

**PROPERTY MARKET ANALYSIS**  
**The key to looking forward**

**By**

**Dr Terry Boyd**

Adjunct Professor: CQUniversity and Uni of the Sunshine Coast  
Independent Property Consultant

**Abstract**

Property market analysis is the foundation for most property professional opinions. The property professional is employed primarily because they understand the current market and can make reasoned predictions on future market trends. The fact that property markets are complex and the determinants of change are not stable over time makes the role of the property professional challenging and, financially, worthwhile. It is crucial that property market analysis is undertaken as competently as possible.

This paper examines the nature of property market analysis; starting with its evolution within the property economics field and the current market change factors. Noting the inaccuracies in property forecasts, the paper seeks ways to improve the existing analysis processes. Towards this end, a survey of property practitioners was undertaken and their responses provide useful pointers to collaborative research. A "3Ps" approach is outlined as it is a useful technique for structuring research teams.

The main recommendation of the paper is the formation of teams consisting of experienced practitioners and specialist academics undertaking longitudinal studies. Further recommendations and pointers for future studies are made using the principles/pragmatism/persistence approach. The paper concludes with the author's opinion on how property market analysis can assist the planning and development of Christchurch.

**Keywords:** property forecasting, market modelling, property academics, economic indicators, authentic demand, digital technology

## **Introduction**

I make no apology for my fixation with the need for the property professional to “look forward”. As academics or practitioners in the real property field we cannot perform our valuation, advisory and mentoring role without a constant examination of property markets and the likely changes in these markets.

Property market forecasts are, undoubtedly, one of the most challenging tasks of the property professional and, historically, we have not demonstrated a high degree of proficiency in this field. We can look backwards and explain the major determinants of past market change but we know that, over time, property markets follow an asymmetrical cyclical pattern and that it is unwise to assume that the past trends will predict future trends.

The impacts of the information and communication technology revolution combined with energy-driven changes ensure that future changes in the property field will be great and, probably, have greater impact on property than any earlier period in our urbanised world.

This paper evolves from my personal concern that, as an academic discipline area, property market analysis should be one of our primary research areas and that we can improve our performance in this challenging research field. This paper will, hopefully, encourage further collaborative and long-term research in the field.

The paper commences with a review of the academic research into property market analysis and the effectiveness of property market forecasting. This will be supplemented by commentary on the substantial practitioner activity in the property market analysis and forecasting field.

The second section examines the current market change factors, such as authentic demand, sustainability and the digital age, and then includes survey feedback from senior property practitioners. This pilot survey provides clear insight into their perceptions of the quality of market analysis and the possible role of property academics. The central section of the paper also includes consideration of “3Ps” which are useful pointers for the future.

The final section draws conclusions and makes recommendations from the main body of the paper in order to look forward. The main recommendation relates to a new level of collaboration and also included are some thoughts on how this can impact on the redevelopment of Christchurch.

## **A Review of Property Market Analysis and Forecasting**

Property academic and industry professionals have a long history of analysing property markets, with many early twentieth century pioneers stressing the importance of real estate supply and demand (Marshall 1925; Babcock 1932; Bonbright 1937). The importance of market analysis was further developed during the evolution of the property discipline in the mid 20<sup>th</sup> Century (Murray 1949;

Lawrence and May 1943; American Institute of Real Estate Appraisers 1951). During this period Ratcliff (1975) wrote a paper entitled “Appraisal is market analysis”; this focus on market analysis is still relevant today.

Whilst a regular, but not substantial, number of publications on property market analysis have continued over the years, there has, recently, been a trend to develop more sophisticated economic models to assist the process. Researchers such as Brooks and Tsolacos (2010) have assisted in the advancement of modelling techniques. Several recent market analysis studies appear to favour autoregression modelling (Hepsen and Vatansever 2011; West and Worthington 2006; Zhang and Chen 2011). However the qualitative behavioural studies are also highly relevant (Gallimore et al 2000; Barnham 2008).

The applicability of property market analysis studies can, to some degree, be measured by their ability to forecast future market movements. McAllister, Newell and Matysiak (2008) undertook an independent study of the accuracy of forecasts of United Kingdom commercial property. This study found that the level of uncertainty in capital growth forecasts was substantially greater than rental growth forecasts and that forecasters had great difficulty in forecasting yield shifts. When examining the success of forecasters against a naïve forecast (that assumes a “same change” in the future), the study found that the property forecasts were, generally, not substantially better than naïve forecasts and that the only non-property determinant that was accurately estimated by forecasters was Gross Domestic Product (GDP).

There have been several other recent studies internationally on the evolution of property market forecasting (Ling 2005; Miller and Skarz 2012; Higgins 2013 and 1999; Newell and MacFarlane 2006; Gallimore and McAllister 2005).

In general the studies have found that the ability of the forecasters to predict the movements of the property market better than a naïve forecast have been disappointing. Higgins (2013) states:

Leading property researchers have found, in many circumstances, that the track record of the tested property forecasters had limited predictive capacity. (p.76)

The studies also showed that, in most cases, forecasting uncertainty was a more critical issue than forecasting disagreement and there was evidence of forecast smoothing.

Having found the disappointing outcomes by academics on the accuracy of property market forecasts, I will turn to the role of the property of practitioners in my local area - Australia, to complete the review of property market analysis and forecasting.

The Australian property industry undertakes numerous empirical property market studies and has a wealth of data on property supply and demand, sales and rents. Property market analysis and forecasting is undertaken by property organisations (such as The Property Council of Australia (PCA), Investment Property Databank (IPD), Australian Property Institute (API), Real Estate Institute of Australia and others) as well as individual property corporations (such as BIS Shrapnel, Colliers

International, Jones Lang LaSalle (JLL), Savills and many others). While some reports are restricted to paying clients and beyond the financial scope of universities, many reports are available for educational purposes.

The Property Council, in conjunction with IPD Australia, produces an ongoing property index for all property (non residential) as well as the retail, office and industrial sectors. The database for this index, which measures investment returns, has a total asset value of \$137Bil representing 1,574 assets (PCA/IPD, 2013). The advantages of this index are that it started in December 1984, uses quarterly assessments, and provides income, capital and total returns. It does however rely on valuations and the qualification of the person undertaking the valuation impacts on the index. IPD Australia also produces a quarterly Green Property Index.

There is an informative publication by API that collates the opinions of property market professionals on market forecasts. It is the “Australian Property Directions Survey” and it is produced six monthly by the NSW division (API (NSW), 2013). While this publication relies on the input from practitioners, it receives feedback from a good cross-section of private sector professionals including bonds and fund managers. It provides indicators based on both the position on the property clock and the property cycle. Data has been recorded since 1999 and this report provides an overview of market sentiment at different time periods.

Many major property corporations have research teams that analyse supply and demand factors to determine net absorption and vacancy indices. In addition these corporations analyse sales and rental data and produce information on sales and rental prices and volumes as well as buyer profiles (Colliers 2012 & 2013; Jones Lang LaSalle 2013; Savills 2012 & 2013). These research teams also provide commentary on the future outlook based on the latest analysed data. They do not, in general, use econometric modelling to arrive at their market forecasts but the sales, rents, buyer-profile and net absorption figures are current and comprehensive and usually available for further research.

In summary both the academic and industry sectors in Australia undertake property market analysis of the major property sectors within the main urban areas as well as some level of property market forecasting. There is an increasing availability of this information in the public domain and, hopefully, property students are being required to review this important resource.

### **Probable Property Market Changes**

Traditionally we have been aware of the strong impact on our markets from non-property, economic factors such as GDP and interest rates, but there are a number of emerging economic and non-economic factors that will influence our markets in the future. I consider that three of the most important emerging factors are **energy usage, digital technology, and authentic demand.**

**Energy:** Much has been written about sustainability and its impact on property markets. I will focus on energy as I believe it will have the greatest impact in the

future. Rifkin (2011) has received international reaction to his book “The Third Industrial Revolution”, which has the subtitle “How lateral power is transforming energy, the economy and the world.” He describes the five pillars of the third industrial revolution as:

- (1) shifting to renewable energy;
- (2) transforming the building stock of every continent into green micro-power plants to collect renewable energies on site;
- (3) deploying hydrogen and other storage technologies in every building and throughout the infrastructure to store intermittent energies;
- (4) using Internet technology to transform the power grid of every continent into an energy internet that acts just like the Internet; and
- (5) transitioning the transport fleet to electric plug-in and fuel cell vehicles that can buy and sell green electricity on a smart, continental, interactive power grid.

Energy type, usage and storage will change and the change will escalate exponentially once it gains momentum. Already property developers are acknowledging, by their actions, the need to adapt to more efficient energy usage. Clearly this factor will have a major impact on our property markets; the third industrial age will dominate our lifestyle in some form or another in the medium term. Resource rich countries, such as Australia, will be affected on many levels and property specialists should be actively monitoring the market movement.

**Digital technology:** Informative and communicative technology changes have already ushered in a digital technology obsession. The younger generation learns, communicates and relaxes while immersed in ICT. We see the growing impact of online retail activity and must examine the future needs for retail, warehousing and logistics space. However this change will have a wide impact on all sectors of the property industry, not the least of which are the tertiary learning centres. The pertinent question today is: are the universities providing the learning environment, support and facilities best suited to the younger generation in today’s world?

McCallum (2013) provides a thoughtful consideration of how our world is changing. He refers to energy and ICT change, but also highlights the need to collaborate, effectively. “Collaboration is, in a sense, the DNA of the emerging networked society” (p.68).

We should not concentrate solely on the economic changes, we should also be aware of societal change and a growing emphasis on health and lifestyle. Many of these issues are covered under the sustainability banner but there is also a broadening appreciation that not all property decisions are demand driven.

**Authentic demand:** The concept of authentic demand, described by Pirounakis (2013, p.5), as “non-derived element, for example when the built structure and/or the location in question have emotional, social, or brand value”. Indigenous people have always considered that certain lands have cultural or spiritual value.

The narrow property value concept that the value of property must relate to a highest and best value is not correct. The social and environmental characteristics

embodied in sustainability do not equate worth with utility. It is necessary to have a broader vision that considers the perceptions and beliefs of the people who interact with the property. Consequently we must be cautious of imposing our “demand driven” economical theory on all property markets. The vision of the people (society) interacting with property should cause changes in our appreciation of the worth of certain property.

### Property Industry Survey

In late 2013, I undertook a targeted pilot survey of senior property valuers, market researchers and property fund managers in Queensland, Australia. Each participant was selected based on their experience and diversity of practice. A single page survey (Annexure A attached) was sent to each participant after a direct communication from me. Eleven surveys were sent and ten were returned within the required timeline.

The purpose of the survey was to gauge the industry’s rating of current property market analyses and forecasting reports. In addition the survey sought to get feedback on practitioners’ viewpoints on the relevance of academic input into property market analysis and, in particular, the benefit of joint property academic/practitioner research teams to undertake market analysis and forecasting.

The responses to the quantitative questions are shown in Figure 1 below:

**Figure 1: Practitioner responses to closed questions on property market analysis and forecasting**

<b>Survey questions (summarized)</b>	<b>Responses</b> (7 point likert scale or Yes/No response)
i) Your rating of public domain property market analysis reports	3.9 (1=very poor, 7=very good)
ii) Your rating of available property market forecast reports	2.6 (1=very poor, 7=very good)
iii) Do you use university-prepared information on Australian property markets?	Yes = 1, No = 9
iv) Do you use non-property economic indicators to assist your market predictions?	Yes = 10, No = 0
v) Should property academics collaborate in property market analysis studies?	Yes = 10, No = 0
vi) Should property academics collaborate in property market forecasting studies?	Yes = 10, No = 0
vii) Would you participate in an academic and professional research team in this field, for 5 years?	Yes = 6, No = 4

The survey shows that practitioners only consider the industry produced market analysis reports as reasonable. Considering that a couple of respondents participated in the development of the reports, there is evidence that the reports have limitations. However the feedback on the market forecast reports is worse and some practitioners consider these forecasts as unreliable. See commentary on these issues in Figure 2 below.

The response to the usage of university-prepared information is clear; they are not used. The one respondent who answered ‘yes’, added the comment: “the reference material is generally outdated and conceptual rather than reflective of the true position of the market”.

As anticipated all practitioners use non-property economic indicators. The response shows that economic indicators are essential factors in market analysis.

When questioned as to whether academics should be involved in market analysis and forecasting there was a unanimous response; all practitioners want their input. Their comments on the role academics should play are discussed below.

There was also a positive response to participating with academics on market analysis and forecasting for a sustained period of time – 60% stated that they were willing to be part of a team.

Further elaboration of their standpoints is provided by their responses to the open questions. A summary of the responses to the open questions is given in Figure 2 below:

**Figure 2: Practitioner comments on market information and academic input into market analysis and forecasting in Australia**

<p><b>1. The most useful property market information available:</b> IPD, Savills, HTW, PRD, Colliers, PCA, Knight Frank, REIQ, JLL, Landmark White</p>
<p><b>2. The most useful property forecasting information available:</b> Agency outlook papers, BIS Shrapnel, IPD/PCA, Banking forecasts, HTW, “limited useful material”</p>
<p><b>3. The most useful economic indicators available:</b> ABS (most frequent response), State Government statistics, ANZ economic indicators, CommSec information, BIS Shrapnel, RBA statements, several business (and coal) indicators, Bill Potter, Westpac</p>
<p><b>4. The role that academics could play in market analysis and forecasting:</b> “provide objective and unbiased analysis/forecasts - such analysis should be done in conjunction with the industry and not in isolation” “examine sales and rent figures” “provide factual-based analysis and detailed econometrically factual forecasts” “give unique insights based on research not just agency direct” “sort fact from fiction” “analysing previous trends and cycles, collating business/economic data forecasts and applying them”</p>

“liaise with smaller firms which don’t have their own research departments”  
“collating the provided data into appropriate segments and identifying specific triggers impacting those sectors”  
“impartial reporter, as would have no vested interest as is often the case with in-house publications, may be able to focus on markets not covered by the commercial operators”  
“research and analysis of property data to arrive at an independent report”  
“undertake independent market analysis of their own, alternatively, analyse the performance of other industry market analysis material and guide with methodology and approaches”  
“require the academic to be engaged with industry and living and breathing the same markets”  
“it is unlikely that the academics’ analyses or forecasts will hold credibility without a clear link to the industry players”

**5. Other comments on improving market analysis and forecasting in Australia:**

“market analysis and forecasting in the media is dominated by industry experts without formal qualifications or even proven track records of performance. This is not necessarily the fault of the media as few qualified persons are willing to make calls due to fear of litigation or reputation impacts, associated with incorrect or inconsistent reporting”  
“the ability to get correct, confirmed data would be a good start”  
“the only research we place any reliance on is that research provided by parties that do not have a financial interest in the outcome/interpretation of the analysis/forecast”  
“most research is driven by the desire to sell/lease more property, this information is tainted at best or downright sales pitch at worst”  
“independence and lack of a tie to developers, agents, institutional investors would assist and give credibility”  
“we need more reliable property forecasts and should take steps to get them”  
“a five year commitment is too long for me”

Figure 2 includes the actual comments received for the last two questions (at times abbreviated). Further comment on the individual responses is unnecessary as most of them give a clear indication of the sentiment of the recipients.

The overriding response is that most industry prepared market analysis and forecasting reports are not independent, may be subject to bias and are not based on rigorous quantitative analysis. There is a strong acceptance that property academics could add independence and accuracy to the data analysis process. While the expectations on the academics may be too optimistic in terms of the available data, there is a good opportunity for academics to form a long term research partnership with industry provided that they are willing to “walk the talk” with practitioners.

**The “3Ps”**



Having discussed the inadequacy of the current property market forecasting activities and the uncertainties in the future property markets because of probable market changes caused by energy usage, ICT change and authentic demand, the question is: how do we improve our ability to analyse current property markets and forecast property market change effectively?

I consider that the thinking of senior industry practitioners provides the best way forward. They see a clear benefit for joint research by academics and practitioners. In seeking guidance on moving forward I was encouraged by a process mentioned by the chairman of the International Accounting Standards Board in a presentation on “The Imprecise World of Accounting” (Wood, 2013). He spoke of pushing back the grey areas in accounting as far as possible and his three guiding terms for dealing with grey areas were: principles, pragmatism and persistence. Property market analysis and forecasting is clearly a grey area for the property professional, so we are in a similar situation.

I think these “3Ps” – principles, pragmatism and persistence, form a sound framework for undertaking research into property market analysis and forecasting. The guiding principles should be specified before commencing any research. This would include, inter alia, the need for independence (highlighted by the senior practitioners), the collection of adequate and representative data and the acceptance of international professional standards.

Pragmatism, defined as “concerned with practical consequences or values” (Macquarie dictionary), is essential because we are dealing with property markets that are people driven and are not readily predictable. Their unpredictability has been discussed above. Practically, there are some quantitative elements that can be obtained, especially relating to supply and demand figures but these statistics should be considered in conjunction with more qualitative research, such as investor sentiment studies. Rigorous economic models only have validity if they can be substantiated pragmatically and models require regular review and evaluation against market movement.

Persistence is also essential if the teams are to make progress. Market based studies must be reviewed and adjusted over many years as no “quick-fix” model is available. This has been demonstrated historically, in the evaluation of the past forecasts. I would suggest that a longitudinal study of at least ten years is needed to ensure the various cyclical scenarios are covered. It will be noted that in my survey of practitioners that I asked whether they would commit to five years. This is, in my opinion, a minimum period, required to make any progress; I feared that ten years might drive them away.

The “3Ps” also combines the strengths of academics and practitioners, the academics are good at principles, the practitioners know the need for pragmatism and both will need persistence to achieve satisfactory results. In fact the “3Ps” can provide a guiding process for many professional activities, especially in the property industry. I find the process helpful, together with consideration of future change and

industry sentiment, in clarifying my recommendations on improving market analysis and forecasting in the future.

### **Looking Forward: Recommendations**

Property market analysis and forecasting will continue to be a key role of property professionals and it is accepted that improvement of the quality of the market analysis can assist better forecasts. Looking at the status quo and the feedback from industry, we can do better but it means that change is necessary. We now have the benefit of evolving communication and information technologies, but more than this is necessary.

This study has found clear pointers from the industry practitioners that the property academics should have a role in market analysis. The academic input is required to ensure independent and statistical rigour but their input should address the criticism that many academic studies have no practical application.

The primary recommendation for property market analysis in the future is **greater collaboration between academic and industry researchers**. In my opinion this is essential for improved property market analysis or forecast reporting. Industry practitioners have, without exception, accepted the need for academic involvement and the majority of the practitioners, including several currently active in market research, have stated their willingness to work with academic researchers.

The second recommendation is that the joint industry/academic teams would benefit from using the “3Ps” process (principles, pragmatism and persistence), to achieve their goal. The process highlights three issues that could readily be embodied in a mission statement for this task.

I am aware that there have been a few joint academic/industry research teams established in Australia in the past, but most have lacked continuity and commitment. I believe that there is now a greater sense of commitment from the industry but I acknowledge that the effectiveness of a joint academic/industry team will depend on the compatibility of the members and long-term financial commitment. Both parties will need to appreciate the background and experience of the other party as there are differences between the motivation and experience of academics and practitioners.

Each research team will set their own objectives and I don't wish to recommend detailed procedures for the teams but will list some issues that could be considered using the “3Ps” headings.

#### **Principles**

- Specify important professional standards
- Define desired key outputs
- Establish data and analysis requirements
- Clarify confidentiality and rights to publish

### Pragmatism

- Consider all available market sources, including behavioural studies
- Practically examine the forecasting ability of econometric models
- Include regular reviews of findings and revisions
- Allow acceptable margins of error in this imprecise field

### Persistence

- Establish a long-term agreement (5 – 10 years)
- Agree long term financial commitment from organisations
- Be flexible with the inputs from individuals and organisations

## Looking Forward – Christchurch

The thoughts on property market analysis and forecasting could, and should, be applied to Christchurch. While acknowledging the cataclysmic change to the city and environs, the property markets continue and the place of Christchurch in these markets requires redefinition.

It would be inappropriate for me as an outsider (although I enjoyed ten years in the Christchurch environment) to make specific recommendations on the redevelopment of Christchurch. Many qualified people have wrestled with this problem over the last almost three years. However I would like to comment on the importance of property market analysis and forecasting as tools in aiding the planning and development of Christchurch. Accepting this, I again recommend the need to involve both property academics and practitioners in the market analysis and forecasting process.

Furthermore, the general property market change, feedback from industry practitioners and the “3Ps” (principles, pragmatism and persistence) are also important considerations for analysing the property markets. However many planning and development decisions have already been made for Christchurch, so again it is unwise to make specific proposals at this stage.

I would simply highlight the importance of principles, pragmatism and persistence. Christchurch has an exciting opportunity to embody the changing technology and emerging scenarios in the urban fabric. In my opinion, Christchurch always had a spirit of community and I look forward to a renewed Christchurch as “community space with soul”.

## Conclusions

Property market analysis has always been the core for property valuation and advisory.

It is pertinent in today’s changing environment to consider the “health” of property market analysis activities, especially property forecasting.

This paper has attempted to highlight ways that property market analysis, and, consequently, property market forecasts, can be improved. The key finding is the importance of long-term collaborative research involving senior practitioners and academics with a principles/pragmatism/persistence objective.

If any aspect of the paper results in some improvement in market analysis knowledge and practice, I would consider that this paper has been worthwhile. Clearly I would be most willing to discuss and/or debate any aspects of the paper, or be instrumental in activating joint academic/industry market research teams.

Terry Boyd  
December 2013

## References

American Institute of Real Estate Appraisers (1951), *The Appraisal of Real Estate*, 1<sup>st</sup> ed, AIREA, Chicago

API (NSW) (2013), *Australian Property Directions Survey*, May, API, NSW

Babcock, F (1932), *The Valuation of Real Estate*, McGraw-Hill, New York

Barnham, C (2008), Qualis? From Theory to Practice, *Qualitative Market Research: An International Journal*, 11:4, pp. 414 – 424

Bonbright, C (1937), *The Valuation of Property*, Vol 1, McGraw-Hill, New York

Brooks, C and Tsolacos, S (2010), *Real Estate Modelling and Forecasting*, Cambridge Press, UK

Colliers International (2012), *2013 Property Outlook*, Colliers International, Australia

Colliers International (2013), *Australian and New Zealand Research and Forecast Report*, Second half 2013, Colliers International, Australia

First National Real Estate (2012), *2013 Property Market Outlook*, First National Real Estate, Australia

Gallimore, P, Hansz J. A and Gray, A (2000), Decision making in small property companies, *Journal of Property Investment and Finance*, 18:6, pp. 602 – 612

Gallimore, P and McAllister, P (2005), Expert judgement in the process of commercial property market forecasting, *Journal of Property Research*, 21, pp. 337 – 360

Hepen, A and Vatansever M (2011), Forecasting Future Trends in Dubai housing market by using Box-Jenkins autoregressive integrated moving average, *International Journal of Housing Markets and Analysis*, 4:3, pp. 210 - 223

Higgins, D (1999), Current status of forecasting the performance of Australian commercial property markets, *Australian Property Journal*, 36, pp. 43 – 49

Higgins, D (2013), The black swan effect and the impact on Australian property forecasting, *Journal of Financial Management of Property and Construction*, 18:1, pp. 76 – 89

Jones, Lang, LaSalle (2013), *E-Commerce boom triggers transformation in retail logistics*, November, JLL, USA

Lawrence, D. M and May, H. G (1943), *Modern Methods of Valuation*, 1<sup>st</sup> ed, Royal Institution of Chartered Surveyors, London, UK

Ling, D (2005), A Random Walk Down Main Street: Can experts predict returns on commercial real estate, *Journal of Real Estate Research*, 27, pp. 137 – 154

Marshall, A (1925), *Principles of Economics*, 8<sup>th</sup> ed, Macmillan, London

McAllister, P, Newell, G and Matysiak, G (2008), Agreement and Accuracy in Consensus Forecasts of the UK Commercial Property Market, *Journal of Property Research*, 25:1, pp. 1 - 22

McCallum, M (2013), Rethinking Form and Space in the 21<sup>st</sup> Century, *Australian and New Zealand Property Journal*, 4:1, pp. 64 – 72

Miller, N G and Sklarz, M (2012), Integrating real estate market conditions into home price forecasting systems, *Journal of Housing Research*, 21:2, pp. 183 – 213

Murray, J. F. M (1949), *Principles and Practice of Valuation*, 1<sup>st</sup> ed, Commonwealth Institute of Valuers, Sydney

Newell, G and MacFarlane, J (2006), The Accuracy of Commercial Property Forecasting in Australia, *Pacific Rim Real Estate Journal*, 2:3, pp. 311 – 325

PCA/IPD Australia (2013), *The Property Council/IPD Australia All Property Index*, June, PCA, Sydney

Pirounakis, N (2013), *Real Estate Economics: A point-to-point handbook*, Routledge, Oxford, UK

Ratcliff, R (1975), Appraisal is Market Analysis, *Appraisal Journal*, October, pp. 485 - 490

Rifkin, J (2011), *The Third Industrial Revolution: How Lateral Power is Transforming Energy, the Economy and the World*, Palgrave MacMillan, New York

Savills Research (2013), *Spotlight: Brisbane CBD Office*, October, Savills Research, Queensland

Savills Research (2013), *Quarter Times: Brisbane Industrial*, Third Quarter, Savills Research, Queensland

West, T and Worthington, A (2006), Macroeconomic risk factors in Australian commercial real estate, listed property trust and property sector stock returns, *Journal of Financial Management of Property and Construction*, 11:2, pp. 105 – 116

Wood, L (2013), *Shaping the future of financial reporting in the imprecise world of accounting*, a presentation to Corporate Finance Leaders Forum, July, Sydney

Zhang, J and Chen, W (2011), Dynamic Impact of Interest Rate Policy on Real Estate Market, *Asian Social Science*, 7:10, pp 188 - 194

**Attachment 1: Copy of Survey to selected Senior Property Practitioners**

1. As a property practitioner, how do you rate the public domain **property market analysis** reports available to you?

*Very poor* *very good*  
1            2            3            4            5            6            7

2. How do you rate the **property market forecasts** available to you?

*Very poor* *very good*  
1            2            3            4            5            6            7

3. What is the most useful property market analysis and forecast information available to you.

Market **analysis** info: .....

Market **forecast** info: .....

4. Do you use any university-prepared information on Australian property markets?  
YES/NO

If YES, please list reports.....

5. Do you use non-property economic indicators to assist your market predictions?  
YES/NO

If YES, please list indicators .....

6. Do you consider that property academics should collaborate in undertaking property market analysis and forecasts?

Property market analysis: YES/NO    Property market forecasts:    YES/NO

7. What role do you consider property academics could play in property market analysis and forecasts?

.....

8. Would you be willing to participate in an academic and professional research team working on property market analysis and forecasts – assume a 5 year commitment?  
YES/NO

9. Any other comments on improving property market analysis or forecasting in Australia?

.....