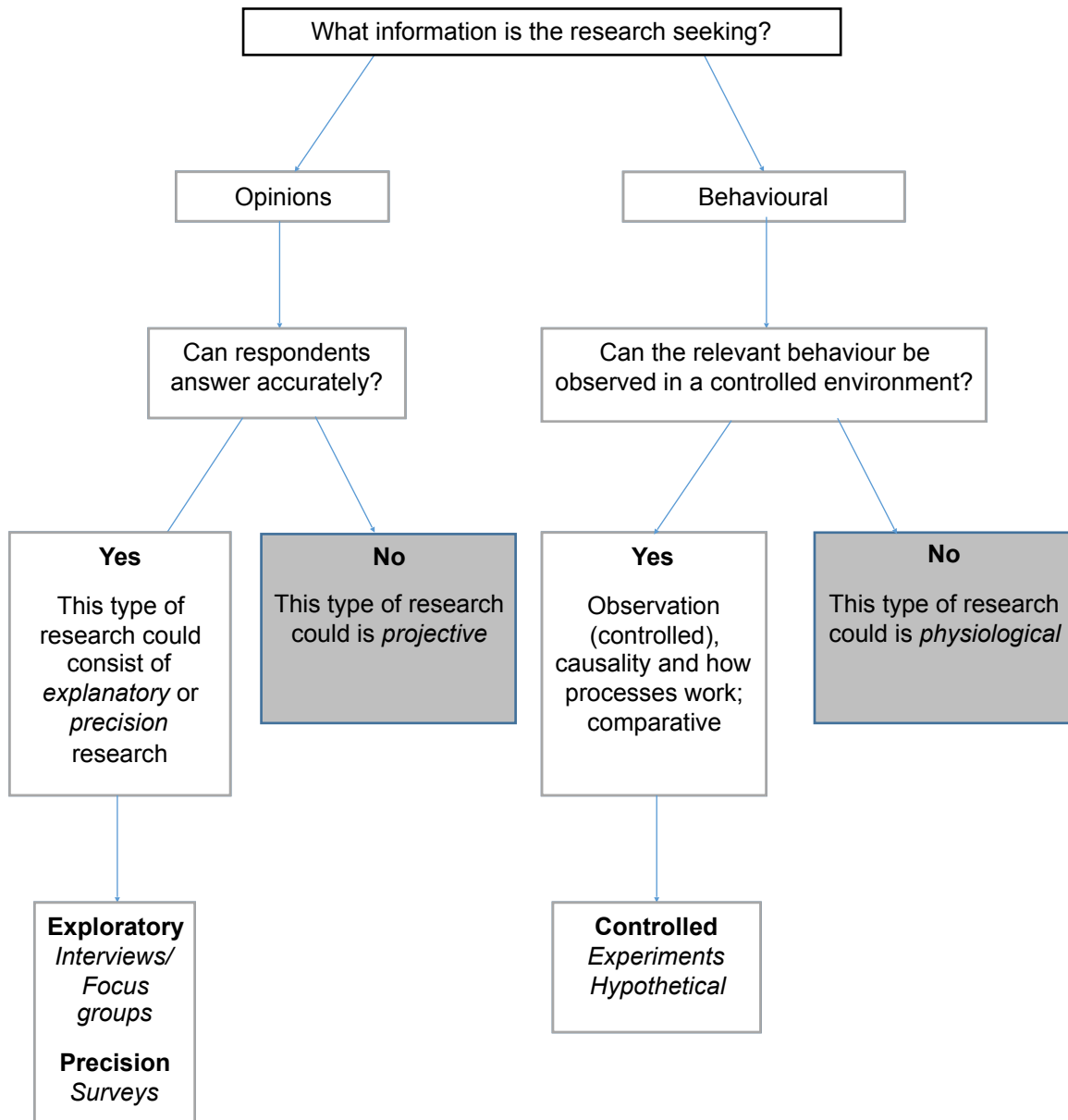
1. Valuation practices and ethics cause valuation variance
2. Market efficiency causes valuation variance
3. Client influence (pressure and bias) cause valuation variance

Figure 5.1 goes onto imply that the reduction of valuation variance will support a growth and development of institutional inward investment, a statement observation that has been supported in the literature analysis in subsequent chapters.

Figure 5.2 (overleaf) shows a flowchart of the study's research design based on a review of the range of typical methods used in research against its broader objectives. The figure makes a distinction between two relevant areas for this study, behavioural and opinion-

based research questions. The figure then is able to classify the group of research each of the relevant areas falls under.

Figure 5.2 Research design framework



A summary of the four stages of the research methodologies are shown below:

Stage 1 Surveys	The initial online survey was designed to gather information on key information relating to the local valuation profession. Valuers were asked to comment upon data availability; commercial rental ranges; the use and availability of secondary sources and whether variance exists and if so how it is being managed. The survey also looked to offer a range of industry recommendations.
Stage 2 Industry experiments	Local valuers were asked to complete three hypothetical valuation instructions (Valuation Case Experiments). Each valuation designed to test a specific form of causality relevant to a better understanding to the cause of valuation variance. The method was chosen to evaluation how consistent valuers were with their market knowledge, valuation methods and assumptions.
Stage 3 Student experiments	As an additional dataset, an analysis of postgraduate real estate exam responses was used to evaluate how variance could be caused through the specific use of a particular valuation methodology (based on split yield; equivalent yield and short-hand DCF). This was seen as a controlled experiment in that all data was provided to the students and the responses were analysed based on variance vs method (and not multiple cases as in industry experiments in Stage 2). Details of how the dataset was constructed is discussed later in this chapter.
Stage 4 Focus groups	Local valuers were invited to attend a focus group to discuss the main findings from Stages 1, 2 and 3. The respondents were asked to expand on any of the observations made and also discuss recommendations on how local valuers could improve or manage variance

Source: Author's own

The four stage approach is governed by a range of quantitative and qualitative research, commonly referred to as a mixed method approach, and by adopting this design, the research is able to reduce the limitations of both quantitative and qualitative research in its component parts. In mixed methods studies that involve the sequential implementation of the quantitative and qualitative methods, investigators often discuss the collection and analysis of the first type of data (in this case, quantitative) and then discuss the collection and analysis of the second type of data (in this case, qualitative). Creswell (2009) notes that researchers employ sequential design when they seek to elaborate on or expand on the findings of one research approach with another approach. The nature of this study is such that neither of the two types of data collected can sit independently. First, the research needs to quantify valuation variance in Dubai. Secondly, the research needs to establish why the level of variance stated exists in Dubai.

5.2 TYPES OF DATA COLLECTED

In order to evaluate the suitability of the research, there should be an appreciation of the types of data that needs to be collected in order to answer the research objectives stated above. The following discussion evaluates the most important aspects relating to the sources of data as well as its classification into quantitative and qualitative data.

5.2.1 *Primary and secondary data*

Data can be classified as primary and secondary. The importance of both can be distinguished by what role each of these components play. Secondary data, such as the published literature, has been used to provide the contextual background to the research topic. For instance, statistical information produced by other academics has been analysed to assess the level of variance, predominately in mature real estate markets. Other data from governments and other professional bodies has also been searched and used and for analysis. Primary data has been gathered within a research framework to assess variance in Dubai, formed from responses produced by questionnaires, interviews and an industry focus group. Blaxter *et. al.* (2001) imply that data:

“... may be ‘original’, in the sense that you have collected information never before collected [primary], or may be ‘secondary’, already put together by someone else, but reused, perhaps in a different way, by you.”

As with most academic research, the study has chosen to select a range of primary and secondary data. White (2000) categorises the principal benefits and drawbacks when using ‘primary material’ and ‘secondary material’:

“Information which is new and original at its date of publication is termed primary material. It is up-to-date, detailed and accurate, and tends to be very specialised. Consequently, fewer people want to use it; it is expensive and sometimes difficult to trace. Secondary material contains information which has been published before. An example of a secondary source is a textbook... Secondary material is, therefore, less specialised and not so up-to-date. As more people want to use it, it is usually less expensive and easier to get hold of.”

In addition, the types of questions also play an important role in the research design. According to Denscombe (2003:152-8) the most efficient questions for analysis are ones which are closed, meaning respondents can only choose from a series of predefined answers. A series of closed questions were designed to include the following types:

- yes/no answer (closed);
- agree/disagree with a statement (closed);
- choose from a list (closed);
- rank in order (closed);
- degree of agreement/disagreement (closed);
- rate items (closed);
- feelings [strengths of agreement/disagreement] about a topic (closed).

Open questions were used to allow the respondent a free choice of expression and were considered important to validate claims made in the preceding closed questions. Open questions were typically in the form of explain the reasons to the answer above; list 3 key factors; or in fact offer your recommendations to the problem stated. A number of open questions were designed to include:

- statement (open);
- list (open);

Table 5.2 (overleaf) shows the pre-defined stages of this research against the sources of data to be used. A short synopsis is also provided to show the extent to which each source of data is appropriate and reliable within the context of the research. Table 5.2 draws merit and weakness to the range of data that can be collected in research and passes judgement on their relevance to each of research objectives defined in this study. As some distinction has been made between primary and secondary data, the following sub-section will highlight the typical classification of data that will be collected, most commonly referenced as quantitative and qualitative data, and explain how the information collected will be used by the researcher.

Table 5.2 Sources of data, evaluation vs research objectives

Source of information	Strengths	Weaknesses	Research Objective
Documentation	Stable – can be reviewed repeatedly Unobtrusive – not created as a result of the case study Exact – contains exact detail of an event or process Broad coverage – long span, priority of events or list of multiple events	Can be difficult to find; biased selectivity; reporting bias and access issues	1, 3 and 4
Archival records	Same as above; precise and quantitative	Same as above; accessibility due to privacy	N/A
Interviews	Targetted – focused directly on topic; insightful and can provide causal interferences and explanations	Bias due to poorly articulated questions; response bias; inaccuracies due to poor recall; reflexivity (respondents give what might be the expected answer rather than match reality)	1, 2 & 4
Direct observations	Reality; contextual	Time-consuming; selectivity; cost	1 & 2
Participant observations	Same as above; Insightful into interpersonal behavior and motives	Same as above; bias due to participants observer’s manipulation of events	1 & 2
Focus groups/ workshops	Summative on findings of previous survey work; insightful to technical knowledge; insightful to local application	Selectivity; application from respondents	1, 2, 3 & 4

(Source: Author’s own)

5.2.2 *Qualitative and quantitative data*

Data is often categorised into qualitative and quantitative data. In very simple terms, quantitative data is normally statistical in nature, while qualitative data normally comprises opinions and perceptions.

According to Bell (1999):

“Quantitative researchers collect facts and study the relationship of one set of facts to another. They use techniques that are likely to produce quantified and, if possible, generalisable conclusions. Researchers adopting a qualitative perspective are more concerned to understand individuals’ perceptions of the world. They seek insight rather than statistical analysis. They doubt whether social “facts” exist and question whether a “scientific” approach can be used when dealing with human beings.”

Some texts provide a distinction in terms of qualitative and quantitative research. Thus, according to Bouma and Atkinson (1995):

“Quantitative research is “objective” in nature. It is defined as an inquiry into a social or human problem, based on testing a hypothesis or a theory composed of variables, measured with numbers, and analysed with statistical procedures, in order to determine whether the hypothesis or the theory hold true (Creswell, 1994). Quantitative data is, therefore, not abstract, they are hard and reliable; they are measurements of tangible, countable, sensate features of the world”

Later, Naoum (1998:40) defines qualitative research as:

‘... “subjective” in nature. It emphasises meanings, experiences (often verbally described), description and so on.’

According to White (2000:46):

“Quantitative research describes, explains and tests relationships. In particular, it examines cause-and-effect relationships. The diagnostic feature is that the techniques used always generate numerical data.”

White (2000) categorises surveys, interviews, questionnaires and experiments as being appropriate ‘techniques of [quantitative] data collection’ (ibid. 46–67); and interviews, observation, diary methods, case studies and action research as being techniques of

qualitative research (ibid. 28–45). It is therefore clear that some methods of collecting data can be used to collect either qualitative or quantitative data or both.

Also (White 2000:28) he defines qualitative research as:

“... a descriptive, non-numerical way to collect and interpret information. Researchers who support this approach argue that no two situations are the same and that every phenomenon is unique. The research cannot, therefore, be measured in the conventional sense, since it takes place in actual and everyday settings, not in a laboratory. It investigates the way people react, work, live and manage their daily lives.”

Quantitative research design involves the collection of numerical data and testing relationships amongst key variables (Bryman, 2015). A key support for quantitative research design is that the researcher is able to set aside bias or perceptions as often the analysis is more objective than qualitative research design (Harwell, 2011). The latter involves statement, quotation selection from interview or survey analysis. Therefore, the researcher in qualitative studies has more scope to introduce bias as they are selecting quotations from a wide range of transcripts. A way round the management of bias in qualitative research is to theme the responses and then look to select common or modal statements, ones that represent the majority. The research finding and analysis can offer the reader a hierarchy of themed responses. In that way the write-up and analysis conforms to a greater level of objectivity. In addition, the way in which questions are asked or designed can limit the level of bias introduced by the individual researcher (Blaxter *et. al.*, 2000).

In order to answer the research objectives, the research will adopt a fairly conventional mixed-methods approach, comprising of both quantitative and qualitative research in a single methodological design. According to Creswell *et. al.* (2011) the advantage of mixed methods of research include that: it focuses on research questions that call for real-life contextual understandings, multi-level perspectives, and cultural influences; it employs rigorous quantitative research assessing magnitude and frequency of constructs and rigorous qualitative research exploring the meaning and understanding of constructs; it utilises multiple methods; and it intentionally integrates or combines these

methods to draw on the strengths of each. The combination of both quantitative and qualitative approaches means that the analysis is benefitted so instead of relying on either deductive reasoning (as the case with quantitative design) or inductive logic (as the case with qualitative approach), findings can be based on abductive logic (ideally seeking to find the simplest and most likely explanation).

In the analysis and subsequent writing up of the data collected, the research statements shown in Figure 5.1 will be used as an analytical framework to discuss the implications of the research. The researcher has noted the merits of presenting both quantitative and qualitative data. Indeed, the use of both kinds of data can be important to provide a balanced set of results, in which the range and variety of data gathered and analysed adds rigour, validity and strength to the conclusions drawn. Although the principal focus of the research statements has been to examine behavioural aspects, qualitative data has been viewed as the most significant to collect as this type of data, expressed as ‘words’, is an analysis of opinion. It is able to show the rationale for a set of valuers as to why they have adopted a particular viewpoint or approach in their methodology. Quantitative data has been limited to the reference of market data or comparable information. Therefore, *‘unlike quantitative work that can carry its meaning in its tables and summaries, qualitative work carries its meaning in its entire text... its meaning is in the reading’* (Richardson and St Pierre 2005: 959-60). The research therefore has tried not to frame the research as quantitative data is better than qualitative data or vice versa, instead appreciated that it is the application and appropriateness of data, the data collection methods and the rigour and objectivity employed, that is seemingly more significant. For both types, it was necessary to consider at the design stage how data will be analysed. The quality of the data, regardless of how it is gathered, must be tested before reliance is placed on it, regardless of its source or its nature. The following section will examine how the data was validated through an appropriate sampling design.

5.3 SAMPLING DESIGN

Samples are very commonly used, both for research and for policy-making. A sample might be a proportion of the number of companies or individuals in a specific market. Generally speaking the purpose of collecting data from a sample is to enable the

researcher to make statements about a larger group that the sample is drawn from. Therefore the more the sample the more representative it would be in terms of the population from which generalisation is drawn. Sampling procedures vary based on the research objectives stated. In addition the choice of sampling is important as it relates to the likelihood of error and bias within the findings. Research sampling theory categorises sampling strategies into two distinct groups; probability sampling and non-probability sampling. Blaxter *et.al.* (2001:161–7) discuss sampling and selection and list the following alternative sampling strategies (ibid. 163):

Probability sampling:

- simple random sampling – selection at random;
- systematic sampling – selecting every *n*th case;
- stratified sampling – sampling within groups of the population;
- cluster sampling – surveying whole clusters of the population sampled at random;
- stage sampling – sampling clusters sampled at random.

Non-probability sampling:

- convenience sampling – sampling those most convenient;
- voluntary sampling – the sample is self-selected;
- quota sampling – convenience sampling within groups of the population;
- purposive sampling – hand-picking supposedly typical or interesting cases;
- dimensional sampling – multidimensional quota sampling;
- ‘snowball’ sampling – building up a sample through informants.

Other kinds of sampling include: event sampling – using routine or special events as the basis for sampling; and time sampling – recognising that different parts of the day, week or year may be significant. Probability sampling assumes that the probability of the sample chosen representing the whole population can be determined. On the other hand, non-probability sampling is less precise, as, if the population proportions are not known, the sample cannot be known in advance to be representative. One of the reasons for using a sample is to avoid bias. Simple random sampling, where the sample entity has an equal chance of being part of the sample, via computer generated number

software for instance, is common. One of the main drawbacks of random sampling is that some important cross-sections can be missed. In relation to the research aims and objectives, random sampling may overlook the requirements of the study, which was to compare how different valuers approach the valuation task. A more suitable approach would be separate the population of valuers into different stratas and then take a random sampling approach within each stratum, allowing for the research to pick up on viewpoints from the required participants. Table 5.3 (overleaf) summarises the sampling techniques that were considered in the research.

Research literature states that a sample size of approximately 20-30 would be a reasonable representation of the population when conducting structured interviews and 10%-20% based on response rates from survey questionnaires (Bell, 1999). In Dubai, there is a diverse range of professional backgrounds and therefore the research has also sought to examine the similarities and differences between 'global' and 'local' valuers. The research has chosen to classify these two groups by collecting data responses from RICS and non-RICS qualified valuers. The survey sought to collect data across the industry as well as different levels within organisations. It was important to recognise not to simply collect data from the large multinational valuation firms but also those that would be considered small and medium-sized enterprises. If the data collected was bias towards the large multinationals it would perhaps be expected that the results would be skewed towards RICS practices, and although that is an ideal international standard for valuations, it may not be fully representative of the local valuation profession.

Table 5.3 Overview of selection criteria for different sampling techniques

Sampling technique	Description	Advantages	Disadvantage
Random	Every member of the population has an equal chance of being selected (coded, random generation)	For large samples, it provides a suitable approach of an unbiased representative sample	For large populations it is time consuming to create a comprehensive list of every individual
Stratified	Dividing the target population into sub-categories. Selecting members in proportions as they occur in the population (e.g. if 30% of the population of valuers are non-RICS, 30% of the sample should be non-RICS)	A deliberate effort is made to make the sample representative of the target population	It can be time consuming as the subcategories have to be identified and the proportions calculated
Systematic	Chooses subjects in a systematic (i.e. orderly / logical) way from the target population, like every nth participant on a list of names.	The advantage to this method is that it should provide a representative sample	Very difficult to achieve (i.e. time, effort and money).
Volunteer	Individuals who have chosen to be involved in the study (or self-selection)	Relatively convenient and ethical if it leads to informed consent	Unrepresentative as it leads to bias on the part of the participant
Opportunity	Simply selecting those people that are available at the time	Quick, convenient and economical - the most common type of sampling in practice (market research)	Very unrepresentative samples and biased by the researcher who will likely choose people who are 'willing' and 'helpful'

Source: summarised from Blaxter et. al. (2006; 2001)

A key part of the research was to examine the differences as a result of valuation procedures non-regulated and regulated. The selection of an appropriate sample is, in part, designed to ensure that the responses received are representative of the entire population and that the results are generalisable. Therefore some indication of the number of valuers operating in Dubai needs disclosing. According to RICS data there are 86 qualified valuers in Dubai (MRICS/FRICS designations). There are also a

number of trainee valuers, those not yet qualified chartered surveyors, but registered as going through the APC structured training programme. At the time of sampling the number of trainee or APC valuers was 19. Similarly there are a number of locally registered valuers in Dubai, some of which will also be duplicated in the number stated from the RICS. However, there was no disclosure of the total number given from DLD or publicly available information. The practicality of asking every single valuer is therefore not realistic and so the research choose to select a sample group of the population that is likely be representative of the target population (a target response rate of 20% (or absolute number of 21 responses) was considered suitable). The final number of surveys will be determined when the outcome of the surveys became repetitive and no new themes emerged from the analysis, this is when the research becomes saturated with information (Carson *et.al.*, 2001).

One of the problems that can occur when selecting a sample from a target population is sampling bias. Sampling bias refers to situations where the sample does not reflect the characteristics of the target population. Sampling bias occurs when some members of the population have a higher chance of being included in the sample than others. Bias can be a feature of the research data by:

- Excluding groups of people
- Distribution methods: send out a questionnaire survey using an out of date list or distribute an invitation to interview or focus group by email excludes those with a PC
- Language used: use English to exclude those that do not speak English or unnecessary technical information that would dissuade some respondents to participate.

The survey was administered to a list of local valuers compiled from the RICS 'Find a Surveyor' record and a public database of other commercial valuers (via internet searches). The surveys were sent via email which is unlikely to exclude any professionals. However, if respondents wished they could complete the survey by paper version. An important consideration for the research was that all respondents should be involved in commercial property valuation (not residential) and be operating at least

within Dubai's geographical area. Survey respondents who worked predominately in other Emirates were excluded. As English is widely considered the business language of Dubai, it was not felt necessary to offer respondents an arabic translation. It was considered unlikely that respondents would have been excluded in any of these three areas.

In addition to the sampling technique, for the results to be credible, the research must have a strategy to deal with non-response. Non-response is not always a particular problem as long as those who take part in the study have similar characteristics to those who do not. In this research, it was considered that the most important aspect of the sampling design was to ensure the respondents were representative of the local valuation industry. The precision in the sampling would be based around a 10-20% accepted response rate. This would again be related to the population size discussed above. Low bias means the conclusions from a specific sample can be reasonably applied to a larger population and high precision means the margin of error in the claims that are made will be low. The latter is not a replacing factor over sampling bias. Easterby-Smith *et. al.* (2012) states that in relation to sampling, imprecisely right is a better scenario to be in as it is more important that the sample represents the population even if the precision is lower because of a small sample.

This sub-section has enabled a discussion around the research and considered the sampling design related to representativeness and bias management. The second component of research bias that has to be adequately managed is that of question design. The following section will move onto to discuss how each stage of the research consider specific questions.

5.4 METHODS OF DATA COLLECTION

The following dialogue relates to a number of commonly applied data collection methods that were considered in the research design. The discussion has tried to evaluate the strengths and weaknesses; as well as make a statement on its suitability for each of the study's research objectives. The latter part of this section will examine methods applied by other global valuation variance studies.

5.4.1 Questionnaire surveys

The questionnaire, perhaps the most commonly used method of data collection in business or social science research, is known for being a sound method when wanting to obtain a wide range of standard information from a large number of people. Questionnaires are a compromise on breadth over depth, sacrificing detailed responses for volume and the ability to follow up particular responses, with standardisation. As the research framework shows, surveys like questionnaires are suitable for opinion based data collection and not behavioural analysis (see Figure 5.2). It was felt that some of the drawbacks of using questionnaires could be managed by carefully constructing questions that did allow the respondent to elaborate on their opinions or thought processes. However, this would never be able to fully compensate for the open-ended dialogue possible in an interview setting. The quality of the information as a dataset is usually better received by academic reviewees as constructing a series of standardised questions, the data collection is fairly consistent and uncontroversial (as it is less reliant on research bias introduced by a researcher selecting from transcripts or recorded interviews). In addition, surveys allow for non-disclosure of respondent information and anonymity.

5.4.2 Interviews

Interviews are conducted with individuals who can provide specific and relevant information (Blaxter et. al., 2001). However, because interviews are normally conducted on a one-to-one basis, they are not generally used to provide breadth of information. The research framework therefore allowed for interviews to be part of the latter research design, having collected and analysed broader viewpoints from the profession. The format of this is to be discussed later in this section.

Interviews have the advantage of being capable of use in a variety of contexts and situations (White, 2000:29), allowing for flexibility in terms of questions, answers and verification of understanding on both sides. They are, however, time-consuming, both to set up and to undertake. There are potential problems of bias, reliability, validity and generalisability. White (*ibid.* 29–30), for example, warns of the interviewee who seeks to please the interviewer and, as a result, may not tell the truth or the entire truth. This drawback however is systematic with the research problem and it would be unlikely for

respondents to fully disclose the weaknesses or errors contained within their valuation reporting. The researcher has considered the use of interviews as being able to add depth to the key points. However, an alternative of an interactive workshop or focus group might be more fruitful as it will feedback to the industry participants the results of the wider survey work as well as provide an opportunity for attendees to comment on suitable solutions or recommendations. This has been considered an important inclusion in the research design in order to validate key findings and recommendations from the sample valuers (see Figure 5.2).

Interviews would enable more detail to be collected. However, there is the issue of generalisability. Having drawn conclusions about the presence of valuation variance in Workplace A, it is not to say the same can be said for Workplace B, C & D. Survey work in the form of questionnaires does allow the research to create more generalisation to the findings collected and in relation to the research aims and objectives, the research is seeking to clarify the presence of variance and what could be the contributory factors. In that sense, the more important element of the research design is how the responses represent the local market rather than the detailed explanation from a restrictive number of willing participants.

The latter part of the research does have an opportunity for group interviews or focus groups to verify the findings across both stages of the survey work. The format of the focus groups would be more exploratory rather than looking for frequency of answers or particular validations (as with Stages 1 & 2). Therefore the form is less likely to be structured. The research will look to extract the specific issues raised from the earlier surveys and allow time for the respondents in small working groups to give some feedback on the issues raised. This would allow freedom of expression from the focus group activity. The concluding section of the focus group will offer respondents an opportunity to comment on a number of recommendations to improve local valuation practices. The respondents in the final stage of the research will be selected from the sample population in Stage 2, based on their willingness to participate. The focus group will be audio recorded as well as based on feedback on specific issues and hand-written notes from participants. According to Denscombe (2003), group interviews have several advantages over individual interviews. In particular, they help to reveal consensus

views, may generate richer responses by allowing participants to challenge one another's views, may be used to verify research ideas of data gained through other methods, and may enhance the reliability of responses. It is for these reasons a focus group will be used as a variant of an interview format to the data collection process (known as Stage 4).

5.4.3 Professional diaries

The researcher felt a form of analysis on local valuers' professional activities might be considered a suitable way to record and gather information about how individuals act or react to a particular market scenario. Diaries are relatively simple to administer and can gather in a large amount of rich data, including information on how and why valuers approach an instruction in a particular way. However, it is important that instructions to respondents are clear and consistent. Professional diaries or logs are a requirement of the RICS' APC procedures, however again this was only likely to make account of the activities of a relatively small proportion of the market; those that are at a trainee/graduate level in the organisation; and those seeking RICS qualification. While valid, it would be likely that this approach would then not be able to represent a suitable sample approach for other valuation professionals.

Even if there could be some form of consistency in research design to allow middle managers and senior professionals an opportunity to present a diary of activities, this might be something that respondents are reluctant to do as it opens them up to some form of professional scrutiny. It would not necessarily shed light on the issue of valuation variance as individual valuers would be documenting their experiences to a number of different instructions and it would be most likely that common themes would be hard to take from such accounts. One of the potential disadvantages of recording actions in a diary is the need for strong support for the respondents if the discipline of recording the required detail is to be maintained for the necessary period of time. It is also necessary to consider, in advance, how the data gathered from the diaries are to be analysed and coded. Issues of confidentiality may also be raised by the use of diaries. The researcher has had some experience of mentoring professionals on their APC diaries and would observe that respondents do tend report things as per 'best practice' and in fact may mean they report behaviour that is different to what may or may not

occur in practice. Similar comments are made by Oppenheim (1966) cited by Bell, (1999) in terms of using diaries as a method of data collection.

In relation to other variants of a professional diary some researchers have asked respondent to note 'critical incidents' over a specific time period which could also perhaps be extended to other key aspects of the job profile or behaviour of the professional. However in light of the disadvantages noted above, it is most likely that a questionnaire asking respondents to list the most commonly known causes of valuation variance or disclosing management processes that address variance would be more successful and require less of a time commitment of the respondents. Direct questioning obviates the need for respondents to disclose trivial or irrelevant details and eliminates the subjective interpretation of a diary or log.

In order to better understand relevant methods of data collection for examining valuation variance, the next sub-section will analyse methods used in a range of international studies.

5.4.4 Methodologies applied in previous studies on valuation variance

The earlier section has highlighted the merits and drawbacks of a broad range of data collection methods. However in order to compare the findings of international studies on valuation variance, it would be prudent to examine the key research methodologies of previous works. One of the earliest research publications, examining the dynamics of UK property markets, performance measurement and property valuations, was that of Hager and Lord (1985). This study conducted a small sample survey of ten valuation surveyors who were invited to value two property case studies. However, since then much criticism has been placed against them, particularly in terms of their methods and approach, with the research methods representing a very small sample population and range of subject properties. Given these sampling deficiencies it could be argued that the variance between valuers was a result of outliers and this would have been problematic to identify with only 10 valuers as a sample population in addition to the inclusion of only 2 sample properties. More recently, Ogunba (1997) undertook an empirical step at addressing the question of accuracy and variance in investment valuations in Lagos, Nigeria. In the absence of a database of property valuations and

sales, he resorted to the approach of requesting thirty practicing valuation firms to carry out valuations of two residential properties earlier sold. The result of the statistical tests showed that valuations were not a good proxy for market prices. In addition, the range and inter-quartile ranges were unacceptably wide, also suggesting a degree of caution is needed when validating the results of the study. Therefore, the research methodology needs to be able to take note of these academic observations and ensure the data collection processes cover adequately the local valuation profession in Dubai.

Previous studies have also been based upon postal questionnaires, semi-structured interviews or experimental work focusing on appraisers' experiences to hypothetical scenarios. A number of these empirical studies consist of surveys concerned with ascertaining whether specific types of influence exist, or how valuers react when a specific property type (see, for example, Worzala *et.al.*,1998; Kinnard *et.al.*, 1997; Roberts and Roberts, 1991; Smolen, 1994; Smolen and Hambleton, 1997; Rushmore, 1993; and Baum *et.al.*, 2000). Other studies through the use of experiments have also examined the impact of client feedback and pressure including Wolverton and Gallimore (1999), Gallimore and Wolverton (2000), Hansz and Diaz (2001). While McAllister *et.al.* (2003) simply asked appraisers to estimate the amount of appraisals that were amended following a meeting with the client to discuss the draft figures, the interviewee estimates were essentially 'ballpark' figures. Such quasi-experimental, interview and postal survey-based approaches can give indications of the possible drivers and responses to influence from clients but cannot give much indication of the true extent of the influence across property portfolios. It might be expected that clients would deny pressurising valuers and valuers would deny any influence. Generally, this is the response. Research into the valuation process suggests that the process allows clients and other stakeholders in the process to gain routine access to the valuer and that valuation uncertainty gives both parties ample room for manoeuvre. It would be useful if taking forward survey work to do in accordance with the work of Amidu (2011) and have a series of testing statements that can be validated. By using a series of statements the research will be able to examine the reliability (or consistency) of the responses. This type of research could then evaluate the findings under a number of thematic.

The use of regression-based analyses to test the presence of valuation variance across a range of sampled properties may appear suitable. The regression based analyses is often seen as a strong analytical tool in social science research to check the correlation and statistical significance of measured data. In this context, it would be used to measure the spread of variance between valuations. The research could then be extended to examine the propensity of valuers to overvalue in falling markets and undervalue in rising markets. This is similar to the works of Matysiak and Wang (1995). An analysis borne from such an approach could offer indicative evidence for the significant impact of bull/bear market environments in the conditioning of valuation figures, eliciting the relationship between valuer's behaviour and changing market conditions in a transitional economy, such as Dubai.

The success of this empirical component is dependent upon the availability of data and the willingness of the specific organisations to release valuation and sales information. Quantitative research has several advantages, namely that: the outputs are observational and not the subjective opinion of the research, there is an associated level of confidence assigned to the data, and statistical packages can add to the quality of the data presented. However, the quality of these outputs is only as good as the data collected. Whilst statistical analyses can give the research an additional level of creditability in terms of illustrating the level of confidence in the findings, it was noted not to place too much emphasis on these outputs. It was also appreciated that for statistical analyses to work effectively, a large data set is preferred. Regression analyses on only a small number of entries (<20) may distort the true relationship, by outliers. Nonetheless, with an appropriate data set, numerical analyses are a useful tool for proving or disproving certain links between two or more variables. These analyses will be intended to show an association between valuation variance and data rather than an analysis to show a causal relationship. A key challenge to any quantitative analysis of existing datasets would therefore be the lack of available property market information. There is no publicly available property transaction information. Preliminary discussions with the leading data provider, REIDIN, suggest this issue can be overcome. However, a study of variance is not dependant upon having sale price information.

Given the limitations that might be presented with a full reliance upon the quantitative data sources it is worth considering undertaking survey work. Previous literature has also tended to use surveys and undertaken detailed interviews with practitioners to gain opinion on the key issues facing the valuation profession. A similar approach could be adopted for this research. A further requirement of this methodology was to address the current lack of data available that measures the levels of valuation variance observed. Quantitative research will provide numerical analyses giving the reader information on the association between market value and interviewer variability. This data is necessary to test the main hypothesis. A great emphasis will also be placed on the qualitative research. In terms of a 'knowledge payoff', it was decided that more would be learnt about the topic of valuation variance in a transitional economy if the research collected opinion from local valuation practitioners, rather than focusing solely on statistical analyses, that at best can only show an association of valuation variability. In addition, it was anticipated that obtaining numerical data on real-life valuations and the preceding transaction price would be problematic.

Recent research has adopted survey work, namely interviews and questionnaire surveys. Hutchison *et. al.* (1996) surveyed five national valuers and five local valuers for each of the fourteen centres in the UK. The research sought valuations at no fee for a range of hypothetical retail, office and industrial buildings with particular characteristics in actual locations and with standard leases. Valuation variation (consistency) rather than accuracy (reliability) was examined. They found differences in the variance of valuation between national and local valuation firms (8.63% and 11.86% respectively for national and local firms). The authors discovered that over 80% of all the valuations produced a variation from the mean of less than 20%, which is a wider valuation variation than that suggested by Brown's (1991) earlier study. Mokrane (2002) addressed the twin issues of valuation accuracy and consistency in five European countries (UK, France, Sweden, Netherlands and Germany). With regards to consistency, he found that in most of these countries, the degree of variation was low. Bretten and Wyatt (2002) investigated the extent and possible causes of variance in property investment valuation for commercial lending purposes using a questionnaire survey circulated to a spectrum of professional stakeholders. They observed that the main cause of variance was the individual valuer's "behavioral influences" and that users of valuation reports widely accept a "margin of

error". Their findings confirmed that variance can occur at any of the main stages of the valuation process, but more so when finalising the valuation figure. These findings are useful as they help explain the reasons behind valuation variance rather than the quantitative studies that simply state the level of variance. It would be apparent that the proposed research methods would need to cover both these aspects.

A range of studies have been undertaken in Nigeria since the early 2000s and an examination of the methodologies used may assist in devising a suitable research framework for a study in Dubai, given that Dubai does face a similar set of issues than Nigeria (poor data transparency, infantile valuation practice and ethical standards). Ogunba (2003) surveyed a total of 171 valuation firms and analysed the results using a range of statistical tests such as range, inter-quartile range, mean deviation, regression analysis, and analysis of variance. Ogunba and Iroham (2008) addressed the recurrent problem of identifying the accuracy/consistency benchmark (a maximum acceptable margin of error), beyond which valuations should be considered negligent. Instead of using statistical analyses, the authors chose to undertake a questionnaire survey across a substantial section of Nigeria's valuation profession. The research method involved the distribution of questionnaires to 195 estate surveyors and valuers in Lagos metropolis, and all the 25 commercial banks in the country. Some research based on observation in Nigeria have been inconclusive and even contradictory in its nature of accuracy/variation research, attributed to methodological flaws, such as the inclusion of distressed sales that do not conform to the definition of market value.

Simulated valuation experiments have been undertaken in similar research projects whereby a number of sample properties have been selected (typically sold within one to two months of the valuers survey). Respondents were given identical information to pass judgment on an appropriate market value. The fact that each of the valuers received the same set of information is critical and essential as the experiment is intended to ascertain how accurate and reliable the valuers are at assessing the market value of the subject property. In addition, the respondents have been given a self-evaluation questionnaire to obtain relevant data in which to cross-tabulate the findings (including for example, age, competence, experience and qualifications). The use of case experiments would allow the research to test valuer's assumptions and

methodologies, an area considered important in the analytical framework presented in Chapter 1 & 2.

Table 5.4 summaries the three core methods of data collection that now appear most appropriate in the study of valuation variance. These methods allowed for a certain degree of flexibility in the data collection process. For instance, this work is opinion based, requiring the views of the valuation profession. Therefore, a straightforward way of obtaining these views would be to conduct interviews or questionnaire surveys. Previous literature has also tended to use working groups or undertaken detailed interviews with practitioners to gain opinion on the level of valuation variance in a particular location. A similar approach will be adopted for this research. This process of multiple research methods, termed ‘triangulation’, recognises that each strategy has its own set of advantages and disadvantages, seeking to minimise the disadvantages by using more than one strategy, thereby adding greater weight to the quality of the outcome (Blaxter *et.al.*, 2006). Due to the potential lack of primary, statistical data sources it was considered prudent to undertake these surveys to understand the causality of valuation variance. The advantage is that surveys are simple to produce and easy to administer. Furthermore with the correct targeting of sample population questionnaires can provide a lot of data relatively quickly.

Table 5.4 Research methodologies from previous global variance studies

Research method	Description	Type of data and sampling
Statistical analysis	Measuring valuation variance - analysis of existing statistics and data series’	Desktop Quantitative
Experimental	Evaluate the valuer’s perception of international valuation standards, ethics, professional conduct and global valuation standards - research diary/industry placement, working group, forum, interviews, questionnaire (hypothetical case experiments)	Quantitative Qualitative Fieldwork
Survey	Understand the range of variable that control valuation variance in Dubai - interviews and questionnaires	Quantitative Qualitative Fieldwork

(Source: Author’s own)

It was appreciated that surveys can only represent ‘static’ snapshots in time rather than being able to capture underlying ‘dynamic’ processes. In addition, there is usually no opportunity to check the validity or accuracy of the response and participants may have only disclosed what information was asked for without detailing an explanation. Another drawback is that whilst respondents may give an opinion or viewpoint of adhering to a set of valuation principles, in reality influence from externalities, such as the client, may go unaccounted for. To mitigate these potential problems, a suitable amount of time will be spent defining the questions. Experimental research methodologies could also assist in examining an aspect of the property market, such as client influence, that can be controlled or isolated in some way.

5.5 SUMMARY OF CHOSEN RESEARCH METHODOLOGIES

The research purpose was to be explorative and measure and evaluate the presence and cause of valuation variance in Dubai. In the explorative research approach the researchers try to explore the cause and effect relationship among different identified variables. This research approach is in contrast to descriptive research in which the researchers only work on describing the prevalent conditions and situations (Saunders et. al., 2009). Decisions about data collection were made in light of the research statements, aims and objectives and the available resources. A summary of the data methodologies used has been put alongside the research objectives in order to demonstrate a clear linkage and justification to the use of chosen data collection methodologies. Table 5.5 overleaf summarises the suitability of different research methods, evaluating each in terms of the research objectives stated.

Table 5.5 Research methodologies linked to research objectives

Objective	Research methodology	Activities	Outcome
<p><i>Objective 1:</i> Examine the patterns of valuation variance and volatility that have been observed in Dubai and make comparisons to other international studies</p>	<p>Literature review on valuation variance in other global real estate markets</p>	<p>Desktop research activities including data from journal articles and publications from relevant professional bodies, such as the RICS</p>	<p>Critical commentary on the academic literature related to measuring valuation variance in other international markets. The data gathered will be used to benchmark valuation variance in Dubai.</p>
	<p>Stage 1 and 2 primary data collection (surveys)</p>	<p>Conduct survey work of local valuation professionals to gather opinion on whether the factors causing variance observed in the secondary literature can be validated</p>	<p><i>Qualitative</i> information that supports or counters the relevant factors causing valuation variance in other global real estate markets.</p>
<p><i>Objective 2:</i> Evaluate the causes of variance in property investment valuations in Dubai</p>	<p>Email survey to local valuers asking for causes of valuation variance (Stage 1 survey)</p>	<p>Gather opinion on whether the factors causing variance observed in the secondary literature can be validated</p>	<p><i>Qualitative</i> list of common factors will be reported alongside relevant soundbites from survey respondents</p>
	<p>Follow-up survey to local valuers asking to carry out shorthand valuation exercises (Stage 2)</p>	<p>Examine the methodology and data assumptions given by local valuers against 3 valuation case experiments</p>	<p><i>Quantitative</i> data or experiments that can reference the variance in property investment valuations in Dubai</p>
	<p>Industry workshop/ focus group examining the extent of valuation variance in the local market</p>	<p>Provide executive summary of findings of Stage 1 & 2 for consultation with the local industry</p>	<p>Seek recommendations from local valuers on how to reduce valuation variance and/or improve valuation standards. Establish a valuation framework that can be used by Dubai valuers</p>

Objective	Research methodology	Activities	Outcome
<i>Objective 3:</i> Define property market efficiency in relations to Dubai’s commercial real estate market and implications for valuation variance	Literature review on market efficiency to establish the parameters of rating market efficiency in other global real estate markets	Desktop research activities including data from journal articles and publication from relevant professional bodies.	Critical commentary on the academic literature related to real estate market efficiency
	Review of secondary data sets, such as the JLL Real Estate Market Transparency Index	Desktop research activities	<i>Qualitative</i> list of rankings related to market transparency and temporal changes since the establishment of the survey work. <i>Quantitative</i> statements related to market developments and legislative changes.
	Review market observations from Stage 1 survey	Establish key points related to the current market practices	Critical commentary on the presence/lack of features in the local market that may or may not impact market efficiencies
<i>Objective 4:</i> Expand recent international academic discussions on client influence and bias introduced to valuation processes in a new geographical area	Email survey to local valuers asking for causes of valuation variance (Stage 1 survey)	Gather opinion on whether the client influence is a significant factor in the local market	Seek recommendations from local valuers on how to curb the impact of client influence

Source: Author’s own

From this synopsis and review of research methodology literature, the chosen research framework has been evaluated in the context of the research objectives. A final summary of each of these research stages will be discussed overleaf:

5.5.1 Questionnaire survey of commercial property valuers (Stage 1)

The first piece of research used will be the survey questionnaire. The questionnaire examined the trends in valuation practices in Dubai. It was used to gather information on valuation processes and in this instance be wide-ranging and broad in its design. The focus groups were used as a follow-up research process to those participants who expressed an interest to participate further in the research (see Stage 4). These were a very useful means of inquiry that allowed the main themes of the research to be more closely examined. The questions were designed to help understand how the valuation profession in Dubai address market efficiency, data transparency and the issue of client influence. A key feature of this semi-structured approach is in the partial pre-planning of the questions. Semi-structured questions still allow for replication of the interview with others, but are less controlled than valuation experiments (see Stage 2 and 3).

5.5.2 Case experiments (Stage 2)

The case study experiments were used to contribute knowledge to the ‘how’ and ‘why’ individuals act in the way they do. In specific relation to the aims of this PhD research, case study experiments are meaningful as they are able to explain processes of a valuer and individual decision making. The use of short case study questions would allow the data collection to be more explanatory and the questions will deal with the operational links to be traced rather than the frequencies of something occurring. The research is targeting the issue of variance and therefore case study experiments allowed the investigator an opportunity to evaluate the level of variance amongst survey respondents. The questions were designed to uncover the areas of the methodology and approach that would lead to variance. Three case study experiments were designed as follows:

Valuation Case 1: the question is a fairly straightforward exercise that provides the market rent for the property. The question is designed in several parts. The initial part (a) is designed to evaluate the level of variance created through differences in the yield. Respondents are asked to base this on a list of comparable evidence. The second part (b) asks respondents that if comparable evidence was lacking how you would decide on an appropriate yield. This is a question of consistency rather than accuracy. The third component of the question is investigating the approach to the valuation. How do the

respondents deal with the information? Are they approaching the case from a similar perspective? The fourth and fifth parts of the question seek to understand how valuers would approach the instruction if one of the key variables/underlying assumptions are changed. Again it is designed to test the level of consistency in a valuer assessing and accounting for risk in the valuation.

Valuation Case 2: the next question is again straightforward asking this time for valuers to demonstrate consistency in their knowledge of market rents instead of yield (as in Case 1). The question progresses to understand whether a valuers consider the propensity to lease space in the calculation and understand would in fact take note of the leasing instruction or incentives required to include and how this would be undertaken. This is a more advanced part of the comparable method and it has been included to compare whether RICS and non-RICS valuers in fact consider these to the same level. The final part of the question is designed to re-ask on the yield question, making note of the difference between Case 1 (a prime area) and Case 2 (a non-prime area).

Valuation Case 3: the final question is a text book styled question which includes all the relevant information needed for a basic valuation exercise and has been designed to reduce the level of subjectivity on assumptions for the instruction to be calculated. It is also different from Case 1 & 2 as it involves an over-rented property. The valuer is likely to be treating the assumptions of the method differently as it represents a different income risk profile than in the earlier cases.

The case experiments had to be designed so that relevant behaviours cannot be manipulated. The experiments described above were used so that the investigator could manipulate the behaviour of the respondents directly, precisely and systematically, presuming the pretext of the case descriptions would in fact “control” the key variables beyond the scope of interest in the investigation. That said, the essence of these case experiments were to illuminate a decision or set of decisions; why they were taken; and with what result. Prior to the case experiments being sent out, the survey was piloted within an industry panel, where the group was asked to comment on the suitability of the questions posed as well comprehension of question design and time likely to complete the survey. Feedbacks from these sessions were then incorporated

into the final survey design. The panel also discussed the importance and likely evidence to be collected in relation to each case experiment. Overall the pilot case survey helped refine the data collection process and avoid the inclusion of overly complex lines of questioning, assisting the development of relevant lines of questioning. It also allowed an opportunity to see the format of the data collected and assess whether the data in that form would prove useful in the final analysis. Suitable modifications were made after receiving the feedback from the relevant individuals and this was particularly beneficial when constructing the three valuation case experiments. Members of this panel comprised of three RICS qualified valuers, each at different career stages (trainee, professional, senior professional).

5.5.3 Postgraduate exam responses on valuation methodology (Stage 3)

Stage 1 and 2 found useful information on variance; how it is monitored and measured; and the main causes of variance from an external perspective. However, as discussed in the literature chapters, an assessment on human error and judgement was also of interest. The use of student samples has been used in other research disciplines and it was added to the research methodology so that variance could be measured against the valuation methodology, an area of analysis that could not be done using the Stage 2 results. Each student in the exam was asked to undertake a single commercial valuation using 3 core valuation techniques (split yield; equivalent yield and short-hand DCF). The findings could then be used to measure how varied the student responses were as a sample group. Although there are limitations to how these findings can be extrapolated back to industry, it was felt it would give some useful observations. The use of controlled exam responses meant that the valuation methods themselves could be examined as a cause of variance. All students had been given the same data, so any variance in the responses given were likely to be a result of how each student analysed and applied the same information to the same method. An academic score from a previous section of the exam paper (multiple choice questions) was used to select whether the student response from the commercial valuation was included in the final dataset. This was set at 75%. Key observations on variance were reported. The application of this method is discussed in more detail in Chapter 7.

5.5.4 Industry focus group (Stage 4)

Industry focus groups were used later in the research programme to gather more detail in the specific issues raised from the initial questionnaire survey and valuation experiments. They were also an opportunity to verify the findings of the earlier stages of the research. The focus groups were semi-structured under key findings (themes) and asked the respondents the same core questions but allow for some flexibility in the response if the discussions did go down certain paths. The primary advantages of this type of research design is that they are able to provide much more detailed information than what is available through the initial Stage 1 survey. It was envisaged that by aligning the focus group interviews and the questionnaires together the research would be able to see whether there was a consistency from the two types of data collection processes.

An overview of the descriptive statistics on survey respondents is shown below.

SUMMARY OF CHAPTER

The initial online survey (Stage 1) comprised of a questionnaire sent to local commercial valuers. The survey was conducted between February 2015 to May 2015 and was administered via Google survey. The respondents were selected based on publicly available information regarding employment in property valuation work, both RICS qualified and non-qualified valuers. The survey was sent to 105 RICS valuers (86 qualified valuers + 19 APC candidates/graduate valuers) in Dubai. In addition, the survey was sent to 12 non-RICS designated valuers, a dataset sourced from public listings. Three reminder emails were sent out periodically to boost the response rate. The email survey was completed by 34 valuation professionals. This represents a response rate of 29.1%. Twenty-six (26) respondents were RICS qualified valuers, whilst eight (8) were non- designated. On average, respondents had been working in real estate valuation for 7 years (ranging from 2 to 25 years), with the most common background experience gained in Europe and Asia. Table 5.6 (overleaf) shows further details of the descriptive statistics from the Stage 1 survey respondents.

From this pool of survey respondents, 12 indicated their willingness to participate in the Stage 2 research. This stage of the research comprised of valuers undertaking 3 valuation case experiments. As the research wanted to make comparisons between RICS valuers and non-RICS valuers, the survey was extended to a database of listed professionals working in property valuations. In total 27 respondents were collected and analysed. Of the 27 respondents, 15 were RICS qualified valuers and 12 were non-RICS. Of the non-RICS respondents, 6 were trainee valuers, yet to pass their APC final assessment. In relation to level of experience within real estate valuation, 6 were trainees valuers; 11 were professional valuers; and 10 were senior valuers. Therefore although the sample size was smaller than anticipated, the representation across the sample was fairly proportionate allowing responses from across key demographics of the local valuation profession.

Table 5.6 Descriptive statistics on survey respondents (Stage 1)

Descriptive Statistics		Number of respondents	%
Gender	Male	24	70.6%
	Female	10	29.4%
Age	<25	3	8.8%
	25-34	9	26.5%
	35-44	20	58.8%
	45-54	0	-
	55+	2	5.9%
Year of experience (Dubai)	<2	6	17.6%
	3-5	9	26.5%
	5-10	10	29.4%
	10-15	7	20.6%
	>15	2	5.9%
Professional membership	FRICS	6	17.6%
	MRICS	17	50.0%
	AssocRICS	3	8.8%
	None	8	23.5%
Highest academic attainment	Masters	12	35.3%
	Bachelors	19	55.9%
	Diploma	3	8.8%

Source: Author's own

Stage 3 was added to the analysis as the research wanted to discuss more on the influence of the chosen valuation methodology has on variance, a sample of postgraduate exam responses were taken during the Semester 1 exam titled '*Real Estate Appraisal & Valuation I*' (2015/16 academic year). The class size of 63 attended the examination and comprised of a mix of both real estate and other built environment students. In order to reduce the level of variance due to poor knowledge and understanding, an 'academic threshold' was defined. The first part of the exam (not shown) asked students a series of 20 multiple choice questions (MCQs). It was then felt appropriate that from the initial dataset, those that scored less than 15 out of 20 (75%) on the MCQs component of the exam would be removed from the analysis. This reduced the sample size to 48. Of this, a further 6 students did not select to attempt the question. This reduced the final dataset to 42. It would be from this data set that the investment valuation responses would be analysed.

The final stage (Stage 4) comprised of a focus group. The final stage of the research was designed to validate the key findings of the research with a small group of industry valuers. Industry participants were selected from their willingness to participate from their Stage 2 survey responses. The focus group was conducted in November 2016 and six valuers attended over two separate workshops.

Table 5.7 overleaf shows a summary of survey respondents at each stage of the research.

The next chapter is devoted to data analysis, presentation and discussion of the key primary research findings. The analysis will begin by evaluating commercial valuations in Dubai and discuss issues that impact valuation variance.

Table 5.7 Survey respondents (by professional classification)

Designation	Total number	Number of respondents	% representation
Stage 1 respondents			
RICS Registered Valuer	86	26	30.2%
APC valuation/commercial property practice	19	6	31.6%
Non-registered valuers	12	2	16.7%
<i>Total of survey respondents</i>	117	34	29.1%
Stage 2 respondents			
RICS qualified		15	
Non-RICS qualified		12	
<i>Total of survey respondents</i>		27	
Stage 3 respondents			
		42	
Stage 4 respondents			
		6	

Source: Author's own

CHAPTER 6

ANALYSIS OF COMMERCIAL VALUATIONS IN DUBAI

This study examined the extent of valuation variance produced by professional valuers in Dubai. A key aim was to evaluate how international standards are being applied and if large variances exist what are the main causes. The literature chapters have been able to highlight a range of aspects to property valuation that could impact upon variance as well as benchmark the extent of variance across a range of global markets. A key expectation has been that market maturity would largely govern the level of valuation variance in specific countries (refer back to Figure 1.2), and in particular Chapter 2 established a framework to this analysis. Chapter 2 was able to highlight the property maturity framework in relation to Dubai and found that the quality and availability of market data and sales information as well as professional and ethical standards were significant issues. In order to better understand valuation variance in Dubai it is noteworthy to examine how the industry is structured and regulated. The main rationale for this chapter is therefore to explore these issues in more detail and draw upon the primary research to evaluate how this maturity framework may impact valuation standards and variance in Dubai. The analysis within this chapter provides an overview of valuation regulation in Dubai. It also discusses the enforcement of valuation standards and the training and education of valuers to better understand how these structural elements of the profession may impact variance.

6.1 VALUATION REGULATORY ENVIRONMENT IN DUBAI

Valuers and RICS firms in Dubai raised concern during the crisis over the absence of fixed rules for the evaluation of property assets. They argued it was one of the main factors that resulted in a deterioration of investor confidence throughout the global financial crisis. Since then the government have established three regulatory bodies in the property market. These are:

- *Real Estate Regulatory Authority (RERA)*, with main objectives to monitor and regulate the Dubai real estate market, including the regulation, managing and licensing of various real estate activities.

- *Dubai Lands Department (DLD)* was established to act as Dubai's official registry, valuer, auctioneer, regulator, information provider and property 'gatekeeper'. Both buyers and sellers use this institution to record officially all transactions and transfers of ownership. They also serve as a public information source for property market information and sales/rental transactions.
- *Taqyeem* (meaning "valuation" in Arabic), was set up in 2009 to regulate the real estate valuation profession. Its main objectives are to license both valuation firms and individual valuers, while ensuring that each valuer has the correct professional experience and education (minimum of a Masters degree).

In 2015, a new law was passed for practitioners who assess property values, requiring them to possess certain qualifications and be registered with Dubai's Real Estate Regulatory Agency (RERA). Requirements for valuer registration in Dubai include (amongst others):

- Valuers who are UAE nationals should have no less than two years' valuation experience. For non-UAE nationals the minimum requirement is five years' experience
- Valuation experience should be documented with three sample valuation reports per year.
- Valuation experience can be in any country in the world. However, UAE experience is preferred and recommended (for a minimum of six months). Valuers having less than six months' UAE experience are liable for further checks
- Valuers should attend and pass the Valuer Orientation Course held by Dubai Real Estate Institute.

Within the regulation, a minimum of 2 years' experience is required in valuation, similar to the APC requirements of the RICS global membership. RERA will also decide whether surveyors are allowed on to the register and what existing licences should be renewed as well as manage complaints against property valuers. To assist in these initiatives there is an established local professional training arm of the Lands Department (DREI) which offers membership and provides training courses. These

initiatives have largely ensured public confidence in the ability of valuers to fulfil their role and meet a recognised standard.

Additional regulation that has been introduced in Dubai, relevant to property valuation include:

- The Emirates Book Valuation Standards (EBVS), issued by Taqyeem, provides a framework for valuation standards and methodology in Dubai and follows the standards of a number of national and international organisations, such as: IVS published by the IVSC; The Royal Institution of Chartered Surveyors' Valuation Standards (commonly known as the "Red Book"); and European Valuation Standards (or "Blue Book"), published by the European Group of Valuers' Association
- Taqyemm has developed a Code of Ethics for valuers practicing in the Emirate of Dubai
- International Property Measurement Standards (IPMS) mandated by the Dubai government, which aims to unify the way property space is measured internationally by reference to a set of consistent property measurement standards. The IPMS had been under consideration by the Dubai government since June 2014, and was implemented for office properties in 2015.

The introduction of Valuer-Registration by the RICS in 2013 was a fundamental step to supporting the Dubai government in their drive for a transparent and sustainable property market through the adoption of international standards and best practice.

6.1.1 Education and Training of Valuers in Dubai

DREI is the educational arm of the Dubai Lands Department and offers the real estate industry a variety of relevant certification training in a wide range of areas. However, there is a lack of accreditation of recognised professional bodies, and the uptake has been mixed. With the recent changes in legislation relating to valuer training and mandatory course attendance plus a requirement to obtain a 'valuation licence' the property professional requirements for undertaking valuations is becoming more transparent. Since 2008, a limited number of real estate undergraduate and postgraduate educational programmes exist in Dubai, namely Heriot-Watt University's Dubai

Campus offering two MSc real estate programmes, with specialisms in real estate investment, development, management and finance. A variety of online education providers specialising in real estate are also beginning to emerge as popular in the market. Since the RICS established operations in Dubai in 2007, investor demand has led to a need for more practitioners to use international standards. To meet this rising demand, the RICS has been instrumental in providing training in international valuation practice to firms, focusing on the IVS, the Red Book and international standards. Despite the presence of improved regulation, one key differentiation of the Dubai real estate market is the presence of a high proportion of expatriate (“imported”) professionals, with each coming from a different education and professional background. There is a significant risk that in a locality where the working population is so diverse, valuation variance could be heightened, as different approaches, methodologies, and underlying assumptions are applied to commercial properties. Table 6.1 highlights some key differences made between two of the survey respondents, one senior valuer who is RICS qualified and the other senior valuer who is non-RICS qualified. This highlights some of the key differences in approaches made on the same valuation task.

Table 6.1 Comparison of RICS valuer and non-RICS valuer

Valuation scenario	RICS valuer (individual)	Non-RICS valuer
Absence of comparable information	Apply hierarchy of evidence principles or risk-adjusted yield	Examine construction cost + mark up for land/location
Market value for 10 year lease	Assumed lease + perpetuity (split yield)	Assumed passing rent x 10 years = 2m
Weaker covenant	Higher yield	Discount of 10-35%
Lease incentives	Effective rent for rent free periods	Reflected in the rent paid
Yield assumption	Point estimate (8.5%)	Wide (7-10%)
Full market data	Capitalisation of rent (net) and ARY	Capitalisation of rent (gross) and ARY
Variance (%) - individuals	16.5% between two individuals (RICS and non-RICS)	
Variance (%) - groups	7.7% between RICS and non-RICS valuers (mean)	

The table points to the different approaches made to the valuation instruction between two individuals within the sample group. The approach of the RICS valuer and non-RICS valuer is apparently different and although only an isolated comparison of approaches, the observations do show some interesting nuances. First the respondents approach to an absence of comparable information is starkly different. The RICS valuer takes a more rationale approach by seeking secondary tiers of market evidence, yet the the non-RICS valuer takes on a different valuation method switching from a investment method to a DRC approach - somewhat negligent from the approach of the client instruction, but more importantly would be a source of large variance if computed in practice alongside each other. Similarly when it came to valuing a 10-year lease, the non-RICS valuer failed to identify that the property has value after the initial 10-year lease and in practice the multiplier of annual rent by 10 would significantly under value the asset vs the RICS valuation approach (term and reversion). Covenant strength was also dealt with quite differently. The RICS valuer applied a higher yield on the income to factor in the additional risk of a tenant default. Yet the non-RICS valuer stated a discount on the value would be applied (10-35%). The latter approach would undoubtedly add more subjectivity and result in larger variance. In relation to the yield assumption the RICS valuer committed to a point estimate, yet the non-RICS valuer provided a range. The latter would not serve the valuer with a straightforward task and again lead to a large source of variance if either 7% or 10% was applied as the YP multiplier. More subtle differences were observed with the capitalisation of rent with a contradiction from the two valuers as to whether the rent capitalised should be on a net of cost or gross basis. Overall, the two valuers were 16.5% apart in their assessment of value for the subject property. The primary research showed that there was a variance of 7.7% between mean average value reported by RICS and non-RICS valuers.

Therefore, despite valuation regulation existing in Dubai, one key area of variance is likely to be a result of the difference in training backgrounds of professionals. Dubai with its significant proportion of expatriate workers means that market practices are derived externally. An application of a number of differing valuation practices and assumptions are more likely. This may lead to less consistency in their approaches to commercial property valuations. Further to this observation, valuation standards and applied definitions could be open to differences in interpretation. The following sections

outlines the the key valuation standards operating in Dubai as well as the wider monitoring process, education background of valuers and the focus of the local standards.

6.1.2 Valuation Standards Operating in Dubai

The valuation standards in Dubai are based on IVS, termed Emirates Book Valuation Standards (EBVS) and communicated within the Emirates Valuation Book. The EBVS has 3 parts and include the following:

Valuation Standard 1 (EBVS1) – Ethics (Taqyeem Code of Conduct):

1. Standards
2. Integrity & Honesty
3. Conflict of Interest avoidance
4. Confidentiality
5. Neutrality, Transparency and Accountability
6. Competence and external assistance
7. Disciplinary Action
8. Professional Indemnity (PI) cover

Valuation Standard 2 (EBVS2) – Market Value

EBVS2.1 Define Basis of Value

EBVS2.2 Market Value (as per IVSC 2007 and RICS VS PS 3.2)

EBVS2.3 Market Rent (as per IVSC 2007 and RICS VS PS 3.3)

EBVS2.4 Fair Value (as per IVSC 2007 and RICS VS PS 3.5)

EBVS2.5 Investment Value (as per IVSC 2007 and RICS VS PS 3.4)

Valuation Standard 3 (EBVS3) – Reporting

For this purpose, the Emirates Book Valuation Standards have devised a set of minimum report contents that all Valuers should abide by. The minimum contents are:

EBVS3.1 Identify the Client

EBVS3.2 Purpose of Valuation

EBVS3.3 Subject of Valuation

EBVS3.4 Basis of Value

EBVS3.5 Date of Valuation

EBVS3.6 Status of Valuer: External or Internal Valuer

EBVS3.7 Assumptions, Special Assumptions and Departures from the Standards

EBVS3.8 Statement of confirmation with Standards

EBVS3.9 Opinion of Value

EBVS3.10 Name and signature of Valuer

EBVS3.11 Associated Documents

The valuation standards employed within EBVS comply with IVS, TEGoVA and RICS. Despite the presence of the EBVS, many valuers refer to IVS or the RICS Red Book for valuations conducted on behalf of clients. In these instances the traditional large international valuation consultancy firms such as Colliers, CBRE, JLL are favoured given that they have practising RICS members. However, some local valuation companies are also seeing the wider opportunities of gaining RICS membership and acting for global clients, who take confidence from the RICS badge and from knowing that the Red Book is followed. The RICS have been working to create guidance to provide assistance to its members on the application of the Red Book for compliance in Dubai. A continuation of this collaboration with professional bodies in Dubai is expected over the coming years to support greater consistency in the approach to both property valuation and measurement.

Anecdotal evidence suggests that valuation variance occurs as a result of different global professionals applying slightly different definitions of market value. For instance, in relation to the RICS definition of market value, the Australian Property Institute (API) and the Property Council of New Zealand (PCNZ) have adopted the same definition as the RICS, but excluding the reference to costs and taxes (Australian Property Institute, Australia and New Zealand Valuation and Property Standards, 2008). With acquisition fees in Dubai being in the range of 2-6% for property purchases (transfer fee and agents' fees) this already represents a large source of variance. In the US, the most commonly used definition of 'market value' is "*the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably,*

and assuming the price is not affected by undue stimulus.” Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer. In Dubai, transfer costs are often varied and a byproduct of negotiation between buyer and seller, despite a clear stated legislation on how the fee should be apportioned (50:50). Therefore, from a theoretical perspective, variance would be minimised if local valuers adhered to the RICS/IVS definition of market value, excluding costs of purchase and associated taxes. This is one key example of how differing valuation standards operating in Dubai are affecting variance. The next section looks at how valuation standards are enforced.

6.1.3 Enforcement of Valuation Standards in Dubai

There is no culture of valuers being sued for negligent valuations in Dubai, so limited enforcement of EBVS standards exists and it is rare for sanctions to be taken against valuers for not conforming to the standards. As a result, professional indemnity insurance is not considered a necessity although more and more international clients require it as part of doing business (and it is mandatory for RICS firms and members operating in Dubai). The RICS has helped institutionalise valuation as a profession within Dubai through the Valuer’s Registration Scheme, with the UAE being the first country in the Middle East to introduce the scheme. From August 2016, all surveyors providing valuations in Dubai have to be certified as valuers by taking a training course, passing an exam and paying an annual fee. A similar framework for valuer registration/certification is being introduced in Abu Dhabi by the Department of Municipal Affairs, under Law 3 of 2015, which will help better regulate the profession across the UAE.

Valuers in the survey placed some scrutiny to their ability to apply the comparable method of valuation, as they often find it hard to source suitable market data. One respondent stated that:

“Dubai’s real estate market is not very transparent, full details of comparable evidence are seldom made available as public information, therefore establishing market rent is one of the key issues.”

Market observations such as these suggest that valuers could be placed in a situation whereby they are making assessments based on a very limited number of transactions and/or extending the temporal frame of comparable evidence further than in mature markets (as compensation for a lack of current data). This would make any adjustments in evidence much more subjective and therefore more prone to variance than in mature markets. Likewise yield evidence is often omitted in market research reports. Therefore, increased subjectivity and valuers increasing the time frame on data capturing or widening the geographical range of comparable data could leave local valuations prone not only to higher levels of variance but also inaccuracy. The lack of enforcement of market practices does present an opportunity to observe greater levels of valuation variance.

6.2 APPROACHES TO VALUATION PRACTICE IN DUBAI

The appraisal sector in Dubai is growing in maturity with good progress being made in the areas of standards, ethics and codes of practice. Learning from international experience has been the foundation of this growth and the growing influence of international clients will see the IVS and the RICS Red Book becoming more and more important in the future.

In Dubai, there are two distinct tiers of valuation operations. Tier 1 consists of international firms who have the pool of expertise across a range of real estate services such as agency, professional services and management. These firms also have a good understanding of the real estate market which is well supported by their in-house research teams, and actively uphold the reputation and the integrity of the profession at global, regional and local levels. Tier 2 comprises the large scale domestic firms with capability to undertake appraisal instructions. Although these organisations advertise commercial valuation services, many of them deal with the residential sector and offer some estate agency and property management services.

The EBVS refer to the same five methods of valuation as the RICS' Red Book. However, the detail is lacking and is an (misleading) oversimplification of the valuer task. For the purpose of this discussion, the researcher evaluates the two most common areas of the EBVS statements referring to the comparable investment method as it these

most relevant to commercial property valuations. Under the comparative method, the EBVS refers to a hypothetical situation. The EBVS (2010: 21) states:

“... a villa sold in 1/2/2008 for 4,000,000 Dhs. We would like to Value a similar villa in 2009 using the comparative method. We do not have comparables for this year, but we know that the market has gone down by about 20%, so we can adjust our Value to 3,200,000 Dhs to reflect that. However, if we want to Value the same villa after a new bedroom is added, then we look at similar properties and find that an extra bedroom can bring approximately 8% more rental income, so we can adjust the value down by 20% to reflect the current market, and upwards by 8%, and so on.”

This is somewhat misleading as it would not be a methodology appropriate to the ideologies of market value as defined by the IVS/RICS,. These global standards require the valuer to collect information that would be for a similar property, in a similar location transacted within a similar timeframe, typically 3-6 months. The above statements taken from the EBVS implies it would be appropriate to apply general market movements to specific locations, which is perhaps too simplistic as it overlooks the heterogenous characteristics of different locations. A valuer would more typically evaluate market movements within a specific location rather than apply general movements in a city wide index.

In relation to the investment method of valuation, EBVS states that the property value is *“...directly proportional to the rental income it can generate”*, referencing both the capitalisation method and the DCF approach. Within EBVS statements make reference to a Year's Purchase being *“roughly based on the interest rate”*, failing to make reference to this rate being risk-adjusted. A number of calculation examples are simplistic and together with somewhat misleading statements on how to value as well as the role of the valuer, the standards are seen as gross oversimplifications of the process. For instance, the EBVS states that *“a property generating an incomes of AED50,000 per annum would [over a 5 year timeframe] translate to a value of AED222,591”*. This valuation example fails to take into account the longevity of property and its ability to generate income into future years (beyond the initial five year period). Therefore, any

valuer applying these EBVS principles would be grossly undervaluing the asset. The same observations can be made of its DCF approach too.

In Dubai, conventional commercial lease terms are relatively short (see Table 6.2). Therefore the advocates of DCF approaches may well be valid for Dubai, given the overarching theme of international criticism of an ARY approach, namely:

- Low/opaque transaction levels mean net initial yields and other comparable market evidence is hard to come by;
- Short leases means more uncertainty around income projections borne from the use of ARY approach

A comparative analysis of common lease terms is shown in Table 6.2. Table 6.2 shows that the standard or ‘institutional’ lease for UK commercial property is on full repairing and insuring terms (i.e. the tenant is responsible for all repairs and insurance provision) granted for a period of 10 years (depending on the type of building) with 5 yearly rent reviews.

Generally the rent review is upward only and the income is paid quarterly in advance. This research is keen to understand whether local valuers carry these assumptions with them into other markets. The valuation case study experiments have been designed to examine whether provisions are being made by valuers to take into account variations on these ‘traditional’ UK borne assumptions. This study has already pointed to the shorter leases, and rent review processes in Dubai compared to the UK market.

As shown in Table 6.2, Dubai’s commercial markets have been characterised by much shorter leases, frequently with annual changes in income and often with non-recoverable costs; costs which would vary over time. To value these more complex income streams/assets, methods that project forward the varying income and expenditure patterns are needed, namely a DCF approach. However, the primary survey found take-up of DCF approaches in Dubai to be low. The most common alternatives to the conventional ARY approaches have been the development of growth explicit DCFs, the underlying mechanisms of which we see in commercially available software packages such as Estate Master IA or Argus.

Table 6.2 Comparison of common lease terms

Lease Term	United Arab Emirates (UAE)	United Kingdom (UK)	United States (US)	Australia/NZ
Term	Short; 1-5 years	Long; 10-15 years	Negotiable, generally any length	Moderate; 3-10 years
Breaks	Common for longer leases	Options to break	Negotiable	Options rare
Renewals	Automatic if tenant holds over and landlord does not object	Negotiable. Law gives tenant right to renew, but this right can be waived	Negotiable	Common
Rent basis	Net	Net. Most leases fully repairing and insuring	Gross	Net or gross
Free rent	1-6 months	Wide range. Between 6 and 33 months on a 10-year lease.	Negotiable; 1-12 months are typical	Negotiable
Escalation	Local laws limit increases	Negotiable. Typically every 5 years. Sometimes to market, usually upward only.	Negotiable	Every 1-2 years
Security	1-3 months	Negotiable	Negotiable	3-12 months
Fit-out	Sometimes included in the rent	Tenant pays	Landlord	Tenant pays
Tenant's broker	Tenant pays	Tenant pays	Landlord	Tenant pays
Right to sublet	Negotiable	Allowed with restrictions	Common	Common with approval of landlord
Transparency	Limited	High	High	High (AUS) Limited (NZ)
Space measurement	No single standard. *IPMS Offices	NIA	Rentable area, usable area, net usable area	NLA (Property Council of Australia) and Net BOMA (New Zealand)
Building classification	Grade A, B, C	Grade A, B, C	Class A, B, C	*see PCA Grade A-D

Source: data extracted from CBRE Global Office Report (2015)* IPMS (International Property Measurement Standards) will be adopted in Dubai as mandatory*Building grade classification is set out by the Property Council of Australia in their Guide to Office Buildings Quality and is determined by factors such as NLA, floor plate size, environmental, mechanical, tenant riser, lifts.

Academics advocate the use of discounted cash flow techniques because these techniques are flexible and can explicitly take account of their impacts on the risk and income growth (Baum and Crosby, 2007). For example, they are able to deal with short leaseholds or properties that are over-rented, both of which capitalisation methods outlined earlier in the chapter were unable to adequately consider. The main arguments in support of the contemporary DCF techniques are:

- Traditional techniques breakdown in the absence of good comparables so that they often include subjective manipulation of information by the valuer.
- Traditional techniques have in the past produced price inefficiencies for example, in the short leasehold market.
- DCF based techniques take a more rational approach to the valuation of the income flow.
- More flexible technique so can deal with short leaseholds and unusual costs and receipts.
- DCF is relevant in terms of finite leasehold structures, where traditional techniques on forecasting out the income streams in perpetuity would be misleading or an inaccurate account of the reality of some commercial property assets.

The DCF itself is not without criticism. The main complaints refer to the difficulties associated with accurately forecasting future cash flows and the subjective nature of selecting an appropriate equated yield. Advocates of the traditional methods argue that these methods are more objective because the estimation of market values relies purely on comparable transactions. The purpose of a valuation is to predict price. If the market is using irrational methods, so should the valuer. However, even the most ardent supporter of the traditional techniques accepts the need to use DCF derived techniques where there are no good comparables. This would be based upon the notion that it is a technique that allows the valuer the opportunity to lay down the idiosyncrasies of the individual asset, rather than making broad market derived assumptions, that may not be specific to the asset itself. Although the case for adopting a DCF approach seems clear, it has its limitations, many of which sit with the user rather than the methodology. According to Havard and Waters (2013), “*DCF's can be unstable when not constructed*

correctly and are sensitive to key assumptions". In a market of uncertainty, standardised approaches and transparency of analytical frameworks are key. Despite these theoretical observations, local valuers in Dubai from international markets are yet to fully embrace the DCF approaches. Many survey respondents advocated traditional techniques, largely based on their training and professional development in their home countries. Chapter 7 will look to examine further the impact of the choice of valuation methodologies upon variance.

The next section examines the structural aspects of Dubai's real estate valuation profession in order to gauge in what sense this is impacting valuation reporting and variance.

6.3 STRUCTURAL ANALYSIS OF THE REAL ESTATE VALUATION PROFESSION IN DUBAI

The real estate profession is like any other economic system. Therefore an appreciation of the structure of Dubai's real estate valuation market is considered a worthwhile analysis, when presenting information on reliability and accuracy of valuations. The structural dynamics of the local valuation industry will play some part in controlling the level of valuation accuracy and variance in Dubai. Valuation firms in Dubai compete against a small number of other firms, perhaps no more than 20. At this level of competition it would be sufficient to suggest oligopolistic characteristics emerging. With reference to the theory of oligopoly, we are unlikely to see the conditions necessary for a price leader in the local valuation profession. The characteristics pertinent to the classification would be that firms will look to differentiate their reports through quality and marketing. It is important to emphasise that valuation firms must face the prices set by the willingness of clients to pay for particular valuation services between firms, so their ability to influence their own prices is very limited. There is a level of price competition observed in the market. More recently and post-global financial crisis, it has been seen as almost mandatory to get RICS approved valuation reports, therefore pushing the negotiating powers slightly in the favour of the firms. On the flip side, the competitive nature of the business development related to valuation work has given anecdotal evidence that firms are producing valuation reports at low(er) fees. The theory follow on would tell us that firms producing at this fee level will be

securing the larger share of the client business. If other firms wish to stay in business, they will look to come down and price their valuation reports at a similar price to the lower fees. This would raise concerns on the longevity of the quality of the valuation reports being produced. The lower cost would come at some form of economic compromise in the production process, whether that is the type of staff undertaking the valuation, or the time pressure it would put on firms for a quicker turnaround time. If firms are able to automate the reports, for instance, to add economies of scale, to the reporting process, this may justify a lower fee. However, the time required for physical and legal inspection and fact-verification is still an important part of the process that cannot be overlooked. There is evidence of some firms using technological advantage to their systems, thereby reducing the time (and cost) of valuation reporting. At present this has been limited to the residential sector. The implications of these practices is that prices will be set by the 'high volume' valuers. For example, if Valuation Firm A carries out the largest volume of valuation work, it may be associated with also being the cheapest. If other valuation firms accept the margins set by Firm A are the lowest and observe their pricing, they could begin to set their own prices to reflect the quality advantage they may have. If the market is going to develop to have several dominant volume firms, then price leadership may emerge whereby valuation firms are maximising profits with low margins, and the remaining firms supply the remainder of work not met by the dominant firms. However, it is more likely that we will see market share divided between a number of firms, with them competing on non-price factors. Valuation firms are likely to do this by targeting different market segments (or asset classes) or emphasising quality or branding advantage (i.e. a valuation report with Firm A logo is preferred by institutional investors than Firm B's logo). In addition, prices will be segregated depending upon the type and bases of valuation being undertaken.

The RICS valuation firms have governing rules on fee competition. However, unless legislation mandates RICS valuation reporting, competition remains between RICS and non-RICS regulated firms. At present, it appears that the client is still in a position to put downward pressure on fees and if sustained it would compromise quality of valuation reporting. As valuation work serves as a proxy to hard transactional evidence, a high volume of less rigorous valuation reporting is likely to add further 'noise' to an already opaque market. Although the RICS' Valuation Registration Scheme (VRS), goes

someway to safeguard the profession and the quality of outputs, the observation made within this chapter defends valuation reporting, and market standards in Dubai will have a bearing upon variance.

SUMMARY OF CHAPTER

The Dubai economy has experienced rapid growth and increased foreign direct investment since the economic reform and open door policy on free zone property investment in 2002. Despite this, the real estate market is still relatively immature. The Dubai real estate market does not operate a fully transparent system, largely as a result of its two-tiers of free zone and non-freezone rights, governance and legislation. Furthermore, the regulation of appraisal services in Dubai remains fragmented given the presence of both professionally regulated valuers and non-regulated valuers. This is further confused by the existence of separate professional designations from global professional bodies, each of which has their own set of standards and codes of practice. The fragmentation of the valuation industry in Dubai is only likely to lead to greater variance in valuations. However, continued growth in the real estate market since the economic downturn in 2008/09 has seen high demand for appraisal services and this is increasingly met by both large domestic and international consultancies. Local appraisal firms are becoming better trained and this is assisted with the introduction of the central government backed certification and licensing programmes. One of the biggest threats is the fact that despite a rise in professionalism and educational training, many appraisers come to the market with no or limited market knowledge, particularly related to an awareness of market risk. In addition, underweighted assumptions on market risks become apparent when valuers fail to look at the lease or other legal documents. In this regard, the local valuation standards of the EBVS remain prescriptive with detailed formulas and procedures that must be followed. New valuers or those coming from other marketplaces must start to examine the specific risks set out in the lease rather than opting to 'hide' assumptions under the all-risk yield approach. Despite the ARY being suitable in a transparent market, with a high number of comparable evidence, its suitability in Dubai's opaque market has been called into question. It is still applied in Dubai, even though the availability of data is somewhat lacking impaired by the segregation of freehold and non-freehold transactional evidence. Since the introduction

of the valuation registration schemes in August 2016, future development towards international best practice in Dubai looks more likely.

The Dubai Government mandated the IPMS measurement codes in 2014, an introduction that greatly benefits consistency in the way in which comparable data is recorded. Furthermore, the DLD has drafted the EBVS, which aims to provide real estate valuers guidance on suitable approaches to valuation. A positive element is that this book complies with the main points of all major international valuation standards such as the IVSC. The RICS Red Book has been heavily referenced throughout the manual. However, market participants unfamiliar with the RICS Red Book would struggle to have sufficient depth to be able to fully incorporate the mandated rules and procedures of IVS. Therefore, critics place a large question-mark over the purpose of the introduction of a separate valuation book for Dubai, rather than adoption of what has already been tried and tested in other global markets.

It may appear that the DLD are responding to global pressure to govern standards with the EBVS and can tick-box the introduction of a bespoke set of valuation standards. The perceived danger perhaps is that a manual that is largely omissive on critical areas of valuation practice may adversely impact valuation variance. In addition, statistical publications to allow forecasting and data modelling are infrequent and lack sophisticated approaches that consider the heterogeneity of real estate as an asset. Whilst the regulatory side of the valuation work in Dubai has been reformed, much of the current guidance is vague and aspirational. A clear set of rules and governance should be implemented. That said, key improvements in the regulation of the valuation profession alongside the close alignment of international best practice has occurred.

It remains that differences in valuation standards and methods appear to create greater variance. The next chapter examines the key findings from the primary survey work carried out in Dubai. It will present further evidence on valuation variance, both quantitative and qualitative.

CHAPTER 7 – CRITICAL ANALYSIS AND INTERPRETATION

This study is the first piece of academic work that has looked to examine the local valuation profession in Dubai. The measurement and evaluation of valuation variance is the main focus of this research. The literature sections have been able to provide a synopsis of similar international findings on variance and intra-valuer variability. From this, it has been established that most studies have found valuers to be within 10-20% of one another. The overall findings, based on a similar methodology of hypothetical properties, were that 61% of all valuations lie within a range of 10% of the mean of the valuations, and 85% within a range of 20% of the mean. This provides the parameters of variance for analysing Dubai. The research forming theory presented in this thesis highlighted that Dubai may be prone to greater variance based upon a diverse range of professional backgrounds; lower market maturity; and less data transparency. This chapter presents both quantitative and qualitative data to provide an overview of valuation variance and an evaluation of what might be causing variability between valuers. As described in the methodology chapter, data was obtained from several industry surveys as well as from postgraduate real estate students. Therefore the main aim of this chapter at its completion is to present findings on why valuation variance may exist in the local market; how much variance is present; what might cause variance. It also provides some thought leadership on useful recommendations to improve or limit valuation variance. This chapter will initially discuss the findings of each of the main stages of the data collection separately. These include:

- Stage 1 Questionnaire survey of commercial valuers
- Stage 2 Industry valuation case experiments
- Stage 3 Postgraduate valuation exam responses
- Stage 4 Focus group and industry workshop

The latter part of the chapter will look at the main findings from the survey and summarise the principle causes of valuation variance in Dubai.

7.1 QUESTIONNAIRE SURVEY OF COMMERCIAL VALUERS

This first section presents findings from the Dubai valuers questionnaire survey. The purpose of the survey of valuers was to provide information on valuer's opinions on the cause of valuation variance. The initial observation, perhaps unsurprisingly, was that there was a clear confirmation by the valuation profession that variance does exist. The qualitative survey was designed to gather opinion about the causes of valuation variance in Dubai. The research questionnaire focussed on the following key themes:

- **Assessing attitudes towards property valuation processes in Dubai.** This explored the valuer's perception of the stages and processes of property valuation in Dubai and how relevant these processes are to valuation variance.
- **Evaluating the presence of valuation variance in Dubai and highlighting the factors that may lead to variance.** Valuers were asked to comment on what factors they felt caused variance and rank key factors attributed to the presence of variance.
- **Assessing if valuers measure and record valuation variance.** Valuers were asked to disclose whether they monitor and measure valuation variance. In addition, the respondents were asked to comment on how they were trying to improve variance.
- **Examining the use of property indices and information.** This section examined the perception of information reliability; efficiency and use within valuation work, together with valuer's comments regarding the barriers present within the flow of information amongst the profession.
- **Highlighting key recommendations by valuers on any improvements to valuation practices in Dubai, in relation to controlling variance.** Respondents were given the opportunity to provide opinions and recommendation on current policy in order to highlight areas of

inefficiency in the profession. Valuers were asked to comment on these recommendations in terms of their effectiveness to managing or reducing variance.

The questionnaire also presented the opportunity to build on the opinions expressed by valuers on recent policy and regulation that has been introduced. The survey findings from each of these core research themes will be discussed in more detail throughout the following subsections.

7.1.1 Attitudes towards property valuation processes in Dubai

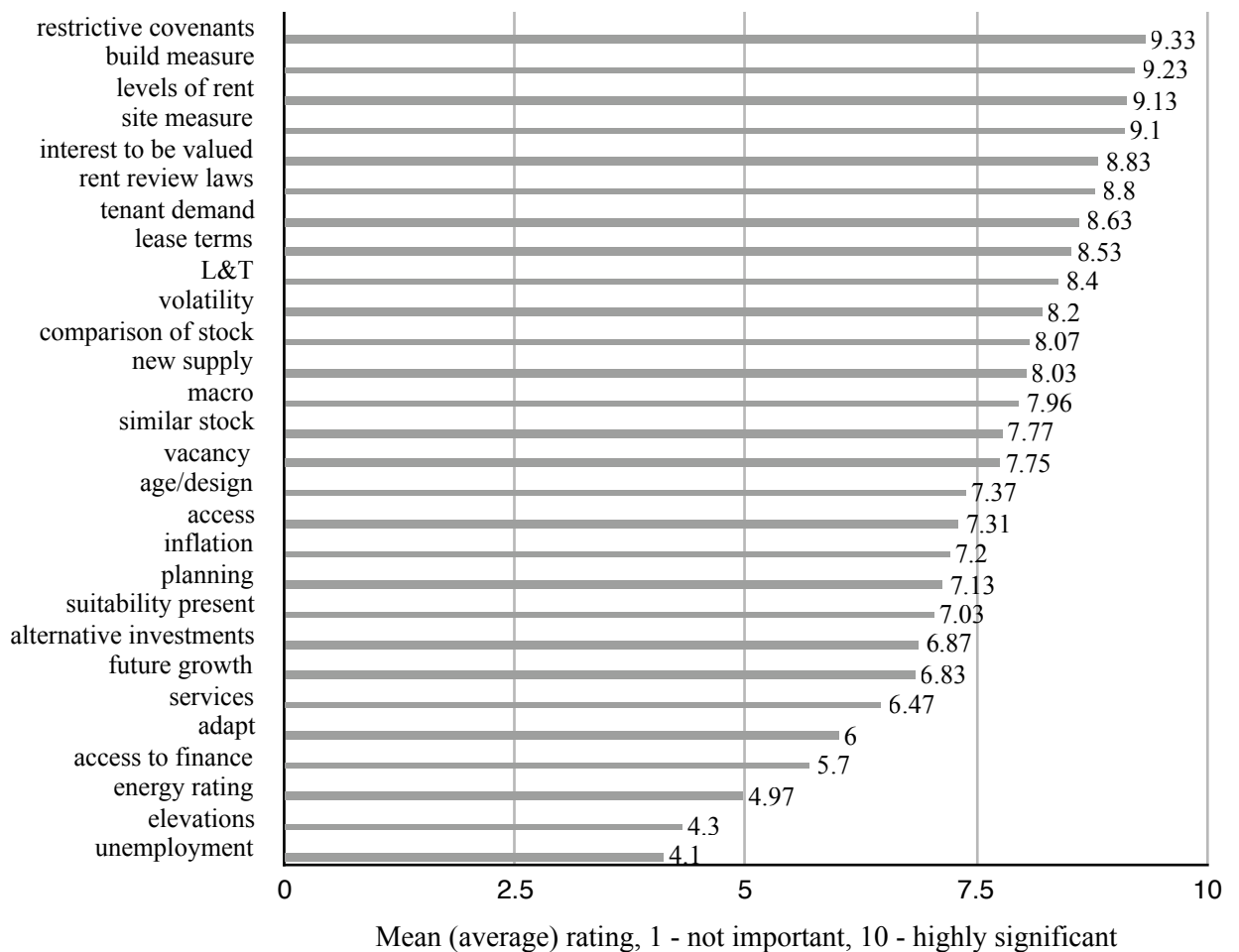
In order to evaluate how variance may be introduced to the valuation process, the initial set of questions in the survey examined the relevance of key valuation factors. The valuer's primary role is to assess relevant factors that impact commercial value. Valuers were therefore asked to rank those factors they felt impact commercial valuation the most (Figure 7.1). The responses provide an indication of where the profession places most emphasis when valuing property. Figure 7.1 shows those factors considered most important in a rank order from highly significant to not significant. In summary, survey respondents rated the following as most important when valuing properties in Dubai (in order of priority):

1. Restrictive covenants
2. Measurement of site/building
3. Rental values and rent review laws
4. Tenant demand
5. Lease terms

The implication from these responses suggest that valuers are more likely to be using 'hard data' and the explicit information contained within leases to value assets rather than relying solely upon comparable information. The presence of restrictive covenants was rated as the most significant factor that affects property values, with it limiting the use (and subsequent value). Measurement was rated the second most significant factor impacting property, suggesting that quantum is a leading value driver in the valuer's assessment. This is somewhat surprising as one would expect the levels of rent to score

higher. Nevertheless the level of rent was scored as the third most significant factor. Risk-based variables and those related to security of income were not considered until slightly lower down the list, with rent review laws (6th) and volatility (10th). The fact that volatility was not rated as a highly significant factor, perhaps demonstrates the challenges of forecasting cash flows and applying the perpetuity rules to valuation instructions in Dubai. Another surprising component within a valuer's assessment of risk that scored a significantly lower weighting was future growth (22nd). This suggests valuers might be inconsistent in their valuation approach when considering future growth. This may then lead to greater levels of variance amongst valuers. There is a significant drop in importance in relation to adaptability; energy rating; elevations and unemployment levels.

Figure 7.1 What factors influence property values in Dubai?



The more relevant findings from this rating based question, to understand valuation variance, were found when examining those factors that had the greatest range of rating

between respondents. This analysis allowed the research to highlight factors valuers were most inconsistent on. The factors that had the greatest range included:

1. Future growth
2. Volatility
3. Vacancy

In light of these results, valuers reported a variation in a number of significant factors that affect property value. It might be apparent from the analysis that valuers are inconsistent in their assessment of factors related to future forecasting. More consistency was found within factors that are specific and measured, like size and rent. This section of the analysis has shown that a greater level of subjectivity is based upon forward-looking variables and as such it would be these assessments amongst valuers that would account for greater levels of variability.

Valuers strongly felt that reducing delays in the information feedback process and greater detail in the information provided would play an important part in reducing variance. However, one valuer believed that reducing delays in the feedback process was a mere timing issue that might help bring forward information faster but would not necessarily encourage valuers to be more consistent in their valuations. The questionnaires showed that valuers are faced with a number of challenges that would result in greater variance for the following reasons:

Supply of information on recent transactions. The relative shortage of data and information has forced valuers to shift their focus to building up a yield from imperfect comparable data, although one experienced RICS valuer stated that:

‘...the yield itself does not necessarily reflect what other similar properties have sold for and so one would expect valuers to have a different view on the chosen yield [based on the information at hand] ...’.

There was insufficient information on property, due to a lack of transactions or situations where proper information related to the subject could not be sourced (or was

considered inaccurate). Then again, one recently qualified RICS valuer was optimistic that this uncertainty could be mitigated during property inspection. He said:

‘We are spending more time on the property inspection to end up having more confidence in the end valuation.’

Site and property-related factors. This includes the market prospects offered by the specific property, site location, the quality of the tenant, and the possibility of future prospects of improvement. Valuers felt strong location attributes warranted a lower yield.

When applying a yield, most valuers reached their formal decision through consultation with the agency and investment teams as well as with external agents. The hierarchy of evidence was often based less on transactions and more so on asking prices. The valuation process might also result in an anchoring bias towards what ought to be the selling prices (and yield). Therefore valuers raised concern over the timeliness of information. A reliance upon internal departments to provide different information could lead to greater variance between firms and valuers. There was the issue of clarifying what actually holds the weight of the valuers opinion. One experienced valuer stated that:

‘Standardisation across the market would help the situation...The Lands Department have obviously set things [data] up, but [we] do not necessarily have timely control over the information with it being disseminated by third parties.’

Adopting a typical valuation process model, the greatest variance is likely to take place during the evaluation stage, after collecting some initial but limited transactional evidence, and trying to substantiate it with imperfect information. To validate their chosen figure, in general valuers relied on their agency and investment teams. Although some turned to the local regulators as their source of information during the preliminary desktop research.

Both quality and timeliness of data supplied were highlighted as major factors influencing valuation variance. This research is not only about examining the availability of data, it is also designed to investigate how valuers prioritise the information they receive. The survey confirmed that the majority of respondents do apply the correct principles in property valuation work in Dubai, making particular reference to available indices and the application of a 'hierarchy of evidence'. The survey confirmed that market information is often more difficult to obtain. Some valuers operating in Dubai appeared less familiar with the use and ways of applying comparable evidence to their work. When identifying, analysing and applying the comparable evidence, the valuers in Dubai were common in their approach from a theoretical perspective stating that data should be: comprehensive (ideally a number of comparables rather than a single transaction or event); very similar (ideally identical to the item being valued); recent (representative of the current market); an arm's length transaction in the open market; verifiable (so far as practicable); and consistent with local market practice.

It is implied, therefore, that valuation practices in Dubai apply positive economic (objective, fact-based) principles in order to calculate property values, with less importance or more variability on forecast-based factors. Unlike developed real estate markets, Dubai's real estate industry produces limited literature on its hedonic behaviour, property yields, and relationship with the local economy. This may account for the lower level of significance placed to these category of variables. As a result variance is likely to exist. The next section examines the presence of valuation variance in Dubai from the valuers' perspective.

7.1.2 Presence of valuation variance in Dubai

In relation to valuers' views on the presence of valuation variance in Dubai, all valuers felt that variance was expected. Most commonly, valuers stated this would be expected to be within 10-15%. Furthermore, it was perceived by the majority of respondents that variance would be greater in Dubai than more mature markets. Most valuers went on to emphasise the reduction in variance would be as a consequence of better information from property indices and other market participants. To summarise these findings, the valuers' approach to data methods generally depended heavily on their assessment of

internal and external data. There are clear calls for better information for the valuation community as a way to reduce variance. Responding to the ongoing problem of insufficient transactional evidence in the commercial market, valuers also recognised the importance of more investment in data pooling and market research as well as for more widespread training in this sector to support the valuation profession.

Moving on from the general market observations, there were four key factors within Dubai's real estate market that respondents felt lead to valuation variance, including:

1. Availability of data and inaccuracies in transactional evidence
2. Client expectations/pressure
3. Multiple measurement standards
4. Differences in quality of staff (training and education)

Each of these will now be discussed in more detail.

Availability of data and inaccuracies in transactional evidence

A significant number of respondents, 94% (32), stated that the amount of information provided to them was important in the valuation process, supported by one respondent who stated:

“We require as much information on the property as possible to give an educated view on the opinion of value...”

“...comparables must be handpicked and must relate to the subject property in line with quality, views, size and location, ...an adjustment must be applied if subject is superior or inferior to the comps.”

Another stating:

“...the lack of data increases the uncertainty of the valuation.”

A key aspect of opaque transactions in Dubai appeared to relate not only to market value/sale price, but also the ability to secure suitable comparable yield evidence. One

experienced RICS valuer also pointed to the dangers of valuers relying upon agents “... promoting any ‘ positive information biases’, as they only make the market more volatile.” She went onto state that:

“...focusing on positive aspect [of the market] is neither an accurate representation of nor a benefit of the market.”

One graduate valuer also seemed to highlight the challenges of opaque data, demonstrating an approach that would enable more subjectivity (and therefore variance) into the appraisal/valuation stating that:

“Transactional data is difficult to obtain within the UAE market, which makes establishing a yield challenging. Because of the lack of evidence ... I considered transactions from across the emirate.”

These soundbites point to the frustrations of lacking transactional evidence and the compromises that are made to seek the relevant amount of information. This was supported by a number of other respondents who agreed that obtaining comparable transactions to determine a capitalisation yield proves challenging. It would be sensible to assume that if valuers are approaching their analysis in this manner, then the market differentiation on yields is being eroded and locational advantage perhaps is not fully accounted for in the outputs. It may be the case that valuers might be reading a general consensus on what yield to assume through discussions of sporadic transactions. Other valuers noted that they would consider historic data. It is another example, whereby consistency amongst valuers would be smoothed, but threatens the accuracy of valuation work. Survey respondents were able to agree most of the time the rationalisation of yield assumptions comes from informal discussions with investment agents and other valuers.

Minor observations were also made in relation to the differences in the range of data available. The level of variance in the rental assumptions for prime areas of Dubai did vary somewhat and were markedly different across the sample group of valuers. Typically, valuers quoted rents for offices, retail and industrial property in prime areas

as being from AED150-350psf; AED250-800psf; and AED40-90psf respectively. These wide ranges would undoubtedly contribute to valuation variance. However, at this early stage, more information would be needed on how the valuer is pairing the rental information with other data components when calculating capital values, for instance. This dynamic was tested further in Stage 2 (industry valuation case experiments - see Section 7.2).

Client expectations/pressure

Another theme throughout the questionnaire survey was that valuations were susceptible to client influence, particularly where the valuer had been supplied information by the client. Most respondents referred this to insufficient knowledge or experience of the market place. One respondent stated that:

“...there are some poorly practising valuers. In addition, clients are not reading and understanding the report assumptions and caveats.”

These observations were made from both the valuers general opinion and also when they were asked to recall specific instances where they had observed instances of excessive variance. As a byproduct of the lack of available transactional data, it was perhaps felt that the profession is left exposed to “bad” data or the potential for the valuation to be compromised. This was noted more so for commercial assets. One valuation professional said:

“Usually the information from the client is good, but there is a lack of transactional evidence, especially for non-residential...”

Another respondent felt less convinced that the information from clients was consistently of a high enough quality, stating:

“...often rely on their clients inputs - which in some cases may not be realistic.”

“...it is unethical to revise the value without first verifying the new information provided by the client.”

Another valuer was able to explain that

“...they will defend their valuation and will not submit to undue client influence or pressure.”

These statements suggest clients do not have much control over the valuer when undertaking a valuation. It would be expected that individual valuers will not disclose any personal account of client influence, but instead, discuss generic examples observed by the wider market. The following analysis does go into slightly more detail regarding these aspects of the survey findings.

There were several respondents who suggested that the valuation could be adjusted as long as it fell within an acceptable tolerance, with one professional stating there is a “... *10% flexibility on the values.*” However, the findings suggested that valuers are less likely to adjust the value when requested to do so by the client or provide indicative values pre-instruction. The result did reveal evidence that clients will or tend to exert pressure on valuers in Dubai. Many respondents (91.2%) stated a personal experience of client pressure, typically based upon “...*getting their required values.*” The survey respondents seemed to suggest that valuers are aware that clients can influence the profession and the respondents had a higher propensity to disclose clients pressuring the profession, rather than them individually. The results may indicate that there is an overall perception that client influence relates to the work of others rather than the individual themselves. The survey work is unlikely to record full disclosure by practising valuers of malpractices. However, the results indicate it can exist. Table 7.1 shows a summary as to the type of client most likely to influence the valuation as disclosed by respondents. A significant majority selected private individuals and developers.

Table 7.1 Sources of influence of pressure

Type of client	% (n)
Private individuals	88.2% (30)
Developers	73.53% (25)
Financial lending institutions	55.88% (19)
Fund/asset manager	47.06% (16)

This might be attributed to the fact that private individuals and developers have purchased land (assets) at historically high prices (speculated), thus are placing undue pressure on valuers to revise the valuation upwards. Lending institutions on commercial backed assets were much less likely to assert pressure.

A follow-on from this was to ask respondents by what means do clients typically enforce an influence upon valuation work. Table 7.2 summarises the most commonly rated occurrences of client influence in Dubai.

Table 7.2 Strategies clients use to influence valuation

Statement	Rating*
<u>Information bias</u>	
Clients withhold information that can negatively impact value	3.92
Clients provide false/historic information	3.79
Clients supply correct information	3.42
Clients supply the value of variables used	3.33
<u>Behavioural bias</u>	
Clients promise to give more business or large value contracts	4.04
Clients threat to engage with competitor firms	3.96
Clients threat to cancel or default on payment	3.54
Clients threat to remove valuer from preferred panel	3.13

* rating is shown as mean average across all responses. with 0 - strongly disagree to 5 - strongly agree

In relation to these findings, it appears that the behavioural bias of promises of future work and the threat of engaging with competing firms were most notable examples of client pressure upon valuers. Furthermore the ability for clients to withhold certain information can create variability amongst valuers. This theme that emerged from the questionnaire surveys was noted and discussed further within the industry focus group, where a number of key recommendations were presented (see Section 7.4).

Multiple measurement standards

The next most significant cause of valuation variance as disclosed by the valuers was the use of multiple measurement standards. Since starting this research, the most notable change has been the introduction of International Property Measurement Standards (IPMS). However, issues of consistency are still likely to persist until the new measurement rules have been fully adopted. One key observation from the survey respondents was the use of different measurement terminology. For instance, office assets were commonly stated as being measured according to Net Internal Area (NIA), however GLA was used interchangeably with this term.

Most respondents were able to reach a consensus on the way in which differing property assets should be measured in the valuation process. Although there was an agreement in a theoretical sense, valuers were keen to express their concerns that in Dubai the availability of information was less than perfect. The main areas of concern that came up in the survey work were the lack of industry standards and the tendency for valuers to be overly reliant on measurement information provided by clients. A senior manager reported that:

“...areas are given, but not all developers are following the same standard across the sector...making it hard to compare the competition and sale evidence.”

With the introduction of IPMS, respondents appeared hopeful that clients and other property professional would adhere to the newly defined global codes, thus making consistency and measurement disputes less of an issue. This is an area of the subsequent

survey work that was not tested. However, future studies could examine this area of practice in more detail.

Differences in quality of staff (training and education)

The final area respondents felt was a reason for valuation variance was observed differences in the valuer’s training and/or academic background. Survey respondents stated that differences do exist across the local profession. Valuers were given an opportunity to select the most commonly used methods of valuation for the main property asset classes in Dubai (see Table 7.3). The responses appeared consistent with that of the RICS guidance. However, there were some minor discrepancies amongst a small proportion of respondents (4) as to which methods were most appropriate when valuing different asset classes. For instance, two respondents stated that they would use the profits method to value office buildings. Similarly, two respondents also disclosed using the investment method when valuing development land. The findings could suggest that there are differences in global terminologies that might be causing confusion for local valuers and therefore influence some differences in opinion on how assets should be valued. Otherwise, it may also point to a lack of knowledge and understanding in a number of cases. A variation in the choice of valuation method is undoubtedly going to create variance in the final valuation. This dynamic was tested further in Stage 2 (see Section 7.2).

Table 7.3 Methods of valuation applied by valuers (by asset class)

Method	Office	Retail	Industrial	Leisure	Development	Residential
Comparable	X	X	X	X	X	X
Investment	X	X	X	X	X	X
Profits	X			X		
Residual	X	X		X	X	X
DRC	X		X	X		

In terms of the number of years experience of valuers there was an awareness regarding a lack of local expertise and knowledge. One experienced respondent summed this up by stating:

“...an inexperience and lack of understanding of the local area/rules/legislation which affect the valuation or the method used to value a property. Take JAFZA warehouses these should never be valued on an investment method yet many RICS firms still use this method.”

An interesting point raised by one respondent was that the issue becomes self-perpetuating as the valuation profession itself is ‘reliant’ upon each others valuation outputs, stating: *“...valuers in Dubai rely heavily on other valuers opinions...”* suggesting that valuation bias, anchoring and smoothing variability as realistic issues. The survey respondents did share an agreement on the fact that the skill of the valuer is of greater importance in developing markets. More investigation is needed on these preliminary findings, especially of that related to the data and comparable evidence.

This section of the survey findings has highlighted that valuers do accept variance within their professional work. Furthermore, it has been able to present some key insights from the profession as to the leading factors that they feel contributes to variance. The four key factors will be discussed further in this analysis section, most notably within the valuation experiments (Stage 2 and 3). The next section of the questionnaire analysis moves on to how valuers and firms are monitoring variance.

7.1.3 Measurement and recording of valuation variance

Approximately, two-thirds (22) of the respondents were able to confirm that they are active in monitoring or managing variance in their valuation work. The most common processes would be the operation of internal checks or ‘a double sign-off’ by senior valuers. Box A (below) highlights common processes in place by valuation firms in Dubai to reduce the likely occurrence of valuation variance. For those firms not actively monitoring variance it was felt only necessary if the transactional information is shared by the client or unavailable information prevents a moderation process occurring. Valuers seemed to appreciate fully the risk associated with not measuring or monitoring

variance across a range of valuation work. Responses from the interviews identified valuers' perceived risks leading to unexpected liabilities and/or claims of negligence. The limited number of negligence claims was considered surprising, because hypothetically this would appear more likely in opaque markets. However, the interviews did refer to the adequacy of professional indemnity insurance as the most effective way to protect valuers from unexpected liabilities. However, rather than relying on insurance, what was important for valuers was to demonstrate to clients the results and data contained within the valuation report was clarified and well-supported.

Box A: How are firms managing valuation variance in Dubai

- Benchmark against external valuer
- Master control sheet on valuations carried out on the value reported on key information, such as use income
- Internal audits/QA
- Double sign off and comparing to our valuation tracker
- Peer tracking, valuation tracker
- Reviewed by 2 senior valuers
- In-house database and sign sheets
- Valuation tracker - we check how portfolios we revalue regularly change in value and in general we look at trends for areas

7.1.4 Use of property indices and information

The survey reports that not many valuers used third party indices for information related to specific commercial valuations, for the following reason:

'We do not use them because we find that our internal data is more reliable...our investment agents are closer to what goes on in the market...sometimes the data we do get is useful for validation.'

One MRICS valuer expressed his views on the use of commercially available property indices. He stated:

'It is just another body of information that you have got to analyse through; whereas the internal data we have is more reliable, we could go out, buy it [the data]; but when we have, it is more of a complication.'

Following up this finding, valuers were questioned about the drivers behind innovation in data and property indices. The majority stated that it was the need to improve timeliness and remove the secrecy behind transactions. The information that is provided by local regulators is very opaque and does not help with the differentiation of specific value-added factors. Most valuation firms are investing in internal research to 'bridge the gap', though smaller firms tended to lean more on external sources. In relation to reviewing the property data, survey respondents seemed keen to replicate the data found in more mature global markets as well as look to implement new technologies.

The survey found most valuers were moderately satisfied with the quality of property data available to them (24). Approximately one-fifth (6) rated the quality of the data provided as being 'poor' with ratings of <5. The most commonly stated issues with the data include:

- Lack of transparency
- Secrecy of transactions
- Lack of specific information or 'refined' data

The majority of respondents (24) are using two or less data sets in their professional work and increasingly using internal data sets and indices as benchmarks of market trends. However, the tracking of trends in the market cannot replace the data needed in valuation of assets via transactions. Many of the respondents (87.5%) were able to confirm that they were involved in the production of an in-house property index, with a tendency for these to be for the residential, office and retail markets. In terms of the information recorded within the index, more emphasis has been placed on demand-supply analytics, such as current/future stock, vacancy, rents and capital values. This information is then computed to construct quarterly and annual percentage movements. The survey work also highlighted a number of recommendations on the data provided by external providers (see Box B).

Box B: Key recommendations on improvements to property data

- Functionality and ease of searches - currently deemed difficult to analyse/filter/search
- Accuracy of data e.g. in some instances it relates to when the title deed is issued and not when the deal was transacted
- Transparent information
- Additional detail e.g. qualify views or location

The data in Dubai although improving is still devoid of key information such as reliable dates and any further agreed considerations. Further work needs to be done to engage with the valuation profession in active discussions to allow more disclosure of key transactional information.

The survey and focus group highlight that although firms do have internal databases, sources of transactions are limited or unknown. A major source of obtaining property market data or its verification has been from agents, however it would be reasonable to assume they often lack the required training and their records are questionable, avoiding any record of property characteristics or financial underpinnings of the transactions. CoStar in the UK is an example of a property market data bank where valuation practitioners could access data for their practice. The lack of such infrastructures coupled with other real estate market challenges as explained in earlier literature and survey sections have culminated in certain data challenges. The degree of standardisation in valuation practice in Dubai has improved over the last 5 years (since inception of this study), however it seems from the survey responses more can be done to ensure consistency. The respondents reported a wide range of key challenges faced when valuing property assets in Dubai, ranging from difficulties in benchmarking key information such as yields and the sporadic nature of comparable information; to perceptions of whether other firms valuations are inflated and challenges related to the quality of leases compared to other international markets. The next stage of this research therefore needs to challenge these statements and test whether the availability and quality of the information if improved could lead to an improvement in valuation reporting. More research is needed to see how valuers in Dubai deal with a full disclosure of information.

The valuers appreciated the nature of these problems but felt that many clients did not understand many of the issues related to property valuation, and it was subsequently challenging for valuers to communicate with them (and reach 'agreement'), due to their lack of relevant knowledge. Clearly, the valuation profession and relevant professional bodies are working with regulators and government, but it is apparent that there are a number of key inefficiencies operating at present, the most significant relating to data

availability and pooling. More detail in the information presented in government data would reduce subjectivity and reduce the risk of large variances were the principal recommendations. Alongside transactional data it would be apparent to make yield evidence more readily available for valuers. Interviewees were asked to comment on the future of valuation practices and assess the prospects of improving variance in commercial property. These recommendations are presented in Section 7.5.

The results presented in this section aimed to give a representative view of some of the issues faced by local valuers in relation to valuation variance. The question that needs answering from practitioners is that how readily available is comparable transactions to make assumptions on the ARY. Furthermore, how similar are the approaches of valuers faced with the same transactional data. One would expect that when faced with limited transactions, valuer subjectivity would increase: in fact one could apply an ARY from other investment markets or, more commonly perhaps, valuers would anchor their ARY based on discussions with peers. If valuers are finding a consensus on the ARY and in fact colluding on the assumptions made, one would see variance drop. At the same time however, the discussion would then turn to one of accuracy and how accurate are valuations when faced with limited comparable transactions.

The next sections of this analysis will draw upon the key observations made from the industry survey work. The empirical findings of this survey work will be discussed initially as it answers the most fundamental aspect of this research, the extent to which valuation variance is present in Dubai. A quantitative assessment of variance allows the research to measure the reliability and reproducibility of valuations, as well as compare findings with a range of similar international studies. Once these conclusions have been drawn further insights have been brought together from earlier questionnaire responses.

7.2 ANALYSIS OF INDUSTRY VALUATION CASE EXPERIMENTS

The previous section has demonstrated that valuers are in agreement that valuation variance exists and a series of factors have been highlighted that infer why it might exist. The initial literature and research forming theory observed that this would be true as valuations are opinions, each holding a varying degree of subjectivity. Furthermore, data availability and the way in which information is traded in the market has bearing

upon variance and this was seen as being positively determined when referenced against transparency and market maturity frameworks. This next stage of the analysis will establish the level of variance in commercial valuations in Dubai. This is the first academic study in Dubai that has looked to quantify valuation variance.

In order to measure variance amongst valuers, respondents were asked to undertake three valuation instructions (see Box C, D, E). The valuation case experiments were designed to examine how local valuers in Dubai approach property valuations. The building names and figures used were hypothetical, however, they do refer to well-known districts in Dubai, to allow respondents to apply their current market knowledge in their responses. The survey respondents were asked to propose a value and highlight any key assumptions that were made. The data collected would build on the findings from the questionnaire survey of commercial valuers by allowing the researcher to examine the consistency across the sample group, both in terms of valuation methodologies and data assumptions (see Box C, D and E). It was felt that the valuation case experiments collectively were designed to gather data on the following key areas:

- How did survey respondents compare with international benchmark studies in terms of variance and intra-valuer variability?
- What was the consistency of market information amongst local valuers (rents, yields)?
- Was there consistency in the approach to the valuation methodology and additional data assumptions?

The following sub-sections will examine the findings in relation to these key questions. In total 27 respondents were collected and analysed (as discussed previously in Chapter 5). The key findings from each of the three valuation case experiments will now be discussed.

7.2.1 Variance and intra-valuer variability

As stated previously, international studies in predominantly mature markets have shown that although there is a high degree of variation within the results, a mean absolute variance of around 10% is typical (see Chapter 4).

Box C: Valuation Case Experiment 1

A freehold office building in Downtown Dubai area was let three years ago (June 2013) by a large multinational company (A-rated). The lease runs for 10 years with a rent review/break option in the fifth year. The rent passing is AED170,000 per annum on full repair and insuring terms (FRI). An analysis of lettings in the area suggests market rents are now AED200,000 per annum on the same terms (June 2016).

- a) Using real-life comparable information, what yield would you use on this valuation?
- b) In the absence of comparable information, how would you go about this instruction?
- c) Using the information above, value the property using a suitable approach and explain where necessary any assumptions made
- d) Assuming the tenant was a weaker covenant (C-rated), would you make any changes to the value of the property? If so, how would you reflect this in your valuation?
- e) Assuming the lease was shorter (e.g. an annual lease), would you make any changes to the value of the property? If so, how would you reflect this in your valuation?

Box D: Valuation Case Experiment 2

Bluechip Village was completed in 2015 and is located on a large business park at the edge of the city near the Old Emirates Road (close proximity to Dubai Silicon Oasis). An office development, within the business park, comprises of 32,000 sq.ft (Net Internal Area) over three floors of equal size. The building is currently vacant. However, the landlord has just received an offer from a major telecommunications company, who are keen to take a lease on a 5 year term.

- a) What is the current market rent you would assume on this instruction?
- b) What are the typical lease incentives currently being offered?
- c) How do you consider these lease incentives in your valuation?
- d) What yield would you use on this valuation?

Box E: Valuation Case Experiment 3

Dubai Street is a retail promenade located in the Marina district of Dubai. No. 5 Dubai Street was let for AED1,200,000 per annum to a national fashion chain on a 5 year lease (FRI) in 2014. The market rent is now estimated to be AED1,000,000 per annum. Following the collapse of a number of retailers, there has been a number of vacant premises on Dubai Street. Investors are seeking an all-risk yield (ARY) of 8%

- a) Using the information provided, value No. 5 Dubai Street using an appropriate method, clearly stating any valuation assumptions you make. Assume a date of valuation of June 2016.
- b) What 3 factors did you consider most important when valuing No. 5 Dubai Street?

In general studies find about 70% of valuations to fall within a +/- 10% margin with about 80% falling within a +/- 15% margin and 90% within +/- 20%. These findings will be used to benchmark the results of each of the valuation case experiments. Within the analysis, as valuation variance refers to the observed difference between different

valuer's perception of value of the same subject property, each response was referenced against the group's mean average value (see Box F).

Box F: How was variance measured?

The collected data from valuer responses were summed together and a mean value calculated. Each value in the data set was then subtracted from the mean and the variance from this mean was then expressed as a %

Valuation Case Experiment 1 (VCE 1), an instruction that is based upon a prime commercial area in Dubai was designed to measure consistency around a number of risk parameters (yield, tenant covenant, lease length). The results found that 70.4% of respondents valued the property within the range of +/- 10% from the mean. In addition, 81.5% of respondents were within +/- 15%, therefore, falling in line with comparable international studies (see Table 7.4 below). 93% of valuers were within the +/-20% threshold.

Table 7.4 Variance analysis: prime (office)

Valuation Case (prime)		% of sample
+/- 5%	(29.6%)	29.6%
+/- 10%	(40.8%)	70.4%
+/- 15%	(11.1%)	81.5%
+/- 20%	(11.1%)	92.6%
>20%	(7.4%)	100.0%
Non-response		0
Propensity to over or under value (vs mean)		0.70 (Over)

Valuation Case Experiment 2 (VCE 2), based on a similar instruction in a non-prime area, was designed to measure consistency in rents, yields and differentiation. The results were improved compared to VCE , with 77.8% of respondents within 10%; 88.9% within 15%; and 93% within the 20% threshold (see Table 7.5). The improvement in intra-valuer variability was attributed to valuers being more consistent with their yield assumptions. It was felt valuers applied a 'rule-of-thumb' approach to

yield assumptions in non-prime areas, based on the most common response of 10% (yet a paucity of data).

Table 7.5 Variance analysis: non-prime (office)

Valuation Case (non-prime office)		% of sample
+/- 5%	(33.3%)	33.3%
+/- 10%	(44.5%)	77.8%
+/- 15%	(11.1%)	88.9%
+/- 20%	(3.7%)	92.6%
>20%	(7.4%)	100.0%
Non-response		0
Propensity to over or under value (vs mean)		0.63 (Over)

These results suggest that although the real estate market is considered less transparent in Dubai in relation to available market information, valuers are operating within international expectations.

7.2.2 Consistency of market information

Within the questionnaire survey, the findings were already able to establish the range and variance within market rental data. It was concluded from this that market rent was fairly stable and consistent amongst valuers. Valuation Case Experiment 2 (VCE 2) sought to establish the level of consistency in market rents amongst valuers within the parameters of a more narrowly defined instruction.

In order to evaluate a key area of market information that is likely to be a causal reason for valuation variance, the respondents were asked to state the market rent they would put on a large office development within a well-known freehold area of Dubai (Dubai Silicon Oasis). The respondents gave a range of market rents ranging from AED45psf up to AED175psf. Of course this is a large discrepancy between values and practitioners will argue that the build quality and individual office specifications will determine where the comparable sits within this range. However, it does draw attention to the fact

that market knowledge across Dubai is highly varied and sporadic. The modal range was a lot tighter ranging from AED50-80psf. The findings from this portion of the survey would suggest that although market rent could be a key dependant variable of valuation variance, it is less pronounced than market yields, as a valuer will be able to apportion more consistency in the market rent via a property inspection.

Whilst the absolute value given by respondents were fairly consistent, a wide range of yield evidence was stated, ranging from 6% to 9%, suggesting a wide difference in available transactions used to define the yield. This suggests a lack of paucity in data related to yield evidence. In the subsequent valuation (VCE 2), where valuers were asked to provide yield evidence in a non-prime office location, respondents stated yields in a much tighter range than VCE 1, ranging between 8.5% to 10%. In addition the yield gap between term and reversion was widened by 0.5%-1%. Therefore, there is a consistency in the way in which the subject property has been analysed with most respondents recognising the initial yield needing to be higher and the reversionary yield wider to account for the likelihood of more vacancy/void periods between lettings. Whilst this finding reflects a consistency amongst the sample group in the interpretation of the case experiment (higher risk location than VCE 1 therefore higher yield), it also raises an observation that valuers in the absence of comparable yields may opt for broader yield assumptions in non-prime locations (e.g. apply a 10% yield). This was based on the need to understand why the spread of yields was not as varied for the non-prime location compared to the previously referenced prime location. Interestingly, the yield range between respondents was much closer for the non-prime location than the prime location and subsequently all responses of value were within +/- 20%. Therefore the lack of comparable data and yield evidence in the market appears to cause a greater level of valuation variance. The role of the yield within valuation mathematics would mean a multiplier effect is present between valuer-to-valuer yield assumptions, thus creating greater variance (than for example, rent variance). Therefore, it is felt that the difference in yield is a bigger component to variance than other variables. In a subsequent valuation this observation was validated further. In VCE 3, where respondents were given the comparable yield (see Box E), the level of variance was significantly reduced with all responses within +/-20% (see Table 7.6). The percentage of responses within each of the main variance thresholds was significantly improved

compared to VCE 1 and VCE 2. This was apportioned to the fact that the valuers had been provided with a comparable yield. When valuers were provided with yield benchmarking data, there was an improvement in the level of consistency amongst the sample group. These findings demonstrate that valuers will be more consistent when valuing with more transparent or explicit market data. The improved variance levels in this case experiment was a consequence of more closely aligned yield expectations/assumptions, as respondents had been supplied with a hypothetical all-risk yield (ARY).

Table 7.6 Variance analysis: full market data

Valuation Case (market yield)		% of sample
+/- 5%	(46.2%)	46.2%
+/- 10%	(38.4%)	84.6%
+/- 15%	(7.7%)	92.3%
+/- 20%	(7.7%)	100.0%
>20%	(nil)	100.0%
Non-response		1
Propensity to over or under value (vs mean)		0.59 (Over)

In relation to the respondents' amount of experience, there were some noticeable differences amongst the sample group with regard to the yield assumptions. Trainee valuers were more consistent with their choice of market yield but at the same time also had a high number of non-responses, suggesting some participants were not keen to commit to a market yield without further information. One trainee respondent did support this by stating:

“Transactional data is difficult to obtain within the UAE market, which makes establishing a yield challenging.”

Another trainee valuer was in agreement with this and went onto elaborate his decision-making position further, stating:

“Obtaining comparable transactions to determine a capitalisation yield proved challenging. Similar schemes in the subject location do not exchange hands frequently, therefore I considered historic data and schemes in a wider geographical area. This confirmed that I had to rely on professional judgment and market knowledge, which influenced me to consult with several market participants.”

Professional valuers, those with less than 10 year’s experience in valuation had the greatest variance in the chosen yield, as well as having a number of non-responses. Senior valuers, gave a tighter yield range and of those who responded, all were able to provide a market yield, perhaps suggesting a greater level of market knowledge. Valuers across all three valuation experiments tended to be very consistent with the yield adjustments made on term and reversion (0.25% to 0.5%), indicating that the yield comparable will be the bigger consideration when evaluating value variance. The findings from the valuation case experiments would therefore suggest that the lack of transactional data in the market to draw level comparisons on a suitable yield assumption is a key dependant variable in relation to valuation variance in Dubai’s commercial real estate sector.

7.2.3 Consistency of valuation methodology and data assumptions

When valuers were provided with full information, as in the case of VCE 3 (see Box E), all respondents were within +/- 20% of each other. This demonstrates the consistency of valuation methodologies across the market, and highlights the impact of market transparency and the need for full market information in minimising valuation variance. Most respondents were consistent in identifying the fact that the property was over-rented and the concerns of the valuers were similarly based around tenant default and the consideration of potential void periods in future cash flow (which was considered by a higher yield). When asked to explain the factors they felt were most important in analysing this particular case, a level of consistency surrounded a number of key factors. A summary of these in order from most stated to least stated is as follows:

- Tenant covenant strength
- Lease information (rental income and lease duration)
- Location

- Market data and information of surrounding transactions (take-up, future supply)

A large number of respondents reported the same type of lease incentive being used by commercial landlords in the current market, which included a rent free period (typically 6 months) and fit-out contributions. The sample of valuers were also very consistent with how these incentives should be valued or used in the comparable methodology. One respondent summed this up by stating:

“Whilst it is difficult to generalise how lease incentives are treated, the valuation methodology is usually based on deriving the effective rent (rent which is attributable to the landlord after accounting for all the lease incentives) from the headline rent.”

The respondents were fairly consistent with the data assumptions applied to each of the valuation scenarios, demonstrating that the local valuation profession is knowledgeable and well-versed with international valuation standards. However, there were a larger proportion of non-responses from non-RICS valuers on these two aspects of the survey questions. In VCE 1, respondents were asked to comment on how they would deal with a) a weaker tenant strength and b) shorter leases. In relation to part a) all 16 respondents had the same view of pushing the yield higher (as a weaker tenant who translate to a riskier cash flow). One respondent explained that:

“To model a weaker covenant we would increase the yield which may decrease the value.”

Another valuer was more elaborate, stating that:

“If the tenant had a history of weak covenant, the long term lease would be considered a risky investment to the landlord. This would be reflected in the valuation by increasing the yield used in the valuation. Whilst it is difficult to quantify to the increase in yield based on the provided information and no further knowledge of payment history of the tenant, an increase between 150 to 300 basis point is advisable.”

It should be noted that the actual adjustment will be influenced by further analysis of the covenant and the aforementioned amount is just a suggestion.”

Within VCE 1 Part (e) which proposed a shorter lease when compared to the original scenario, the survey responses found most valuers stated that they would expect risk to increase. However, there were some differences in the way in which the valuers saw the investment. One senior valuer said:

“Probably would reflect this in the yield applied as well as the reversionary income. The longer the lease the more it is that the rent will be slightly less than market rent especially if the market norm is 1 year lease terms.”

Another stated:

“You would assume that the rent would increase to 200K after year one. I would still assume that tenant would stay in occupation and not incorporate a void but I would adjust the yield to probably 7.5% or 8% and use hardcore.”

One RICS professional noted that:

“If the lease was shorter the reversionary potential could be realised earlier. However, there would also be a risk that the Grade A covenant could be lost sooner. We would therefore revise the income profile to reflect the annual lease, but increase the yield to reflect the uncertainty.”

A different approach suggesting a change in methodology was opined from a non-RICS professional who explained:

“If the lease was renewed on an annual basis, a discounted cash flow is advisable. The passing rent would be increased in accordance with RERA rental calculator, up until it reaches the market level. Once the passing rent is equal to the market rent, the rent will be capitalised. Furthermore, (assuming the lease is still on FRI), a vacancy expense should also be considered to account for any potential void

periods upon the expiry of the annual lease. The annual net rent is subsequently discounted to arrive at a property value.”

The survey was able to observe a high level of consistency with the choice and valuation methodology applied by local valuers. All but one valuer stated that they would use the split yield capitalisation method (term and reversion), with one valuer adopting an equivalent yield approach. Whilst the traditional approaches of term and reversion are perfectly acceptable where the property is let on longer lease terms and has regular rent reviews and where there is strong evidence of capitalisation rates, Dubai has relatively short leases (1-3 years), making a 0.5% adjustments from the ARY, of minimal consequence (to value) and therefore serves little purpose.

Summary of valuation case experiments

The Stage 2 survey, which comprised of three brief valuation case experiments, was seeking to gather insight into how varied market information is between valuers. It has found that although the comparable market rent is varied, it would be more consistent post-property inspection. The survey found that the yield assumptions were wide for prime properties, yet closer for non-prime properties, suggesting local valuers may be assuming broader yield assumptions for the latter (i.e. 10% as a ‘rule of thumb’) but knowingly faced with sparse and varied comparable information for prime yields. The survey concluded that valuers benefitted from full market information and as a result were more consistent when supplied with the same data. The profession therefore requires a better transfer of market information. The survey was unable to establish how different valuers approach this lack of transactional evidence. Anecdotal evidence points to a risk based discount rate being applied. However, the methodologies used to define this can widely vary. The Stage 2 research has informed on the consistency on yield assumptions, available market information as well as valuation methodologies applied across the local industry.

These ‘simple’ case experiments have allowed the research to examine key aspects that appear to impact upon variance. Future research would benefit from studying more complex valuations or those based on a real-life instruction. Nonetheless, this analysis

has provided a useful starting point to the debate and draws some useful comparisons to earlier international research in the UK, US and Australia.

The Stage 2 data analysis was able to highlight the consistency in methodologies used and assumptions applied by local valuers. The results were testament to the fact that the sample group (both RICS and non-RICS valuers) showed a high degree of correlation and consistency in their approach to each of the valuation case experiments. Although the findings of this stage of the research has shown some reliability, it was felt that more insight is needed into the valuation methodologies and how human application can impact the level of valuation variance. This was picked up with the subsequent addition of the analysis of the postgraduate exam response survey (Stage 3). The results from this part of the primary research are discussed in the next section.

7.3 VALUATION ‘CONTROL’ EXPERIMENTS WITH POSTGRADUATE STUDENTS

The use of a postgraduate student sample group allowed some useful insights into the decision making processes and cognitive behaviour in valuation tasks. It was included in the analysis as it shows differences caused by human judgement and/or error as a source of variance. The earlier literature chapters showed that humans have a series of error rates related to a range of calculation and data interpretation tasks. By using a control group dataset, an assessment on the execution of theoretical valuation mathematics, without differences in data quality or availability could be made. The questions posed were examining the ability of a group of individuals, tasked with the same valuation, to draw similar conclusions or assumptions when given the same information as each other. It allowed the research to understand the areas of subjectivity brought into the calculation such as deciding on appropriate yield adjustments. The experiment also shed light on which methods of investment valuation were most likely to result in a higher valuation variance. Box G outlines the specific question asked of the student group.

Box G: Postgraduate exam-based valuation task

Your client is interested in purchasing the freehold interest of an office building comprising 8,000 sq.m. NIA. The office is of modern construction completed 10 years ago and located in a prime city centre location. The property is currently let to an international accountancy firm on an FRI lease with 5 yearly rent reviews. The current rent passing is £1,900,000 and the next rent review is due three years from now. The property is in good condition, but would benefit from minor refurbishment.

You have gathered the following comparable evidence of recent investment transactions and determined that the yield on undated government stock is currently 5%.

You are required to advise your client on the market value of these premises. Prepare a fully annotated analysis of the comparable evidence and valuation of the subject property, clearly stating any assumptions you make, using a:

- a. Conventional split or differential yield approach.
- b. Conventional equivalent yield approach.
- c. Contemporary short-cut DCF approach.

In order to initially evaluate valuation variance within commercial real estate, a sample of postgraduate exam responses were taken during the Semester 1 exam titled '*Real Estate Appraisal & Valuation 1*' (2015/16 academic year). The class size of 63 attended the examination and comprised of a mix of both real estate and other built environment students. In order to reduce the level of variance due to poor knowledge and understanding, an 'academic threshold' was defined. The first part of the exam (not shown) asked students a series of 20 multiple choice questions (MCQs) based upon financial mathematics. It was then felt appropriate that from the initial dataset, those that scored less than 15 out of 20 (75%) on the MCQs component of the exam would be removed from the analysis. This reduced the sample size to 48. Of this, a further 6 students did not select to attempt the question shown in Box G. This reduced the final dataset to 42. It would be from this data set that the investment valuation responses would be analysed.

Table 7.7 below shows a summary of the valuation outputs from each part of the exam question a) split yield; b) equivalent yield; and c) short-cut DCF. Variance was calculated in two ways. The first approach was to evaluate the percentage of variance from the point estimate (or answer). This would essential measure the accuracy of the calculation process amongst the group. The second approach was to evaluate the

percentage of variance from the mean. This would essentially measure the consistency amongst the group.

Table 7.7 Variance analysis: postgraduate exam based valuation task

Split yield approach (term and reversion)		N	% of sample, measured against point estimate	% of sample, measured against mean value
+/- 5%	(31.0%)	13	31.0%	33.0%
+/- 10%	(30.9%)	26	61.9%	61.9%
+/- 15%	(21.4%)	35	83.3%	80.9%
+/- 20%	(4.8%)	37	88.1%	88.1%
>20%	(11.9%)	42	100.0%	100.0%
Non-responses		-		
Propensity to over or under value			0.52	Over-value
Equivalent yield approach		N	% of sample	
+/- 5%	(42.9%)	18	42.9%	38.1%
+/- 10%	(23.8%)	28	66.7%	71.4%
+/- 15%	(16.6%)	35	83.3%	83.3%
+/- 20%	(7.2%)	38	90.5%	90.5%
>20%	(9.5%)	42	100.0%	100.0%
Non-responses		-		
Propensity to over or under value			0.52	Over-value
DCF approach (equated yield)		N	% of sample	
+/- 5%	(35.2%)	12	35.2%	29.4%
+/- 10%	(26.6%)	21	61.8%	47.1%
+/- 15%	(11.7%)	25	73.5%	70.6%
+/- 20%	(5.9%)	27	79.4%	76.5%
>20%	(20.6%)	34	100.0%	100%
Non-responses		8	-	-
Propensity to over or under value			0.38	Under-value

The analysis show that in terms of accuracy the equivalent yield approach saw the best results with 66.7% of the sample group within +/- 10% of the point estimate (and 42.9% within a +/- 5% range). This may be related to the fact that once the yield has been defined, it remains constant throughout the rest of the process. Whereas, the split yield approach, introduces an additional layer of subjectivity in that the valuer is not only defining a yield from the comparable data, but also a yield adjustment for the reversionary income, which typically involves a 0.5% to 2% range (theoretically). The impact of differences between valuers on yield adjustments is shown in Box H (below).

Box H: The impact of yield assumptions on valuation variance

If we assume the calculation is done within this yield range and all other assumption remain constant, the following would be observed:

- a) 0.5% yield adjustment to the term, the CV (gross) would become £35,347,511 a variance of 1.34% from the original point estimate.
- b) 2% yield adjustment to the term, the CV (gross) would become £36,815,387, a variance of 2.76% from the original point estimate.

These results are expected as the term period itself is short, only 3 years and so the opportunity for the yield capitalisation differences would be marginal, as shown above. One can therefore infer that the calculation of the ARY is the more influential aspect of the calculation as it is often carried forward in perpetuity. Within the sample, students had selected an ARY ranging from 5% to 7.5%. If we assume the calculation is done within the extremes of this ARY range and all other assumptions remain constant, the following would be observed:

- a) Using a 5% ARY would mean that the CV (gross) would become £46,166,505, a variance of 28.86% from the original point estimate
- b) Using 7.5% ARY would mean that the CV (gross) would become £30,419,476, a variance of 15.10% from the original point estimate.

In this particular case, for the variance to remain within a +/- 10% range, an adjustment to the ARY of +/- 0.7% would be permitted. This observation highlights the degree of sensitivity of valuation outputs when making assumptions on the yield adjustments only. This would indicate that a range of differing assumptions by valuers in practice often 'smooth-out' the impact of yield adjustment variability.

The sample group were less accurate when applying the split yield approach, noticeable with 31% within a +/-5% range of the point estimate. The differential in accuracy levels between the split yield approach and the equivalent yield approach appeared to diminish beyond a +/-15% range. The accuracy of the short-cut DCF approach was broadly similar with 61.8% of sample respondents within +/-10% of the point estimates, versus 61.9% and 66.7% for the split yield and equivalent yield, respectively. The DCF

approach appeared the least well understood of the three methods, as eight (8) of the 42 respondents chose not to answer this section of the exam. The DCF approach requires more calculus and so perhaps the sample group were more erroneous in their execution of this contemporary approach (as reflected in the lower proportion of sample within +/- 20% compared to conventional methods).

In relation to the second component of the analysis, the level of consistency amongst the sample group was measured. This analysis gives a better understanding of how a sample group of individuals given the same valuation task would differ. The sample group across both conventional methods reported similar percentages of sample within the specified ranges, suggesting even with full market information valuers will produce some level of variance, pertinent to human subjectivity and error. The sample proportions for the contemporary method saw a lower percentage of the group within the 5% and 10% ranges, when compared to the point estimate. It would therefore be expected that valuers will have a lower level of consistency between themselves when applying the contemporary method. This is perhaps a byproduct of the methods high level of subjectivity and opportunities within the framework for more erroneous application.

Summary of the exam-based analysis and practical implications

Of course the results from this analysis cannot be used to fully explain the level of valuation variance in Dubai. Although some of the sample were valuation practitioners, it would not be suitable to say the sample were all of the same level/experience. That said, the 'simple' instruction had been presented after 3-months of formal classroom training and under-performing students were removed via a cross tabulation exercise with their MCQs results. The exam-based experiment is different than in the real world as it allowed the participants to have the same comparable information in front of them when undertaking the task, something of a 'control' when compared to the real world. Despite this limitations, the analysis has been used as a suitable sample to investigate:

- How do humans use the same information differently in a valuation exercise
- Which method of valuation is most likely to lead to the greatest level of variance

The student experiment shows us that when faced with a number of comparable transactions there are discrepancies amongst the applied ARY. This may be due to a lack of understanding or error in how the ARY is calculated or it could be related to the fact that human subjectivity is increased and accounts for the differences. If the students in the exam were told to apply a specific ARY, then it would have been evident that the variance across the group would have been reduced and a higher proportion of values would have sat within the +/- 10% range. The student experiment has identified two key areas needing further investigation in practice.

Applying an appropriate yield

It seems from the student experiment that less variance occurs when the same yield is applied (or the equivalent yield is adopted). When adopting the same yield there is no distinction made between the two capitalisation methods and so the level of variance is more limited. The split yield approach however acknowledges the risk elements related to lease renewals and void periods. In Dubai, valuers are still faced with the problem of finding comparable evidence to suitably define ARY. The more unusual the patterns of income the more difficult it is for the valuer to judge the correct capitalisation rate. The valuer has to decide how big should the upward adjustment be and does it increase with the length of the reversion or with the scale of the reversion increase in rent.

Applying a short-hand DCF approach

The shorthand DCF has been developed to overcome these criticisms. However, as seen from the student experiment the execution of the shorthand DCF is less straightforward and could be prone to more calculus error, creating variance through error rather than the assumptions. The short hand DCF is where all contracted income is discounted at a defined target rate (that could be derived from the wider investment market rate) and the reversion is to be assumed at a future rental value. The importance of this issue is more evident when considering a longer reversionary period. Currently though it is not possible to say that a short cut DCF must be the preferred method in Dubai. It may be more rational in that it is possible to argue investors should be indifferent between short and long reversionary periods. Anecdotal evidence suggests that the contemporary methods, although present in the market, are rejected in favour of the conventional

methods. In the earlier survey work, the analysis showed the reality of this in the marketplace.

In Dubai, commercial property leases are short and move in line with the regulatory rental index. The methodologies highlighted in this analysis have shown that one source of variance is the yield assumptions made by the valuer. Although these should be estimated as accurately as possible, there is clear evidence that different yields can be assumed. The consistency of these yield assumption is largely going to be bound by the level of comparable information made available to the valuer. Most valuers insisted on using different yields, as in the split yield approach, to reflect some personal view on the security of the income. This can be a source of variance and if used inappropriately can produce some peculiarity in the results (as shown in the assumptions applied in the valuation experiments). On the one hand future rents are less secure as the tenant is typically bound on shorter leases. However as the valuer is using current market information, the task of identifying the risks associated with the property to be valued, which requires research into future expectations (forecasting) is likely to more straightforward (as any data used is closer to present day). The latter assumption is of course bound by transparency of the current market and market transactions.

The next section provides a synopsis of the main findings from the primary research discussed (Stage 1 to 3).

7.4 SUMMARY OF MAIN FINDINGS

The main findings of the research include:

- Valuation variance exists in the local market, with 70.4% of respondents valuing the property within the range of +/- 10% from the mean, falling in line with comparable international studies.
- When valuers were provided with yield benchmarking data, there was an improvement in the level of consistency amongst the sample group. The industry survey found that 84.6% of respondents valued the property within the range of +/- 10% from the mean, exceeding the expectation set out in comparable international

studies. These findings demonstrate that valuers will be more consistent when valuing with more transparent or explicit market data. The improved variance levels in this case experiment was a consequence of more closely aligned yield expectations/assumptions, as respondents had been supplied with a hypothetical all-risk yield (ARY).

- The group experiment of postgraduate taught (PGT) real estate students found that the use of different valuation methodologies gives significantly different levels of variance between conventional and contemporary approaches. The sample group were significantly more consistent when applying the split yield or equivalent yield term and reversion approach (62% and 71% of sample within +/- 10%) than when applying a contemporary DCF approach (47% of sample within +/- 10%). At the 20% band, this improved to 88%, 91% and 77% respectively. Therefore the levels of variance appeared wider when valuers opt for a contemporary approaches, despite academic literature suggesting the contrary. The larger variance on contemporary methods may be related to the high number of explicit, yet subjective, assumptions made within a DCF analysis.
- Variance in the local market was apportioned to a paucity of market transactions and poor data availability. There was a general consensus that the current information available to valuers lacks detail relevant to undertaking instructions. Furthermore there was a high level of secrecy in the way in which information is traded amongst local stakeholders, making it challenging to be consistent in data assumptions.
- Yield analysis was identified as an area of commercial valuations that differed somewhat amongst the sample group. As valuers were asked to base their yield analysis on comparable information, then it would appear there is a wide difference in availability of information. Insufficient information and technical difficulties of not being able to analyse the specific characteristics of the subject property, were common obstacles, noted during the focus group.

- Innovations introduced as a consequence of a paucity of information were lacking. However, the valuation industry is clearly giving feedback to regulators, clients and the wider public about some of the key challenges faced in defining market value.
- Client influence was also seen as a significant variable that had the potential to influence variance amongst a group of valuers. The survey found that behavioural bias was more important than information bias, in that the indirect influence of threats of non-payment or withdrawal from future work had the potential to influence valuations more so than the direct impact of the client providing misleading or inappropriate data.
- Client influence/pressure was implied but not observed. There is certainly a strong case of valuer judgment being impaired by the behavioural bias of client pressure, arguments tended to point to a vicious circle of ‘noisy’ data. In the absence of hard transactional data, the ‘noisy’ information tends to be a self-fulfilling process.
- Although the valuation profession is playing an influential role in the institutional investment agenda, there is a degree of skepticism over an agreed industry-wide definition of some key terms, and this may hinder its implementation.
- Standardisation in key areas of the profession are developing well, such as the mandatory implementation of IPMS. However, the survey revealed that there are still a number of inconsistencies when different valuers approach a valuation task. Most noted was reference to the inclusion or exclusion of transfer costs when stating market value. In Dubai, with transfer fees being in the range of 4-6%, it would appear differences due to net or gross of cost value reporting could be a significant contributor to valuation variance.

These findings were shared with an industry focus group in order to form verification of the findings as well as seek some key recommendations on how to manage valuation variance in Dubai. The key focus group discussions are summarised in Section 7.5 below.

7.5 MAIN FINDINGS AND RECOMMENDATIONS FROM INDUSTRY FOCUS GROUP

The focus group was initially surprised to hear that the level of variance recorded from the primary research was consistent with other international studies. The group expected that the level of variance would be much wider. When asked to explain the reason(s) for this expectation, many of the participants referred once again to the lack of transactional evidence. At the same time, the group were 'concerned' when presented with the wide yield evidence of 6-9% from the valuation case experiment. The consensus of the focus group was that the wide range of yields was not an issue of data availability but one of education and an inability for valuers to be consistent across their yield assumptions. One valuer discussed his experience of benchmarking the yield on fundamentals (market risk, asset risk, country risk) rather than relying on yield assumptions traded between key stakeholders (with or without hard transactional evidence as validation). He went on to explain that the findings indicate:

“...a lack of knowledge and concerns on the ability of local valuers to interpret and apply relevance to the meaning to the yield evidence in the market...and apply a risk interpretation that it inherently is based upon.”

Other valuers were keen to express concerns of how valuers should be able to benchmark their yields with other market dynamics. For instance, one valuer disclosed the fact that a competent valuer would be able to recognise that yields on an office income-producing asset should not exceed the yield applied to development land. This form of market behaviour would operate to close the yield gap somewhat. The majority of the group called for more information and more central data to inform their yield evidence.

In terms of the interpretation of real estate data there was a general view expressed by valuers in favour of using market sentiments, given that by its very nature transaction prices reflect a historic price position. One consultancy reports on broker sentiment as a further artillery in their quest to gather much data as possible to evaluate where the real estate market is positioned. However there is anecdotal evidence to suggest there is mixed interpretation of the IVS definition of market value and with the lack of

transparency on transactions, it is problematic to eliminate arm's length transactions, so many valuers result in the principles of outlier eliminations from statistical analysis. Therefore, the task of comparable information becomes more centred around modal or median analysis rather than suitable mean averages.

Whilst the findings of the postgraduate exam survey found that valuation variance was less pronounced when adopting a conventional approach compared to contemporary DCF methods, more insight was needed. The focus group participants were in general agreement that valuation methods are based on an equivalent basis (blended across different tenants in the schedule). The ideal would be for valuers to share information and pool transactional data so that there is improved knowledge on the yields on transactions across a wider area of the Dubai market. In addition, there is a lack of detail in external indices. The focus group felt there was a need for data providers to include more information in their property databanks such as building specific operating expenditure and service charge information. During the valuation experiments there were some noticeable differences between respondents in relation to certain scenarios.

Another key area of debate during the focus group were observations related to client influence. The terminologies of valuation was seen as a source of misunderstanding for clients alongside the management of their expectations which are based on a continuation of rising prices/assets/land bought on speculation. Therefore managing the client expectations can cause valuers to be influenced. The industry focus group disclosed that the risk assessment on the asset should be undertaken by the lender (and not involve the client directly). The respondents commented on what solutions they thought could help reduce or even eliminate client influence. The most common response was that of 'information efficiency' and 'transparency'. Most valuers felt that by operating in an opaque market, the likelihood of client influence was heightened as valuers are faced with ill-structured information. The second most common response was an education of clients to enable them to understand better the role of valuation and that it should not be seen as a 'negotiation'. The respondents disclosed that a change in internal policies, such as pre-payment for valuation work, did help eliminate the pressure exerted by threatening non-payment of fees by the client. In addition, some

valuers felt a suitable degree of separation between the valuer and the client may reduce their ability to influence their work, with one respondent stating that:

“...all valuation requests must come from the lenders and not from their customers, in order to avoid opinion shopping and exercise of economic power by the latter to valuers”.

The focus group also referenced that education of clients has a role to play to ensure the role of the valuer is preserved. Currently, third parties also carry out some form of internal analysis to validate the valuation report that forms a further discussion on stated values. The group discussed that there has been no claims of negligence against local valuers and the occurrence of that, although not sought after, would ensure valuers keep an audit trail to the requirements outlined by the IVS and RICS Red Book. It would therefore be less likely that the client would bias the resultant value. There was also disclosure on fee retention from the client, inferring payment is at times subject to a value that “meets” the client expectations.

Fiscal penalties and sanctions were seen by several respondents as a suitable measure in order to reduce or eliminate any unethical valuation practices that may stem from client influence. Based on the above, it was clear that Dubai valuers perceive client influence as a threat to their independence and objectivity. Different rules by different firms may result in valuers succumbing to client influence to a varying degree. These findings have indicated that there may be an underlying risk that valuers will concede to client demands in order to maintain a good business relationship (though not measured or validated within this survey work). The respondents contributed helpful insights on how to better manage or reduce client influence on valuations in Dubai's real estate market. Key recommendations included:

- Enacting a valuation law governing Dubai valuers to a common set of valuation codes as well as sanctions to those parties who commit unethical behaviour, negligence, and malpractices.
- Establishment of unified valuation rules in the Emirate

- Greater public access to property transactions, information transparency and higher efficiency in information sharing amongst property professionals

The final source of variance identified in valuation work by the focus group was the different approaches used when reporting value. The group identified that there is some confusion to whether the value should be gross or net of transfer fees, which in itself creates a variance of c.5% (based on current transfer fees). The IVS (2017) edition should address this consistency issue. The focus group concluded that whilst measurement standards have taken much of the spotlight in relation to standardisation, there are still many other inconsistencies related valuers' approaches and their implied and explicit assumptions, that would have a bearing on variance. The focus group called for IVS to be the mandatory standard for Dubai, with professional bodies, like the RICS ensuring full compliance.

SUMMARY OF CHAPTER

The analysis of primary data has show that valuation variance in Dubai is on par with that of other international studies. This is a reassuring finding and will give confidence to the valuation profession in terms of its management of intra-valuer variability. Whilst variance measured well when compared to the range of international comparative studies, the results do indicate that local valuers are asked to make judgements based upon a paucity of information. Furthermore many valuers have been trained in more mature markets and although the expectation is that Dubai has poor, imperfect data, a single point judgement still has to be made. In opaque markets like Dubai, the valuation profession may also begin to feel nervous and less objective in their advisory role. The survey findings did suggest a tendency for valuers to look to be in agreement with fellow valuers. At the same time, valuers appeared to face several external challenges. Firstly, a key threat to the valuers' objectivity appears to be external client pressures. Secondly, the survey has questioned the quality of data outputs by third party providers and indices. A lack of property transactions had a noticeable impact on the ability of valuers to provide consistent yield evidence (which would remain a threat to the variability of property valuations in the local market). The lack of transactions also meant valuers are facing a challenge to enforce reliability, accuracy and objectivity. The

central issue of managing valuation variance however was reported as being a well understood mechanism.

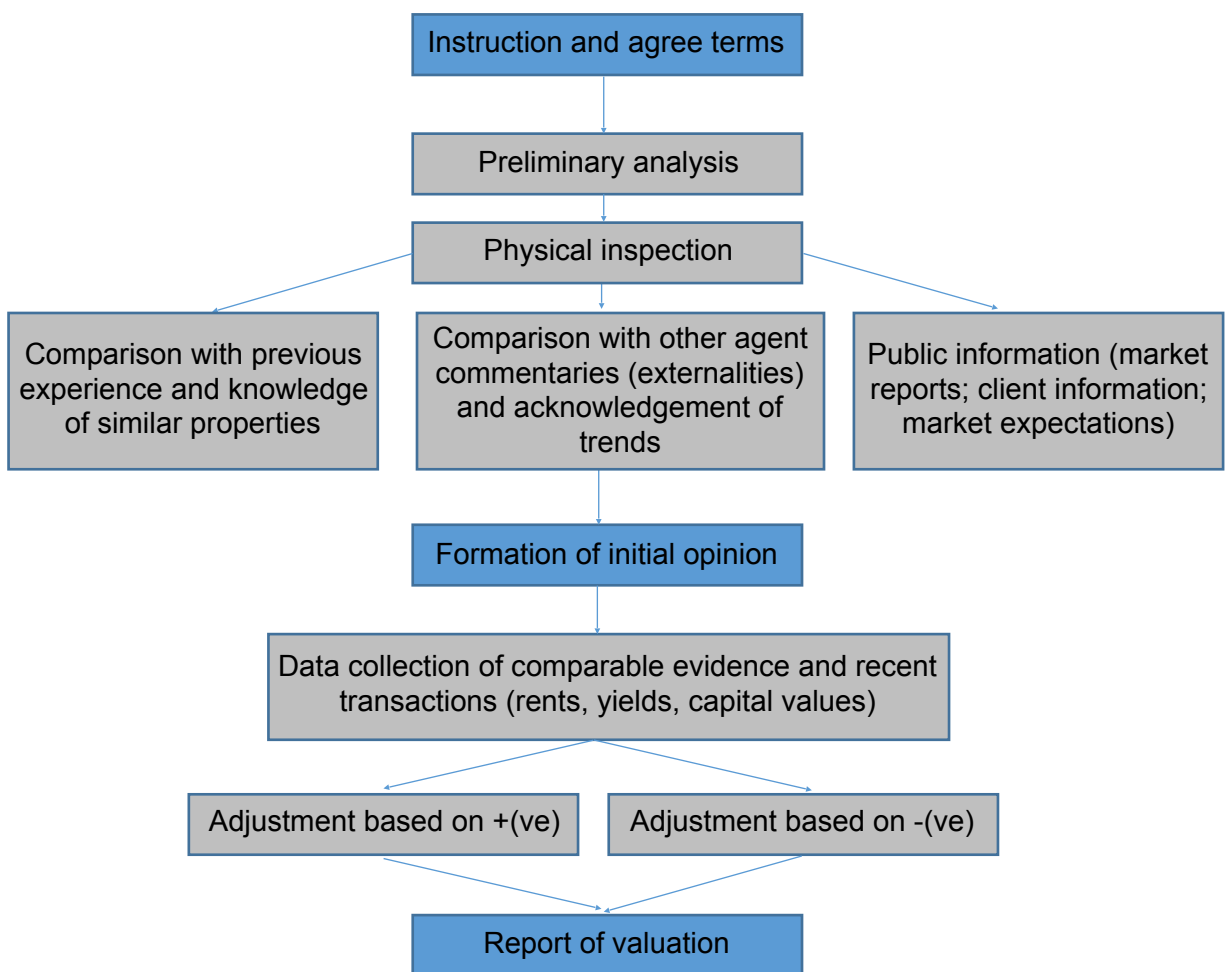
The analysis within this thesis has shown that understanding processes has become a critical part of understanding valuation variance. The research has examined how valuations are formed which has also allowed to examine the scope for reducing or managing variance through different assumptions or training cultures. The research has looked at a range of real estate valuation studies and finds that progressively these have moved away from empirical evidence based work to behavioural research. The concluding thoughts of this chapter will look to represent the views of the author from a similar behavioural perspective. It will try to link the empirical findings to a normative valuation process.

The findings of this research has found that commercial valuation opinion forming in Dubai is a two stage process (see Figure 7.2 below). Initially, valuers adopt a strong initial anchor based upon their knowledge and experience after comprehension of the instructions and inspecting the property. With many local valuers only having three to five years UAE experience, the risk is that the hierarchy of evidence applied gets skewed towards public information, market sentiment and media commentary. Therefore there is a danger that valuers conform more to market expectations than data-driven objectivity. A lack of transactional evidence may suggest that these individual perceptions end up holding a greater weight in the analysis as there is little data to challenge these initial preconceived opinions. It is suggested that valuers will only re-examine this initial opinion if there are strong signals from the market place to challenge them. In Dubai, this appears to be more likely from the client and not central data transactions. Although valuers will seek supporting information from the client, the lack of access to reliable transactions may lead to the client having the “upper hand” and perhaps instilling a significant degree of influence on the valuer’s objectivity.

Hence it is more likely that the initial opinion is not rejected as the final valuation is more likely to have been formed by the earlier preliminary components rather than the more objective transaction based approach. The analysis may also indicate that valuers would look to be in a reasonable agreement with peers and the process of data collection

in Dubai is lead by initial opinion rather than having available a number of recent transactions to challenge them. The issue becomes more pertinent as Dubai valuers are often finding themselves working in a new and unfamiliar location. Statutory rules and regulations related to long-term outlook is also challenging as laws and governance frequently change. The observations thus far suggest a process where the valuer’s own opinions is mixed with that of client influence and peer sentiment. Further research is needed on how valuers opinion is formed across a range of real-life case examples.

Figure 7.2 Value opinion forming in property valuation (individual)

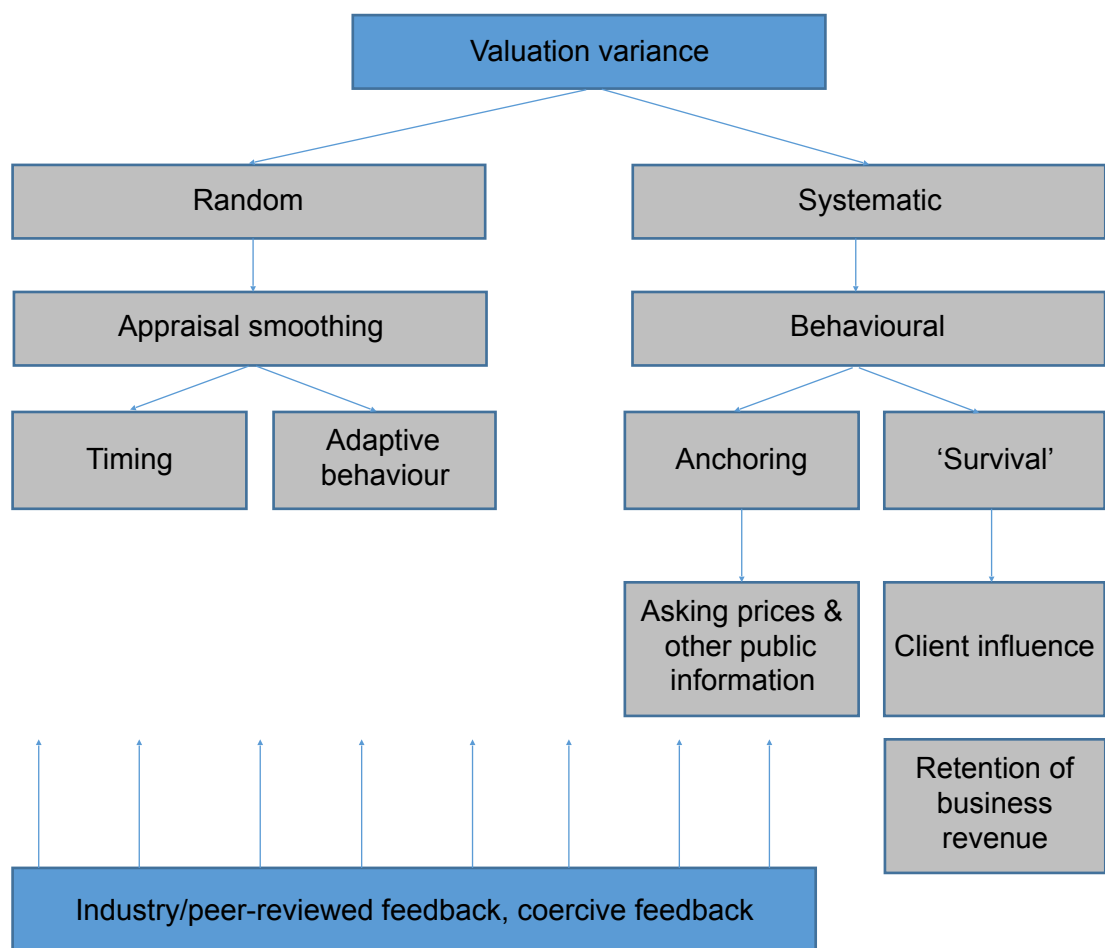


Source: Author’s own

Stage 1 findings have shown that several key areas of the local valuation environment are sources of valuation variance. Many of these factors could be classified as ‘externalities’ or ‘systematic’ components, in that they are variables that are outside the control of the professional themselves. Figure 7.3 demonstrates that the behavioural aspects are far more intended than those based on market timing or ‘random’ aspects.

The feedback variables have been summarised based upon the summation of findings from the survey respondents and their feedback on key components of the valuation processes. The right side of the diagram illustrates that the behavioural influence comes from three main components; the individual valuer; the client; and the wider peer group. Each of these sectors place an amount of ‘objectivity tension’ on the valuation process, for instance, an individual valuer will be influenced to some degree from the client (forced by the potential retention of business revenue) as well as influenced by the wider pool of valuers who look for reassurance amongst each other on key aspects or information guidance (i.e. how closely am I aligned with my competitors or the leading valuation firms?).

Figure 7.3 Feedback variables creating valuation variance in Dubai



Source: Author's own

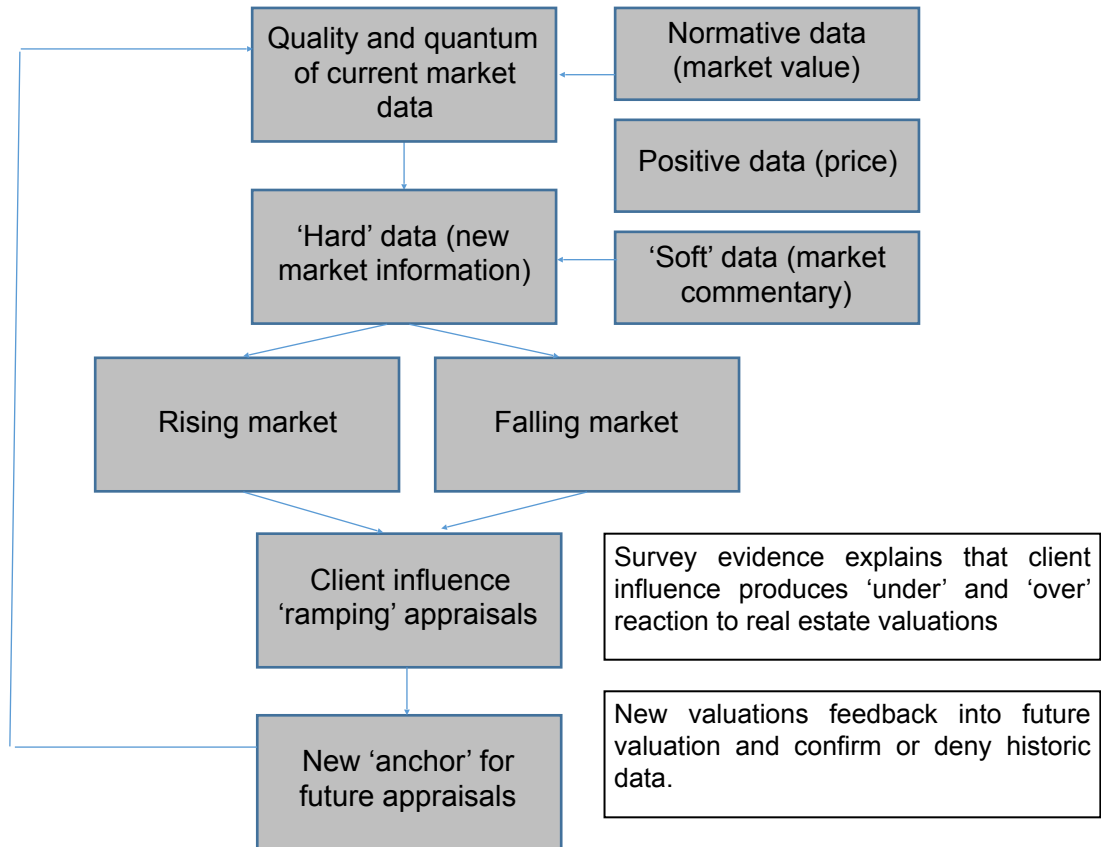
Figure 7.4 highlights a more detailed overview of behavioural aspects related to real estate valuations in Dubai. The research findings have been able to identify that in Dubai behavioural aspects and the decision-making of individual valuers has a significant impact upon valuation variance. The diagram highlights that the valuer will pass judgement on market value from three data sources; normative data (what should be); positive 'hard' data (from transactions); and supporting 'soft' data (wider market commentary). The research points to the assumption that as positive data is lacking then there is greater emphasis placed on market commentary and expectations on what should be. Previous academic research has pointed to the fact that valuers can 'under-react' to new market information (Quan and Quigley, 1991). The findings of this research in relation to Dubai is suggestive of the fact that valuers would 'over-react' to new market information. Valuers in an opaque market are more likely to be influenced by new information than historic information as opposed to the idea that a minimum threshold exists that need to be breached before a valuation is changed (as supported by Brown and Matysiak, 2000). That said, in terms of a temporal dimension, it would also appear to hold true that in market paucity, historic valuations influence current ones through 'anchoring' bias, therefore agreeing with previous works of Clayton *et. al.* (2001).

The nature of valuation methodologies drive valuers towards requiring market transactions in order to change value perceptions. Non-transaction based information is slow to be included. However, in Dubai, much of the valuation sentiment appears to be based on non-transaction based data. New information undoubtedly would carry a heavy weighting in any analysis and would have potential to either positively or negatively skew opinion of market value, dependant upon the position of the market cycle at any given time.

The participants of the industry focus group felt that the issue of valuation variance is somewhat exacerbated by the fees clients are paying. There is a huge range in fee structures across valuation firms with the misconception that lower fees will attract more instructions (which is not case). The panel felt that the pressure to work with lower fees, due to market competition, is a risk to the market, exposing valuers to time-

pressures that would encourage less rigorous market analysis. This would if prevalent have an impact upon both valuation variance and accuracy.

Figure 7.4 Behavioural aspects related to real estate valuation in Dubai



Source: Author's own

In short, the central theme of the research findings has shown information is key. Valuers must be equally informed and follow equally similar processes and methodologies if intra-valuer variability is going to be contained. This can only happen if information and processes are standardised. Further challenges exist as valuers' interpretation of the same information can be different. A by-product of Dubai's highly diverse expatriate population is that the profession has a myriad of valuation terms, methods and analytics that can also lead to greater variance. The survey findings however suggested that there is a high level of consistency among valuers despite origin and education/training diversity. Notwithstanding the noteworthy consistency amongst valuers, property valuations in Dubai appear to suffer from two main of sources of variance. The survey findings reported these as differences in the quality of current

information (transactions) and evaluation of future risk (yield). This research based on findings from local valuers in Dubai supports earlier international studies. The survey work has found that traditional valuation methods dominate market practice and as such valuation variance exists through a valuer's inability to make use of (or have access to) all available data or market traded information. The survey respondents confirmed this assumption and apply term and reversion in a market which they confirm "*lacks transparency*" and "*often is thinly traded in terms of transaction evidence.*" Furthermore, client pressure was seen as a significant source of valuation variance and was more closely explained to be that of client feedback.

The final chapter will look to summarise key conclusions from the research report under the specific objectives set out in Chapter 1 & 2. It will also explain the author's view on the research limitations and thoughts on areas of development for future research.

CHAPTER 8 – CONCLUSIONS & FURTHER RESEARCH

This study was undertaken to analyse the presence and extent of valuation variance in Dubai's commercial property sector. It has been the first academic study of its kind in the Middle East to measure and evaluate valuation variance. Furthermore, it has presented a critical examination of the local valuation profession in Dubai. The discussions within this research have identified that valuation variance is inevitable. The inherent characteristics of property assets and subjectivity in decision-making throughout the process are examples to justify why this is the case. The literature reviews were able to draw out key themes related to behavioural psychology; human calculation error; and evaluate some limitations to global valuation techniques. These have been areas of discussion often missed from previous studies on valuation variance. A number of stylised observations were set out to form the analytical hypotheses that referenced market maturity (and transparency) as a dependant control upon variance. The diversity in valuer origins and professional backgrounds was also established as a key factor that would impact variance. Hence, this research began by posing the following question:

“Valuation variance is a direct function of market maturity and will it be greater in emerging economies, such as Dubai?”

The literature chapters referred to a range of valuation studies in less developed economies to find supporting evidence that underpins market maturity as a key factor influencing variance. However this research has shown within the Dubai context, intra-valuer variability is similar to that of developed economies. The findings in this research have identified that international markets have adopted margin of +/- 20% as an “appropriate” and “fair and reasonable” test for valuation negligence. The sample group in Dubai were able to replicate similar results in terms of the proportion of valuers providing values within this margin. The survey work has found 100% of value estimates were within this margin when valuers were provided with suitable yield evidence. When valuers relied solely on market evidence this fell to 93%. These findings indicate that variance was no higher in Dubai than a mature market. Yet

variance does exist. The survey has pointed to key nuances related to market maturity that does appear to be impacting the levels of valuation variance in Dubai, some of which are a direct function of market maturity (data; standardisation; and transparency). The survey work from this research has revealed that there are a number of opportunities for variance to occur throughout the valuation process. Key observations were related to the paucity of market data and challenges faced in obtaining comparable transactional evidence. The analysis of postgraduate exam responses based upon measuring variance against valuation methods, also pointed to the need for more consistent market data and yield evidence. Within this, it was observed that lacking yield evidence was likely to have the most significant impact upon valuation variance in Dubai. The research shows consistency between valuer's opinion of market value. However, given some of the other market observations from this survey, one could expect that although variance is contained well within international benchmarks, valuation accuracy may diverge somewhat. This is based upon the fact there are still observable issues within data quality, transparency and market standardisation. Valuation accuracy could be a source of further research.

The survey of local valuers also identified a number of behavioural factors that play a part in variance, most notably, client pressure exerted on the valuer (e.g. threat of non-payment of fees, or continued business). The data from the postgraduate exam data found that the choice of valuation method and human error appears to also have some influence on variance. Despite the industry survey noting a prevalent use of conventional methods, the analysis of postgraduate exam responses showed marked differences in variance based upon the valuation method used.

The findings from this research means the local market can improve and operate more efficiently. Overtime, given some of the recommendations within this study, the local valuation profession should be able to systematically reduce the impact of variance. Key recommendations based on survey respondents and analysis of the main findings have been highlighted later in this chapter (see Section 8.2). The next section will evaluate the findings of this research against its four key objectives

8.1 SUMMARY OF MAIN OBJECTIVES

The overall aims of this research was to assess valuation variance in Dubai, in comparison with other international benchmarks referenced in Chapter 1. In order to do so four core research objectives were established. These were:

- Examine the patterns of valuation variance in Dubai and make comparison to other international studies
- Evaluate the causes of variance in property investment valuations in Dubai
- Define property market efficiency in relation to Dubai's commercial real estate market and implications for valuation variance
- Expand recent international academic discussions on client influence and bias introduced to valuation process in a new geographical area

Each of these objectives will be discussed and evaluated based on the main findings of this research:

8.1.1 Objective 1: Examine the patterns of valuation variance in Dubai and make comparisons to other international studies

The research has investigated the relative patterns of valuation variance in Dubai with that of other international markets and has found that the results are comparable in terms of the proportion of valuers who report values within +/- 10% of the mean valuation (the survey found 70.4% of valuers in Dubai versus 60-72% from a range of international studies). However, other international studies have found more consistency when provided more valuation data, with 90% of valuers within +/- 10% of one another. Within the Dubai survey, valuers were also able to increase their consistency amongst the group when given full market information (84.6% within +/- 10%). This level of intra-valuer variability is slightly higher than international studies. The results imply a natural variance of up to 20% for commercial property valuations.

Table 8.1 Valuation variance ranges: Dubai versus international studies

Level of variance	Dubai	Mature markets	Emerging markets
<10%	70	57-90	56-80
<20%	93-94	82-100	85-100

Previous studies have consistently pointed to variance in commercial property valuations in mature markets, such as the UK, US and Australia. This new research has enabled a similar pattern of observation for Dubai. Particular emphasis should now turn to how local valuers manage variance. French and Mallinson (2000) state a list of information that must be conveyed when reporting valuation uncertainty, and the same could be applied to new markets prone to variance. These included: the valuation figure (or point estimate); the range (and probability of most likely observation); and any skewness in probabilities. Such a standardisation in valuation reporting could support the growth and development of a highly regarded valuation profession in Dubai as well as the wider UAE and GCC countries. However, there are barriers to such a policy implementation, not least related to the apparent lack of consistency in market information that is shared amongst valuers and advisory professionals. If the level of variance is going to be further improved and better managed, then a range of measures need to be taken. The survey respondents considered some of the following as ways in which the profession could better manage valuation variance: benchmark against external valuer; internal audits/QA compliance; a ‘double-sign-off’; and use of valuation trackers. Similarly, the RICS Red Book (2017) advises valuers to report abnormal uncertainty, and this would not only contain useful additional information but also better inform clients and third parties of the higher risk related to the valuation point estimate (and further encourage an analysis of variance or range). Where material uncertainty exists, the Red Book (2017) states that: “...it will normally be expressed in qualitative terms...valuation uncertainty will frequently mean there is an absence of empirical data to inform or support a quantitative estimate.” It follows on that there is an inherent risk with quantification of any sort as it might convey an impression of precision [that could be misleading]. Furthermore, the regulatory guidance highlights the expression of values within a stated range is not good practice and it would not normally (unless requested by the client) be regarded as an acceptable form of value

disclosure. In most cases the valuer has to provide a single figure in order to comply with the client requirements and the terms of engagement. However, as more research is developed within this field, valuers could report the variance or accuracy levels.

8.1.2 Objective 2: Evaluate the causes of variance in property investment valuations in Dubai

Although the research has found valuation variability in Dubai to be broadly similar than mature global markets, there is still relevance in understanding the causes of variance in Dubai. Research into the causes of valuation variance has been the subject of international research over the last 20 years. The findings of previous studies have pointed to the fact that decisions made by valuers involve subjective opinion and thus a level of variance is expected. In relation to Dubai, there were a number of key areas discussed that disclosed causes of variance. The analysis summarised these under the headings of data availability; market standardisation; differences in training and professional development; and client pressure.

The paucity of property market data was identified by the vast majority of valuers to be a primary cause of variance, regardless of the existence of major sources of property data (DLD, REIDIN, internal data). The questionnaire survey uncovered a number of shortcomings with these data sources which consequently impacts upon valuation variance. These included; the timeliness of information; poor data quality; as well as the lack of reference to property-specific attributes. Against this property market information in Dubai only emerged from 2006 onwards. A market that has only ten years of market data is undoubtedly prone to greater valuation variance.

There have been some significant areas of development in terms of improving market standardisation, none more so than the mandatory introduction of IPMS by Dubai Government in 2014. This will ensure that developers, investors and valuers are consistent with their approach to measurement of commercial buildings in Dubai. However, it will take some time before for the data within the new measurement parameters will be usable as a comparable data source. Furthermore, greater standardisation is required if valuers are going to be more consistent in their approaches

and reporting. It would appear from the focus group discussions that the diversity of professional backgrounds does create some minor inconsistencies in relation to the terminologies and assumptions applied to key areas of valuation. The adaptation of International Valuation Standards (IVS) and/or a local chapter of reference within the RICS Red Book would benefit the market. It is believed this consistency in approach and global reporting standards would not only reduce valuation variance, but more importantly bolster inward institutional investment.

Client influence was noted as a key consideration of variance in the local market. Given the paucity of information in the marketplace, valuers were considered as perhaps more prone to the influence of the client. The research found behavioural influences to be a threat to a valuer's impartiality. Although noted as a cause of variance, it will be discussed in more detail under Objective 4 (see Section 8.1.4).

8.1.3 Objective 3: Define property market efficiency in relation to Dubai's commercial real estate market and implications for valuation variance

The expectation based upon a range of international academic literature was that market transparency and data paucity would have a detrimental impact upon valuation variance in Dubai. An initial assessment of market efficiency in Dubai was provided in Chapter 3 and this literature analysis identified a list of the most apparent influences to information efficiency including: standardised measurement practices (procedural); data availability and performance measurement indicators (procedural); professional awareness to 'market value' (behavioural); and transparency in market data (hybrid)

There is a level of secrecy and misinforming in the market. This results in a reluctance of private-sector organisations to openly publish the information they collect. This has been further exacerbated by the Dubai government who introduced a new law in 2015 that limits the ability of private companies to conduct surveys. The current state of property data provision is that information at the national and regional levels tend to be provided in the form of indices while local data are more limited. Although transactional data is available through Dubai Land Department (DLD), it has come under some scrutiny during this survey. For example, valuers noted the difference in the

date when a sale is agreed and a title registered, as being a barrier to information efficiency. A comprehensive record of transactional evidence is rather scarce and valuers felt it was non-specific. That said, the DLD announced in 2015 that it will begin to compile more building specific data on a wide range of metrics for both freehold and non-freehold areas. This is seen as a positive step. At present, it appears that most valuers rely on available indices (while managing their limitations) as well as sporadic information gained from external agents and investment teams. More pooling of new information brought to the market would improve variance amongst valuers.

This research has also given consideration to the lack of available transaction-based evidence in Dubai and expects valuations and asking prices have a strong influence upon market pricing. The valuation may bias the market price because it is used by a potential buyer or seller to establish a likely market price. The heterogeneity of property, lack of a central market and information constraints make valuations difficult. However, traditional valuation methods may also contribute to the difficulty and imprecise nature of the valuation procedure. In Dubai, market practice does tend to apply the traditional capitalisation methods to determine market value. From these observations, one could argue that the use of traditional techniques alongside the limited range of comparable evidence, means that a wide range of estimates of most likely selling price can be produced by valuers in the same sub-market for the same property. Theoretically, this would suggest a large variation in valuations to exist. However, the empirical survey findings were not able to show support to such statements. This would be attributed to valuers reaching consensus on yields more informally, for instance, via discussions with peers on the assumed yields, rather than basing this solely on transactional market evidence.

Despite criticism, Dubai is the most transparent of the fifteen Middle Eastern markets covered in the JLL global index, and ranks in the semi-transparent category. According to the research there are a number of reasons why Dubai scores better. The relatively well-developed legal and regulatory framework is one factor, with the Real Estate Regulatory Agency being widely acknowledged as the best-in-class real estate regulator in the region. The DIFC is also emerging as the listing vehicle of choice for REIT's with a number of new investment vehicles having been recently launched or announced.

However, progress in other areas is still relevant. An increase in the level of transparency in investment performance indicators and data on market fundamentals is needed. Performance data provides current real estate investors with a benchmark on which their property performance can be adequately judged. It also enables buyers have a better idea of what risk-return trade-off to expect, while sellers benefit from a deeper pool of potential investors to whom they can sell assets. The importance of performance data is therefore fundamental towards improving both market efficiency; valuation consistency and subsequently will lead to more inward investment.

Since 2012 Dubai's real estate regulator RERA, has put in place measures which should further improve transparency. These include collaboration with international bodies, broker certification, complaints process, valuations workshops, market data, mediation committees and project review tools. Despite these initiatives, the latest JLL transparency index shows Dubai has suffered a slight decline in transparency due to the market still being in the early adoption phase of laws and regulations. Moreover, a substantial proportion of new policies are yet to be fully defined or deeply understood. The lack of accurate market data on demand, supply and other market fundamentals has also been a major factor in creating the oversupply that many sectors of the market are currently experiencing. It would therefore be reasonable to assume such market observations would be influential on the level of valuation variance observed in Dubai. The findings of the primary surveys suggest that valuers are producing consistency within their professional work. Whilst market observations may see variance increase on more complex valuations. The presence of imperfect market knowledge, although a consideration for valuation accuracy, is not impacting valuation variance. This indicates that the local valuation profession is well-calibrated despite the workforce coming from a wide range of international and professional backgrounds.

8.1.4 Objective 4: Expand recent international academic discussions on client influence and bias introduced to valuation process in a new geographical area

Earlier literature had identified the likely impact of client behaviour in other global markets on valuation variance. A number of client influences include 'opinion shopping' and threats of employing other valuers as well as fee competitiveness reducing the time

to research the market and inappropriate client instructions. This research concentrated on examining decision making behaviour of commercial valuers and how clients may affect this. The research pointed to the higher risk of unsupported valuations and inaccurate data reported by a client as the most critical. It was expected that this might be a cause of variance in practice. Over 90% of survey respondents noted that they had experienced some form of client pressure. A range of client influences included; valuation negotiations (adjustments within +/-10%); opinion shopping; and fee retention. The largest body of influence appeared to come under behavioural bias. Valuers disclosed clients promising large value contracts if they are 'happy' with the current instruction, or conversely would appoint a competing firm if unsatisfied with the value. As with other market misbehaviours, such as proving collusion between firms in an oligopoly, client influence on property valuations is regarded as taking place, however it would need proving on a case-by-case basis. Therefore, the valuation profession needs to ensure a consistent approach to manage client expectations and to uphold the profession. Survey respondents did suggest some useful remedial action, including; pre-payment for valuation work (removes fee retention behaviour of client); a separation between valuer and client; as well as more strict fiscal penalties and sanctions. In contrast to other international markets, claims of negligence have not become commonplace in Dubai, and some respondents stated this would discourage/eliminate scrupulous market behaviour. A unified set of valuation laws and enactments was seen as a potential positive step to improve market practice and consistency. A further recommendation could be a random allocation of valuation work to firms from clients so that valuers are impartial and not mindful of the sales of valuation services. Random or independent allocation of valuation work would also manage the challenge of fee cutting in the local market, which is another source of market pressure that exacerbates the bargaining power of the client.

The next section will now offer a range of key recommendations from the outputs discussed

8.2 RESEARCH RECOMMENDATIONS

The final parts of the survey gave respondents the opportunity to comment on what they saw as being needed to improve valuation variance in Dubai. The factors they identified are summarised under the following themes:

Market information

- Research should be undertaken to establish ways of improving the level of market information shared amongst the valuation community. This would ensure that valuers are less likely to be of different opinions when it comes to the transactional evidence supplied on valuation work;
- A common international language of valuation terminology needs to exist so that data and information can be collected, stored and shared in a consistent format.
- Research into the interpretation of market value definitions needs further testing

Valuation practices and methodologies

- Research should be undertaken to investigate whether there are any potential mechanisms within current valuation practices to contribute to improving valuation variance further. This would ensure the methods used by local valuers are ‘fit for purpose’ and market risk is more consistently represented;
- Monitoring of valuation methodologies/processes in Dubai should be widely encouraged by regulators and global professional bodies to include those not RICS qualified. This would ensure the valuation industry is operating on a ‘level playing field.’
- More understanding/application of local legislation and governance of real estate. Explicit assumptions on legal interests and lease conditions are a fundamental component of the valuer analysis. More information is needed in the public domain to improve working knowledge of the local laws related to real estate. The traditional perception of real estate as ‘bricks and mortar’ needs to change to reflect real estate as a financial and legal asset.
- Greater consistency in valuation reporting and should evaluate whether risk scoring would allow the profession to be more explicit (and consistent) to property risk in Dubai

- Develop a universal standard valuation report to improve transparency and improve understanding amongst end-users of the valuation reporting.

Policy formulation

- Clearer guidelines are needed on the benefits of international valuation standards in Dubai, especially to clients and wider public stakeholders. This would ensure that the process and purpose of valuation work is better understood;
- Local licensing laws on valuers has caused some confusion and although credited to raise the profile of valuation work, the threat of relevant work based experience was seen as an important area that needs further clarification. A key danger was an oversimplification of valuation processes as well as the administration of what constitutes relevant work experience. The auditing role of the RICS valuation firms was seen as a positive process, but would only be impacting on a portion of the local valuation industry (with the exclusion of this regulatory service for non-RICS firms).
- There needs to be a consistency from local regulation to adopt IVS rather than coming up with local standards. Attempts to localise the rules of valuation are likely to be a hinderance to the reduction of variance between valuations.
- The profession should look to avoid the provision of a two-tiered valuation market of international consultants versus local practice.

A key outcome of this research has been the consensus view that property data and information needs improving. Property market data should be recorded in property market templates or involve more explicit capturing of transactions and proxy valuations. The valuation report should source the property market data and rate the quality of the information contained within it. Furthermore, the profession need to be more collaborative. This could take the form of quarterly submission of information from valuation firms to a third party, independent valuation review panel or regular knowledge transfer of standardised and audited property market data.

The local valuer surveys and focus groups undertaken for this research, supported the need for clarity, consistency and some new initiatives to keep the momentum towards more international valuation frameworks. In addition, it is anticipated that as more

international institutional money enters the commercial property market, Dubai may see greater occurrence of negligence claims. Therefore, processes and accountability will add pressure to the profession. There is also an opportunity to create a local valuation profession that is more transparent and collaborative rather than competitive in approach. The societal benefits of information sharing and knowledge transfer are more far-reaching than the current position.

8.3 LIMITATIONS OF THE RESEARCH

A variety of limitations may exist in this study, including; sample composition; generalisability of hypothetical case experiments to real-life valuations; and representation amongst all sample groups. This study has attempted to provide both empirical data and study cognitive processes and as such are normally generalisable. A range of limitations may be highlighted to ensure the validity of the results can be suitably measured.

Firstly, in terms of survey responses, thirty-four (34) out of a total of 117 questionnaires administered to valuers were received. This constitutes a 29.1% response rate. This is lower than comparable studies such as Awuah *et. al.* (2016) (64%) and Adair *et.al.* (1996) (56%). In addition, the research tried to observe how different strata of the valuation sector may affect valuation variance. Accordingly the research sought to capture sample responses across the profession to include:

- Different approaches between professional membership and non-members
- Different approaches between professional members (e.g. RICS, SISV, API)
- Different approaches between industry experience and/or local experience

Despite this research design, more responses were received from large RICS regulated firms. A suitable modification to the research design had to be introduced to ensure a better level of representation from non-RICS firms. Email follow-ups and telephone calls worked relatively well to boost the number of responses within the non-RICS firms during the Stage 1 data collection. In relation to Stage 2 valuation case experiments, a series of face to face meetings were set up to discuss the survey with the in-house valuation teams and get completion of the questions within their local offices.

These were seen as a suitable approach to increase the response rates for both industry surveys. It was felt those valuers who did not choose to complete the survey were uncertain about how the results were going to be used and were apprehensive to respond as it might be used to show discrepancies amongst internal company practices. There were a number of firms who opted to only give one response as a corporate response rather than allow individual valuers within the same firm an opportunity to submit answers. The other main reason for a lower response rate was that some respondents did not complete the full survey. In some instances, partial responses particularly in Stage 2 had to be removed as cross-comparison between responses could not be undertaken. Stage 2 and the focus group respondents were selected based on their willingness to participate as declared on their initial Stage 1 responses. Overall, the sample group was considered representative of the local valuation industry in Dubai, with a broadly even response from trainees (<2 years experience), professionals (2-10 years experience) and senior professionals (>10 years experience).

Secondly, the primary data measuring valuation variance has been collected over a short time period. Therefore the empirical results can only represent a static analysis of the valuation sector in Dubai. Further work or a series of studies could be undertaken to examine valuation variance over a longer temporal scale. In addition, reproducibility of the same survey may take place every 2-3 years to monitor improvements.

The drawback of using postgraduate students (PGT) as a data set was that it creates some challenges in terms of direct applicability to practice. Both the PGT and industry case experiments can be viewed as 'simple' and therefore interferences on how valuers may operate on more complex valuations has been largely overlooked. The research design in its presented form was never going to be able to pick up on every aspect of valuation variance, particularly as the three valuation case experiments were fairly simplistic. In practice, the idiosyncrasies of a client instruction may lead to more erroneous application of valuation theory. In terms of the valuation case experiments, critics may point out drawbacks. It was a hypothetical study with no payment to the valuers and this raises questions concerning the extent of deliberations carried out before the figures were given. In addition, valuers were not able to inspect the property and a large part of the decision making of a valuer is done whilst undertaking the

property inspection. Hutchinson *et. al.* (1996) noted similar concerns and indicated in the real-world levels of variance would be exacerbated further. The survey design was however an insight into the fundamentals of valuation variance and gave the research a clear understanding as to where variance may be introduced. Data quality, methodologies/application as well as human error were all tested.

The survey work has been able to highlight key discussions that are fundamental to better understand the extent and causes of valuation variance in Dubai. The use of simple case experiments, despite overlooking what might take place further in real-life, have enabled a structured analysis that has been able to draw out elements that would not be so apparent if one was to examine a number of complex valuation instructions. In the same light that economic modelling is criticised for being a simplified view on the real-world, the valuation case experiments have provided useful insights that critically examine decision making by local valuers in Dubai.

More importantly, this research has provided new empirical evidence on the existence and extent of valuation variance in Dubai. Prior to this work, no known empirical research in Dubai has examined the extent of valuation variance nor wider detailed studies on valuation accuracy, bias and error. It has also enabled debate on the causes and determinants of such variations. The findings offer improvements to valuation consistency and reliability. It is felt that this initial research will kick-start further research into valuation variance as well as studies that examine error and accuracy. Such studies are critical to the development of relevant policy and practice. Therefore, despite some limitations, a comprehensive evaluation of valuation processes and practices has been documented within this PhD. It is hoped it will inspire a body of further academic research.

The final section of this chapter takes a look at what form any future research might take as well as propose ideas as to what the future of commercial property valuation might look like in Dubai over the next 5-10 years.

8.4 THE FUTURE OF VALUATIONS IN DUBAI?

Since 2008 the emergence of RICS property valuations and other forms of standardisation, such as the mandatory use of IPMS in Dubai has contributed somewhat to an improvement in the reliability of market information. That said there is evidence of contradiction. The introduction of a Valuer Licensing and Appraisal Institute may mean that the presence of multiple professional bodies creates valuation anomalies. Furthermore, the high proportion of expatriate workers in Dubai means the likelihood of a multiple range of valuation backgrounds and implemented standards are commonplace.

This PhD research is the first academic study that has evaluated the local valuation profession in Dubai. The findings are supportive of international standards being implemented. Future studies could periodically examine the profession every 2-3 years in order to track new developments and innovations. The findings from the literature and surveys, suggests that some of the outstanding questions in the future could be:

- To what extent are valuers considering risk in the valuation process, and how well understood is it as a concept or paradigm?
- At what stage in the valuation process do valuers engage with other key stakeholders? How can this interaction be improved?
- What impact does post-valuation discussions with clients have on variance, accuracy and bias?

At this final stage of the report, it would be useful to provide some forward-looking questions that may form further research into property valuations in Dubai or the wider UAE/GCC market. The profession can be reviewed and future questions could broadly include:

Market impacts

For example:

- How is risk defined, assessed and communicated in the valuation process?
- How do valuers report on the quality of their property data and information?

Stakeholder engagement

For example:

- How do valuers engage with other stakeholders (including government, agencies, investment teams and local agents) during the valuation process?
- What are the incentives for greater engagement during the valuation process?
- What are the valuers' cultural responses to valuation in a new global market, like Dubai and wider GCC?

Technology adoption

For example:

- How does the valuation industry use and implement automated technologies?
- How do other stakeholders, such as clients, view automated valuation reporting?

The respondents were asked to comment on the future recommendations related to improving valuation variance, or at least its better management. From these results it was evident that several valuers felt that the frequency of regulation or legislative change could impact upon the opportunity for reductions to be made in valuation variance. One valuer thought that the regulations have become a 'duplication' and non-complementary of one another in recent years, using the examples of RICS global standards and local standards emerging as a two-tiered valuation system. It is clear that there needs to be some level of standardisation, simplification and joined-up thinking in order to ensure the local valuation profession is not creating a two-tier system, pulling in different directions. The introduction of more rigorous data streams, more effective modes of communication, and improved training opportunities given the perceived skills shortage, may perhaps facilitate and maintain the momentum towards reduced variance (and greater accuracy). The local profession may also benefit from looking at international practices in order to address some of the existing barriers. These themes could be explored in future research.

Despite such criticism, Dubai Government are putting firm legislation in place to ensure a greater emphasis towards attracting institutional investment. A move that should be praised and is merited. In an environment of more focussed regulation, it will be expected that the local valuation profession will be more rigorous in the future. Looking

forward, a range of new government initiatives are being introduced. For instance, Dubai Land Department (DLD) is likely to release the new version of the rent index after the completion of the building classification survey. Under the classification survey, each building in Dubai's non-freehold and freehold communities will be given a star rating depending on its location, amenities and sustainability factors. This is likely to address some of the criticisms contained within this research regarding more detailed information for valuers. As the survey is due in 2018, it provides a suitable component in which to extend this research further.

This research has been able to establish the link of client influence on local valuations which is also related to their ability to influence a valuers perspective in a new emerging market. Additional research is needed that will look into the production of a standardisation in the way in which property market data is recorded, collected and shared amongst key stakeholders. It might be worth considering a system similar to CoStar, a system whereby property information is audited and regulated by a central professional body or organisation.

A suitable extension of this research would be to look at valuation accuracy. Such studies have yet to be undertaken in Dubai or the wider Middle Eastern markets. The economic and financial framework is a powerful driver for the development of greater consistency and information pooling amongst valuers. It was apparent from the survey work and focus group that valuers are frequently faced with a paucity of information in which to base their decisions. When the degree of uncertainty increases in rapidly rising or falling markets, the findings of these results may not be as consistent. Therefore, it makes sense to extend this research to evaluate valuation accuracy as a more dynamic form of analysis.

Valuation practices in emerging market, like Dubai, are understandably changing at a fast pace as alignment with international best practice appears the most accepted end point. The findings of this new research has been able to reassuringly look at how local valuers are performing within the expected international limits of variance, regardless of the challenges related to property market data; market efficiency; and client influence. Future research needs to examine valuation accuracy more closely to assess the role of

the wider valuation profession. Additionally, investigation into the cost of obtaining property market data is key. It is, therefore, essential that more empirical investigations are undertaken. These will generate additional and complementary data and insights in order to inform long term initiatives to improve valuation practices in Dubai and wider Middle Eastern markets.

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APPENDIX A KEY VALUATION TERMINOLOGIES

Definition of key terms

A central concept to the understanding of valuation accuracy and or variance would be the definition of market value as well as the other basis of valuation work. When arriving at the value of the asset, the RICS Red Book (2014) offers four key approaches:

- Market Value
- Market Rent
- Worth (Investment Value)
- Fair value

The Royal Institution of Chartered Surveyors (RICS) makes a distinction between market value and investment value (or worth). Market value is defined as:

“The estimated amount for which an asset (or liability) should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing, wherein the parties had each acted knowledgeably, prudently and without compulsion.”

Investment value differs in that it is:

“The value of a property to a particular investor/owner occupier/class of investors for identified investment or operational objectives.”

Market Value is understood as the value of an asset estimated without regard to costs of sale or purchase, and without offset of any associated taxes (RICS, 2014). This study will be making reference back to such definitions later on in the analysis. A further point of debate is the interchangeable nature of ‘market value’ and ‘market price’. 'Market value' is the amount that a property *should be* expected to bring (normative), as distinguished from market price, which is the amount for which a property *is* sold at a given date (positive). Economic pricing theory points to a number of key characteristics that must be present for markets to form perfect pricing information. Figure A.1

(overleaf) summarises these characteristics in relation to (i) a perfect market and (ii) a real estate market. The more deviation there is in the local real estate market from these theoretical ideals of a perfect market, the more valuation variance one would expect. International studies have pointed to the large discrepancy between normative valuation process and the positive process, which is cognitively biased (Daly *et.al.* 2003). Hardin (1999) felt theory and the valuation task should be more closely integrated so that it can be investigated whether incorrect valuations exist because of insufficient knowledge or other factors. Crosby (2000) establishes that margins, whilst acceptable, are not fully understood in terms of how they impact local markets. Alongside these principles, property offered to the market place may have a price tag attached to it and asking prices on property are no more than mere ‘invitations to treat’. Market value is no more or less than an opinion of price at a given valuation date.

Other definitions must also be clarified in order to be more precise about the terms used in this paper and to avoid the common confusion between price and value. As pointed out by Peto (2007), many people use the word “value” to describe price (value in exchange) and worth (value in use). Therefore, recipients of valuations are often confused about the meaning of the figure set out in the valuation report. French (1997) argued that price is data, which is used to estimate the value of similar assets after taking into account any adjustments resulting from the addition of market information susceptible of affecting buyers’ perceptions of the future. Value is an estimate of what the highest “bidder” would pay for that asset in order to receive the benefits of that asset in the future while worth is the surplus of bidders’ individual assessments in the market. French (1997) added that the sale price is the highest bid and is not equal to where most of the bids take place.

Figure A.1 Perfect market vs real estate market

Characteristic	Perfect market	Real Estate market
Number of buyers and sellers	Many participants, no monopoly, oligopoly or monopolistic competition	Few participants, sellers control during “seller’s market” and buyer control in “buyer’s market”
Product knowledge and market exchange	Buyers and sellers are highly knowledgeable; the exchange takes place with ease	Buyers and sellers are not always knowledgeable; the exchange is legalistic, complex and expensive
Standardised products	All products are alike and interchangeable; there is little difference between the products of different sellers	Each parcel of real estate is unique and separate from all others; no two are exactly alike
Mobility	Products can be transported to capitalise on more lucrative markets	Location is fixed; a real estate parcel cannot be moved to another more profitable location; a real estate market is local not regional or national
Size and frequency of purchase	Items purchased are small and relatively inexpensive; purchase is frequent	Real estate is purchased infrequently
Government role	Government plays little role ; laissez-faire prevails	Government plays a dominant role in encouraging or discouraging real estate development
Prices	Prices are established by smooth action of supply and demand	Prices are influenced by interaction of supply and demand, but the interaction is not smooth, a lack of knowledge by either the buyer or seller can distort prices paid

Source: adapted from Harvey and Jowsey (2004)

Many valuers claim that “value” should be one of the lower bid figures observed in a previous sale since the highest bid has gone. Even though other players are still in the market with their lower bids now prevailing, price is about “highest and best”, and not about repeatability. In the same way no other asset classes set price by reference to a median tendency; property valuation, therefore, should not be any different. Evans (2005) described valuation accuracy as a contract with the association between assessed value and actual value. As it is an established fact that real estate market is primarily an inaccurate market providing the uniqueness of property interests and the diffusion of the

market. (Evans 2005, 102) These problems compel the real estate market to base the accounted price on valuations. The inaccuracy of the real estate market is further highlighted when it is considered in contrast to the characteristics of a perfect market normally represented more closely to the functioning of a stock market or wider financial markets.

Quan and Quigley (1991) examined the interchangeable aspects of value and price and found transaction prices, which arise from a Nash equilibrium, can be expressed as a noisy signal, reflecting incomplete information. The valuer's role is then formalised as one of 'signal extraction'. However this relies upon the valuer observing many transactions. Other studies have pointed to the market distortions when agents are better informed than clients and the former is able to exploit this informational advantage (Levitt and Syverson, 2008). In Dubai, with anecdotal evidence pointing to an interchangeable price and value dynamic, with asking prices being able to 'inform' the market more than transacted prices, the information gap between these two reference points is likely to be much more varied than in transparent markets. Variance is likely to be more prevalent in markets where proxy data informs valuers more than transactional evidence. The presence of this also means clients could have more of an influence on valuers' perceptions.

The concept of market value, via the synergy with the International Valuation Standards (IVS), is tied to perceptions and behaviour of market participants – as defined in many other economic systems. However the definition recognises the diversity of factors that may influence the transactions, such as the heterogeneous nature of property. Market value as a procedure is therefore defined under the following remits:

- Must determine the highest and best use of the property asset, which is a significant determinant of its use
- Must stem from data specific to the appropriate market and methods should deduce those participants present in the market
- Performed via the application of cost, sales comparison and income capitalisation approaches

There is a wide range of applied terminology to how income-producing real estate assets are valued and some of the common UK valuation terminologies are shown in Figure A.2. These terms will be referenced later in this thesis, particularly when discussing valuation methodologies in greater detail.

Figure A.2 Common UK valuation terminology

Key term	Definition
Amount of an annuity	The amount, A , of an annuity of n payments of $\pounds R$ each is the equivalent dated value of the set of these payments due at the end of the term of the annuity (which is the date of the last payment).
Present value of an annuity	This is the equivalent dated value of the set of these payments due at the beginning of the term. (i.e. one period before the first payment). This formula is called the Present Value of $\pounds 1$ per annum. However in property valuation terms it is frequently referred to as the Years' Purchase or YP for short.
Perpetuity	An annuity whose payments begin on a fixed date and continue forever. The amount of a perpetuity cannot exist, but the present value does. This formula is termed the Present Value of $\pounds 1$ per annum in perpetuity. In property terms it is called Years' Purchase in perpetuity or YP _{perp} for short.
Initial yield	The rent passing (net of ground rent) as a percentage of the gross capital value, at the same date. The initial yield is current and also could be sourced from rack-rented freehold properties that are recently sold. This would then be the yield applied to the current income stream from a lease up to the point of the next rent review, also known as the 'term'.
Reversionary yield	The open market rental value net of ground rent as a percentage of the gross capital value, at the same date.
Equivalent yield	The discount rate which equates the future income flows to the gross capital value (IPD definition).
All-risk yield	The rate used by valuers when using the traditional years purchase method of valuation. Complicated and non-specific term. Could use equivalent yield, reversionary yield or initial yield depending on type of freehold.

The investment approach to commercial property valuation

The principles of valuation relating to the traditional investment methods are dependent upon four factors:

- Market Rental Value: Market Rental Value (MRV) is defined in the RICS Appraisal and Valuation Manual as the best rent readily achievable for the

property in the market today. Where a property has been let at a fixed rent for a fixed term of years, it may happen that the rent currently passing is less than the rent that property could command if it were let today. The appropriate rent is derived from analysis of comparable evidence using the direct comparison technique.

- **Capitalisation Rate:** This is the rate applied to the income flow to derive a present day capital value. It is referred to as a yield and it describes the ratio of income to capital value. For those familiar with the equities market it is akin to the price/earnings ratio. The yield of the investment indicates risk. Risk would be considered alongside macroeconomic indicators such as inflation, interest rates, taxation as well as non-systematic risk for instance; tenant covenant strength, liquidity and legal risk. From this analysis, the valuer would go on to make the assumption that the greater the risk in a property, the higher the yield. The All-Risk's Yield (ARY) is derived from the analysis of comparable sales.
- **Net Income:** The net income of a property investment is the total rent receivable less any costs which must be borne by the recipient of that income.
- **Costs:** Such costs are generally referred to under the general heading of Outgoings. Outgoings are any costs incurred in keeping the building in a condition fit to receive rent. There are generally two types of lease agreement regarding the liability of outgoings including; Full Repairing and Insuring (FRI) Terms where the tenant is responsible for all outgoings; and Internal Repairing Only (IRO) Terms (also written as TIR – tenants internal repairing and occasionally IRT – internal repairing terms) where the tenant is responsible only for internal repairs.

By understanding each of these terms, one can review all income-producing assets in the same light, by following the steps below:

Step 1: Annual Gross Rent – Annual Operating Costs = Annual Net Income

Step 2: Annual Net Income x Year's Purchase (YP) = Capital Value

The procedural steps are somewhat an oversimplification of the work of a valuer or analyst tasked to value commercial properties or any other property capable of generating an income stream. There is also a requirement for the collection and suitable analysis of comparable rents, comparable yields (if not specified by the investor) as well as a detailed account of operating expenses. The overarching function in the analysis is to examine the lease structure and contractual obligations of both landlord and tenants. The disconnect between the 'user' and 'investment' markets in commercial real estate as described by Keogh (1994), makes the task of investment analysis somewhat challenging.

It goes without too much saying that the global property investment environment has evolved into a much more complex sector, not only with the underlying economic conditions, but also some of the grounded theory. Academic commentary from the study of the UK commercial markets tells us of how the use of the all risks yield (ARY) in valuations was derived during a period when it was valid to assume rents were fixed and there was little rental growth (a direct result of long commercial leases). It soon became apparent that the conventional approaches of the ARY were inappropriate for unusual cash flows, such as those properties that are over-rented. Whilst many valuers adjusted their practices by adopting 'slicing' methods or 'term & reversion' methods, which recognises that the passing rent on over-rented properties can be split into two distinct sections, critics suggest that cash-flows can be double-counted. In addition, since mid-1990s global commercial real estate has seen a shortening of lease lengths (8-10 years) and an increased inclusion of flexible break clauses – the dual effect of greater uncertainty being introduced to the cash flow. Academics have been criticising investment valuation methodologies for years, pointing out its inadequacies and illustrating the superiority of discounted cash flow (DCF) methods (Havard, 2012).

Historically in an environment where transaction levels are high the use of the traditional ARY approach was deemed adequate, especially with valuers having an abundance of comparable and yield evidence. Nowadays, the fundamental characteristics of the commercial markets have changed, not only with thinly-traded activity reducing market evidence, but also the institutional structures. Global economic uncertainty has borne out the development of shorter leases and more frequently observed break clauses, with greater flexibility in corporate leases being the new flavour for occupiers. The dual effect of this, is greater uncertainty in the cashflow projections that previously could be assumed on much longer timescale of 20-25 years, or even perpetuity. According to the recent BPF/IPD Annual Lease Review (2013), commercial occupiers have achieved much shorter leases than previously, averaging 6.5 years in London (from 12 years in 2001), and 5.8 years elsewhere in the UK (17.5 years in 2001). At the same time they have managed to incorporate more break clauses (40% in London leases and 54% in the rest of the UK). These changing lease structures are much more inline with the global norm and so valuation approaches are likely to shift towards the DCF as a reflection of the changes in lease structures.

The analysis of risk in investment valuations

In most cases when we are considering modelling risk we assume there are two options, either the decision maker assumes a position of pessimism or optimism. These points represent the two ends of the risk spectrum and indeed one would be able to appreciate that in hindsight one would have found ourselves falling somewhere in between these two extremes. Modern day valuation software allows the user to integrate the cash flow over the holding period and ask confirmation on critical areas. When examining the cash flow one can perhaps classify the components into different risk classifications. The key issue concerns risk measurement. The most commonly used quantitative measure of risk is volatility, or variance around the mean. Probability is a simple way of measuring uncertainty, and probability is used to describe the amount of uncertainty present. As discussed earlier having an appreciation that today's lease structures are shorter and contain break clause options, a valuation needs a mechanism whereby the likelihood of the sitting tenant renewing or breaking their lease can be made. Valuation software asks the user to make a self-assessment on the likelihood that the current income will continue, or if not, what would be the financial implications. The decision-

maker is therefore presented with the 'most-likely' outcomes throughout their investment periods and as such can interpret the cashflow in a detailed manner to arrive at a suitable range of actions. Other areas of the software will ask a range of movement around the input variable. So for instance a ARY of 10% might have a +/- of 1%, requesting the software to evaluate the investment valuation at a yield rate of 9%, 10% and 11%. This process would therefore present the decision-maker with an assessment of volatility in the range of, let's say, bid values that would be represented across each of these three calculations.

Academics advocate making explicit allowance for rental growth expectations through the holding period (Baum, 2003). This would be handled in the calculation by allowing the rental flow to be increased at each rent review date by the implied rental growth rate. The valuer should analyse a range of attributes that would determine the long-term rental income from investment property, including; option renewal probabilities, the inclusion of lease incentives, market rent escalations and income losses via assumed vacancy void periods. The cash flows should then be discounted at the equated yield and the resale value at the end of the holding period should be calculated as the future rental value capitalised in perpetuity at the equated yield. It would be prudent to allow sensitivity testing on key variables. Using scenario or sensitivity testing, allows valuers to produce the following results:

1. They force the user to make decisions in a logical and a consistent fashion with as much quantitative and qualitative precision as possible. By having a standardized framework that is easily modified with the specifics of the particular income-producing asset, an extensive analysis of bespoke idiosyncrasies can be modelled when required.
2. The DCF approach of commercial property valuation and subsequent sensitivity testing improves the attitude of the decision maker. The framework forces the decision-maker to be much more specific about the investment criteria on which decisions are made. In addition, it offers a consistent approach to the analysis and evaluation of subject properties

3. Standardised framework and transparency of the explicit DCF interface better enables for errors to be traced even if in hindsight, thereby improving similar decisions at a later time.

The above mentioned attributes are theoretically going to see variance in commercial property valuations reduce. The extent of which can be tested with valuation case experiments. The primary data collection will examine these ideas in more detail (see Chapter 5).

Perspectives of property risk and valuation variance

The above mentioned commentary on commercial property valuation theory has highlighted key areas of the valuation framework whereby subjectivity and opinion diverge. On the one hand, valuers can realistically reach some form of consensus on key variables within the analytical framework (e.g. passing rent, lease terms, length, rental escalation). On the other, much of the variance contained within commercial property valuations is likely to sit with variables related to perception of risk. The traditional framework of assessing risk in a property asset works along the following lines:

Holding period: In the US, where DCF analysis is nearly universal, 10 years is often assumed as a holding period. However, this is subject to criticism since there has been no empirical confirmation of this assumption. However, although the property may not be sold after 10 years, it is still valid to assume a notional resale date in order to assess expected holding period return. The choice of holding period can be important since it can have an impact on the final NPV/IRR figure - so it is often worthwhile to consider a number of scenarios.

Terminal capitalisation rate (terminal yield): In principle the calculation of terminal cap rate at resale is straightforward. It basically involves the projected rental value being capitalised at the projected ARY at the date of resale. Valuation software allows users a straightforward and transparent means of examining the projected rental values by defining annual escalation rates that can be set against market commentary or standard benchmarks, such as the Retail Price Index (RPI) or Consumer Price Index (CPI). How do valuers forecast the exit yield - this is the term given to the capitalisation rate at

resale? Can valuers use current yields? This seems inappropriate since the building will be 10 years older and will have suffered depreciation and obsolescence. Can valuers use current yields for buildings which are ten years older? This seems more defensible. However, it involves an implicit assumption that current macro-economic conditions will remain at resale date. This is unlikely. The basic formula for capitalising the estimated rental value at resale date is ERV/y where y is the exit yield. A range of terminal cap rates can be calculated in line with the sensitivity assumptions of the valuer, assumed on the basis of a +/- classification.

Future Rental Income: When considering rental income, valuers need to pay attention to two key areas, namely; rental growth and rental depreciation. Forecasting future rental growth can be problematic and is becoming increasingly sophisticated. Due to the high probability of inaccuracy, it is important to be as explicit as possible with any growth assumptions made. Users can benchmark rental growth against industry standards, such as CPI or internal forecasts. The added advantage for users is also the ability for teams to cross-check and modify the underlying assumptions of rental growth if needed. The other major issue affecting future rental income is depreciation. Depreciation refers to the decline in value as buildings grow older. This would be more apparent during long periods of low inflation. Hence, with consequent lower levels of rental growth, depreciation will become a more important variable affecting property investment returns. So how do valuers take depreciation into account in the investment analysis process? One possibility is looking at different levels of rent for buildings of a different age which are in a similar location.

Voids: There is a possibility (probability) that an existing tenant will choose to relocate to new premises at the end of the lease. Or the tenant may choose to exercise a break clause if this is appropriate. In countries where leases tend to be less than 10 years in length, it is likely that the possibility of voids will be an important consideration. A rental void can easily be included in the cash flow. In addition, users are presented with 'option probability' inputs which help assess whether a tenant is likely to continue to occupy the space or break the lease. Although a hypothetical judgment, consideration to passing rent (that of what the tenant currently pays) vs market rent (what

the current market is paying) allows users to assess the likelihood of options being taken (or not).

Outgoings: There is a range of outgoings that need to be considered all of which will impact on the valuation outputs including that of the cost of acquisition/disposal fees; conveyancing fees and relevant taxes. In addition, there are capital expenditures that are large single payments of expenditure to maintain the property to a modern-day equivalent standard as well as incentives of options (voids, or leasing up costs). The buying and selling of the investment will involve costs - legal, surveyors, and stamp duty. Management fees will vary greatly between different types of properties. They will also depend on the different lease terms. Properties which give the landlord a large degree of responsibility will incur substantial costs to the landlord. When a property becomes empty, agents fees will be payable so that new tenants can be found. In any market gaining consistency on how these outgoings are dealt with in the valuation would be of paramount importance.

Having described the property investment fundamentals and having shown the inability for conventional approaches to adequately cope with both modern-day lease structures as well as reliable assessments of risk and uncertainty, the discussion now turns to the methods of decision-making and risk analysis that stem from using a property investment appraisal/valuation.

- Tenant/Default Risk This refers to the situation where the investor receives no or reduced income. This can occur for a number of reasons. Non-payment of rent may occur because the tenant is experiencing financial difficulties. Bankruptcy may mean that the property becomes void and no income is received. Non-compliance with repairing obligations may mean that the landlord has to pay the costs of repairs. Valuation software allows users to plot the tenant mix and assess the impact of a tenant default on the total annual income received. This can be simulated in the tenancy sheet (under 'Termination and Reletting' in the Tenancy sheet).
- Structural Risk Property is a physical asset which may suffer from construction defects. These may produce abnormally high repair cost or high maintenance

cost. Moreover, the landlord may have to pay for significant cost of refurbishment. In extreme circumstances the building may suffer from structural failure. Functional obsolescence may occur when changing technology renders the property unsuitable for the needs of modern occupiers.

- Legislation Changes to legislation can have a significant impact on the income producing ability of a property asset. Changes in case law can impose new burdens on landlords or give tenants extra rights. In Dubai, the government has been considering various areas that will reduce the landlord's ability to physically change rent arbitrarily and may reduce its income generating ability.
- Liquidity Property is a "lumpy" investment and there may be a limited number of potential buyers.

Figure A.3 summarises the key areas of risk to consider in a standard commercial property valuation. It highlights the differing classification of risk and as such notes areas of the valuation that are most likely to be debated amongst different valuers. As such low-risk classifications could see a high level of consistency and high risk classifications contain more subjectivity. It is the latter variables that are most likely to be those that create the largest sources of variance in real estate valuations. This section has pointed to the need for valuers to be more mindful of these subjective components, and where possible, produce sensitivity testing, to show the rationale of decision-making or highlight explicit data assumptions. A shared consistency in the choice of valuation methodology will also help keep variance within an acceptable margin. Where issues are identified that could have a material impact on the certainty attributed to the valuation it may be prudent to provide sensitivity analysis to illustrate the effect that a change to the variable could have on the reported valuation. There is an argument in practice, however, that sensitivity testing does little to instil confidence in property valuations and in fact would breed a more subjective culture, where valuations become a range, which is not useful for all types of valuation, such as secured lending.

Figure A.3 Classification of risk in property valuations

Risk classification	Examples to consider	Interpretation
Low risk	Rent passing	The tenant is contractually bound to pay the rent. Where there is a good covenant this can be considered as relatively certain
Medium risk	Current LTV, capitalisation rates, fee expenditure	These are usually evidenced by transactions so valuers so be able to estimate them with a degree of certainty. However, problems may emerge when there is not sufficient comparables
High risk	Growth rates, rental escalation, future incomes and costs (ERVs)	These are the most uncertain, and therefore those most likely to cause variance in the valuation. Forecasts of what the rates will be can be obtained. However, it is likely that these forecasts will contain error

Source: Waters (2014)

APPENDIX B STAGE 1 QUESTIONNAIRE SURVEY

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Real Estate Valuation Practices in Dubai

As part of my PhD research at Heriot Watt University's Dubai Campus I am investigating property valuation processes in Dubai. I would appreciate it if you could complete the following questionnaire by Thursday 30 April 2015. All responses will remain anonymous in the writing up of this research. Participants will receive a free copy of the executive summary detailing the findings of this research.

* Required

1. **Name**

2. **Company**

3. **Position/Job Title**

4. **Highest Academic Qualification**

5. **Would you be willing to participate in a follow-up interview survey after the preliminary findings from this questionnaire have been processed?**

Check all that apply.

Yes

No

6. **Are you a professionally recognised valuer?**

Check all that apply.

Yes

No

7. **If yes, please state your professional designation (e.g. MRICS, SISV, AVI)**

8. **How long have you been working as a valuer?**

9. How long have you been working as a valuer in the UAE?

10. Which other geographical regions have you worked in since becoming a valuer? Please select all relevant regions

Check all that apply.

- Europe
- North America
- South America
- Africa
- Asia
- Australia

11. What methods of valuation do you commonly adopt when valuing the following property assets:

Mark only one oval per row.

	Offices	Hotels	Industrial	Leisure	Residential	Development properties
Comparable method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investment method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residual method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profits method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DRC - Costs method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. What is the average rent passing currently for prime commercial property in Dubai?

Please state for office, retail and industrial property

13. On what basis do you measure commercial property assets in Dubai?

Please state for office, retail and industrial property

14. Is the amount of data made available to you important in the valuation process?

Mark only one oval.

- Yes
- No

15. Briefly explain you answer *

16. How do you prioritise the comparable information you receive? Briefly explain

17. How many data banks or property information service providers do you subscribe to?

18. How would you rate quality of the data supplied?

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Very Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

19. List up to 3 improvements you would make to any data provided by an external source

20. **Is your firm involved in the production of an in-house property index?**

Mark only one oval.

Yes

No

21.

If yes, which asset classes do you cover?

Mark only one oval.

Office

Retail

Industrial

Residential

Land

Other: _____

22.

What information is recorded within the index?

23.

Do you monitor the variance and/or accuracy of your valuation work *

Mark only one oval.

Yes

No

24.

If 'Yes', how?

25. If 'No', why not?

26. In your opinion what is the main contributor to valuation variance in Dubai?

27. What challenges do you face when valuing property assets in Dubai? List up to 3 examples.

28. How could property valuation be improved in Dubai in order to make them more accurate/or reduce variance?

29. What types of clients are most likely to influence your valuation work? *

Please select
Check all that apply.

- Private individuals
- Developers
- Lending institutions
- Fund/asset managers
- Other: _____

