# PROPERTY RESEARCH PRIORITIES IN AUSTRALIA

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## ABSTRACT

*Using a survey conducted in 2001, property research priorities amongst Australian institutional property investors are examined. Forty property research topics are prioritised and then compared with equivalent USA property research priorities. The role of property in a mixed-asset portfolio was the top priority general property research topic and the impact of capital flows was the top priority specific property research topic. Factor analysis is used to identify the underlying property dimensions in these property research priorities. Strategic property issues and the changing property environment were seen to be the two most important property dimensions.*

## INTRODUCTION

Property research has assumed increased importance in Australian universities in recent years. As such, the establishment of the Property Research Council of Australia (PRCA) in 2001 has been a major initiative between the Property Council of Australia (PCA) and PRRES to facilitate the interaction between university property researchers and the property industry. Part of the role of the PRCA is to identify property research priorities that would enhance this interaction.

While general property research areas have been identified for Australian academics (Jaffe, 1998; Lusht, 1993; Webb, 1997), the identification of equivalent property research topics that would benefit the Australian institutional property investment area has been limited. Harrington (1998), Parker (2001), and Steinert and Crowe (2001) have attempted to articulate property research topics and these have included property performance analysis, international property investment, property forecasting and debt financing.

In the USA, the relationship between academic and property industry research has been more fully assessed (Souza, 2000), and future capital market research needs have been identified (Winograd, 1999). To more fully assess the property research directions and priorities for USA institutional investors, extensive industry surveys funded by the Pension Real Estate Association (PREA) have been conducted in 1992 (Ziering and Worzala, 1997) and 1999-2000 (Worzala et al, 2000, 2001).

The purpose of this paper is to present the results of a major property industry survey conducted in 2001 to examine the property research priorities amongst Australian institutional property investors. A comparison of these priorities with equivalent property research priorities in the USA is also evaluated. Identification of these property research priorities will enable the more effective development of a property research agenda for property researchers in PRRES and the Australian institutional property industry.

## METHODOLOGY

### Survey

A questionnaire including:

- 12 general property research topics
- 28 specific property research topics

was developed, comparable to the Worzala et al (2001) survey[1]. Participants were asked to assess how important each property research topic was to institutional investors in Australia. All questions were scored on a 5-point rating scale, ranging from 1 = not important to 5 = vitally important[2].

This survey was distributed in October 2001 to senior property industry participants. Contact details for survey participants were obtained from Property Investment Research (2000), as well as the PCA membership list and PRRES membership list. 96 completed surveys were returned, giving a survey response rate of 64.9%. Survey respondents[3] comprised:

- institutional property investors: 61.4% (n = 59)
- property consultants/analysts: 24.0% (n=23)
- property academics: 14.6% (n=14).

Response rates within each of these three groups surveyed were high; namely institutional property investors (57%), property consultants/analysts (77%) and property academics (93%). This ensured negligible non-response bias in the results.

As this survey was focused on property research priorities for institutional investors, it did not consider the broader property research topics relevant to other groups, such as housing or property developers.

### Statistical analysis

Average ratings for each of the 40 questions were assessed for the total sample, as well as for the three sub-groups of institutional property investors, property consultants/analysts and property academics. Rank correlations were used to assess the overall performance of these sub-groups, as well as comparisons made with the previous 1992 and 2000 USA results in Ziering and Worzala (1997) and Worzala et al (2001).

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1. Only slight changes in wording were used in this survey to accommodate differences in local property terminology; eg: "property" versus "real estate", "LPTs" versus "REITs".
2. Worzala et al (2001) used a 7-point Likert scale; all comparisons of Australian survey with USA surveys in this paper are therefore based on comparison of ranked priorities.
3. Worzala et al (2001) respondents only involved institutional property investors.

To assess the underlying property research "dimensions" in the twelve general property research topics and the twenty eight specific property research topics, factor analysis (Everitt and Dunn, 2001) was used. This was applied separately to the overall group and the three sub-groups. Factor analysis is a multivariate analysis technique in which the underlying dimensions in the survey data are examined. Typically, a small number of dimensions are extracted which explain a significant proportion of the total variation. A practical interpretation can often be given to these major underlying dimensions, although meaningful interpretations are often not possible for the less significant dimensions.

## GENERAL PROPERTY RESEARCH PRIORITIES

### Analysis of general property research priorities

Table 1 presents the average scores and respective ranks for the twelve general property research topics for the overall respondents, as well as for the sub-groups of institutional property investors, property consultants/analysts and property academics.

The role of property in a mixed-asset portfolio (average score of 4.22 out of 5) was clearly the top priority, followed by property and portfolio risk management (4.08), performance measures in property (4.05) and diversification within portfolios (3.95). These are clearly big picture, strategic issues for all institutional investors. The role of property in a mixed-asset portfolio was also clearly seen as the top priority by institutions (4.14) and consultants/analysts(4.30), with performance measures in property (4.43) seen as the top priority by academics. Performance measures in property being the highest priority amongst academics is a reflection of the generally stronger quantitative focus amongst property academics, compared to the broader strategic approach by the two other sub-groups. Each of these three sub-groups rated these four topics as their top four priorities, with only marginal differences in rank order.

Property academics (overall average score of 3.95) rated these general property research topics more highly than consultants/analysts (3.74) and institutions (3.70). This reflects the stronger property research orientation amongst property academics, compared to the other two sub-groups. Overall, the general property research priorities were highly correlated for the three sub-groups, with rank correlations ranging from 0.89-0.93 (see Table 2: panel A).

### Table 1: Analysis of general property research priorities

| General property research topic | Total | | Institutions | | Consultants/Analysts | | Academics | |
|---|---|---|---|---|---|---|---|---|
| | Score | Rank | Score | Rank | Score | Rank | Score | Rank |
| The role of property in a mixed asset portfolio | 4.22 | 1 | 4.14 | 1 | 4.30 | 1 | 4.43 | 2 |
| Property and portfolio risk management | 4.08 | 2 | 4.02 | 2 | 4.17 | 2 | 4.21 | 4 |
| Performance measures in property | 4.05 | 3 | 4.00 | 3 | 3.87 | 4 | 4.57 | 1 |
| Diversification within property portfolios | 3.95 | 4 | 3.83 | 4 | 4.04 | 3 | 4.29 | 3 |
| Macroeconomic factors affecting property | 3.87 | 5 | 3.80 | 6 | 3.83 | 5 | 4.21 | 4 |
| Property investment strategies | 3.85 | 6 | 3.83 | 4 | 3.83 | 5 | 4.00 | 6 |
| Indirect property investment vehicles | 3.72 | 7 | 3.69 | 7 | 3.72 | 8 | 3.86 | 7 |
| Microeconomic factors affecting property | 3.61 | 8 | 3.53 | 8 | 3.74 | 7 | 3.77 | 8 |
| Regulatory changes affecting property | 3.48 | 9 | 3.51 | 9 | 3.35 | 10 | 3.57 | 9 |
| Demographic changes affecting property | 3.43 | 10 | 3.46 | 10 | 3.26 | 12 | 3.57 | 9 |
| Role of international property in a portfolio | 3.42 | 11 | 3.36 | 11 | 3.48 | 9 | 3.57 | 9 |
| Technological changes affecting property | 3.29 | 12 | 3.25 | 12 | 3.35 | 10 | 3.36 | 12 |
| Overall average score | 3.75 | | 3.70 | | 3.74 | | 3.95 | |

**Table 2: Rank correlation analysis: general property research priorities**

## Panel A: Sub-group comparison

|  | Institutions | Consultants/ Analysts | Academics |
|---|---|---|---|
| Institutions | 1.00 | | |
| Consultants/ Analysts | 0.93 | 1.00 | |
| Academics | 0.92 | 0.89 | 1.00 |

## Panel B: Australia/USA comparison

|  | Australia 2001 | USA 1992 | USA 2000 |
|---|---|---|---|
| Australia 2001 | 1.00 | | |
| USA 1992 | 0.77 | 1.00 | |
| USA 2000 | 0.31 | 0.58 | 1.00 |

The role of international property in a portfolio (average score of 3.42) and technological changes affecting property (3.29) were seen as the lowest priorities amongst these twelve general property research topics. The low priority given to the role of international property in a portfolio was surprising, given the significant recent institutional interest in incorporating international property, particularly via indirect property investment (Steinert and Crowe, 2001).

## General property research priorities: Australia versus USA

The equivalent USA survey conducted in 2000 by Worzala et al (2001) obtained the following rank order for the general property research topics:

1. Performance measurement of property
2. Microeconomic factors affecting property
3. Role of property in mixed-asset portfolios
4. Demographic changes affecting property
5. Diversification within property portfolios
6. Technological factors affecting property
7. Property and portfolio risk management
8. Property investment strategies
9. Macroeconomic factors affecting property
10. Publicly traded property investments
11. International property in a portfolio
12. Regulatory changes affecting property,

with the major differences between the two surveys being the higher priority in the USA 2000 survey given to microeconomic factors affecting property (ranked $2^{nd}$ in USA and 8th in Australia) and demographic changes affecting property (ranked $4^{th}$ in USA and $10^{th}$ in Australia) and the lower priority in the USA 2000 survey given to property and portfolio risk management (ranked $7^{th}$ in USA and $2^{nd}$ in Australia). Importantly, performance management of property (ranked $1^{st}$ in USA and $3^{rd}$ in Australia) and the role of property in a mixed-asset portfolio (ranked $3^{rd}$ in USA and 1st in Australia) figure prominently in both the Australian and USA surveys.

As shown in Table 2: panel B, the Australian survey results were not highly correlated with the USA 2000 survey results (rank correlation = 0.31), but were more highly correlated (rank correlation = 0.77) with the equivalent USA survey results conducted in 1992 by Ziering and Worzala (1997). This time-delayed closer alignment of the Australian survey results with the USA 1992 survey results rather than with the USA 2000 survey results is an indication of the more significant stature, maturity and importance given to property research in the USA institutions. This has also seen a need to move on from general strategic issues to more specific issues over this 8-year period in the USA.

## Identifying underlying "dimensions" in general property research priorities

Table 3 indicates the factor analysis dimensions for the general property research priorities. From the twelve general property research topics, four factors or underlying property dimensions were identified, accounting for 61.2% of the total variation. These four main factors were:

- strategic property issues (26.2%)
- changing property environment (14.9%)
- economic environment (10.3%)
- role of property in portfolio (9.7%),

with each of these factors being readily interpreted in a property context.

**Table 3: Factor analysis: general property research priorities**

## Total: 4 factors accounting for 61.2% of variation

Factor 1: Strategic property issues (26.2%)
Factor 2: Changing property environment (14.9%)
Factor 3: Economic environment (10.3%)
Factor 4: Role of property in portfolio (9.7%)

## Institutions: 5 factors accounting for 69.1% of variation

Factor 1: Changing property environment (22.8%)
Factor 2: Role of indirect property in property portfolio (14.9%)
Factor 3: Role of property in portfolio (12.5%)
Factor 4: Property strategy in broader economy (10.3%)
Factor 5: Economic environment (8.6%)

## Consultants/Analysts: 4 factors accounting for 74.7% of variation

Factor 1: Property strategy in broader economy (42.4%)
Factor 2: Role of indirect property in property portfolio (13.1%)
Factor 3: Risk management and property (10.8%)
Factor 4: Impact of technology on property in portfolio (8.4%)

## Academics: 4 factors accounting for 73.0% of variation

Factor 1: Role of property in portfolio (26.1%)
Factor 2: Property strategy in broader economy (19.3%)
Factor 3: Changing property environment (14.9%)
Factor 4: Economic environment (12.7%)

Equivalent factor analyses for institutions, consultants/analysts and academics accounted for 69.1%, 74.7% and 73.0% respectively of the total variation, as well as identifying similar property factors (see Table 3). These factors clearly reflect key property research aspects relating to general property research.

## SPECIFIC PROPERTY RESEARCH PRIORITIES

### Analysis of specific property research priorities
Table 4 presents the average scores and respective ranks for the 28 specific property research topics for the overall respondents, as well as for the sub-groups of institutions, consultants/analysts and academics.

## Table 4: Analysis of specific property research priorities

| Specific property research topic | Total | | Institutions | | Consultants/Analysts | | Academics | |
|---|---|---|---|---|---|---|---|---|
| | Score | Rank | Score | Rank | Score | Rank | Score | Rank |
| Impact of capital flows in and out of property markets | 3.90 | 1 | 3.83 | 1 | 4.22 | 1 | 3.64 | 11 |
| Role of indirect property in mixed-asset portfolio | 3.82 | 2 | 3.83 | 2 | 3.65 | 11 | 4.07 | 1 |
| LPTs as a proxy for direct property investment | 3.80 | 3 | 3.75 | 4 | 3.87 | 5 | 3.86 | 3 |
| Diversification within a mixed-asset portfolio | 3.79 | 4 | 3.77 | 3 | 3.83 | 7 | 3.84 | 5 |
| Forecasting methodologies for markets, rents, returns | 3.72 | 5 | 3.59 | 6 | 4.00 | 2 | 3.79 | 6 |
| Diversification within a property portfolio | 3.71 | 6 | 3.64 | 5 | 3.72 | 9 | 4.00 | 2 |
| Existence and predictability of property cycles | 3.71 | 7 | 3.58 | 7 | 4.00 | 2 | 3.79 | 6 |
| Taxation factors affecting property | 3.61 | 8 | 3.56 | 8 | 3.65 | 11 | 3.71 | 10 |
| Property liquidity compared to other assets classes | 3.59 | 9 | 3.47 | 9 | 3.87 | 5 | 3.64 | 11 |
| Passive versus active investment strategies | 3.55 | 10 | 3.34 | 14 | 3.96 | 4 | 3.75 | 9 |
| Property disposal and exit strategies | 3.51 | 11 | 3.41 | 10 | 3.74 | 8 | 3.57 | 15 |
| Effect of country/currency risk on international property investment | 3.44 | 12 | 3.31 | 16 | 3.70 | 10 | 3.57 | 15 |
| Economic versus geographic versus property-type diversification | 3.42 | 13 | 3.25 | 18 | 3.57 | 14 | 3.86 | 3 |
| Effect of management fees on portfolio performance | 3.41 | 14 | 3.36 | 11 | 3.30 | 20 | 3.79 | 6 |

| Specific property research topic | Total | | Institutions | | Consultants/Analysts | | Academics | |
|---|---|---|---|---|---|---|---|---|
| | Score | Rank | Score | Rank | Score | Rank | Score | Rank |
| Supply side constraints | 3.41 | 14 | 3.36 | 13 | 3.48 | 17 | 3.50 | 18 |
| Effect of aging population on property investment | 3.41 | 14 | 3.34 | 14 | 3.57 | 14 | 3.43 | 20 |
| Effect of valuation practices on individual property returns | 3.33 | 17 | 3.25 | 18 | 3.35 | 18 | 3.64 | 11 |
| Impact of valuation lags and biases on property indices | 3.32 | 18 | 3.27 | 17 | 3.26 | 22 | 3.64 | 11 |
| Effects of structural changes in employment demand on property investm't | 3.31 | 19 | 3.14 | 20 | 3.61 | 13 | 3.57 | 15 |
| Open-end versus close-end property funds | 3.29 | 20 | 3.36 | 12 | 3.17 | 23 | 3.16 | 25 |
| Individual property-type market studies | 3.17 | 21 | 3.00 | 22 | 3.57 | 14 | 3.21 | 24 |
| Property's market cap. compared to other asset classes | 3.13 | 22 | 2.98 | 23 | 3.27 | 21 | 3.50 | 18 |
| Property investment in primary versus secondary markets | 3.08 | 23 | 3.02 | 21 | 3.09 | 25 | 3.36 | 21 |
| Foreign investment restrictions | 2.97 | 24 | 2.75 | 26 | 3.35 | 18 | 3.29 | 22 |
| Effects of changing household structure on property investment | 2.93 | 25 | 2.81 | 25 | 3.00 | 26 | 3.29 | 22 |
| Effect of e-commerce on property demand | 2.83 | 26 | 2.64 | 28 | 3.17 | 23 | 3.07 | 26 |
| Environmental regulations for contaminated land | 2.81 | 27 | 2.88 | 24 | 2.57 | 28 | 2.93 | 28 |
| Effect of immigration patterns on property investment | 2.77 | 28 | 2.66 | 27 | 2.87 | 27 | 3.07 | 26 |
| **Overall average score** | **3.38** | | **3.29** | | **3.51** | | **3.55** | |

The top five specific property research priorities were:

1. Impact of capital flows in and out of property markets (3.90)
2. Role of indirect property in mixed-asset portfolios (3.82)
3. LPTs as a proxy for direct property investment (3.80)
4. Diversification within a mixed-asset portfolio (3.79)
5. Forecasting methodologies (3.72).

While the top specific property research priority by institutions and consultants/analysts was the impact of capital flows in and out of property markets, this was seen as a much lower priority (ranked 11) by academics, who saw the role of indirect property in mixed-asset portfolios as the top priority. This difference clearly reflects the more practical and immediate focus on specific property research by institutions and consultants/analysts.

More variation in these priorities occurred amongst the three sub-groups than for the general property research priorities; however, rank correlations between the three sub-groups were still high, being in the range of 0.69-0.78 (see Table 5). As with the general property research topics, academics (average score of 3.55) rated these specific property research topics more highly than consultants/analysts (3.51) and institutions (3.29). Specific property research priorities (average score of 3.38) were also lower than seen previously for the general property research priorities (average score of 3.75), reflecting the higher priority given to the broader strategic property portfolio issues rather than property portfolio specifics.

**Table 5: Rank correlation analysis: specific property research priorities**

|  | Institutions | Consultants/ Analysts | Academics |
|---|---|---|---|
| Institutions | 1.00 |  |  |
| Consultants/ Analysts | 0.78 | 1.00 |  |
| Academics | 0.77 | 0.69 | 1.00 |

## Specific property research priorities: Australia versus USA
The equivalent USA survey conducted in 2000 by Worzala et al (2001) obtained the following top 5 specific property research priorities:

1. Impact of capital flows in and out property markets
2. Property sales and exit strategies
3. Effect of asset management fees on portfolio performance
4. Existence and predictability of property market cycles
5. Diversification: economic Vs geographic Vs property type.

While both the Australian survey and USA 2000 survey saw the impact of capital flows in and out of the property markets as the top priority specific property research topic, the remaining topics in either list generally did not correspond. The main difference between these two surveys was the higher priority given to LPT research (priority 2 and 3) in Australia, compared to the lower priority given to REITs research in the USA

(priority 22 and 23). This is largely attributable to the significant amount of research available on REITs in both the academic and professional journals in the USA, compared to the much less widely available research on LPTs in Australia. This mismatch is more fully reflected in the low correlation between these two surveyed groups (rank correlation = 0.12). Equivalent results to compare with the USA 1992 survey are not available, as specific property research topics were not directly assessed in Ziering and Worzala (1997).

## Identifying underlying "dimensions" in specific property research priorities

Table 6 indicates the factor analysis dimensions for the specific property research priorities. From the 28 specific property research topics, nine factors or underlying property dimensions were identified, accounting for 69.9% of the total variation. The three main factors were:

- Changing property environment (26.2%)
- Diversification in portfolio (8.9%)
- Specific market dynamics (6.7%),

with each of these three factors being readily interpreted in a property context. However, the remaining six factors had no readily identifiable property interpretation.

**Table 6: Factor analysis: specific property research priorities***

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### Total: 9 factors accounting for 69.9% of variation

Factor 1: Changing property environment (26.2%)
Factor 2: Diversification in portfolio (8.9%)
Factor 3: Specific market dynamics (eg: supply, cycles, forecasts) (6.7%)
Factor 4: International property investment (6.0%)
Factor 5: Valuation reliability/accuracy (5.9%)
Factor 6: Capital flows/liquidity (4.3%)
Factor 7: Property disposal/exit strategy (4.1%)
Factors 8 and 9: Not readily interpretable (both 3.8%)

**Institutions: 9 factors accounting for 72.3% of variation**

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*: separate factor analysis for consultants/analysts and academics is not possible as there were not enough responses for analysis of 28 questions via factor analysis

The equivalent factor analysis for institutions identified nine factors accounting for 72.3% of the total variation. The three interpretable factors from this institutional factor analysis closely reflected key property research aspects relating to specific property research.

# GENERAL COMMENTS

Table 7 presents a summary of the general comments by survey respondents relating to other property research issues and property research topics. Several respondents perceived lesser significance in most institutions for property research relative to research in the other asset classes (eg: shares), emphasising the role of ongoing property research in enhancing the stature of property as an asset class. Other respondents indicated a need for more specific research into:

- size of the property "universe"
- new property vehicles (eg: syndicates, debt instruments),

with this latter topic being of recent high significance, given the increasing importance of property financing issues such as mezzanine financing.

**Table 7: General comments regarding property research from respondents**

## Property research issues

- Research should not replicate commercial research houses
- More research is needed to enhance stature of property as an asset class
- Property research has lesser profile and importance in institutions as it is "lesser" asset class, accounting for only 5% of portfolio
- Property research is a tool to assist judgement
- Research needs practical focus
- Need for better models re: supply/demand

## Property research topics

- Assessment of structured finance vehicles; particularly debt instruments
- Better measures of property risk
- Size of property "universe"
- Property syndication
- Risk exposure to international property
- Property portfolio performance: individual asset to portfolio level
- Long-term property versus share expected returns
- Importance of mix of listed and direct property in diversified portfolio

# PROPERTY RESEARCH IMPLICATIONS

This survey has clearly identified the general and specific property research priorities for institutional investors in Australia. Many of these property research topics are also top priorities in the USA and UK, as reflected in equivalent USA surveys (Worzala et al, 2000, 2001) and trends in the leading property research journals (both USA and UK). The clearer articulation of this property research agenda in Australia has identified the priority areas for future property research; particularly in developing the interaction between PRRES and the property industry via PRCA. The flow-on effects into future applied property research publications (via PRPRJ etc) and future expanded research funding (via ARC Linkage Projects) are expected to be significant.

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